

Archimedes Flood Pump Fact Sheet - Did You Know

What the pumping station does: This pump station removes water from the Miami River drainage basin and discharges it into Harrison Lake during times when the level of the lake on one side of the dyke is higher than the level of the river. Under these conditions, the river cannot flow into the lake because the flood gates have closed. This typically happens in the spring during periods of high lake level due to snow melt and periods of heavy rainfall which raises the river level. A pump is needed during these times to prevent the Village from flooding.

What the pumping station will not do: This pumping station will not keep up with a major dyke failure on the Fraser River system that causes major flooding in Agassiz and surrounding areas which flows into the Village from the south. Also, if there was a major failure in the dyke protecting the Village from high lake levels, it most likely could not keep up with the flow of water spilling in from the lake. In both these scenarios, the system would be of great benefit in dewatering the Village once the dyke breaches had been repaired.

Why was the new pumping station built?: The new pump station was built to replace an aging and outdated pump that was in excess of 60 years old. Parts were becoming difficult or impossible to obtain and reliability was an issue. The capacity was also too low to remove water at a safe and sufficient rate during times of heavy, extended rainfall. There were numerous times when additional pumps had to be rented at considerable cost to prevent flooding in the Village and the old system had a very high fish mortality rate.

What was the cost of the new system?: The new flood pump system cost \$1.92million and was split 3 ways between the federal, provincial and local government.

What is the rated capacity of the new system vs. the old?: The new system is rated at 3 cubic meters per second for each unit (a 200 year flood level capacity) or 518,400,000 liters per day in total. The old unit was rated at .227 cubic meters per second or 19,600,000 liters per day.

Why was this type of pump selected?: The Archimedean screw style of pump was selected for its simplicity, durability, ease of maintenance, ability to handle debris and less than 2.5% fish mortality rate. This type of pump is very efficient under the operating conditions where it is used. Both units are fitted with variable frequency drives which enable them to be run at the exact speed required for the conditions at the time. This saves both wear and tear and also power consumption. The facility also has a backup diesel generator enabling it to operate during periods of electrical outages. These pumps have been built in the Netherlands for over 100 years.

For more information contact:
Village of Harrison Hot Springs
T: 604 796-2171
E: info@harrisonhotsprings.ca