



Regional Reservoir Soil-Cement Cracking Fact Sheet

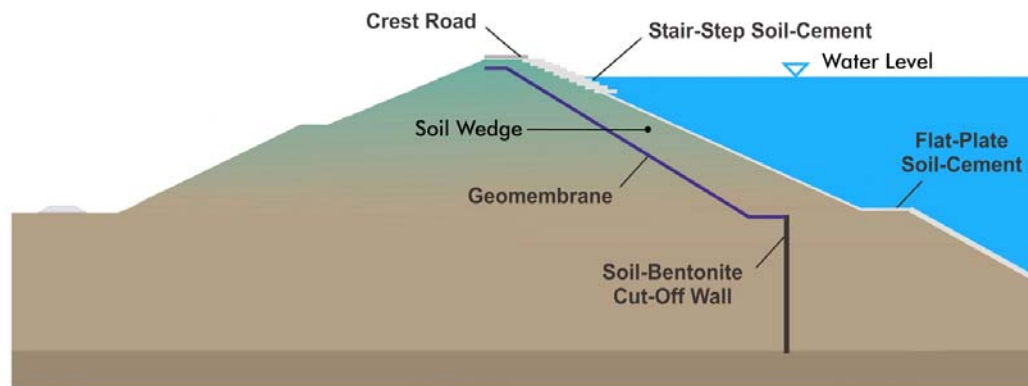
Overview

The C.W. Bill Young Regional Reservoir has operated since 2005 and is a vital part of the regional drinking water system, providing essential water storage during wet times of the year for use during dry times. In December 2006 during inspections of the reservoir, cracking was found in the flat-plate, soil-cement, erosion-control layer lining the interior of the reservoir.

The reservoir is safe and the cracking exists only in the upper layers of the reservoir's lining. Since 2007, a series of studies, data collection and analysis has been performed on the reservoir interior to determine the cause of the cracking. The cracking must be fixed to ensure the long-term, reliable use of the facility.

Reservoir Cross-Section

The erosion control component of the reservoir consists of a flat-plate soil cement layer and a soil wedge. These layers protect the deeper geomembrane, a waterstop that prevents water from leaking through the reservoir embankment.

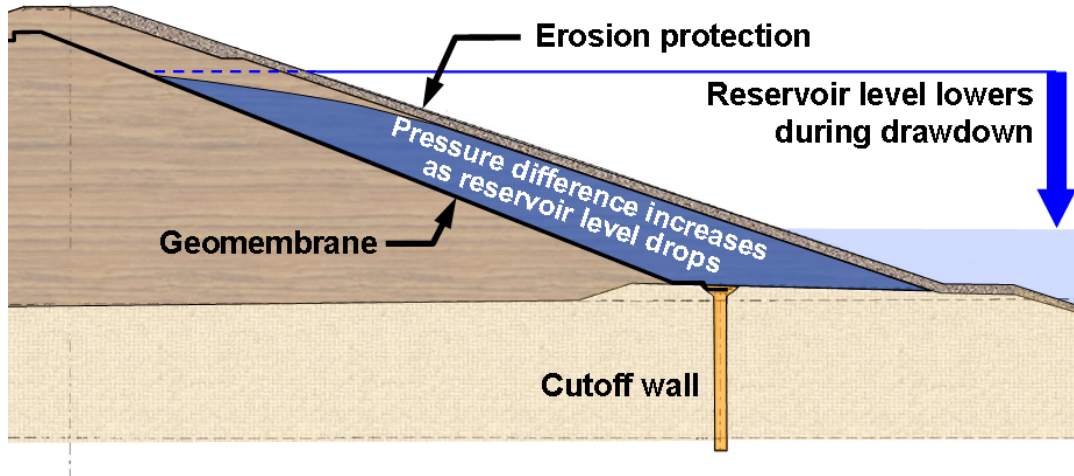


At the widest part of the base, the reservoir embankment is 300 feet wide.

The areas of cracking are occurring only in the erosion control interior liner. To date, cracking has been found along nearly 40 percent of the interior layer in the reservoir. With future use, Tampa Bay Water anticipates other areas to experience similar problems until the underlying problem is fixed.

High Water Pressures in the Erosion Control Layer Cause Cracking

A comprehensive analysis by Tampa Bay Water's system engineer has determined that water trapped between the soil cement lining and the geomembrane causes high water pressure that leads to cracking, soil wedge movement and soil erosion.

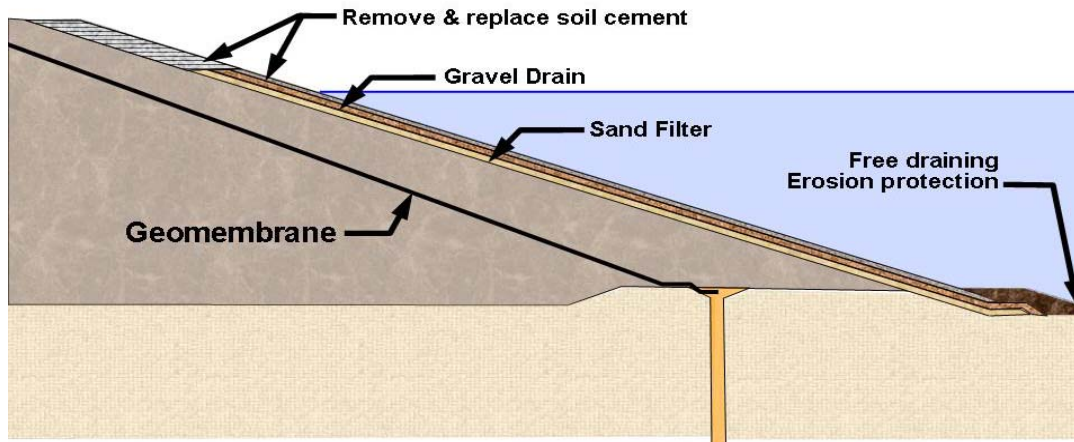


Basic Approaches to Fixing the Reservoir Interior

The studies and analysis completed have also shown that the erosion control layer of the reservoir's interior can be fixed. There are three basic approaches to fixing the problem:

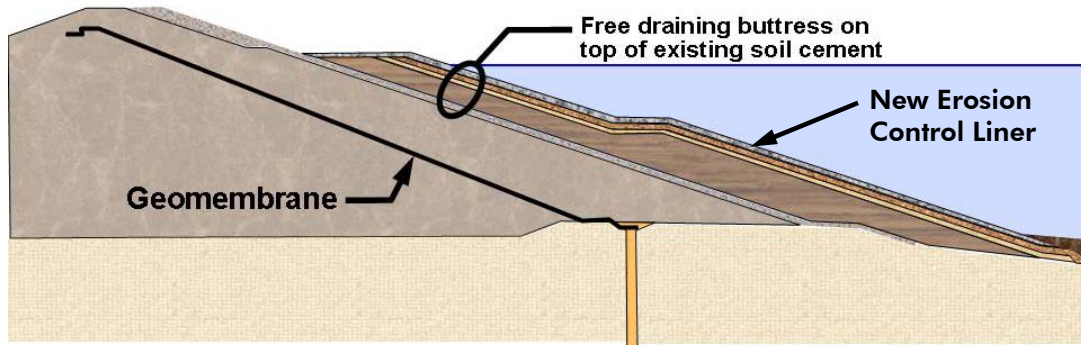
Adding Drainage

This approach would entail adding drains to the soil wedge and replacing the soil cement.



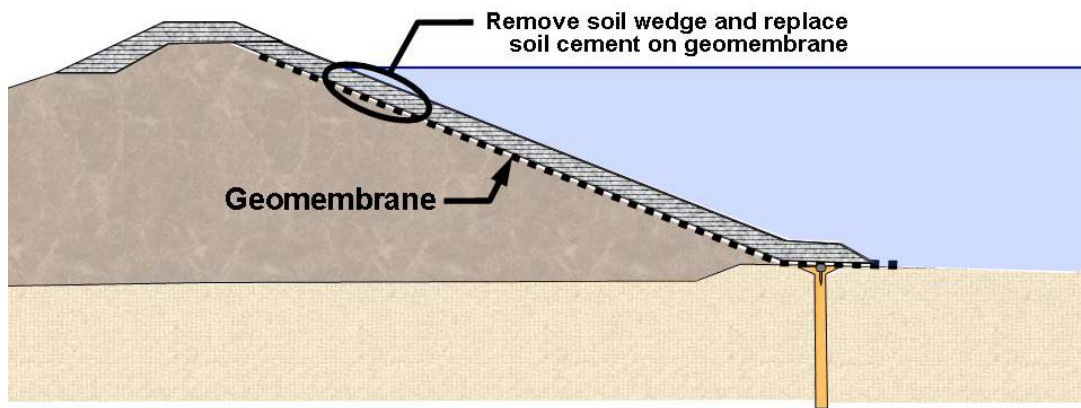
Adding Weight

This approach would add weight to the existing structure to prevent further movement of the soil cement layer and soil wedge beneath.



Removing the Soil Wedge

This approach would involve removing the soil wedge between the soil cement and geomembrane and reapplying a well-drained, soil-cement, erosion-control layer directly on top of the geomembrane.



Procuring to Find the Best Solution at the Best Value

To find the best solution at the best value for the long term fix for the erosion control layer, a competitive design and construction bidding process is recommended. As an added layer of protection for the public's investment, Tampa Bay Water will convene an expert peer review panel to provide technical expertise through the design and permitting process.

The process to design and fix the reservoir is expected to take several years. In the meantime, Tampa Bay Water will continue to meet the daily drinking water demands of the region with surface water, groundwater and desalinated seawater.