




**AGENDA
BILL
Item 7.A**

**Sudden Valley Water Treatment Plant
Alternatives Analysis
Briefing #6**

DATE SUBMITTED:	April 5, 2021	MEETING DATE:	April 14, 2021
TO: BOARD OF COMMISSIONERS	FROM: Bill Hunter, Assist. GM/District Engineer		
GENERAL MANAGER APPROVAL			
ATTACHED DOCUMENTS	1. Draft Technical Memorandum – Structural/ Architectural Analysis		
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 *(Presented to Board 2/10/2021, Briefing #4)*

- Backwash Systems Analysis *(Presented to Board 3/10/2021, Briefing #5)*
- Filtration System Analysis *(Presented to Board 12/30/2020, Briefing #3)*
- 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 Structural and Architectural Systems Analysis. The draft technical memorandum is attached. The consultant will summarize alternatives in a presentation, and collect Board comments or questions.

During the December 30, 2020 Briefing #3 on the Filtration System Analysis, six (6) long-term goals and objectives were introduced for consideration and discussion. Staff continues to invite the Board and interested public to consider these goals, edit/refine them, and suggest additional ones. As the District begins evaluating the numerous combinations of subsystem alternatives of a whole solution, these goals list will help highlight the best ones. In no particular priority the key long-term goals and objectives so far are:

- G1 - Maintain exceptional water quality performance record
- G2 - Accommodate immediate need for additional space and separation of chemicals/electrical equipment
- G3 - Provide adequate equipment and process redundancy
- G4 - Improve access and flexibility for equipment repair/rehabilitation and/or future expansion
- G5 - Provide capacity for full buildout flow (1,400 gpm)
- G6 - Provide treatment equipment for 30-50 year time period

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.