



Agenda Date: 2/17/2021

Agenda Placement: 8A

Napa Sanitation District Board Agenda Letter

TO: Honorable Board of Directors
FROM: Timothy Healy - General Manager
NS-Technical Services/Engineer
REPORT BY: Matthew Lemmon, Senior Civil Engineer - 707-258-6004
SUBJECT: Accept the Collection System Master Plan

RECOMMENDATION

Accept the Collection System Master Plan dated February 2021.

EXECUTIVE SUMMARY

The Collection System Master Plan (CSMP) defines service levels and design criteria for the Collection System facilities. For the most part, these service levels and design criteria have been standard NapaSan practice for many years. Acceptance of the CSMP will formally set these service levels and design criteria as official NapaSan practice.

In addition, included in the CSMP is a listing of capital project recommendations for the next ten years. These projects include work on specific, known locations to reduce Inflow and Infiltration (I/I) and studies on other locations that may be candidates for additional I/I reduction projects. The recommendations are based solely on modeled hydraulic performance so the CSMP recommends that NapaSan reassess project priorities based on other factors such as condition assessment and risk. The overall goals of these projects are to reduce sanitary sewer overflows, renew/replace assets, and minimize the need for large-scale capacity improvements.

The full CSMP report, including appendices, is 616 pages and can be accessed on NapaSan's website by using the following link: <http://www.napaslan.com/202/Management-Planning>. The executive summary is 10 pages and provides a good summary of the full report. The executive summary is attached to this staff report.

FISCAL & STRATEGIC PLAN IMPACT

Is there a Fiscal Impact? No

ENVIRONMENTAL IMPACT

Acceptance of the CSMP is not a project under the California Environmental Quality Act (CEQA). Acceptance of the master plan does not constitute or authorize the approval of any future project or activity identified in the master plan. These projects are subject to future approval by NapaSan and may be subject to change as more detailed plans are formulated during the formal project approval process. These future projects will be subject to compliance with CEQA as applicable. No physical changes to the environment from these projects will occur without required CEQA compliance. The discretion of NapaSan to approve, approve with conditions, or disapprove these projects following the completion of any required CEQA environmental review is not limited by the acceptance of the master plan. The future projects and activities described in the master plan are conditioned upon and may be modified based on any mitigation measures imposed in connection with CEQA review and any review and approval of entitlements or permits required by other agencies for the project or activity.

BACKGROUND AND DISCUSSION

Purpose of a Collection System Master Plan (CSMP)

- | The primary goal of the CSMP is to identify a plan for long-term collection system reliability by evaluating the anticipated service levels required against the existing and planned demands on the system.
- | The hydraulic analysis of the collection system conducted in the CSMP will comply with the requirements of the State regulatory requirement known as the "Sewer System Management Plans".

How the CSMP Was Prepared

Study Area

- | The CSMP study area is consistent with NapaSan's Sphere of Influence.
- | The planning horizon for the CSMP is the year 2040, which corresponds to the City of Napa General Plan Update currently in progress.

Hydraulic Model

- | A dynamic, all-pipes hydraulic model of the collection system was created. This model represents a significant improvement in technology over the model developed for the 2007 CSMP, which only modeled pipes 10-inch and greater in diameter (representing approximately 27% percent of the total pipelines in the collection system).
- | Existing flow monitoring data from previous studies and new additional flow monitoring were used to calibrate the hydraulic model.
- | Both dry and wet weather flow scenarios were simulated for current and buildout (2040) conditions. For the wet weather scenarios, 3-, 5-, and 10-year design storms were modeled to develop project priorities.

Findings in the CSMP

- | The collection system has adequate capacity to handle future dry weather flows.

- | Wet weather flows due to Inflow and Infiltration (I/I) create capacity deficiencies.
- | NapaSan's I/I program has been successful in removing I/I from the system and reducing both the quantity and magnitude of capacity deficiencies.
- | Due to the success of the I/I program, the CSMP recommends that NapaSan continue the program.
- | The hydraulic model predicts that NapaSan will see significant decreases in system-wide sanitary sewer overflows during wet weather events after completion of projects recommended by the 10-year CIP.

Recommended Plan for the Collection System

- | Complete a 10-year CIP that rehabilitates or replaces approximately 2% of the collection system per year in strategic I/I reduction projects.
- | I/I reduction projects will be conducted in locations within the collection system where high rates of I/I have been identified.
- | When feasible, NapaSan will conduct pre- and post-project flow monitoring to determine the actual reduction in I/I achieved for each CIP project.
- | In 7-10 years, NapaSan will update the hydraulic model with a new master plan to re-evaluate the success of the program and reestablish project priorities.

SUPPORTING DOCUMENTS

- A . Presentation Slides
- B . CSMP - Executive Summary

Napa Sanitation District: Approve

Reviewed By: Timothy Healy