

2017 Carbon Treatment Plant Project Plan

Project Overview:

In 1996 the United States Congress amended the Safe Drinking Water Act requiring the Environmental Protection Agency (EPA) to develop rules to balance the risks between microbial pathogens and disinfection byproducts (DBPs). In December 1998 the EPA promulgated the Stage 1 Disinfectants and Disinfection Byproducts Rule and Interim Enhanced Surface Water Treatment Rule (Stage 1). In January of 2006 the EPA promulgated the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2). Stage 2 requires water system serving a population greater than 500 to complete a Stage 2 Compliance Monitoring Plan and begin complying with monitoring requirements of Stage 2 no later than April 1, 2012 and begin complying with Stage 2 MCL's requirements no later than January 2013.

In accordance with the bilateral agreement with the Washington State Department of Health (DOH), Surfside will build a new treatment plant with the purpose of complying with State and Federal DBPs rules.

Contingent on final design approval, the treatment plant will consist of:

1. A 900 square foot pole barn style building; and
2. Two filter vessels 10 feet in diameter and 22 feet tall and related appurtenances; and
3. Water transition line modifications and additions; and
4. Backwash water settling pond approximately 2,800 square feet with a capacity of 40,000 gallons along with related transition lines and appurtenances; and
5. Road restoration and paving of Booster Station parking lot.

Project Schedule:

On October 5, 2015, Surfside Homeowners Association was issued a Notice of Violation and a Bilateral Compliance Agreement (BLCA) by the DOH for failure to comply with state and federal rules for Maximum Contaminant Level of disinfection byproducts (primarily chloroform and Trihalomethane). The BLCA gave Surfside two intermediate deadlines and a final compliance deadline of September 1, 2018. The first intermediate deadline, design and planning, was extended by the DOH from September 1, 2016 to March 1, 2017, provided that the second intermediate deadline, September 1, 2017, construction and commissioning and the final deadline, compliance with state and federal DBPs rules are not altered.

This project has three phases:

Phase 1 ----- Design and DOH Design Approval
Phase 2 ----- Construction
Phase 3 ----- Compliance

The project schedule for each phase:

Phase 1 ----- January 2016 to January 2017

Phase 2 ----- February 2017 to September 2017
Phase 3 ----- September 2017 to September 2018

List of Materials & Equipment:

900 Square foot pole barn style building ----- 1 ea.
Concrete Slab 900 SF - Thickened edge ----- 23 CY.
Carbon treatment filter and appurtenances ----- 1 ea.
8-inch C-900 pipe ----- 600 lf.
8-inch ductile iron pipe ----- 800 lf.
Ductile/cast iron fittings ----- 2,800 lbs.
Valves 8-inch ----- 6 ea.
60,000 to 80,000 Lbs excavator (30 day rental) ----- 1 ea.
Foundation gravel (4" minus) ----- 450 tons.
3/4" minus crushed rock ----- 125 tons.
Asphalt paving 4" ----- 125 tons.

High Level Budget:

High Level Project Milestones:

Phase 1 Design and DOH design approval ----- \$ 54,000
Phase 2 Construction ----- \$550,000
Phase 3 Compliance ----- \$ 7,500
Total Estimated Project Cost ----- \$611,500
Phase 1 funds were budgeted in 2015 and 2016 and are to be rolled over into 2017 to complete the project. There is \$46,000 unfunded from that account. The estimated cost of DOH project review and approval is \$8,000.

Construction Sources:

Surfside Homeowners Association will be the Owner / General Contractor on this project. Construction will be performed by:

1. Building Contractor; and
2. Electrical Contractor; and
3. Paving Contractor; and
4. Surfside Water Department crew.

Project Expectations:

The expectations of the Carbon Treatment Plant project are:

1. Comply with State and Federal rules related to disinfection byproducts; and
2. Improve the aesthetic aspects of Surfside's water by improving the taste and reducing the yellow/brown color.

Project Risks:

Potential risks for the project are few. The risks to project success are:

1. **Force Majeure.** Inability to complete all planned work due to disruptions from storms, earthquakes or other acts of nature.

2. **Lack of Management Control.** The Water System Manager, acting as Project Manager, is responsible for overseeing the engineers, surveyors, contractors, purchasing, project budget, and compliance with approved plans and specifications of the facility. The risks to management control include but are not limited to, lack of support for the Project from the Board of Trustees or inappropriate involvement in the management of the Project by individual Trustees.
3. **Unforeseen Conditions.** Even with the best engineering and planning, the potential for unforeseen conditions on a project cannot be eliminated. Unforeseen conditions may cause a delay in the schedule, an unexpected increase in project cost, or both.
4. **Loss of Key Employee.** The Water Department is made up of skilled and semiskilled employees. The loss of one or more of the skilled employees will greatly increase the cost of completing the project.

Outside Resources:

The need for outside resources on the Carbon Treatment Plant project are anticipated to be:

1. Civil Engineer, Structural Engineer, and Surveyor.
2. Building Contractor.
3. Cement Contractor.
4. Asphalt Paving Contractor.

Map:

