



**To:** Ways and Means Subcommittee on Capital Construction: Senator Fred Girod, Co-Chair, Representative Paul Holvey, Co-Chair, Senator Peter Courtney, Senator Richard Devlin, Representative John Huffman, Speaker Tina Kotek, Representative Greg Smith, House Democratic Leader Jennifer Williamson

**From:** Chad Olsen, City Manager, City of Carlton

**Date:** May 18, 2017

**Subject:** SB 5530 – Lottery Bond Authorization - City of Carlton Testimony in Support

Dear Co-Chairs and Members of the Ways & Means Subcommittee on Capital Construction:

The City of Carlton is testifying in support of Senate Bill 5530. SB 5530 provides financial assistance to municipalities for capital construction of large municipal infrastructure projects such as water and sewer facilities. The City of Carlton is currently undertaking significant water improvements that would be cost prohibitive without state grant funding assistance.

The City has recently undertaken a \$3.5 million capital construction project for its transmission and distribution system; however, protecting its water supply at Panther Creek Reservoir and finished water via the 7-mile finished water supply line from the Carlton Water Treatment Plant to town are both in critical need of repair and rehabilitation as well.

Attached is a brief brochure that summarizes the need for the two projects. The Panther Creek Reservoir Dredging Project is important because it will increase reservoir capacity. Reconstruction of the 7-mile finished water supply line is important because it reduces water loss. Given the magnitude of cost for both projects, Carlton needs the financial assistance that can be provided via SB 5530.

The City of Carlton asks for your support of SB 5530.

Sincerely,

Chad Olsen  
City Manager, City of Carlton

# Water System Description & Completed Projects

Incorporated in 1899, Carlton gets its entire water supply from Panther Creek Reservoir, located about 9 miles west of town, and conveys it through a gravity piping system to a water treatment plant. Treated water is then conveyed by gravity approximately 6 - 7 miles to Carlton's storage reservoirs, and transmitted to the in-town distribution network.

- The City has only one raw water source which is Panther Creek.
- There is sufficient water flow in the winter, but insufficient flow in the summer.
- The City has water rights to store water in the winter to use in the summer.

The 2014 Water Master Plan update identified multiple high priority/cost system deficiencies:

**Panther Creek Reservoir** – Reservoir experiences 57 percent capacity loss; 24.4—10.4 million gallon storage capacity. Panther Creek Reservoir dredging analysis complete.

**High Water Loss** – City experiences 40 percent water loss. Project completed in 2016 for \$1.25 million.

**Transmission Line to Town** – Undersized restricting flow and pressure. Project since completed.

**Distribution System** - Inadequate fire flow from hydrants. Improvements in downtown business district completed in 2016 for \$1 million.

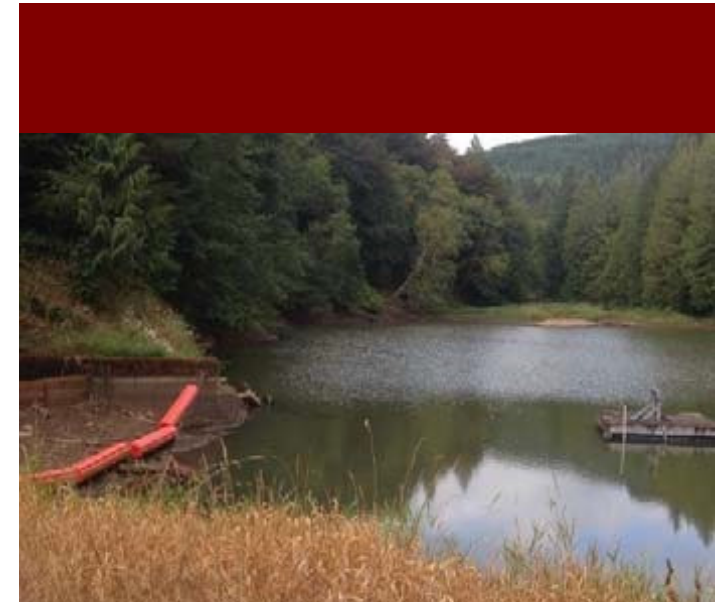
**TOTAL PROJECT COSTS:** \$18.4 million



## CITY OF CARLTON

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## Panther Creek Reservoir and Water Loss Projects



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# Two Projects Outside Carlton's Financial Capacity

## Project One: Reservoir Sedimentation and Capacity Reduction

Cost: \$2.5 million

Over the years, the capacity of the Panther Creek Reservoir has been reduced by sedimentation (eroded sediment transported into the reservoir by Panther Creek) and by several landslides that have contributed sediment to the reservoir.

- Current reservoir capacity is estimated to be 1.4 million cubic feet (32 acre-feet/10.4 million gallons).
- Existing water rights are for 75 acre-feet, which equates to 24.4 million gallons.

The reservoir storage capacity has continued to decrease over the years as more material is deposited. This is the only City-owned water source, and the decreased volume puts the City at risk during the summer with regard to water supply. This is particularly a concern during dry years such as 2015.



Silt and debris builds up, creating "Sand Island." Water is then too low to spill over the dam.



Examples of silt build up on "Sand Island"

The water year in 2016 was above average, but in September 2016, the reservoir level was lower than in 2015. The creek flow into the reservoir was estimated to be between 200-400 gallons per minute. The City water demand was approximately 280 gallons per minute. Stage One water curtailment was enacted in 2016 to conserve water.

### FAST FACTS

- In 1999, there was a slide in the watershed which washed substantial sediment into the reservoir, decreasing the reservoir's overall water storage capacity.
- Every year more sediments are washed into the reservoir.
- In the summer of 2015, the estimated remaining capacity in the reservoir was 10.4 million gallons.
- From photographic evidence, there appears to be even more sediment in the reservoir this year.
- There are also water quality issues in the summertime due to sediment and organics (decaying wood, etc., from the slide event).

## Project Two: Water Loss Reduction

Cost: \$7.15 million

During the past five years, the City has recognized significant water loss occurring in the transmission and distribution systems. Analysis have identified that approximately 75 percent of the loss occurs in the 7-mile finished water supply line from the City's treatment plant to the storage reservoirs and transmission line. The loss is estimated to be at least 50,000 – 60,000 gallons per day. Depending on the time of year, this equals 10-25 percent of average daily consumption. If the City is able to reduce the water loss ratio down to a 10-15 percent loss relative to the total volume leaving the Steel Reservoir, it will decrease the current storage required in these two categories substantially, with the volume of the decreased storage requirement increasing proportionally throughout the study period.

Water usage during September 2016 included the following:

- 240,000 gallons per day of actual water usage
- 60,000 gallons per day of water loss in the transmission main
- 100,000 gallons per day of backwash

