

**Director Siegfried Questions & Answer**  
**CARMEL AREA WASTEWATER DISTRICT**

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DATE: August 27, 2025

MEMO TO: Board of Directors

THROUGH: Domine Barringer, Board Clerk

FROM: Patrick Treanor, District Engineer  
Jeff Bandy, Principal Engineer  
Chris Foley, Facilities Manager  
Matt Green, Chief Plant Operator  
Mark Dias, Safety and Compliance Administrator  
Mohammed Serageldin, Laboratory Manager  
Simrandeep Singh, Laboratory Analyst I

SUBJECT: Responses to Questions From Director Siegfried Regarding August 2025 Board Packet

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**Summary:** The purpose of this memorandum is to provide responses to questions from the Board of Directors regarding the materials provided by staff in the August 2025 Monthly Board Meeting packet.

1. **Question:** p. 56: "... what protection protocols would be triggered at different particulate levels": Growing evidence that there is no safe, ambient concentration of airborne particulates. Practical considerations obviously require a graduated response. I would be interested in a report explaining to the Board how the protocols align with exposure risk.

**Response (Foley/Dias):** We can present in October the threshold or activity that triggers a protocol and how this reduces exposure risk. Cal/OSHA sets specific protocols at different levels. Our procedure aligns with those. Staff are in possession of relevant Cal/OSHA publications which, together, direct what needs to be done and when.

2. **Question:** p. 65: I got to wondering whether we need to print the disease graphs. We can look them up on the District site.

**Response (Treanor):** It's up to the board what they want to see. What is the direction from the board on what they would like to see in the report? Staff like the current presentation.

3. **Question:** p. 97: It seems to me that the requirement for a membrane cleaning is determined by more than the trans-membrane pressure differential. Might it also be the case that more frequent cleaning, i.e. at lower tmp differentials, extend the service life of the membranes? I think, but am not sure, that chemical and labor costs are comparatively insignificant compared to membrane replacement cost. I look forward to a near-future presentation on how CAWD will develop a testing program to answer these questions.

**Response (Foley):** There is a benefit to reduction in chemical usage as it has been suggested by some of our consultants that the chemical itself also wears down the life of the membranes. The initial reason is we are hoping that the reduction in cleaning will prolong the life of the membrane. The cost savings and labor savings are an added benefit. Watching TMP's is one of the indicators but operators are watching overall performance as well. If there are any indications that show this is not a benefit, we will go back to normal washing protocol.

- 4. Question:** p. 99: I am skeptical about the utility of averaging duplicate samples for the reason that averaging two samples can contaminate a reliable result with a suspect result. In my field, we typically drew a sample, homogenized it, and subsampled from it to create duplicate samples to send to labs. Might this be possible with the BOD analysis? Have we internally developed historical data about the amount of variation to expect? Are such available in the literature?

**Response (Serageldin /Singh):** We are doing exactly what you mentioned. We send only one homogenized subsample, and the lab prepares 3 different dilutions from the same sample according to the BOD protocol. We have a comparison between our internal values and the contractor lab values. Repeatability should be  $\pm 30\%$  whereas reproducibility could sometimes reach  $\pm 45\%$ . See Table 1 below.

- 5. Question:** p. 115: I am impressed with R.F. MacDonald Co.'s safety commitment. They claim good results. Are any of their association memberships of value to CAWD? Should Mark visit their operation?

**Response (Foley):** R.F. Macdonald is a quality company that places top priority on safety. I think it is an opportunity for Mark to reach out to their safety administrator to see what could be learned from their success. ISNetwork, AVETTA and Veriforce are contractor platforms for verifying safety compliance. CSRMA provides Target Solutions which is the equivalent tracking and compliance system along with their risk assessment survey to verify compliance. An update will be provided in October on the R.F. Macdonald communication and safety program.

- 6. Question:** p. 119: \$90k pays for a lot of generator maintenance. The discussion advances generator malfunction as the main reason for buying the pump. Should the money be spent on another generator?

**Response (Foley):** The pump is more versatile since a mechanical failure or electrical failure would be mitigated with a bypass pump where a portable generator would mitigate only a generator failure. Portable bypass pumps are also necessary when performing work on the electrical and generator systems since they are not reliant on pump station fixed equipment.

7. **Question:** p. 126: What is the estimated in-the-ground total project going to cost? How much is sunk?

**Response (Bandy):** The AACEI Class Level 3 OPCC provided by Kennedy Jenks in April 2024 based on the 30% design package was \$571,250 (+30%: \$742,625, -15%: \$485,563). This scope of work did not include undergrounding the PG&E service. While relocation of the PG&E and AT&T services will add some complexity and time to the overall effort, these changes in project scope are not expected to significantly impact project costs.

The total spent to date on the Gas and Water Main Replacement Project (now called the Utility Mains Relocation Project) is \$181,784. Here are the previous contracts related to these improvements:

- **Pre-design (March 2022):** The alternatives considered during this pre-design effort included relocating the gas and water lines either a) below the Carmel River, or b) along the current plant access road using horizontal directional drilling methods. An open-cut alternative to the HDD option along the former plant access road was also considered and was ultimately selected as the preferred alternative. The total cost of this pre-design effort was \$31,854.
- **30% design (August 2023):** After selecting the preferred alternative, CAWD hired Kennedy Jenks and their subconsultant Sandis were hired to complete 30% design plans to facilitate discussions with State Parks and to perform a detailed survey of the former plant access road. The total cost of this 30% design effort was \$149,930, and approximately 60% of this budget (\$89,550) was for surveying services.

The total approved CIP budget for this Project from FY2025/26 to FY2028/29 is \$1,520,000. The requested professional services contract for completion of the design documents and CEQA, easement, and permitting support is \$393,186, approximately 47% of which (\$184,885) is for CEQA and permitting support and optional services to be rendered if the surveyed project zone includes riparian habitat. The total proposed design, permitting and CEQA fees for this Project would total approximately \$574,970, of which about \$275k (or 47% of the overall design fees) are related to surveying, CEQA, and permitting efforts. The Project as presented is adequately funded in the current CIP budget.

8. **Question:** When will the Coastal Commission make their initial decision on whether to order CAWD to abandon the present treatment plant site?

**Response: (Bandy)** In April 2025, the District submitted a five-year progress report to the Coastal Commission, per Special Condition 7 of the District's Coastal Development Permit 3-82-199-A8 (CDP), whereby the District must provide updates to the local monitoring efforts identified in the 2020 Coastal Hazards Monitoring Plan Report and the 2022 Wastewater Treatment Plant (WWTP) Long Term Coastal Hazards Planning Roadmap, as required by Special Condition 8 and 9 of the CDP, respectively. These two previous reports established the basis for risk assessment from sea level rise and the associated plan for addressing these risks.

Prior to these two reports, the District completed a Sea Level Rise Study in 2018 that presented the results of the technical analysis to evaluate climate change-driven flooding impacts on the critical infrastructure at the WWTP and its ability to treat wastewater.

The 2020 Coastal Hazards Monitoring Plan Report identified the key indicators of coastal hazards related to sea level rise and climate change at the CAWD WWTP and the framework and parameters to analyze thresholds, define triggers, monitor regional projects, and respond to coastal hazards. The 2022 Long Term Coastal Hazards Planning Roadmap presented the District’s strategy to plan, develop, consider and implement a long-term solution to address flooding and related coastal hazards threats to the WWTP as these threats are increased by climate change. The current roadmap lays out the general plan for the next 40 years, and specific details are provided for the current planning horizon, which is the next 20 years.

Finally, in 2023, the District completed its WWTP Relocation Alternatives Analysis, which presented conceptual-level design information for relocation of the WWTP away from the coastal floodplain as an approach to mitigating long term coastal hazards associated with climate change and sea level rise.

The next step for evaluating sea level rise mitigation strategies, including protecting the WWTP (e.g., living shorelines or horizontal levees), accommodating WWTP infrastructure (e.g., watertight vault lids, constructing stem walls), retreating from the current WWTP site, or a hybrid approach will be included in the Phase 1 – Alternatives Analysis portion of the Implementation Plan, which will be provided to the Coastal Commission in 2040. Following completion of Phase 1, Phase 2 – Detailed Planning will take place over the subsequent 10 years, with the goal of providing a “shovel ready” solution. Finally, Phase 3 – Implementation would involve construction of the hazard mitigation over the subsequent 10 years, concluding in 2060.

The 2018 Sea Level Rise Study indicated that our best worst-case estimate of the timeline for major impacts to WWTP operations could be 60 years in the future (around 2080). Furthermore, the greatest effects would occur during extreme precipitation events (100-year storms) that have a low probability of occurring in any given year. Based on these studies, the District has not observed threats to the WWTP that would plausibly lead the Coastal Commission to require the District to relocate the WWTP in the current planning horizon of 20 years. The WWTP improvements included in the approved CIP budget are critical to continue the necessary level of service for the WWTP within the timeline of potential future mandate from the Coastal Commission to relocate the WWTP as part of an overall mitigation of hazards from sea level rise.

9. **Question:** No alternatives are presented.

**Response: (Bandy)** Assuming this question refers to Utility Mains Relocation Project, the alternative of replacing these lines using HDD was explored and rejected for the preferred alternative of a new open-cut alignment along the former plant access road in 2022.

10. **Question:** p. 132: The “below geotechnical considerations” eluded me. Is this a cut-’n-paste error?

**Response: (Bandy)** The “below geotechnical considerations” under Task 2.2 - Geotechnical Recommendations refers to those geotechnical issues that would be covered by Engco in their geotechnical recommendations letter as referenced in the Task 2 Deliverables listed below this paragraph.

11. **Question:** What are our NPDES requirements for total N and phosphorus?

**Response: (Green)** NPDES Order No. R3-2014-0012/NPDES No. CA0047996 does not include effluent limitations for total nitrogen or total phosphorous. The NPDES effluent limitations for ammonia (as N) are 73 mg/L (6-month median), 290 mg/L (daily maximum), and 730 mg/L (instantaneous maximum). Along with concentration limits, there are also limits in pounds 1,800 pounds (6-month median), 7,300 lbs (Daily maximum) and 18,000 lbs (Instantaneous Maximum). Due to the minimal amount of discharge, we are far below our limits. July 2025 ammonia results were 18,300 micrograms and 16.03 lbs/day. With a 6-month average of 16,700 micrograms and 35.6 pounds per day we are well under our limits.

Table 1: Comparison of 5-Day Biological Oxidation Demand Measurements between CAWD and MBAS

Date	Tertiary (mg/L)		CV %	Final (mg/L)		CV %	Influent (mg/L)		CV %
	CAWD	MBAS		CAWD	MBAS		CAWD	MBAS	
6/6/2025	3	4	29	10	10	0	NA	623	
6/13/2025	2	8	120	8	10	22	215	359	50
6/20/2025	3	3	0	9	10	11	459	295	44
6/27/2025	2	3	40	9	34	116	388	422	8
7/4/2025	3	5	50	10	11	10	313	347	10
7/11/2025	2	3	40	7	9	25	NA	361	
7/18/2025	2	2	0	8	6	29	547	671	20
7/25/2025	2	ND		9	6	40	424	432	2
8/1/2025	ND	3		10	6	50	464	377	21
<b>Average</b>			40			34			22