

**Abstract**

Embodiments relate to systems and methods for managing wastewater and filtration membranes. The system includes a wastewater inlet to provide wastewater to be treated to a main treatment system. The system includes a membrane filtration inlet, one or more filtration membranes, and a membrane filtration outlet assembly. The wastewater is treated to arrive at a treated wastewater and a rejected wastewater. A portion of the treated wastewater is directed to a flushing assembly wherein the portion of the treated wastewater is stored in a flushing storage for use during the membrane flushing process. Responsive to a determination that a saturation index of the wastewater and/or treated wastewater meets a trigger condition for a flushing state, the system is configurable or configured to transition into a flushing state from a default treatment state. The stored portion of the treated wastewater is provided to the system for membrane flushing process.

[FIGURE 1]