

ANNUAL REPORT

Stratford Village Storm Water Lift Station

February 2021

(This Page Left Intentionally Blank)

TABLE OF CONTENTS

Introduction	1
Service Program Description	1
SCADA System	2
Budget Estimates	3
Capital Replacement Fund	4

INTRODUCTION

The City of Hayward requested the Alameda County Flood Control and Water Conservation District (District) to operate and maintain the Stratford Village Storm Water Lift Station (SWLS). The SWLS was constructed in conjunction with City of Hayward Tracts 6472, 6560, 6683 and 6684, known as the Stratford Village Project (Project). Drainage from the Project enters the District's Zone 3A, Line B, flood control channel.

On August 29, 1995, the City and the District entered into an agreement where both parties agreed that it would be appropriate for the District to maintain the SWLS for more dependable storm water management.

The agreement states that the City will provide funds for maintenance and operation services and a capital equipment replacement fund. The City will provide funds for modifications that may become necessary for the normal and safe performance of the SWLS. It also states that the City will reimburse the District for unforeseen or emergency repairs, equipment replacement or modifications to keep the SWLS in normal, safe operating condition.

The District agreed to furnish the City an itemized estimate of the cost to operate, maintain and supplement the capital equipment replacement fund each year.

SERVICE PROGRAM DESCRIPTION

Maintenance services include maintenance inspection, preventative and routine maintenance, equipment and material charges. Desilting is provided approximately every other year. Administration includes budget and report preparation, correspondence, bill processing, contract administration and records maintenance. The estimated capital replacement fund is based on 1.5% to 1.8% of the total construction cost.

SCADA SYSTEM/STATION EVALUATION

The Supervisory Control and Data Acquisition (SCADA) came on line in December 2004. The District hired TJC and Associates in 2017 to review the existing system Countywide and provide an evaluation/design to upgrade the system to meet current standards. Based on their evaluation/design it was determined that a complete system overall was required which included the Turner Court Control center, Repeater Sites, and all 22 storm water pump stations. The costs to upgrade each of the stations as well as a prorated share of the control center and repeater sites per station was determined. The associated costs are shown in the Capital Fund Replacement Section of this Annual Report.

The District also hired a consultant, Wood Rogers to perform a Pump Station Condition Assessment Rehabilitation Study and Pump Performance Evaluation to determine potential items required to provide rehabilitation to the pump station systems. "Rehabilitation" includes the actions necessary to restore the pump station facility to its original design function, particularly to its original level of service (capacity). The rehabilitation items were ranked from highest priority

to lowest priority. Priority 1 Items (that are recommended to be repaired/replaced immediately) are either critical to flood control functionality or are critical to life and safety and are not currently functioning. Priority 2 items (that are recommended to be repaired/replaced in the next 0-5 years) are critical to flood control functionality but are currently functioning. Priority 3 items (that are recommended to be repaired/replaced in the next 0-5 years) are not critical to flood control functionality. Priority 4, 5, and 6 items (that are recommended to be repaired/replaced in 5-10 years, 10-15 years, and 15-20 years, respectively) are lower priority items that are based on adjusted remaining useful life. The results were as follows:

1. **There are no priority level 1 recommendations.**

2. **Overhaul/Inspect Pump 1:** Pump flow testing indicates that the pump is performing poorly at 69% of original manufacturers flow capacity. A factor inspection/overhaul is recommended to: clean/inspect impeller, measure motor resistance, replace submersible cable, replace mechanical seas, change lubricant, and replace cable seals.

Overhaul/Inspect Pump 2 & 3: Pump flow testing indicates that the pump is performing poorly at 57% to 61% of original manufacturers flow capacity. A factor inspection/overhaul is recommended to: clean/inspect impeller, measure motor resistance, replace submersible cable, replace mechanical seas, change lubricant, and replace cable seals.

3. **Recoat building wood facia and soffit:** The coating is starting to fail and is recommended to be recoated to prevent dry rot and other damage to exterior building wood materials. **Desilt gravity bypass:** The gravity bypass flap gate has been silted in and not able to open. Consequently, the gravity bypass is currently not functional. It is recommended that the gravity bypass be desilted to restore functionality.

Overhaul/Inspect Sump Pump: The sump pump is 24 years old and has not been pulled for service and inspection. Manufacturers recommend overhaul/inspection every 5 years. A factor inspection/overhaul is recommended to: clean/inspect impeller, measure motor resistance, replace submersible cable, replace mechanical seas, change lubricant, and replace cable seals.

Replace sacrificial zinc anodes: The sacrificial zinc anodes at the discharge flap gates are missing or consumed. It is recommended to replace the sacrificial zinc anodes to prevent corrosion and preserve the useful life of the equipment.

4. **Replace Roof:** Currently the roof is visually in good condition, however it is 25 years old and reaching the end of its useful life. It is recommended to be replaced in 5-10 years.

Recoat discharge flap gates: The coating is starting to fade and will likely start to fail in 5-10 years, however the cast iron is still in good condition. The discharge flap gates are recommended to be recoated to preserve the service life and performance.

5. **There are no priority level 5 recommendations.**

6. There are no priority level 6 recommendations

The associated costs are shown in the Capital Fund Replacement Section of this Annual Report.

BUDGET ESTIMATES for Operation & Maintenance

The District prepared a complete audit of the Operation & Maintenance over the life of the contract between the City and District. The O&M costs for FY 20/21 to date and estimated to be \$18,000.

For FY 2021/22, the following costs are estimated for O&M only under the contract.

**Stratford Village Storm Water Lift Station
2021-2022 Fiscal year**

(July 1 2021-June 30, 2022)

Estimated Expenditures

Materials, Fuel and Oil	\$100
Communication Services	\$225
Bay Area Air Quality Control District Permit	\$585
Hazard Waste Mgmt. Regulatory Program	\$0
M&O Administrative Services	\$33,000
Additional Pump Work Est.	\$0
SCADA	\$0
Capital Replacement Fund Payment	\$0
	<hr/>
Subtotal Estimated Expenses	\$33,910
	<hr/>
Total 2021-2022 FY Estimated Expenses	\$33,910

***Note:** These costs are for Operation & Maintenance only and do not include the estimated SCADA evaluation and installation costs and the station evaluation and recommended repair costs. We will need to begin funding of the Capital Replacement Fund once funding sources resolved.

CAPITAL REPLACEMENT FUND for SCADA and SYSTEM EVALUATION

The Capital Replacement Fund (CRF) for the Stratford Station has been used to pay for the Front End Design Costs of the SCADA and the Actual Pump Station Rehabilitation Study. It was agreed with the City that the CRF would be used to pay any outstanding consultant costs associated with the SCADA design and Evaluation and the Pump Station Evaluation.

The estimated construction costs associated with these studies are as follows:

Item	Description		Amount
SCADA	Estimated Costs	Construction	\$255,000
Rehab (0 – 5 years)	Estimated Costs	Construction	\$49,248
Rehab (5 – 10 years)	Estimated Costs	Construction	\$33,241
Total	Estimated Costs	Construction	\$337,489

The total Design/Evaluation/Construction Costs for all of these items is \$466,646. With an existing CFR of \$87,597, this leaves an outstanding balance of \$379,049 to needs to be addressed. The District understands that the City will be working with the property owners and the District on determination of payment options available. These have not been determine at this time. As stated in the previous year’s Annual Report, our recommendation is that this costs be paid over a two year period unless an alternative schedule for repayment can be provided. Since the SCADA work on the Stratford Station has not begun yet we estimate the first installment of \$189,525 would be due in FY 2021/22.

