




**AGENDA  
BILL  
Item 7.A**

**Sudden Valley Water Treatment Plant  
Alternatives Analysis  
Briefing #3**

DATE SUBMITTED:	December 17 , 2020	MEETING DATE:	December 30, 2020
TO: BOARD OF COMMISSIONERS	FROM: Bill Hunter, Assist. GM/District Engineer		
GENERAL MANAGER APPROVAL			
ATTACHED DOCUMENTS	1. Draft Technical Memorandum – Filtration System		
TYPE OF ACTION REQUESTED	RESOLUTION <input type="checkbox"/>	FORMAL ACTION/ MOTION <input type="checkbox"/>	INFORMATIONAL /OTHER <input checked="" type="checkbox"/>

**BACKGROUND / EXPLANATION OF IMPACT**

The existing Sudden Valley Water Treatment Plant (SVWTP) is located along Morning Beach Drive near the shores of Lake Whatcom and was constructed in 1972. The treatment plant utilizes chemical coagulation, flocculation, rapid media filtration, chemical pH adjustment, and gas chlorine disinfection prior to temporary storage within a 225,000-gallon reservoir also located at the site.

In July 2020, Gray & Osborne (G&O) completed a condition assessment in which engineers evaluated the SVWTP from a process, structural/architectural, mechanical, and electrical perspective. The assessment identified both high and low priority items that should be completed to maintain current and reliable function of the SVWTP into the future.

Following the condition assessment, G&O was contracted to perform an alternatives analysis to help the District select and prioritize specific short- and long-term improvements to the treatment equipment and processes currently in use. The work has been broken down by major systems. For each system, G&O will develop alternatives and document each in the form of a technical memorandum. The results from each system analysis will be presented to the Board at regularly scheduled board meetings.

All of the technical memoranda will ultimately be attached and summarized in an Alternatives Analysis Report. The Report will include comparisons and rankings, recommendation on modifications to system, cost estimates, figures to relay relative space requirements, and more.

The major systems as written in the scope of work agreement are:

- Pump Performance Test *(Presented to Board 9/30/2020, Briefing #1)*
- Chemical Systems Analysis *(Presented to Board 11/25/2020, Briefing #2)*

- Disinfection Systems Analysis
- Backwash Systems Analysis
- **Filtration System Analysis**
- Tier 2/3 Seismic and Structural Analysis *(Presented to Board 11/25/2020, Briefing #2)*
- Structural/Arch Workspace Analysis
- NACE III Coating Inspection *(Presented to Board 9/30/2020, Briefing #1)*

G&O has completed the Filtration System Analysis. The draft technical memorandum is attached. The consultant will summarize explored alternatives in a presentation, and collect Board comments or questions.

During District staff review and discussions of the preliminary draft of the Filtration System Analysis, several key long-term goals and objectives were identified in the process of trying to select a recommended filtration alternative. Staff struggled with selecting a recommended alternative at this point in time. At the end of that effort both staff and G&O all agreed that recommending a filtration alternative is premature until the remaining systems are analyzed. Alternatives developed in the Filtration System Analysis are the puzzle pieces that will be used to create the best whole solution that takes into account all various systems, long-term goals, objectives, and system investment costs.

Below is list of key long-term goals and objects developed by staff while trying to select a recommended alternative. Staff invites the Board and interested public to consider these goals, maybe edit/refine them, or suggest additional ones. As the District begins evaluating the numerous combinations of subsystem alternatives of a whole solution, this list will help highlight the best ones. In no particular priority the key long-term goals and objectives so far are:

- Enough space, efficient layout, and redundancy so that all major systems and components can be replaced or rehabilitated over many decades beyond the 20-year planning horizon. Current space and layout prohibit this.
- Plant capacity for full build-out of system.
- Any equipment or process changes continue to deliver some of the best drinking water quality in the state of Washington. The District has been one of four plants to receive the Department of Health's Platinum Award for 15 or more years of consecutive years of optimization, and staff would like to continue meeting this high standard.

### **FISCAL IMPACT**

This presentation is for discussion only; it is too early in the planning process to estimate fiscal impacts of plant improvements.

### **APPLICABLE EFFECTIVE UTILITY MANAGEMENT ATTRIBUTE(S)**

Product Quality

Operational Optimization

Infrastructure Strategy and Performance

Water Resource Sustainability

**RECOMMENDED BOARD ACTION**

No action is recommended at this time.

**PROPOSED MOTION**

Not applicable.