

**SANITARY DISTRICT NO. 5 OF MARIN COUNTY
2001 Paradise Drive
Tiburon, California 94920**

AGENDA

Capital Improvement Program Committee Meeting

Thursday, January 12, 2023, 4:30 p.m.

CORONA VIRUS (COVID-19) ADVISORY NOTICE

Consistent with Executive Orders No. N-25-20 and No. N-29-20 from the Executive Department of the State of California, the Meeting will not be physically open to the public and all Board Members and Staff will be teleconferencing into the meeting.

How to Submit Public Comments:

Comments submitted prior to the commencement of the meeting will be presented to the Committee and included in the public record for the meeting.

Public Comments are to be submitted via email to rdohrmann@sani5.org.

In addition, members of the public who are calling-in will have the opportunity to provide public comments by following the steps below:

How to Participate in the Meeting:

Join Zoom Meeting by clicking on the following link:

<https://us02web.zoom.us/j/6230620778>

Meeting ID: 623 062 0778

or join by phone:

Call in number: (669) 900-9128

Participant Code: 623 062 0778

I. Roll Call

II. Public Comments

III. New Business

- 1. Verbal update re 2022 Sewer Rehab Project – Tiburon & Belvedere**
- 2. Review FY22-23 SD5 District-wide CCTV (closed circuit television) Project**
- 3. I&I investigation update**
- 4. Verbal update re Digester Rehab Project**
- 5. Verbal update re the CIP Projections & Optimization Project**

IV. Adjournment

*This Committee may be attended by Board Members who do not serve on this committee. In the event that a quorum of the entire Board is present, this Committee shall act as a Committee of the Whole. In either case, any item acted upon by the Committee or the Committee of the Whole will require consideration and action by the full Board of Directors as a prerequisite to its legal enactment. **Accessible public meetings:** Any member of the public who needs accommodations should email the Office Manager, at rdohrmann@sani5.org, who will use her best efforts to provide as much accessibility as possible while also maintaining public safety.*

Agenda – Notes of Explanation
Sanitary District No. 5 CIP Committee Meeting
January 11, 2023

Review and discuss recommended CCTV project for Fiscal Year 2023-2024

STAFF REPORT:

The District last completed a major CCTV (Closed circuit television) project of the collection system in 2005-2006. This work was completed by Harris and Associates. This work was originally conducted as a Belvedere Project to begin with in anticipation of annexation of Belvedere into the District, followed by the Tiburon portion of the work a few months later. As reported in our Collection System Master plan from a year ago- the current data in our system is now approaching 20 years, from time to time staff personal televise problem sewer lines with a lateral camera, but that work is for troubleshooting purposes only. There are several line segments in the system that do not have completed video reports due to unsuccessful cleaning of the pipes prior to the 2005 project. This lack of current data, creates issues for staff when responding to SSO's. It also hampers the Districts ability to select the correct lines for rehabilitation because there maybe lines that have deteriorated faster than others as mention in the collection system master plan.

As part of one of the recommendations from the Collection System Master Plan and also a requirement in our Main Plant NPDES permit, I believe its time to generate a request for proposal to clean all of the gravity sewer lines in the Districts service area that have not been recently repaired or rehabilitated and CCTV the 40% of the sewer lines as identified in the collection system masterplan. Staff and I can work on the proposal to include only small machine cleaning and the rest of the lines will be cleaned in house in an effort to save on the cleaning costs of this project. The district currently contracts annually with sewer companies to clean the harder to reach sewer lines in the service area so we should not see an increase in cleaning costs. Part of the proposal will include providing CCTV videos performed by a licensed PACP professional and in a format suitable for quick upload into the Districts ARView GIS system database. There will also be component that includes an update to the Districts collection system masterplan to incorporate this new data and provided updated figures to the District's Master plan

FISCAL IMPACT:

It was estimated that the cost of the follow up CCTV would be in the ranges of \$450,000-\$500,000 for the 340 line segments (approximately 12 miles of pipe) this cost included cleaning.

CEQA (California Environmental Quality Act)

Exempt

Recommendation:

Consider adding this item to the upcoming 2023-2024 Fiscal year budget as a project.



Tony Rubio, District Manager

Attachment: Excerpt from SD5 Collection System Masterplan

5.1.2 Reinspection

The gravity mains recommended for CCTV inspection are a combination of pipes that have never been inspected, pipes that have inspection results showing inconsequential or no PACP defects, and pipes that have been previously inspected that should be reevaluated.

The decision support model relies on CCTV captured for analysis from about 15 years ago and therefore, it is likely that the system has continued to age and degrade after the analysis was completed, which is not accounted for in the model. In order to verify that these lower-grade issues have not become more urgent repairs, a degradation analysis is recommended. For the analysis, several pipes should be selected for another CCTV inspection. By comparing the current CCTV results with the original results, SD5 will be able to determine the amount of degradation that has occurred, which types of defects degrade the fastest, and if there are any that require urgent rehabilitation. SD5 can use this information to prioritize additional work for the remaining lower priority defects as well as more effectively plan future inspections.

There is approximately 45,000 feet of pipe in the system that has grade 4 and grade 3 defects. A degradation analysis can be performed on about 10 to 15 percent of these pipes, preferably selecting pipes with more than one defect. This analysis would cost between \$50,000 and \$75,000 to complete.

A breakdown of these gravity mains and their prioritized CCTV inspection recommendations by timeframe is shown in Table 42. Risk priority thresholds were assigned qualitatively based on the distribution of the results and represent relative priorities. Roughly 40 percent of the gravity main system is being recommended for CCTV inspections with varying priorities and time frames based on current information. However, this may drop significantly if it is determined that the system is deteriorating at a slower rate after completion of the Tier 1 inspections. This is discussed further in Section 5.6.1 under Additional Recommendations.

Table 42. Summary of prioritized CCTV inspection recommendations

Tier	Timeframe	Strategy	Count of gravity mains	Sum of miles	Percent of system	Follow up CCTV costs
1	0–5 years	Decision model	24	0.71	2%	\$26,115
		Degradation analysis		1.0 - 1.5	3% - 5%	\$75,000 (approx.)
2	5–10 years	Decision model	94	2.46	9%	\$90,748
3	10–15 years	Decision model	111	4.05	13%	\$149,553
4	15+ years	Decision model	111	3.78	12%	\$139,531
Grand total			340	12.00(approx.)	40%	\$480,947

Agenda – Notes of Explanation
Sanitary District No. 5 Regular Board Meeting
January 11, 2023

Review and discuss inflow and infiltration investigation update and possible next steps

STAFF REPORT:

Recently the District has received several back to back weather events that have produced a significant amount of rain fall in the Districts service area. The effects of the Districts sewer lateral program and on going sewer rehabilitation projects have made a noticeable difference in the Districts infiltration rates into the plant. There have been several storms now that have produced over an inch of rain per event and plant staff has been able to avoid blending. (Blending is the bypass of secondary treatment- primary treatment only) Blending occurs when flows top 2.3MGD. Although we have avoided blending during the smaller rain events there still is an uptick in flows into the plant. The flows into the plant are exacerbated during high tides. I am recommending that we couple an inflow investigation with the CCTV project to further identify inflow into the plant and thus work on eliminating it which would reduce district costs.

We can include this segment of work into the RFP for CCTV work.

FISCAL IMPACT:

Estimate not known at this time.

CEQA (California Environmental Quality Act)

Exempt

Recommendation:

Approve the addition of this inflow study into the with the CCTV RFP in the upcoming 2023-2024 Budget



Tony Rubio, District Manager

Attachments:

Excerpt from SD5 Collection System Master Plan

Based on the calculated KPIs, the following two sewer basins warrant further inflow investigation and remediation:

- **Basin 7 – 17 Peninsula:** This basin has substantially higher metrics in all categories than the other basins. Because it covers a very small area and has a low pipe mileage, it is potentially the most cost-effective opportunity to reduce a significant amount of inflow into the system.
- **Basin 1 – 2030 Paradise Dr.:** This is one of the larger basins monitored. It has the second highest R-factor and has high numbers in every category. This basin likely contributes a significant amount of I&I to the system because of its large size and high metrics.

The following sewer basins should also be considered due to unusual metrics:

- **Basin 6 – Beach at Cove:** This is the smallest basin in the study but produced a notable R-factor and very high peak I&I per gross acre. Because of its small size, it may be very cost-effective to target inflow reduction; however, the total volume reduction to the system will be much lower than for Basins 1 or 7.
- **Basin 2 – Raccoon at Central:** Even though this basin has a low R-factor, it has significantly high numbers in all categories and could provide significant reduction in I&I in the system.
- **Basin 4 – Marinero Circle:** This basin also has a notable R-Factor and could provide some reduction in overall I&I, but would not make as large an impact as the other basins because of comparably lower peak I&I numbers.