MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **November 19, 2026**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

SUBJECT: Information Regarding MWSD's 2026 Water System Master Plan Update

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The 2026 Water System Master Plan Update (2026 Master Plan) provides a current and long-term outlook of the water system's facilities and water supply planning to address the Montara Water and Sanitary District's (MWSD or District) current and future water demands. The 2026 Master Plan's demands and facilities assessment informs the recommended Long-Range (20-year) Capital Improvement Program (CIP) projects to fulfill the District's mission:

> *To sensitively manage the natural resources entrusted to our care, to provide the people of Montara-Moss Beach with reliable, high-quality water, wastewater, and trash disposal at an equitable price, and to ensure the fiscal and environmental vitality of the District for future generations.*

The objectives of this 2026 Master Plan include addressing the following key issues for the District's water system:

- Assess current and future water supply reliability to secure adequate daily domestic water service and fire protection for the District's customers;
- Assess the water system's historical water quality and treatment infrastructure reliability;
- Assess the hydraulic capacity of the District's existing distribution and storage facilities;
- Develop a long-range CIP to address existing deficiencies in the water system's infrastructure and to develop improvements needed to serve future water demands.

Summary

The following represents a summary of the results of the analyses conducted to develop the 2026 Master Plan:

1. **Supply Capacity**. MWSD has sufficient water source capacity to address the recently approved by the California Coastal Commission 40-unit annual average growth through 2050. The projected water demand would remain below MWSD's drought supply capacity. However, the 40 units added per year within MWSD's service area, would bring water demands within 90% of the available drought supply capacity. This threshold would require the District to initiate Phase 2 of the PWP, as established in Phase 1 of the PWP.
2. **Storage Capacity**. MWSD is in compliance with regulations related to water storage requirements and has sufficient storage to serve additional customers, through 2050. The MWSD storage goal ensures that the District is able to maintain water service to its customers through gravity flow with its stored water reserves for up to two (2) days in the event of a major power outage.
3. **Distribution Capacity**. The existing distribution system demonstrated adequate performance and capacity to accommodate current maximum day demand (MDD). Fewer than 4% of nodes failed to meet pressure criteria and no pipes exceeded headloss or velocity criteria. The nodes with inadequate pressure are concentrated in five locations in

the system. The future MDD analysis added no additional stressed areas of the distribution system, however the current locations failing the criteria increased in severity.

4. **Fire-Flow Capacity**. Overall, the District is largely able to convey adequate fire flow throughout the system. The system-wide fire-flow simulation shows that only 5% of the nodes in the distribution system were unable to provide adequate fire flow. The failing nodes are mostly located at the dead ends of small-diameter mains, which is to be expected, and does not necessarily reflect the overall ability of the system to supply fire flow to its connections.

MWSD Water System

The District owns and operates water supply, storage, treatment, and distribution facilities ("water system" or "water infrastructure") that provide potable water to nearly 7,000 people. The water system serves about 1,800 domestic and fire protection accounts and 27 commercial accounts, distributed among eight (8) pressure zones. The water served is diverted from a surface water source and extracted from eleven (11) groundwater wells that withdraw water from Montara Creek and Denniston Creek groundwater basins. The system also includes a surface water treatment plant (WTP), a groundwater WTP, two (2) wellhead treatment facilities, and seven (7) potable water storage tanks that have a combined capacity of about 1.4 million gallons (MG) for operational, emergency, and firefighting uses, and about 30 miles of distribution system pipelines.

Water Supply and Demand

MWSD is supplied by eleven (11) groundwater sources from the San Mateo Coastal Basin Aquifers and surface water from Montara Creek. Each source has a rated capacity established when it was first permitted and brought online, or following rehabilitation; the wells' rated capacities are used to determine the available supply capacity and the maximum allowable demand the water system can serve.

The **total rated capacity** of MWSD's sources combines the rated capacity of all the active sources and is currently 654 gallons per minute (gpm). Based on the production rates between 2023 and 2025, it is estimated that the system's average production rate of the wells while in operation was approximately 465 gpm, or about 71% of the total rated capacity.

The **reliable supply capacity** of the system is defined as the total rated capacity of the system with the largest source out of service. Assuming the Alta Vista Well is out of service, the reliable supply capacity of the system totals up to 504 gpm.

The **drought supply capacity** of the water system is defined as fifty (50) percent of the total rated supply capacity, which is a conservative planning value that represents severe drought conditions or can be representative of MWSD's operational scenario where several sources are out of service due for rehabilitation.

Existing supply sources are not always operated at their rated capacities based on demands or due to physical, operational, and other constraints due to localized hydraulic limitations year to year. Most sources operate at the reported rates for fewer than twelve (12) hours per day, and multiple wells are typically offline, or not operating at full capacity, to allow the most cost-effective and efficient sources to serve the water demands consistently. In addition, some sources are taken out of service during certain times of the year, depending on system demands, source conditions, and costs of operation.

MWSD's 2016-2025 water consumption data shows that water consumption generally declined from the 2016- 2017 period and then experienced a rebound. This rebound is a common water consumption trend following drought periods and coincides with the end of the strict State-mandated drought water use restrictions. The start of a drought period in 2020 and the COVID-19 pandemic both affected water use and shifted the water consumption trend. A significant decrease in water consumption is observed from 2020 to 2025 due to water restrictions and conservation efforts in response to state-wide drought conditions. The average water

consumption is estimated at 90.6 MG per year, or 246,509 gallons per day (gpd).

MWSD's source production is dependent upon customer consumption, as the sources produce water in response to customer demands. The difference between the water system's production and consumption rates represents system losses, known as non-revenue water.

Higher values are most likely due to (1) an increased number of main and hydrant replacement projects; (2) increased flushing activities of distribution mains and WTPs; and (3) distribution system leaks. Lower values are most likely due to drought restrictions and a District-wide reduction on O&M activities that require significant volumes of water (flushing, hydrant testing, etc). MWSD's average non-revenue water from 2016 to 2025 is approximately 9.6%, which is below current industry average range of 14%-19.5%.

Current and Future Water Demand
Since MWSD's water source production is directly dependent upon customer demand, recorded production values reflect the water system's demand and, in turn, the supply required to support the customers' water use. In accordance with section 64554 of the CCR, the system's average day demand (ADD) was established by averaging the ten (10) years of daily water production data, and maximum day demand (MDD) was established by determining the maximum day of production within the ten (10) year period.
Water Demand Projections

The demand projection assessment takes into consideration both MWSD's historical residential growth rate from 2016 to 2025 and the impact of the incoming large residential and commercial developments planned within the next five (5) years, by developing average demand calculations over the 2021-2030 period.

Distribution System and Storage Analysis
The District's potable water distribution system was simulated using the WaterCAD software to determine if system components adequately operate under various water demand conditions based on the design and operational criteria listed in the previous sections. The simulation software also allows the District to estimate how the water system will operate if new connections, supply sources, system improvements and/or storage facilities are added. The scenarios modeled include MDD conditions for current and projected scenarios (2035 and 2050) and system-wide fire flow analyses under the current and future (2035 and 2050) MDD scenarios.

The total required volume of storage in a water system includes water for operational, emergency, and firefighting uses. Operational storage is directly related to the amount of water necessary to meet peak demands, and therefore the only value related to the number of customers connected to the District's system. The intent of operational storage is to provide the difference in quantity between the customers' peak demands and the system's available supply. The volume of water allocated for emergency uses is decided based on the historical record of emergencies experienced, and on the amount of time which is expected to lapse before the emergency can be corrected. The National Fire Code, Insurance Service Office, and local Fire Department regulate water storage required for fighting fires.

Recommendation: Review report and comment. This is an informational item and no action by the Board is required.