

Water System Facts Page

Water Supply Sources

The District of Ucluelet operates two water supply sources:

- Mercantile Creek, a surface source on the east side of Ucluelet Inlet, and;
- Lost Shoe Creek Wellfield, a groundwater source at the junction of Hwy 4 and Pacific Rim Hwy.

The Lost Shoe Creek Wellfield acts as the primary source. Mercantile Creek is brought on-line to meet large fish processing demands and the seasonal (summertime) demand increase.

Lost Shoe Creek Wellfield

In 1996, a new water source was developed using groundwater wells in the Lost Shoe Creek Aquifer (LSCA). This water source was introduced initially to meet the very large demand from the growing fish process industry as the Mercantile Creek source was insufficient. The District currently operates four wells at the Lost Show Creek Aquifer.

Mercantile Creek

Water is withdrawn from Mercantile Creek via an intake structure, the location of which was moved in 1972 to a slightly higher elevation than the original. A covered concrete channel, located just upstream of a small dam, conveys water through a coarse screen before entering the intake.

The water is transported from Mercantile Creek approximately 2.5 kms down the hill and under the Ucluelet Harbor to the Bay Street water treatment building and pump station.

Water Storage

Matterson Drive Reservoir

Treated water is pumped into the distribution system by one of two variable speed 40 hp centrifugal vertical pumps and fills the 1,200 m³ bolted steel water storage reservoir on a local high spot off Matterson Drive.

Constructed in 1983, the Matterson Drive Reservoir is 8.8m in diameter and 19.8m tall. Its top water level of 57 m generates a static pressure of 81 psi at sea level.



Highway Reservoir

The LSCA wellfield pumps into the 1,400 m³ bolted steel water storage reservoir (Hwy Reservoir) located along Peninsula Road approximately 3 kms south of the wellfield. Constructed in 1997, the reservoir is 12.5m in diameter and 11.6m tall. Its top water level of 64.8m generates a static pressure 92 psi at sea level.



Water Treatment

Bay Street Treatment

The Bay Street water treatment and pump station building, located at the foot of Bay Street, was constructed in 1985. The water treatment system has been upgraded to become compliant with the [Vancouver Island Health Authority's 4-3-2-1](#) surface water source treatment policy. This included replacement of the sand filters with Ultraviolet light and an on-line turbidity meter which automatically stops the supply when the turbidity levels exceed 1 NTU (nephelometric turbidity unit).



Mercantile Creek

Water treatment begins with the raw water passing through a coarse screen at the intake structure on Mercantile Creek. This water is conveyed to the water treatment building at the foot of Bay Street. This building previously had a treatment process consisting of two large cylindrical steel vessels containing green sand which filtered the water. The filtered water was then disinfected by the injection of chlorine gas prior to discharge into a wet well (constructed underneath the floor of the building) which provided contact time. Water was then pumped out of the wet well and into the distribution system.

In the early 1990's, the green sand was removed from the steel vessels but not replaced; the exact reason for its removal is not known. Water continued to flow through the steel vessels and disinfected by the injection of chlorine gas.

In 2014, the steel vessels were removed, and Ultraviolet disinfection was installed as part of becoming compliant with the Island Health authority's 4-3-2-1 surface water treatment policy. After UV, sodium hypochlorite (NaClO) is injected for disinfection. The section of piping immediately after the injection point was enlarged to 900 mm diameter to provide contact time for disinfection. An on-line turbidity meter was added as an interim step to full compliance. The turbidity meter automatically stops the use of the water when the turbidity levels exceed 1 NTU.

Treated water is pumped into the distribution system by one of two in-line variable speed 40 hp pumps.

Lost Shoe Creek Wellfield

The water from the Lost Shoe Creek Wellfield is treated by the addition of sodium hypochlorite solution (NaClO) at the well pump house building.