NOTICE OF MEETING

CITY OF PACIFIC GROVE

CITY COUNCIL
AMENDED ERRATA SHEET

CITY OF PACIFIC GROVE

300 Forest Avenue, Pacific Grove, California 93950

ERRATA SHEET

TO: HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL
FROM: Sandra Kandell, City Clerk
MEETING DATE: 01/12/2022
SUBJECT: City Council Meeting Agenda- Errata Sheet

Attached is additional information for your consideration at the January 12, 2022 City Council Special Meeting:

Agenda Item	Information Provided/Corrected
3A	At the request of Councilmember Coletti, the following documents are added to the project record and attached hereto: CalAm Presentation (September 2021), MPWMD Board Meeting Agenda Item (October 2018), CalAm Final Urban Water Management Plan (June 2021) **AND Ct. of Appeals Case *Save Our Carmel River, et al. v. MPWMD, etal.***

Attachments

CalAm PPT
MPWMD Agenda Item
Final Urban Water PPT
Court of Appeal Lawsuit



Water Supply and Drought Update

September 2021

CALIFORNIA AMERICAN WATER



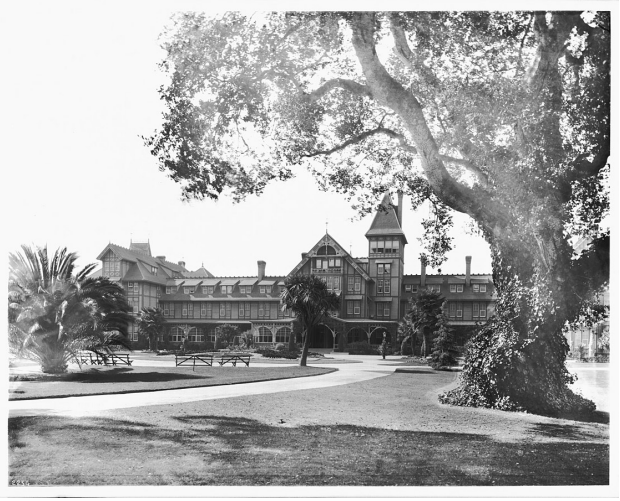
We deliver clean, safe, reliable water and wastewater to about 675,000 people statewide. In Monterey County we serve more than 100,000 people.

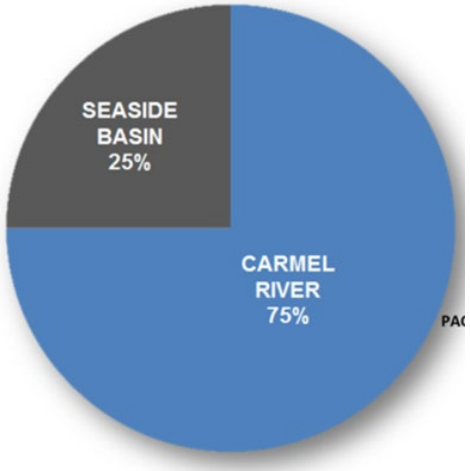
Water Quality/Consumer Confidence Reports (CCR) show perfect compliance.

Throughout COVID pandemic, we increased employee safety protocols, while continuing capital improvement projects.

Currently more than 40% spend with diverse vendors

Historic Water Supply



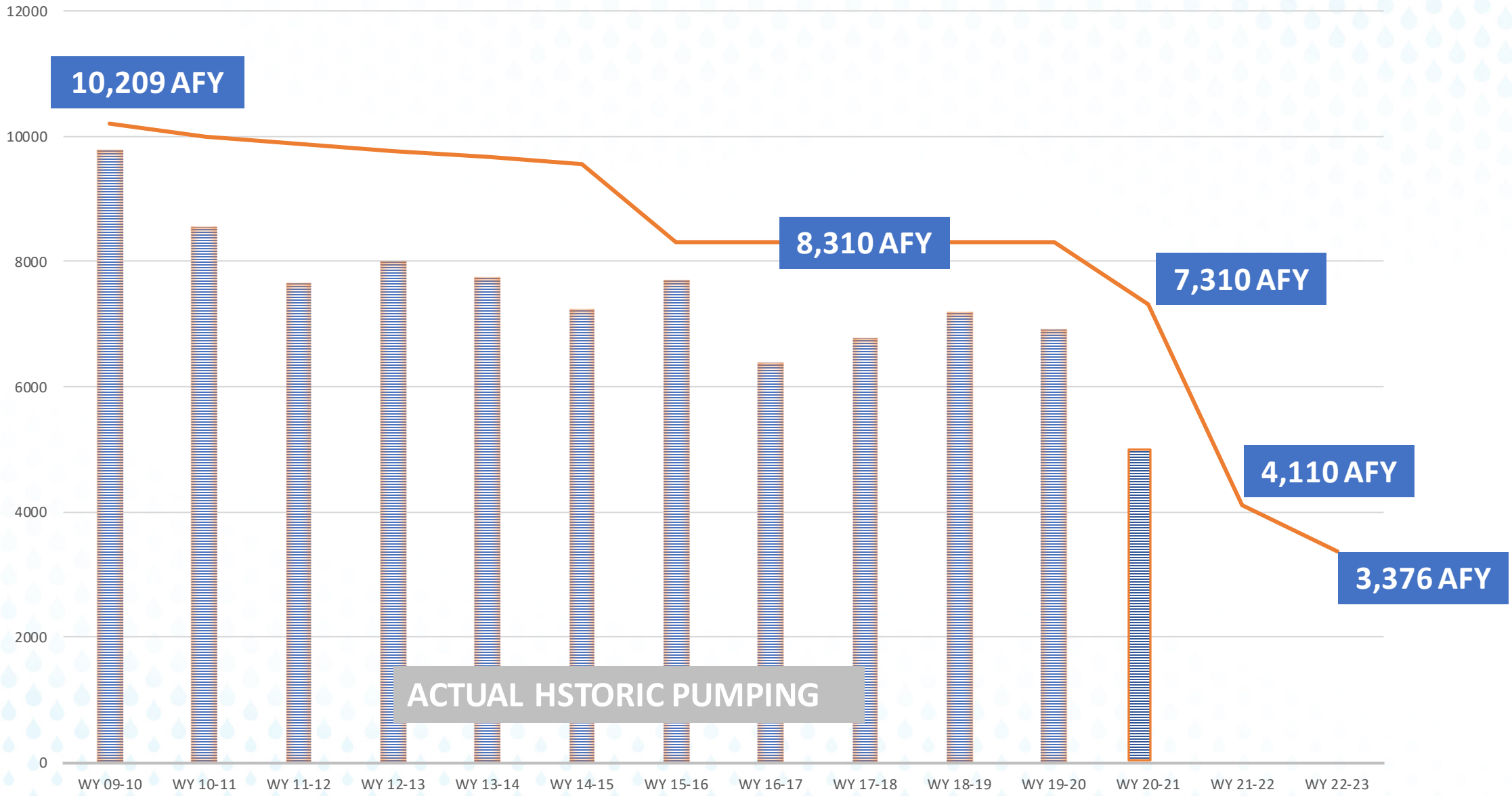


HISTORIC SOURCES

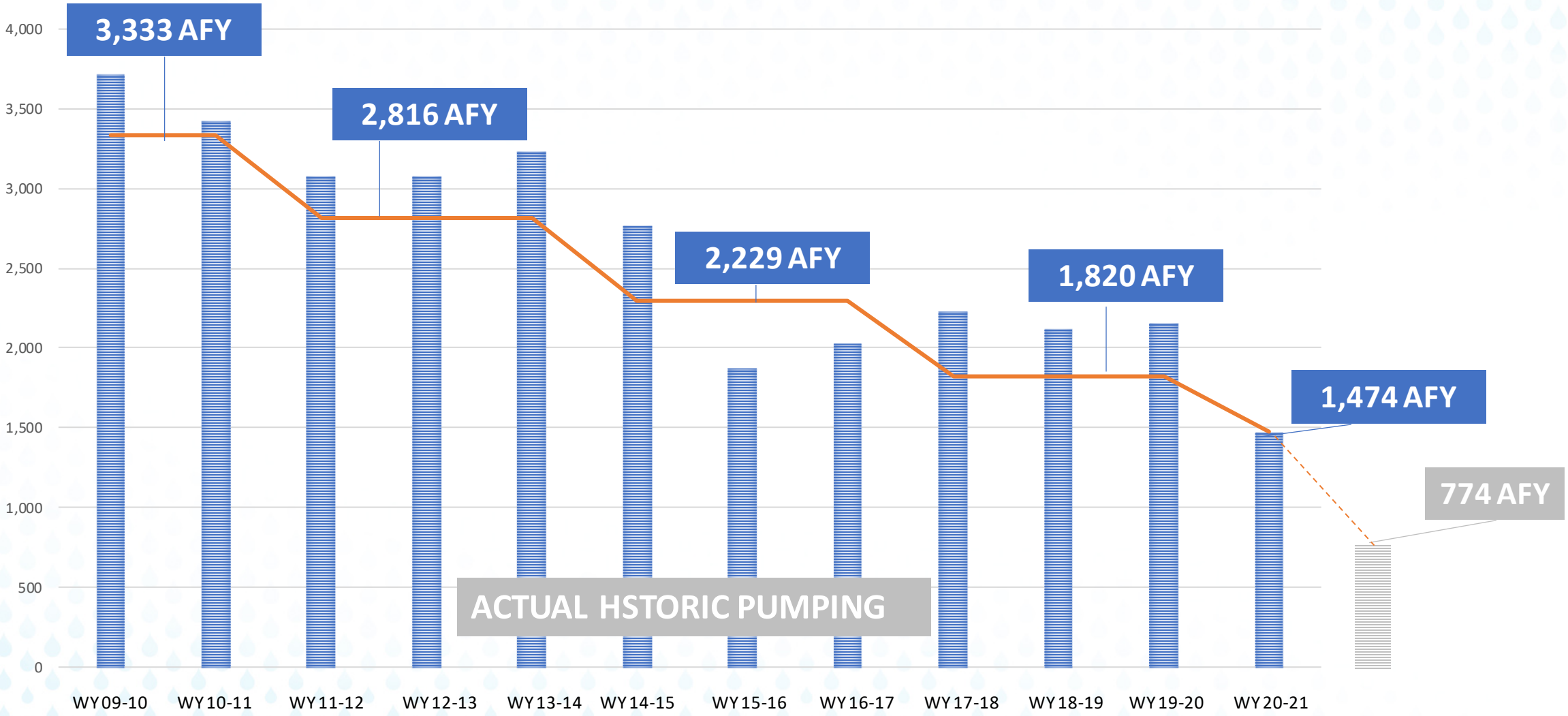
SEASIDE BASIN

CARMEL RIVER WATERSHED

Carmel River Authorized Diversions



Seaside Basin Water Reduction



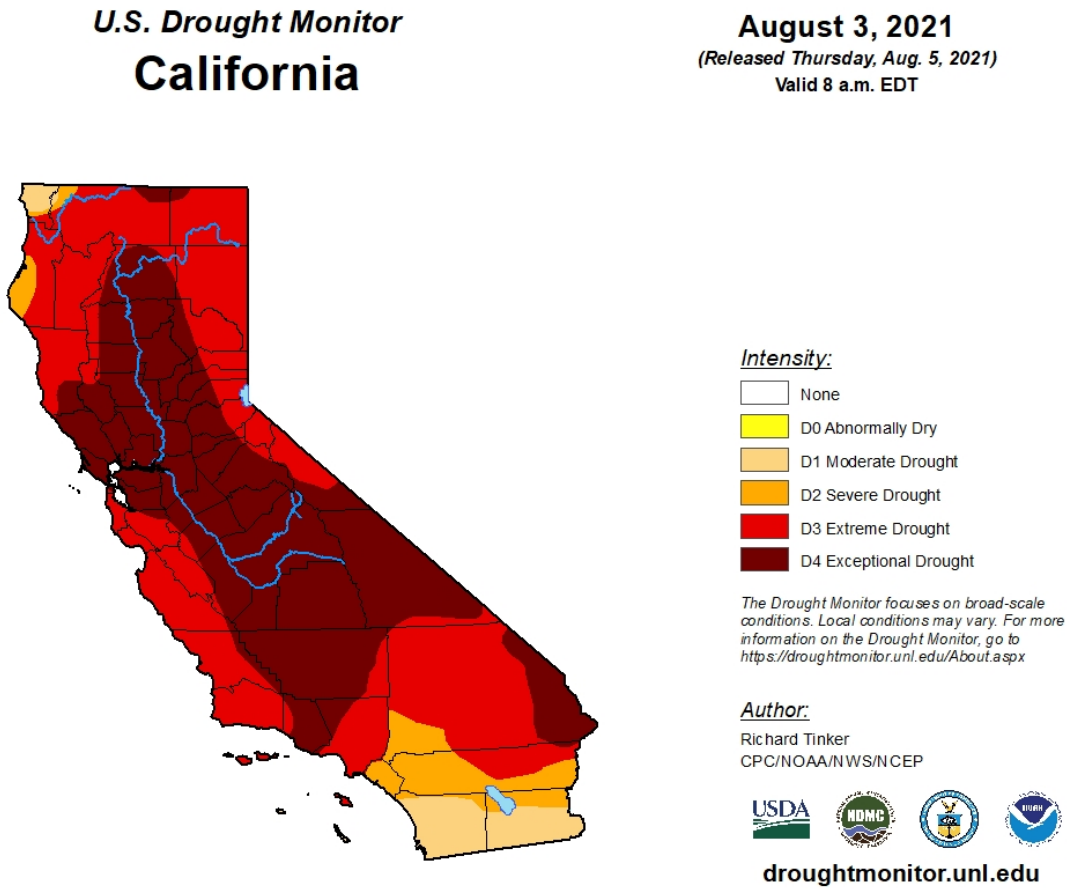
Supplies

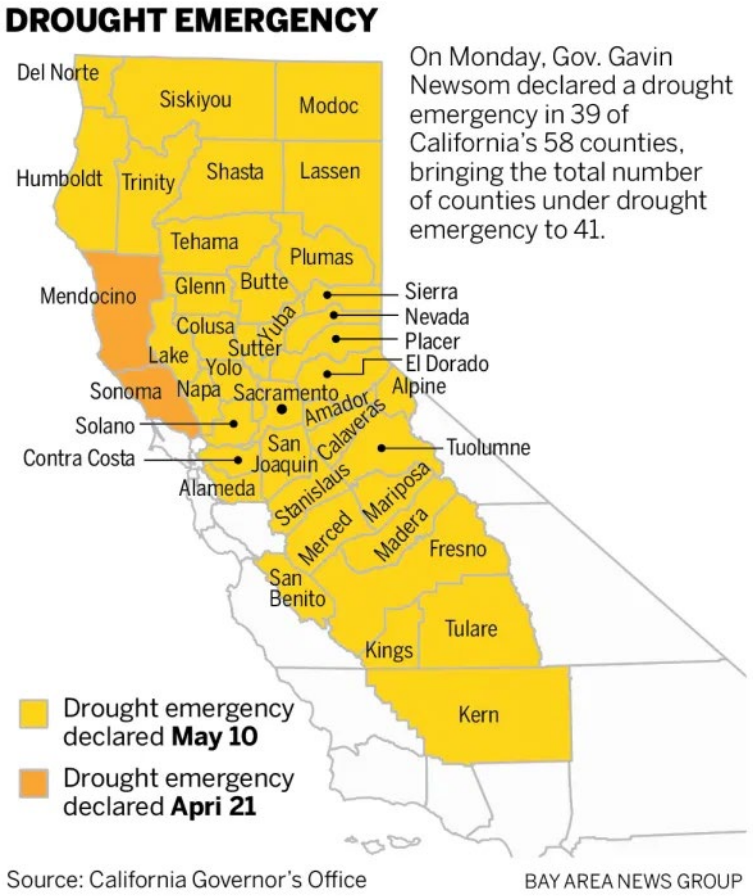
Currently Available:

- Groundwater from Carmel Valley Aquifer
- Groundwater from Seaside Basin
- Sand City Desalination Plant
- Aquifer Storage and Recovery (ASR)
- Pure Water Monterey indirect potable reuse



California Drought

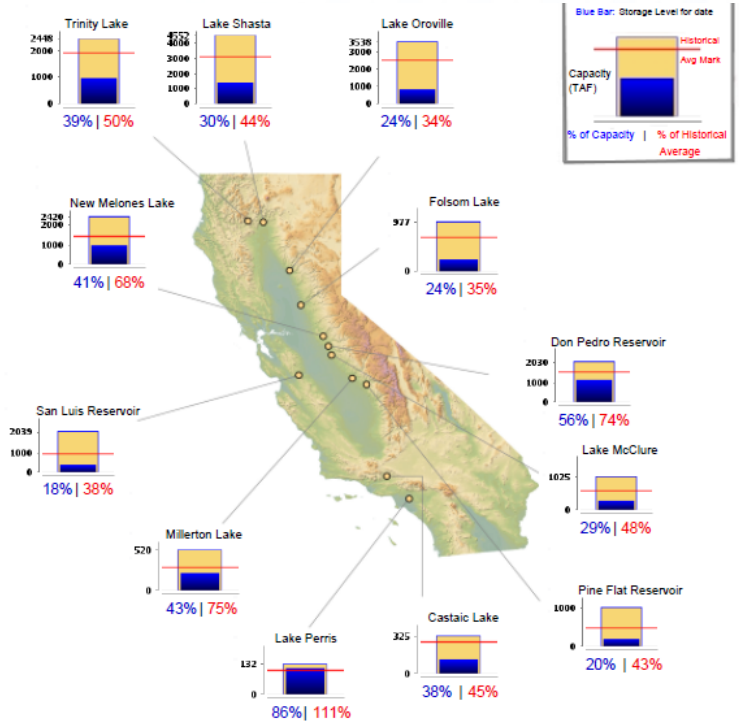




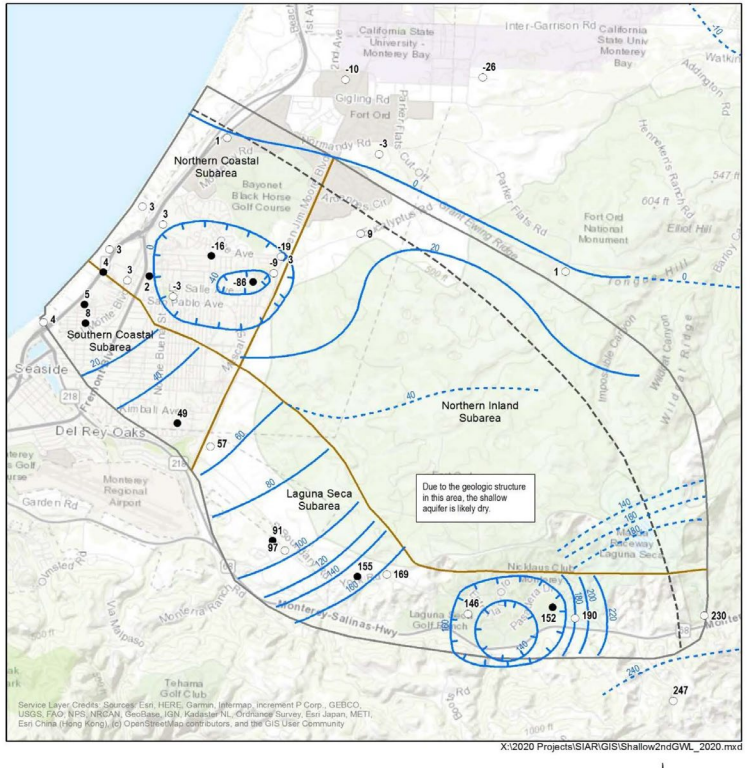
First six months of 2021 are fourth driest on record.

July 2021, Gov. Newsom extended drought emergency to Monterey County.

Reservoir Levels



California



Seaside Basin



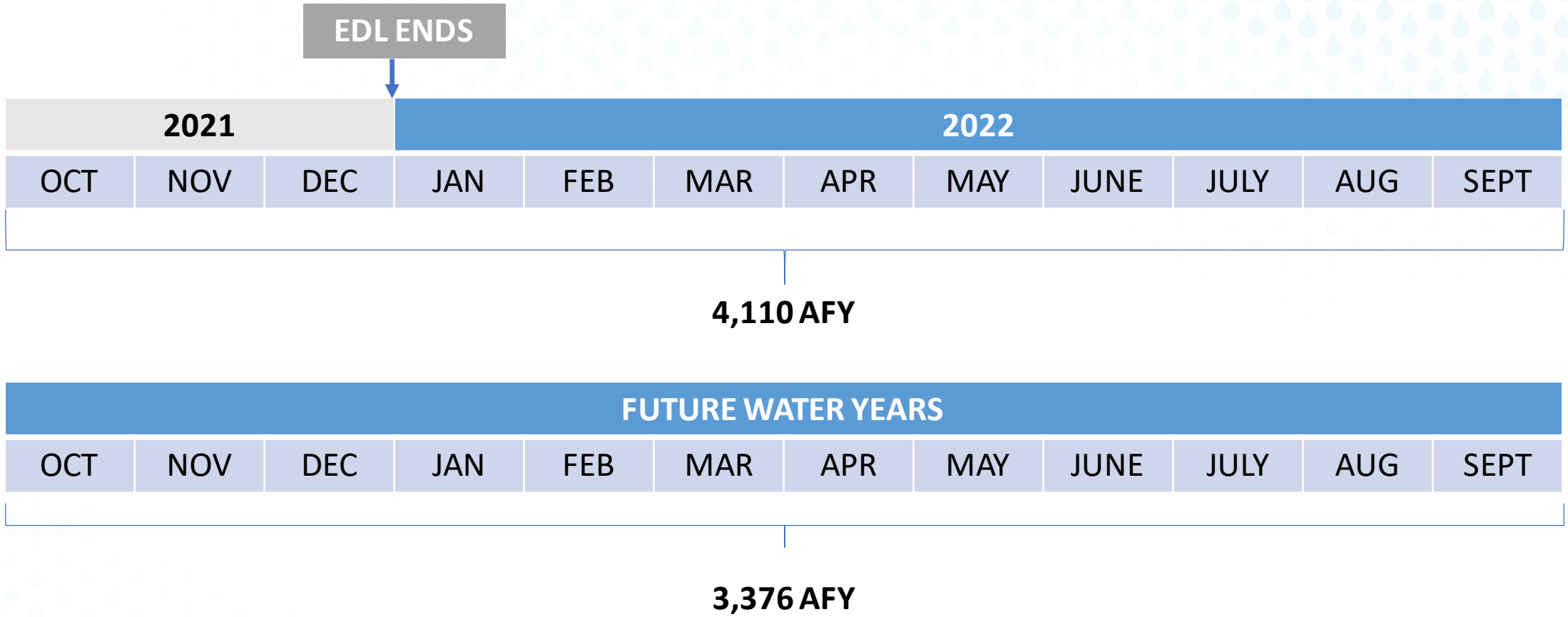
Los Padres Dam

Aquifer Storage & Recovery program stored only 66 AF in WY20-21 with 1,234 AF of ASR water currently banked in Seaside Basin.

Water Shortage Contingency Plan

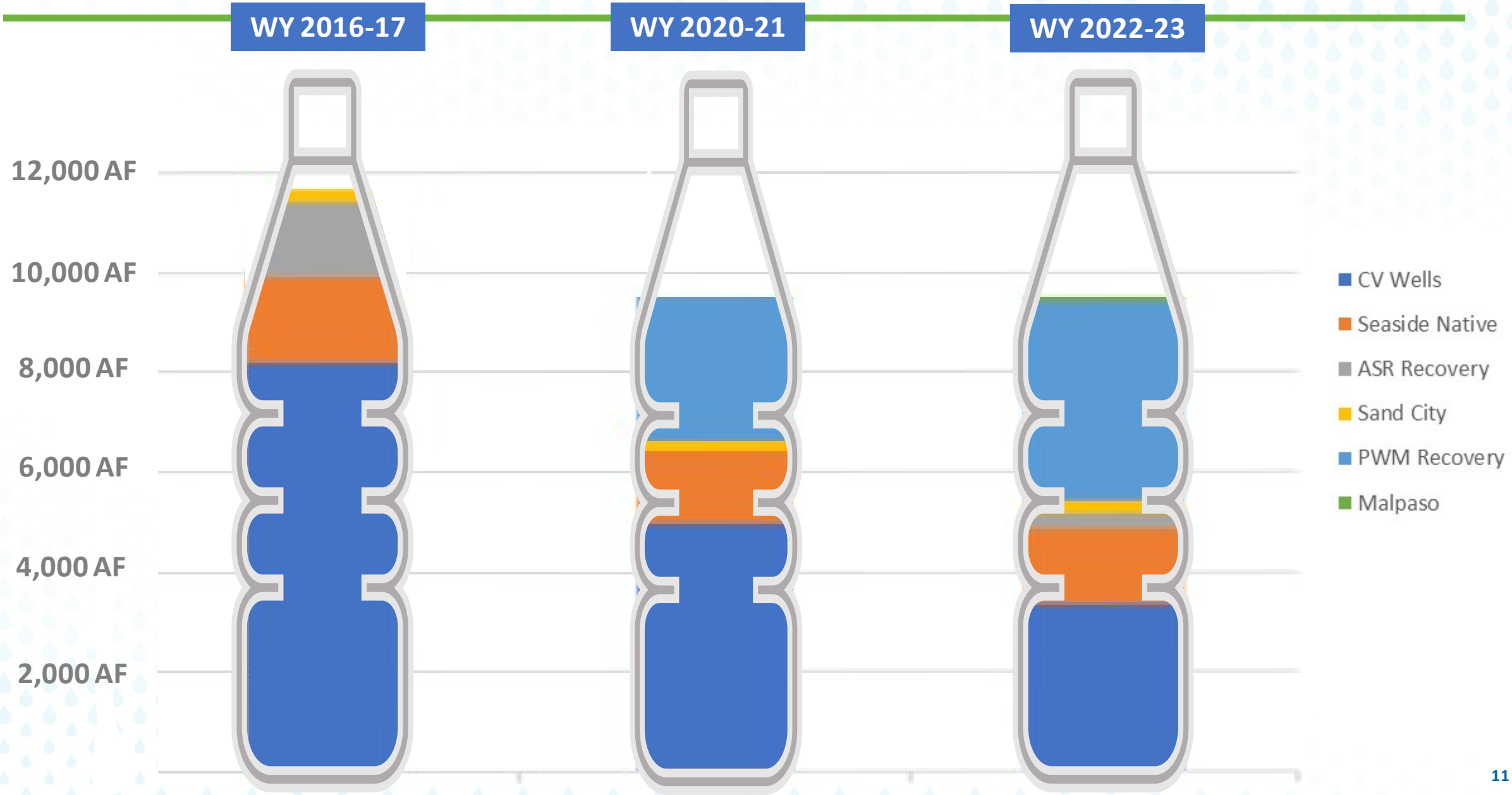
Stage One Prohibition on Water Waste	**Stage Two** Voluntary Conservation
Stage Three Conservation Rates	**Stage Four** Water Rationing

WY 2021-22: Authorized Diversions

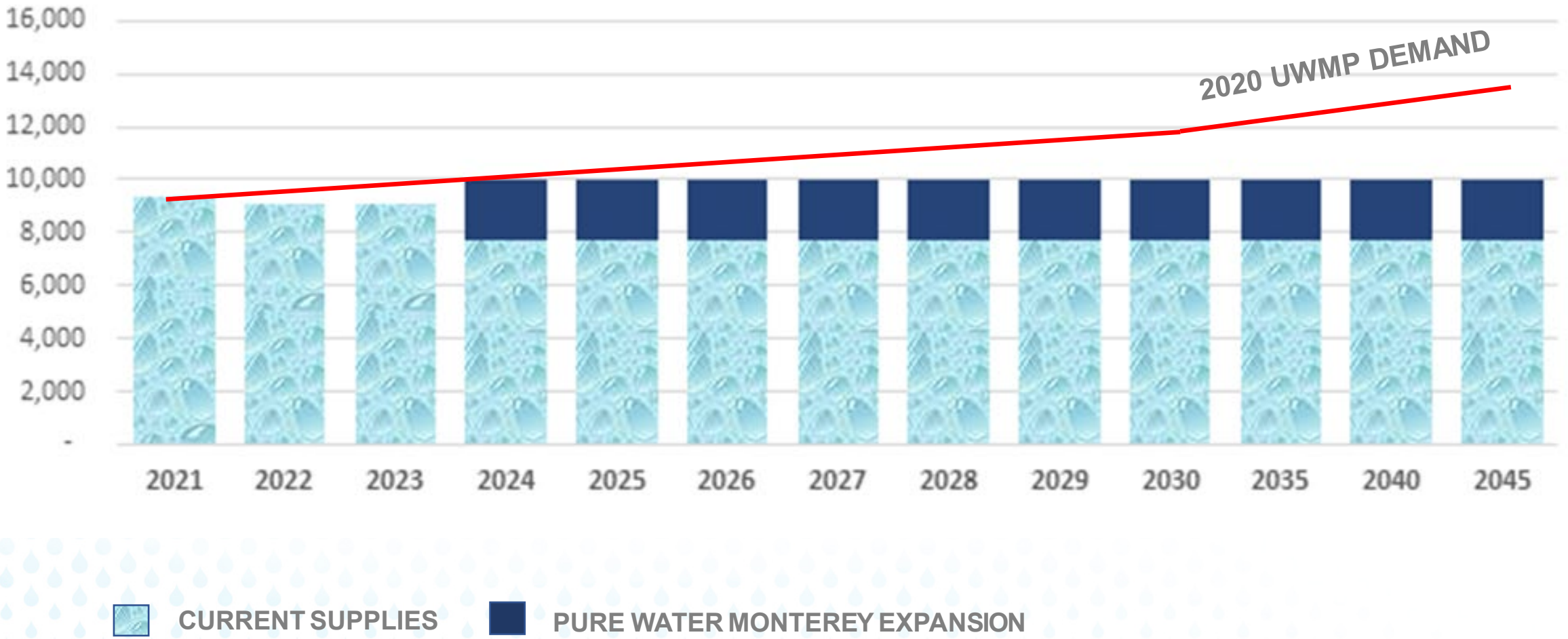


By year end, Cease and Desist Order ramp-down schedule concludes, post-Effective Diversion Limit (EDL) Carmel River pumping limit imposed.

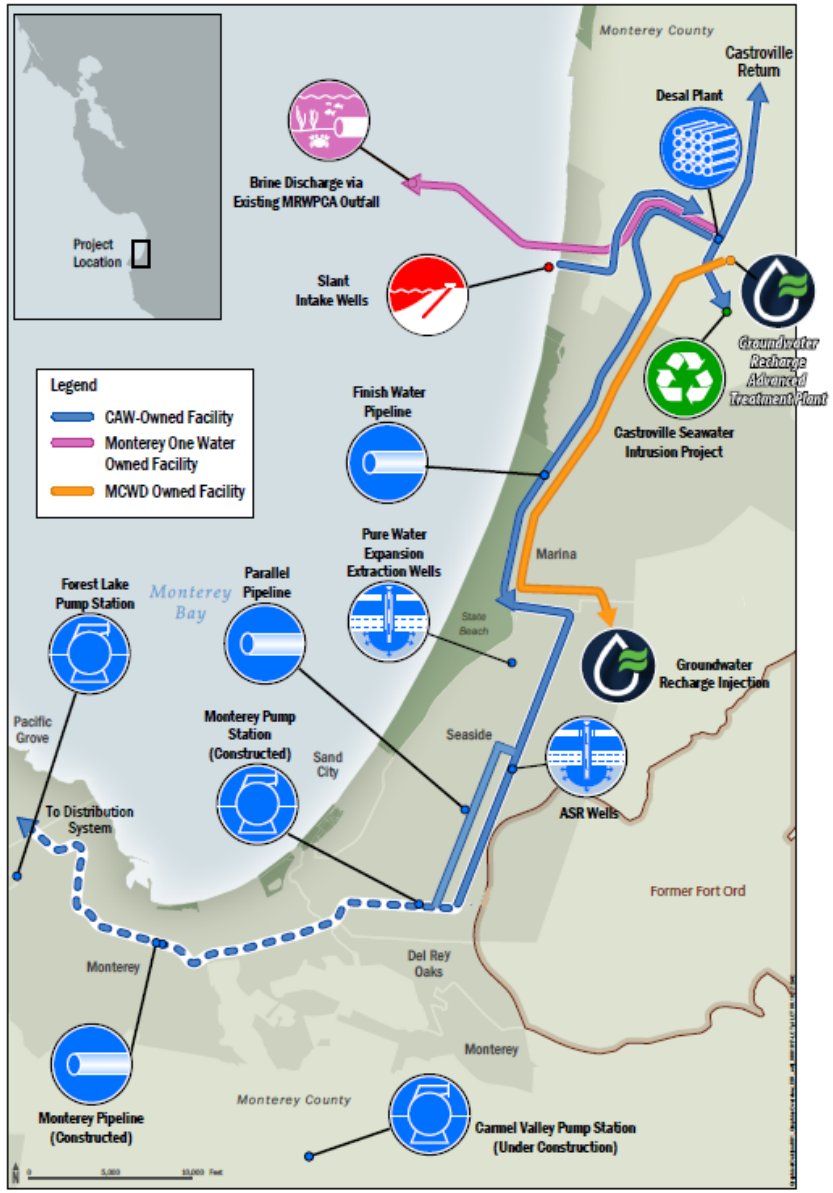
Water Sources at max capacity



Future Supply & Demand



Water Supply Projects



- ASR Bank and parallel pipeline
- New Sand City Desal intake well
- PWM operating reserve and additional peaking supply
- PWMe WPA
- Desal

Voluntary Conservation is Critical

SWRCB asks all Californians to please reduce:

- ☑ Watering of outdoor landscapes that causes incidental runoff onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures.
- ☑ Individuals washing privately-owned cars with a hose, unless they are using positive action shut-off nozzle.
- ☑ Applying potable water directly to driveways and sidewalks.
- ☑ Using potable water in ornamental fountain or other decorative water feature.
- ☑ Using water to irrigate turf and ornamental landscapes during and within 48 hours after measurable rainfall.
- ☑ Serving drinking water that was not requested in eating or drinking establishments.
- ☑ Irrigating turf on public street medians or publicly owned and/or maintained landscaped areas between the street and sidewalk.

Demand Management Measures Include: Tiered rate structure, Public outreach and education, Reducing water loss, Audits, Rebates, Retrofits – Range of Programs to encourage water use efficiency

Thank you

ITEM: ACTION ITEM

17. CONSIDER DETERMINATION OF SPECIAL CIRCUMSTANCES FOR 125 OCEAN VIEW BLVD., PACIFIC GROVE, CA

Meeting Date:	**October 15, 2018**	**Budgeted:**	**N/A**
From:	**David J. Stoldt, General Manager**	**Program/ Line Item:**	**N/A**
Prepared By:	**David J. Stoldt**	**Cost Estimate:**	**N/A**

General Counsel Review: N/A
Committee Recommendation: N/A
CEQA Compliance: This action does not constitute a project as defined by the California Environment Quality Act Guidelines Section 15378.

SUMMARY: District Rule 24-B requires that Non-Residential Water Use Capacity for a proposed project be calculated using "Table 2: Non-Residential Water Use Factors" adjusted for any verified Water Use Credit or On-Site Water Credit. However, District Rule 24-E-1 allows that "The General Manager may reduce (or increase) the Adjusted Water Use Capacity ***when Special Circumstances exist***" (emphasis added.)

The property at 125 Ocean View Boulevard, Pacific Grove, has a verified Water Use Capacity of 18.53 acre-feet annually (AFA). The owner and a developer seek to develop a 225-room hotel on the site which, under normal circumstances, might result in a post-project Water Use Capacity higher than 18.53 AFA using the traditional factors from Table 2. Through the use of innovative design and construction methods (see **Exhibit 17-A**, attached) the developer believes that the Table 2 factors are too high and that the post-project Water Use Capacity will not exceed the existing capacity of 18.53 AFA.

As a result, the Board is being asked to determine that the proposed project be allowed to proceed with a finding of Special Circumstances.

RECOMMENDATION: The General Manager recommends the Board determine Special Circumstances exist for the proposed project at 125 Ocean View Boulevard, Pacific Grove and that the developer shall provide the District with a water demand and efficiency study documenting the project will not exceed 18.53 AFA of Water Use Capacity prior to permitting. Upon submission of the study and completed construction plans, staff shall review the project to determine that sufficient Water Use Capacity is available before a Water Permit is issued.

DISCUSSION: The District's definition of "Special Circumstances" is as follows:

> "Special Circumstances" shall mean (1) a list of specific circumstances shown in Rule 24-E where the General Manager may adjust the anticipated water demand calculation for a Water Permit, or (2) unusual, uncommon, peculiar, unique or rare situations that require Board consideration.

The discretion of the General Manager under (1) above is limited to projects that use non-potable supply for exterior uses, projects that utilize water in conjunction with a manufacturing process, or Non-Residential projects owned by a Public entity. The proposed project at 125 Ocean View Boulevard, Pacific Grove is none of these. Hence, it is the Board's discretion to determine Special Circumstances exist under section (2) of the definition.

When Special Circumstances exist, projected water use figures must be supported either by historical use or other relevant documentation. To that end, the District should require a water demand and efficiency study prepared by a reputable outside consultant documenting the project will not exceed 18.53 AFA of Water Use Capacity.

When a Water Permit is issued under Special Circumstances, water use will be reviewed annually after occupancy. If actual water use exceeds the preliminary Water Use Capacity estimate, then the District will debit the Jurisdiction's Allocation. Prior to issuance of the Water Permit by the District, the Jurisdiction must acknowledge in writing the potential debit to its Allocation, as well as authorize the District to issue a Water Permit based on a finding of Special Circumstances consistent with CEQA compliance for the proposed Project.

EXHIBIT

17-A Letter to District from Project Owner and Developer

EXHIBIT 17-A

October 4, 2018

RECEIVED
OCT 05 2018
MPWMD

Monterey Peninsula Water Management District
Dave Stoldt, General Manager
5 Harris Court, Building G
Monterey, CA 93940

Re: American Tin Cannery Site – Proposed Development

Dear Dave,

Thank you for meeting with our team earlier this month. Per our discussion, we are providing the following summary of a proposed project for the ATC site.

The proposed project consists of a 225 room hotel, designed for families and adults; conference and meeting rooms; related amenities including a restaurant, rooftop bar, and spa and fitness center. Additionally, the project includes approximately 20,000 sf of retail, common and public space.

By way of additional project information, a parking structure will provide onsite parking for all uses.

We will explore a variety of possible methods to reduce project related water consumption. In addition to compliance with MPWMD water efficiency standards, it is our intention is to use LEED standards for design and water conservation in the development of the site including the possibility of:

- Rainwater harvesting.
- Grey water reuse for contained landscape systems.
- Reclaimed water for toilet flushing.
- Waterless urinals (employees only) and high-efficiency fixtures.
- Offsite Laundry Service.

We are in the process of securing a water demand and efficiency study that will credibly document estimated water demand, and that will identify additional water saving measures that may be incorporated into the project.

The intent of preparing the water demand and efficiency study is to provide an accurate estimate of anticipated project water demand using the best and current information available for new technologies and systems that may differ from the *MPWMD Table 2: Non-Residential Water Use Factors*, group categories. Therefore, we are hopeful that the District will support this request for Special Circumstances consideration for the project per *MPWMD Table 2: Non-Residential Water Use Factors, Group IV . Modified Non-Residential Uses.*

We look forward to discussing this further with you.

Sincerely,

Mike Zimmerman
Foursome Development Co.
mzimmerman@canneryrow.com

Debra Geiler
Comstock Development Co.
dgeiler@comstock-homes.com

Submitted by Staff at 10/15/18 Board Meeting
Item 17

Proposed Condition for the Finding of Special Circumstances for

125 Ocean View Blvd, Pacific Grove, CA

As a condition of any MPWMD water permit based upon special circumstances at the 125 Ocean View Blvd, Pacific Grove site, the General Manager shall determine the project incorporates sufficient mandatory elements to ensure project potable water use shall not exceed 18.53 afa, based upon one or more of the following: (1) rainwater shall be harvested for reuse on the site; (2) landscape systems shall be required to use either grey water, or off-site reclaimed water, or a combination thereof; (3) on site or off site reclaimed water shall be used form toilet flushing; (4) waterless urinals shall be installed; (5) laundry services that are off-site or makes abundant use of water recycling technology; and/or (6) any other innovative or unique approach to reduce potable water consumption, all as demonstrated in a water demand and efficiency study and construction plans prior to issuance of a Water Permit.

FINAL

MINUTES
Regular Meeting
Board of Directors
Monterey Peninsula Water Management District
October 15, 2018

CALL TO ORDER/ROLL CALL

The meeting was called to order at 7:00 pm in the MPWMD conference room.

Directors Present:
Andrew Clarke – Chair, Division 2
Ralph Rubio – Vice Chair, Mayoral Representative
Brenda Lewis, Division 1
Molly Evans – Division 3
Jeanne Byrne – Division 4
Robert S. Brower, Sr. – Division 5
Mary Adams – Monterey County Board of Supervisors Rep.

Directors Absent: None

General Manager present: David J. Stoldt

District Counsel present: David Laredo

PLEDGE OF ALLEGIANCE

The assembly recited the Pledge of Allegiance.

ADDITIONS AND CORRECTIONS TO AGENDA

No action taken.

ORAL COMMUNICATIONS

The following comments were directed to the Board during Oral Communications. **(a) Phyllis Muerer** stated that email she received from General Manager Stoldt cast doubt on the District's neutrality with respect to Measure J. **(b) Tom Rowley**, representing the Monterey Peninsula Taxpayers Association, stated that the Association's Board was opposed to Measure J because it lacked a definition for the "feasibility" requirement. **(c) Paul Bruno**, resident of Monterey, expressed disappointment with the "Decades of Excellence" advertisement published by the District. He described it as a political piece, due to the timing of its publication. He also thanked Director Brower for his service to the community. **(d) Alvin Edwards**, a candidate for the Division 1 seat on the District's Board of Directors, thanked Director Brower for his focus on increasing the water supply during his time on the Board. He thanked the District for the "Decades of Excellence" advertisement that described the accomplishments of the agency. **(e) Jody Hanson**, President of the Monterey Peninsula Chamber of Commerce, stated that the Chamber was opposed to Measure J, and that there

was no correlation between reducing the cost of water and Measure J. She thanked Director Brower for his years of hard work as a member of the Board of Directors. **(f) Judi Lehman**, thanked Director Brower for his years of dedicated service on the board of directors.

CONSENT CALENDAR

On a motion by Rubio and second of Byrne, the Consent Calendar was adopted on a vote of 7 – 0, except for items 3 and 7 that were pulled for separate consideration. The motion was approved by Directors Adams, Brower, Byrne, Clarke, Evans, Lewis and Rubio.

Approved.

1. Consider Adoption of Minutes of the September 17, 2018 Regular Board Meeting

Approved an expenditure of $15,650.

2. Consider Extension of Cooperative Agreement with the United States Geological Survey for Streamflow Gaging in Water Year 2019

On a motion by Rubio and second of Byrne, the Board approved an expenditure of $10,066 to Zimm Industries. The motion was approved on a unanimous vote of Rubio, Byrne, Adams, Brower, Clarke, Evans and Lewis.

3. Consider Approval of Additional Funds for Work Completed on Aquifer Storage and Recovery Well Number 1

Approved.

4. Consider Approval of Two Temporary Field Staff Positions to be Funded through a Second Interagency Contract between MPWMD and National Marine Fisheries Service to Provide for a Cooperative Research and Monitoring Project in Los Padres Reservoir

Approved.

5. Consider Converting the River Maintenance Specialist Classification to Resources Maintenance Specialist

Approved.

6. Consider Expenditure of Budgeted Funds to Contract for a Limited-Term Project Manager in the Water Demand Division During FY 2018-2019

On a motion by Byrne and second of Adams, the Board approved an expenditure of $30,000 for completion of the conservation demonstration garden. The motion was approved on a unanimous vote of 7 – 0 by Byrne, Adams, Brower, Clarke, Evans, Lewis and Rubio.

7. Consider Request for Funding to Complete the Broadway Water Conservation Demonstration Garden at Martin Luther King Jr. Elementary School, 173 Broadway Ave., Seaside

Adopted.

8. Consider Adoption of Resolution 2018-20 Amendment to MPWMD Conflict of Interest Code

Adopted.

9. Consider Adoption of June 2018 Treasurer's Report

Received.

10. Receive and File Fourth Quarter Financial Activity Report for Fiscal Year 2017-2018

Approved.

11. Consider Approval of Fourth Quarter Fiscal Year 2017-18 Investment Report

Adopted.

12. Consider Adoption of July 2018 Treasurer's Report

Adopted.

13. Consider Adoption of August 2018 Treasurer's Report

PRESENTATION TO ROBERT S. BROWER, SR, DIRECTOR DIVISION 5, RECOGNIZED FOR 11 YEARS OF SERVICE ON THE BOARD OF DIRECTORS

Chair Clarke presented Director Brower with an engraved plaque in honor of his eleven years of service on the Board of Directors. Mr. Stoldt presented Director Brower with a golden shovel in recognition of the water supply projects that were constructed during Director Brower's time on the Board. Mr. Stoldt also narrated a PowerPoint presentation that focused on achievements in local water supply development. The directors individually thanked Director Brower for his service, enthusiasm, kindness, guidance and efforts integral to moving water projects forward. Director Brower stated that he was deeply humbled by the comments and the Bob Brower shovel. He noted the hard work of Mr. Stoldt and Director Byrne in coordinating with farmers to cross the "lettuce curtain" to prove that there is a will to work as one county to achieve water supply goals, including development of the Wastewater Reclamation Project.

GENERAL MANAGER'S REPORT

14. Status Report on California American Water Compliance with State Water Resources Control Board Order 2016-0016 and Seaside Groundwater Basin Adjudication Decision

Mr. Stoldt reported that the Water Year ended on September 30, 2018. He stated that water production in the Monterey Peninsula Water Resources System at the end of the Water Year was 232 acre-feet below the target of 9,338 acre-feet. Production in relation to the Cease and Desist Order resulted in a carry-over of 567 acre-feet. The carry-over credits could benefit the community, should further reductions be mandated. Mr. Stoldt reported the following: rainfall was at 13.5 inches for the year which was 64% of long-term average; unimpaired flow was below normal at 48% of long-term average. By the end of the Water Year, District staff had rescued 5,000 fish from drying reaches of the Carmel River and tagged 2,400 of them.

ATTORNEY'S REPORT

15. Report on 5:30 pm Closed Session of the Board

District Counsel Laredo reported that two matters had been filed regarding the Monterey Peninsula Water Supply Project: (a) Marina Coast Water District v. California Public Utilities Commission, and (b) City of Marina v. California Public Utilities Commission. Both cases were consolidated under S251935. A status report was provided to the Board,

and on a motion by Brower and second by Rubio, the Board voted unanimously to intervene in both actions.

3. Conference with Legal Counsel – Existing Litigation (Gov Code 54946.9 (a))
Application of California American Water to CPUC (No. 12-04-019) – Monterey Peninsula Water Supply Project

4. Conference with Legal Counsel – Threatened Litigation (Gov. Code 56956.9 (b)) – One Case

DIRECTORS' REPORTS (INCLUDING AB 1234 REPORTS ON TRIPS, CONFERENCE ATTENDANCE AND MEETINGS)

No comments.

16. Oral Reports on Activities of County, Cities, Other Agencies/Committees/ Associations

No Public Hearing items were submitted for Board consideration

PUBLIC HEARINGS

ACTION ITEMS

17. Consider Determination of Special Circumstances for 125 Ocean View Blvd., Pacific Grove, CA

Byrne offered a motion to determine that Special Circumstances exist for the proposed project. The motion was seconded by Evans and approved on a unanimous vote of 7 – 0 by Byrne, Evans, Adams, Brower, Clarke, Lewis and Rubio.

Public Comment: Mike Zimmerman, Owner of Foursome Development Company, the property owner. He stated that the developer's intent was to work closely with District staff to design a project that would remain within the water use capacity estimated for the site.

18. Consider Appointment of Director Evans to the Position of Vice Chair to the Board

Rubio offered a motion to nominate Evans to the position of Vice Chair to the Board of Directors. The motion was seconded by Brower and approved on a unanimous vote of 7 – 0 by Rubio, Brower, Adams, Byrne, Clarke, Evans and Lewis. No comments were directed to the Board during the public comment period on this item.

19. Specify Method for Selection of Director to Fill Vacancy in Voter Division 5 and Consider Extension of Deadline for Statements of Interest and Qualifications

Rubio offered a motion to authorize the Board of Directors to appoint the Division 5 representative. The motion was seconded by Lewis and approved on a vote of 7 – 0 by Rubio, Lewis, Adams, Brower, Byrne, Clarke and Rubio.

Byrne made a motion to extend the deadline for acceptance of Statements of Interest and Qualifications to November 7, 2018. There was no second to the motion. No action taken.

Public Comment: Judi Lehman addressed the Board. She suggested that Director Brower could extend the date of his retirement from the Board to November, thereby resetting

the 60-day time period in which the Board must act. That would allow for directors elected on November 6, 2018 to participate in the selection of the new Division 5 director. As an alternative, she suggested that the Board could request the Board of Supervisors to authorize an extension of the 60-day time period. *District Counsel Laredo responded that the 60-day time period begins when the resignation letter is delivered to the Board of Directors and cannot be extended, as it is set by California Election Law.*

There was no discussion of these items.

INFORMATIONAL ITEMS/STAFF REPORTS

20. Letters Received
21. Committee Report
22. Monthly Allocation Report
23. Water Conservation Program Report
24. Quarterly Water Use Credit Transfer Status Report
25. Carmel River Fishery Report
26. Quarterly Carmel River Riparian Corridor Management Program Report
27. Monthly Water Supply and California American Water Production Report
28. Receive Notice of Appointment to Carmel River Advisory Committee

ADJOURNMENT

The meeting was adjourned at 8:05 pm in honor of Robert S. Brower Sr. for eleven years of stellar service.

Arlene M. Tavani

Arlene M. Tavani, Deputy District Secretary

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CALIFORNIA
AMERICAN WATER

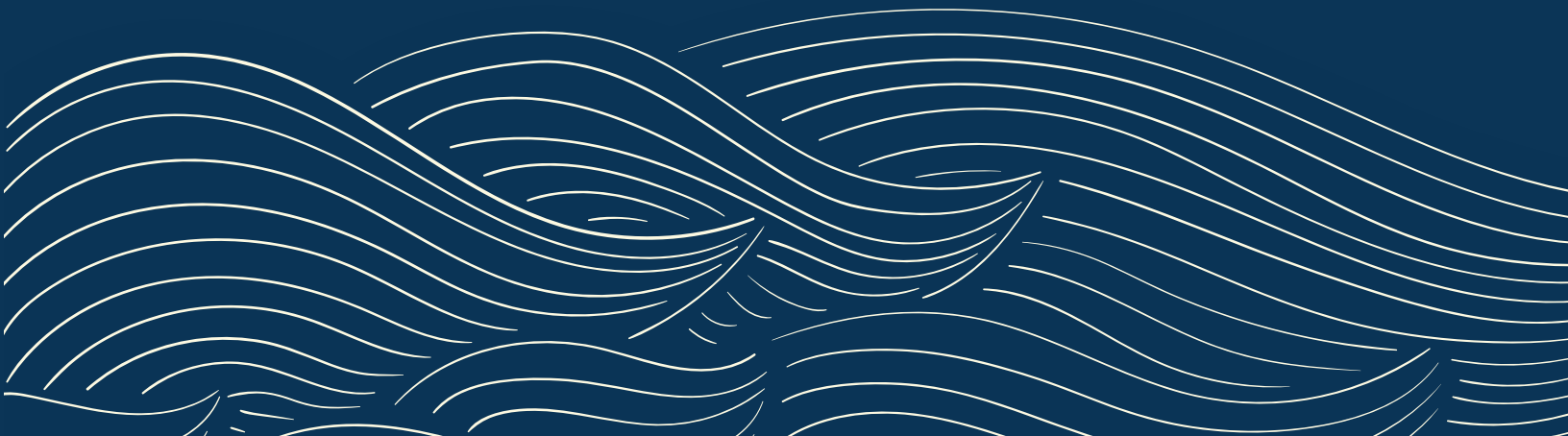


FINAL

URBAN WATER MANAGEMENT PLAN

WSC

CALIFORNIA AMERICAN WATER – MONTEREY COUNTY DISTRICT | JUNE 2021



CALIFORNIA AMERICAN WATER

CALIFORNIA AMERICAN WATER CENTRAL DIVISION – MONTEREY COUNTY DISTRICT

2020 Urban Water Management Plan

JUNE 2021

Prepared by Water Systems Consulting, Inc.

WSC

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ACRONYMS & ABBREVIATIONS

°F	Degrees Fahrenheit
AF	Acre Foot
AFY	Acre Feet per Year
AMBAG	Association of Monterey Bay Area Governments
ASR	Aquifer Storage and Recovery
AWWA	American Water Works Association
BIRP	Begonia Iron Removal Plant
CAW	California American Water
CAWD	Carmel Area Wastewater District
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Irrigation System
CPUC	California Public Utilities Commission
CSA	County Service Area
CSIP	Castroville Seawater Intrusion Project
CWC	California Water Code
DDW	SWRCB Division of Drinking Water
DMM	Demand Management Measure
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Energy Savings Assistance Program
ETo	Reference Evapotranspiration
GIS	Geographic Information System
GPCD	Gallons per Capita per Day
GPD	Gallons Per Day
IN	Inch
IOU	Investor-Owned Utility
IRWMP	Integrated Regional Water Management Plan
ITP	Independent Technical Panel
kWh	Kilowatt-hour
LOR	Lots of Record
M1W	Monterey One Water
MCWD	Marina Coast Water District
MGD	Million Gallons per Day
MOWRTP	Monterey One Water Regional Treatment Plant

MPWRA	Monterey Peninsula Regional Water Authority
MPWSP	Monterey Peninsula Water Supply Project
NRW	Non-Revenue Water
OPA	Other Public Authority
PBCSD	Pebble Beach Community Services District
PG&E	Pacific Gas and Electric Company
PGLWP	Pacific Grove Local Water Project
PWM	Pure Water Monterey
RHNA	Regional Housing Needs Assessment
RO	Reverse Osmosis
RUWAP	Regional Urban Augmentation Project
RUWMP	Regional Urban Water Management Plan
SB	Senate Bill
SB X7-7	Senate Bill 7 of Special Extended Session 7
SGMA	Sustainable Groundwater Management Act
SRWTP	Satellite Recycled Water Treatment Plant
SWRCB	State Water Resources Control Board
TAZ	Traffic Analysis Zone
TDS	Total Dissolved Solids
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
WAC	Water Awareness Committee
WBIC	Weather Based Irrigation Controller
WSA	Water Supply Assessment
WSCP	Water Shortage Contingency Plan
WWTP	Wastewater Treatment Plant

Executive Summary

This section summarizes the 2020 Urban Water Management Plan (UWMP) for the California American Water (CAW) Central Division – Monterey County District. It describes the 2020 UWMP in a manner that is accessible to non-technical readers. This summary describes the fundamental purposes of the UWMP, including water service reliability, future challenges, and strategies for managing water reliability risks.

This plan comprises the 2020 UWMP for CAW Central Division - Monterey County District, as required by the California Urban Water Management Planning Act. CAW is a wholly owned subsidiary of the American Water Works Company, one of the largest investor-owned water and wastewater utility companies in the United States, and is regulated by the California Public Utilities Commission.

CAW has coordinated the preparation of its 2020 UWMP with the cities within its service area, Monterey County, nearby water agencies, and community members to develop a UWMP that meets the requirements of the California Water Code and plans for a resilient water future.

IN THIS SECTION

- Service Area Description
- Water Use
- Water Sources
- Water Supply Reliability

Service Area

The Monterey County District includes the Monterey System and eight satellite systems. This UWMP covers the Monterey System, the Ryan Ranch and Bishop Systems (which are currently supplied by the Monterey System), and the Hidden Hills System (which is expected to be served by the Monterey System in the future). These four systems are referred to as Monterey Main.

The Monterey Main climate is characterized by warm summers and mild winters. The current population in Monterey Main is just under 92,000 and is expected to grow to close to 101,000 by 2045.

Water Use

Monterey Main serves potable water to mostly residential and commercial customers in the service area. The historic water demand for Monterey Main is shown in Figure E-1. Since 2007 water demand has declined from a high of 14,600 acre-feet per year (AFY) to the 2016 - 2020 average of 9,300 AFY. Water use has remained steady over the past six years. The decline in water use since 2007 is attributed to highly effective conservation programs and a drought rate structure which has resulted in the substantial drop in water use.

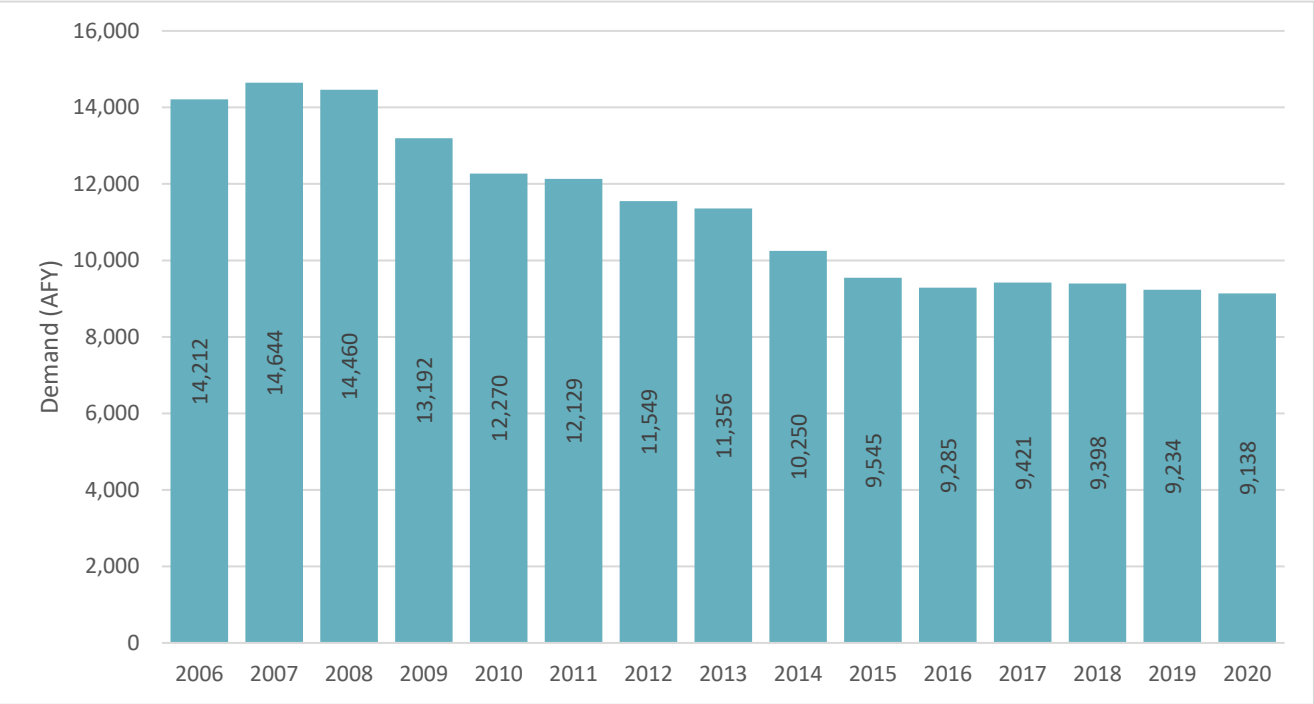


Figure E-1. Monterey Main Historic Annual Demand

The projected water use for Monterey Main is shown in Figure E-2. Demand projections incorporated several factors that will affect future water use, including:

1. Changes in behavior by current customers.
2. New government regulations
3. Growth and new development
4. Changes in commercial activity
5. Climate change

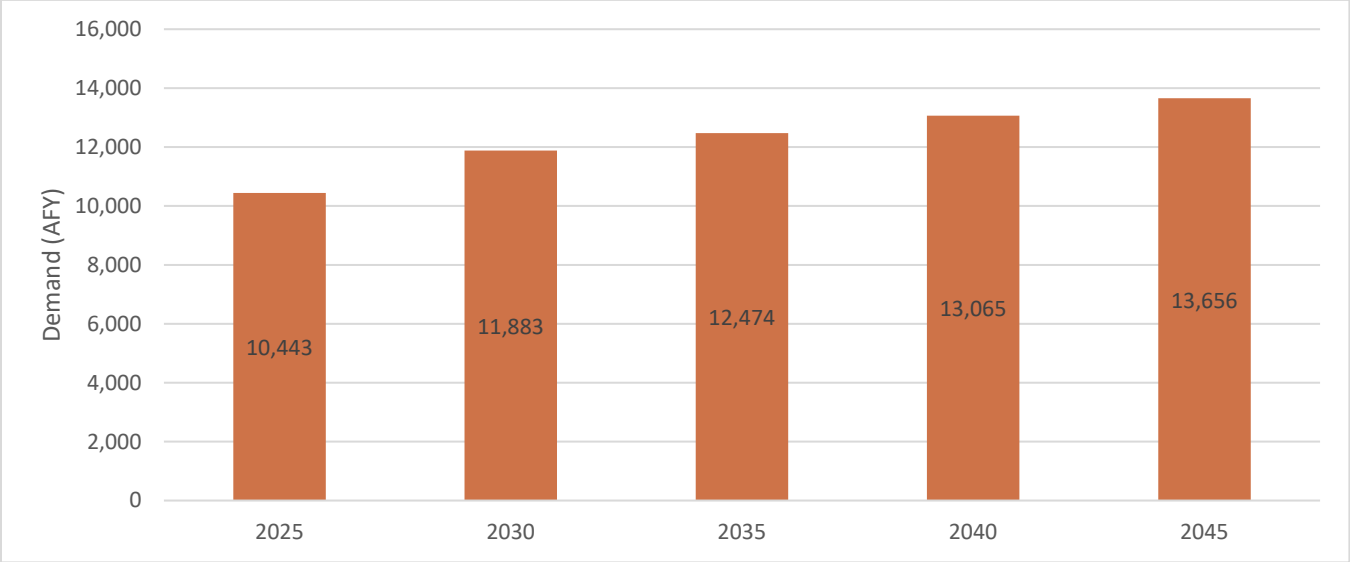


Figure E-2. Monterey Main Projected Water Use

Water Sources

Monterey Main is dependent on local water sources for its supply, including groundwater from the Carmel River Aquifer, Seaside Groundwater Basin, Aquifer Storage and Recovery (ASR), indirect potable reuse from Pure Water Monterey (PWM), and desalinated water from the Sand City Desalination Plant. Future supply sources include water from the PWM Expansion and the Monterey Peninsula Water Supply Project (MPWSP) Ocean Desalination Plant. **Table E-1** lists the projected water supply from each source.

CAW has a contractual agreement for 3,500 AFY from PWM, which treats wastewater to purified levels and injects it into the Seaside Basin for subsequent extraction by CAW. The PWM Project is projected to provide the full contractual amount in normal hydrologic years, but it is not currently 100 percent reliable in dry years due to source water constraints. The PWM Expansion is anticipated to be operational by 2025, however due to the source water constraints it is not projected to be able to provide its design supply of 2,250 AFY in normal years until 2030 when the MPWSP Desalination Plant is operational and will provide the drought-proof supply needed for water demands and wastewater flows to increase. The MPWSP Desalination Plant is expected to produce 6,252 AFY for the Monterey Peninsula.

Table E-1. Projected Water Supplies

		AVAILABLE SUPPLY, AF				
WATER SUPPLY	ADDITIONAL DETAIL ON WATER SUPPLY	2025	2030	2035	2040	2045
Groundwater	Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376
Groundwater	Seaside Basin[1]	1,474	774	774	774	774
Desalinated Water	Sand City Desalination	94	94	94	94	94
Other	Aquifer Storage and Recovery	920	920	920	920	920
Recycled Water	Pure Water Monterey	3,500	3,500	3,500	3,500	3,500
Recycled Water	PWM Expansion	528	2,250	2,250	2,250	2,250
Total		**9,892**	**10,914**	**10,914**	**10,914**	**10,914**
MPWSP Desalination			6,252	6,252	6,252	6,252
Total with MPWSP			**17,166**	**17,166**	**17,166**	**17,166**

Notes:

1. The CAW Monterey Main System has a total entitled right of 1,474 AFY from the Seaside Groundwater Basin, however CAW has an agreement in place to not pump 700 AFY of this right for 25-years once a new supply source is operational. This Plan assumes the reduced pumping will beginning in 2030 and continue through 2055. The reduced pumping repayment volume or duration of payment is subject to increase in the future.
2. The PWM Expansion in 2025 during a normal hydrologic year is only anticipated to supply up to 528 AFY due to source water limitations. The reliability of the project increases in the future once the MPWSP Desalination Plant is operational because it provides a drought-proof supply that allows water demands to increase which will increase wastewater flows and the source water for the PWM Expansion Project.

Water Supply Reliability

The constraints and reliability of each of Monterey Main's water supplies were evaluated to determine the total available supply in a normal year, single-dry year, and five-consecutive dry years. The supply from the Carmel River Aquifer, Seaside Groundwater Basin, Sand City Desalination Plant, and MPWSP Desalination Plant are all anticipated to be reliable and provide their contractual or design supply in all year types. Supplies from the PWM Expansion are expected to be limited by available source water (wastewater flows) until the MPWSP is online (Hazen and Sawyer, 2020). Until the MPWSP is online, it is expected that demands will need to be constrained through the enaction of the Water Shortage Contingency Plan (WSCP).

A comparison of anticipated demands and supplies is shown in Table E-2.

Table E-2. Normal Year Supply and Demand Comparison (AFY)

	2025	2030	2035	2040	2045
Demand Totals	10,443	11,883	12,474	13,065	13,656
Water Supply Without MPWSP Desalination	9,892	10,914	10,914	10,914	10,914
SHORTFALL WITHOUT WSCP ACTION	**-551**	**-969**	**-1,560**	**-2,151**	**-2,742**
ADDITIONAL WATER SUPPLY FROM MPWSP DESALINATION, AFY	0	6,252	6,252	6,252	6,252
Total Water Supply	9,892	17,166	17,166	17,166	17,166
Operational Buffer (10%)	-989	-1,717	-1,717	-1,717	-1,717
Surplus/ Shortfall without WSCP Action	**-1,540**	**3,566**	**2,975**	**2,384**	**1,793**
WSCP Demand Reduction	1,540	0	0	0	0
DIFFERENCE:	**0**	**3,566**	**2,975**	**2,384**	**1,793**
ADDITIONAL WATER SUPPLY FROM MPWSP DESALINATION, AFY	**0**	**6,252**	**6,252**	**6,252**	**6,252**

Demand Management

CAW has implemented an extensive water conservation program and demand management measures to promote water use efficiency, reduce demands, and prepare for future requirements. These include water waste prevention ordinances, metering water use, conservation pricing, public education and outreach, programs to assess and manage distribution system real loss, water conservation program coordination and staffing, and other demand management measures. The water conservation programs that CAW has implemented for the past five years, is currently implementing, and plans to implement to continue meeting its SB X7-7 water use target and position for future water use efficiency standards are described in **Chapter 9**.

2020 URBAN WATER MANAGEMENT PLAN

1 Introduction

This plan comprises the 2020 Urban Water Management Plan (UWMP) for the California-American Water Company's (CAW) Central Division - Monterey County District, as required by the California Urban Water Management Planning Act (UWMP Act).

The UWMP Act requires all urban water suppliers with more than 3,000 connections or distributing more than 3,000 acre-feet per year (AFY) to complete an UWMP every five years. The UWMP Act is administered by the California Department of Water Resources (DWR), who is responsible for compiling data for statewide and regional analysis and publishing the accepted documents online for public access. This report was prepared according to the requirements of the California Water Code (CWC), UWMP Act, and the 2020 UWMP Guidebook.

The UWMP is a valuable planning document used for multiple purposes:

- Serves as a valuable resource to the community and other interested parties regarding water supply and demand, conservation and water related information
- Meets a statutory requirement of the CWC
- Provides a key source of information for Water Supply Assessments (WSAs) and Written Verifications of Water Supply
- Supports regional long-range planning documents including City and County General Plans
- Provides a standardized methodology for water utilities to assess their water resource needs and availability
- Serves as a critical component in developing Integrated Regional Water Management Plans (IRWMPs)
- Provides a resource for regional involvement in the California Water Plan
- Provides for a plan during water drought situations

IN THIS SECTION

- California Water Code
- UWMP Organization

CAW is a privately owned public utility providing water services to over 630,000 people in 50 communities throughout California. CAW is organized into three divisions: Northern, Central and Southern. The Northern Division includes the Sacramento and Larkfield Districts, the Central Division includes the Monterey County District, and the Southern Division includes the Ventura County, Los Angeles County and San Diego County Districts.

The Monterey County District includes the Monterey System and eight satellite systems. This UWMP covers the Monterey System, Ryan Ranch and Bishop Systems (which are currently supplied by the Monterey System), and the Hidden Hills System (which is expected to be served by the Monterey System in the future). These four systems are referred to as Monterey Main.

1.1 The California Water Code

CWC Section 10620 (a) of the UWMP Act, states "Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640)". These plans are to be updated every five years and submitted to DWR. Requirements for the UWMP include:

- Assessment of current and projected water supplies
- Evaluation of demand and customer types
- Evaluation of the reliability of water supplies
- Description of conservation measures implemented by the urban water supplier
- Response plan, in the event of a water shortage
- Comparison of demand and supply projections

In November of 2009, the State legislation passed Senate Bill (SB) 7 as part of the Seventh Extraordinary Session, referred to as SB X7-7 or the Water Conservation Act of 2009. SB X7-7 set the goal of achieving a 20 percent reduction in urban per capita water use statewide by 2020. Retail water agencies were required to set targets and track progress toward decreasing daily per capita urban water use in their service areas, which would assist the State in meeting its 20 percent reduction goal by 2020. This law requires that every UWMP include:

- Baseline per capita water use
- Urban water use target for 2020
- Compliance daily per capita water use

Since the time the 2015 UWMP was completed and submitted to DWR, the Legislature has passed additional requirements that need to be incorporated in 2020 UWMPs. Major new requirements include:

- A Water Reliability Assessment for five consecutive dry years, more than the three consecutive dry years previously required.
- A Drought Risk Assessment (DRA) that assesses the water supply reliability over a five-year period from 2021 to 2025 under a reasonable prediction for five consecutive dry years.
- A seismic risk assessment and a mitigation plan for a Supplier's infrastructure.
- A Water Shortage Contingency Plan (WSCP) with prescribed elements.
- Coordination on groundwater supply planning with plans being completed to address the Sustainable Groundwater Management Act (SGMA). Most of Monterey Main's groundwater comes from basins that have already been adjudicated, and therefore the SGMA process is not applicable.
- Lay Description to describe the fundamental determinations of the UWMP in lay-person's language.

This 2020 UWMP has been prepared to comply with the UWMP Act and SB X7-7. In addition to meeting the requirements of the Act, this report will be used to support water supply assessments and written verifications of water supply required by SB 610 and SB 221 of 2001. These bills require that water supply information be provided to counties and cities for projects of a certain size, prior to discretionary project approval. Both bills allow an UWMP to be used as a source document to fulfill these legislative requirements.

This 2020 UWMP was developed to incorporate these new requirements, under the guidance of DWR's 2020 UWMPs Guidebook for Urban Water Suppliers. A checklist to document compliance of this 2020 UWMP with the Act and the CWC is provided in **Appendix A**.

This UWMP includes required DWR standardized tables within relevant chapters, and they are compiled in **Appendix B**. Within the UWMP chapters, DWR's standardized tables include the DWR-assigned table number in the caption. This UWMP also includes all required SB X7-7 tables in **Appendix C** to verify compliance with the SB X7-7 targets.

1.2 UWMP Organization

This 2020 UWMP is organized into the following chapters.

- **Chapter 1 - Introduction and Overview**: This chapter provides a discussion of the purpose and content of the 2020 UWMP and the extent of the CAW's water management planning efforts.
- **Chapter 2 - Plan Preparation**: This chapter provides information on the CAW's development of the 2020 UWMP including the basis for plan preparation, planning type, data format, and coordination and outreach to nearby agencies.
- **Chapter 3 - System Description**: This chapter provides a description of Monterey Main's water system including service area maps, climate information, service population and demographic information.
- **Chapter 4 - Customer Water Use**: This chapter describes Monterey Main's historic, current, and projected water uses, system losses, and water use by lower income households.
- **Chapter 5 – Conservation Target Compliance**: This chapter includes a description of Monterey Main's chosen method for calculating their baseline, calculated baseline water use and 2020 target and compliance with the target.
- **Chapter 6 - System Supplies**: This chapter includes a discussion of Monterey Main's water system supplies including groundwater, wastewater, recycled water, desalinated water, and Monterey Main's future water projects. This chapter presents a summary of existing and future water sources.
- **Chapter 7 - Water Supply Reliability Assessment**: This chapter describes the reliability of the water supply through a 25-year planning horizon including a supply and demand assessment and regional reliability. Supply reliability is described for normal, single dry year and five-consecutive dry years.
- **Chapter 8 - Water Shortage Contingency Planning**: This chapter provides an outlined summary of Monterey Main's Water Shortage Contingency Plan.
- **Chapter 9 - Demand Management Measures**: This chapter explains CAW's existing and historic efforts to promote water conservation and CAW's plans to use Demand Management Measures to achieve water use targets.
- **Chapter 10 - Plan Adoption, Submittal, and Implementation**: This chapter details the steps taken by CAW to adopt the 2020 UWMP in accordance with the CWC and make it available to the public and the plan to implement the 2020 UWMP.
- **Appendices:** These include additional information to support and clarify information included within the 2020 UWMP.

1.3 UWMPs in Relation to Other Efforts

CAW previously prepared a 2005 UWMP, 2010 UWMP, and 2015 UWMP for Monterey Main. This 2020 UWMP serves as an update to the 2015 UWMP and complies with new requirements and regulations. CAW participates in other regional planning efforts related to water supply reliability and potential water recycling opportunities.

1.4 UWMPs and Grant or Loan Eligibility

A water supplier must have a completed UWMP on file with DWR to be eligible for some state grant and loan programs.

1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

Monterey Main does not receive water from the State Water Project or the Sacramento-San Joaquin Delta, and it is therefore not required to demonstrate reduced reliance on supplies from the Delta.

2020 URBAN WATER MANAGEMENT PLAN

2 Plan Preparation

CAW has coordinated the preparation of its 2020 UWMP with the cities within its service area, Monterey County, nearby water agencies, and community members to develop a UWMP that adheres to the requirements of the CWC and plans for a resilient water future.

IN THIS SECTION

- Coordination and Outreach

2.1 Plan Preparation

This plan was prepared based on guidance from DWR's UWMP Guidebook 2020 (UWMP Guidebook), DWR Urban Water Management Plans Public Workshops and Webinars, Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (SB7 Guidebook), and the 2020 DWR Checklist (**Appendix A**). The 2020 UWMPs are to be submitted by urban water suppliers by July 1, 2021.

2.2 Basis for Preparing a Plan

CAW is an investor-owned utility (IOU) regulated by the California Public Utility Commission (CPUC). Therefore, its facilities, operations, and financial structure are subject to extensive regulation by the CPUC, as well as environmental, health, safety, and water quality regulations by federal, state and local governments. The CPUC sets rules and regulates public utility companies in California. The intent of the regulations set by the CPUC is to ensure provision of high-quality water service at a fair price. All increases in service rates are directly related to the cost of providing quality service and are subjected to a public review process and approval by the CPUC.

California water systems are regulated by the State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW). The systems included in this UWMP are shown in Table 2-1. Additional details about the plan are shown in Table 2-2 and Table 2-3.

Table 2-1. DWR 2-1R Public Water Systems

PUBLIC WATER SYSTEM NUMBER	PUBLIC WATER SYSTEM NAME	NUMBER OF MUNICIPAL CONNECTIONS 2020	VOLUME OF WATER SUPPLIED 2020 (AFY)
CA2710004	Cal Am Water Company - Monterey	38,644	8,808
CA2701882	Cal Am Water Company - Bishop	418	147
CA2710022	Cal Am Water Company - Hidden Hills	452	134
CA2701466	Ryan Ranch Water System	214	49
	Total:	**39,728**	**9,138**

Table 2-2. DWR 2-2 Plan Identification

TYPE OF PLAN	MEMBER OF RUWMP	MEMBER OF REGIONAL ALLIANCE	NAME OF RUWMP OR REGIONAL ALLIANCE
Individual UWMP	No	No	N/A

Table 2-3. DWR 2-3 Agency Identification

TYPE OF SUPPLIER	YEAR TYPE	FIRST DAY OF YEAR		UNIT TYPE
		DD	MM	
Retailer	Calendar Years	01	01	Acre Feet (AF)

2.3 Coordination and Outreach

CAW coordinated with multiple neighboring and stakeholder agencies in the preparation of this UWMP. The coordination efforts were conducted to: 1) inform the agencies of CAW activities; 2) gather high quality data for use in developing this UWMP; and 3) coordinate planning activities with other related regional plans and initiatives. The coordination activities conducted by CAW are shown in Table 2-4.

Table 2-4. DWR 2-4 Water Supplier Information Exchange

AGENCY	NOTIFIED 60 DAYS PRIOR TO PUBLIC HEARING	NOTIFIED OF PUBLIC DRAFT 14 DAYS PRIOR TO HEARING
County of Monterey	✓	✓
City of Carmel-by-the-Sea	✓	✓
City of Del Rey Oaks	✓	✓
City of Monterey	✓	✓
City of Pacific Grove	✓	✓
City of Sand City	✓	✓
City of Seaside	✓	✓
Presidio of Monterey	✓	✓
Pebble Beach Community Services District	✓	✓
Carmel Area Wastewater District	✓	✓
Monterey Regional Water Pollution Control Agency	✓	✓
Monterey Peninsula Water Management District	✓	✓
Alisal Water Corporation	✓	✓
Monterey County CSA 75	✓	✓

2020 URBAN WATER MANAGEMENT PLAN

3 System Description

This chapter describes the CAW Monterey Main System, including its service area, climate characteristics, demographics, and population.

IN THIS SECTION

- Service Area
- Land Uses
- Water System
- Population and Demographics

CAW is a wholly owned subsidiary of the American Water Works Company (American Water), one of the largest investor-owned water and wastewater utility companies in the United States. American Water is headquartered in Camden, New Jersey, and CAW is headquartered in San Diego, California. CAW was incorporated under California law in 1966 when American Water acquired California Water and Telephone

3.1 General Description

CAW is operated by three Division Offices: the Northern Division; Central Division; and Southern Division. The Central Division includes the Monterey County District, which includes the Monterey System and eight satellite systems. This UWMP covers the Monterey System, Ryan Ranch and Bishop Systems (which are currently supplied by the Monterey System), and the Hidden Hills System (which is expected to be served by the Monterey System in the future). These four systems are referred to as Monterey Main.

Monterey Main provides water service to most of the Monterey Peninsula, including the cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Sand City, and Seaside, and the unincorporated areas of Carmel Highlands, Carmel Valley and Pebble Beach. Over the course of the study period, it is anticipated that there will be some growth within portions of the system. For this UWMP, CAW used the Association of Monterey Bay Area Governments (AMBAG) Regional Growth Forecast to determine the expected growth rate in number of households and number of employees in the service area.

3.2 Service Area Boundary

Monterey Main serves most of the population on the Monterey Peninsula, located along the coast of Central California. Monterey Main includes the incorporated cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Sand City, and Seaside as well as unincorporated communities of Pebble Beach, Carmel Valley, Carmel Highlands, and the Presidio of Monterey. The Monterey Main system encompasses 33,950 acres and can be accessed from Highway 1 or State Route 68 off Highway 101. A map of the Monterey County District and Monterey Main service area can be found in **Figure 3-1**.

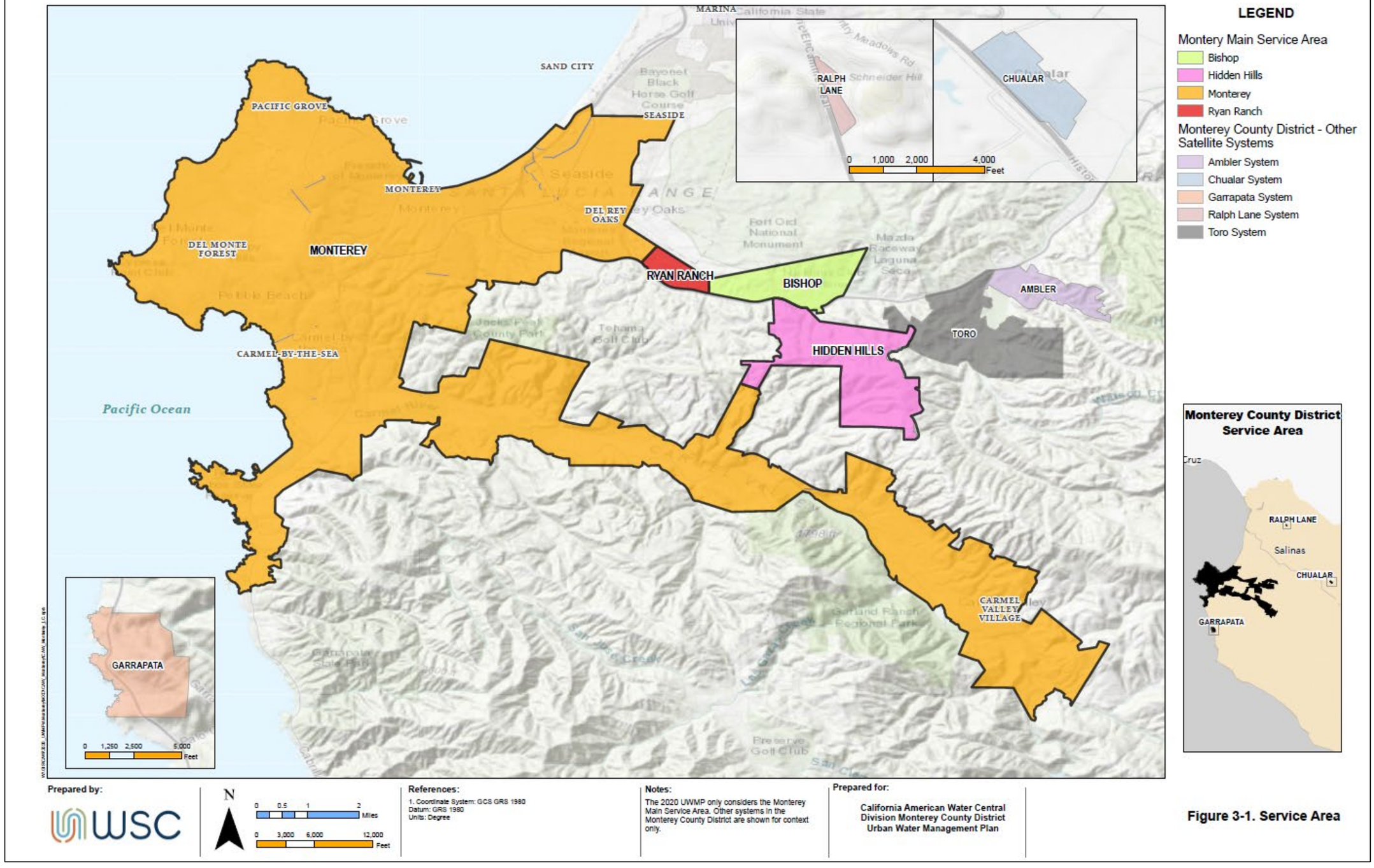


Figure 3-1. Monterey Main Service Area

3.3 Service Area Climate

The climate along the Monterey Peninsula and within the Carmel Valley is characterized as Mediterranean with warm summers and mild winters. The Monterey County District's proximity to the Pacific Ocean and geological features result in several climatic zones within the relatively small service area. The average overall temperature for the coastal areas is 55.5° while the overall average temperature for Carmel Valley is 55.4°. The warmest time of the year for both Monterey and the Carmel Valley falls between August and September, averaging 59.1° and 60.2° respectively. The coolest time of the year is between December and January, averaging for 52.3° and 50.9° for Monterey and the Carmel Valley, respectively.

The average annual precipitation in Monterey is 12.68 inches per year, while the Carmel Valley experiences 16.52 inches per year on average. Being in a coastal zone, a majority of the precipitation is in the form of rainfall with only a few isolated incidences of snowfall. Most of the rain (approximately 90 to 95 percent) falls between November and April. Detailed average monthly precipitation, temperature, and evapotranspiration (ETo) data can be found in Table 3-1.

Table 3-1. Average Climate Data

	PACIFIC GROVE	CARMEL	PACIFIC GROVE	CARMEL	PACIFIC GROVE	CARMEL
MONTH	AVERAGE TEMPERATURE (°F) [1]	AVERAGE TEMPERATURE (°F) [2]	AVERAGE PRECIP (IN.) [1]	AVERAGE PRECIP (IN.) [2]	AVERAGE STANDARD ETO (IN.) [1]	AVERAGE STANDARD ETO (IN.) [2]
January	52.5	51.1	2.46	2.90	1.75	1.75
February	52.8	51.4	1.91	2.33	2.36	2.24
March	53.4	52.7	2.74	3.33	3.34	3.33
April	53.9	53.9	1.06	1.39	4.08	4.18
May	54.8	55.3	0.28	0.53	4.46	4.52
June	57.9	57.4	0.06	0.18	4.31	4.96
July	57.4	59.1	0.05	0.02	3.83	4.86
August	59.0	60.1	0.04	0.03	3.44	4.31
September	59.2	60.2	0.08	0.06	3.31	3.94
October	57.8	58.9	0.46	1.87	2.75	3.37
November	54.8	53.6	1.26	1.34	1.98	2.07
December	52.2	50.7	2.29	2.53	1.76	1.60

Notes:

[1]CIMIS Weather Station 193 Pacific Grove - Monterey; https://cimis.water.ca.gov/. Averages taken for 2011-2020.

[2]CIMIS Weather Station 210 Carmel - Monterey; https://cimis.water.ca.gov/. Averages taken for 2010-2020.

3.4 Service Area Population and Demographics

This section describes projected population in the service area and demographic factors that could impact water use.

3.4.1 Service Area Population

The 2020 population served by Monterey Main is estimated to be 91,717 using the DWR Population tool. Estimates of future population were developed using the regional growth forecast prepared by the Association of Monterey Bay Area Governments (AMBAG). The estimated current and projected populations served by Monterey Main are shown in Table 3-2.

Table 3-2. DWR 3-1R Current and Projected Service Area Population

POPULATION SERVED	2020	2025	2030	2035	2040	2045
Monterey Main	91,717	93,577	95,437	97,297	99,157	101,017

3.4.2 Other Social, Economic, and Demographic Factors

Most recently, the service area is experiencing significant impacts due to the global pandemic caused by COVID-19 (SARS-CoV-2) virus. In March 2020, the State issued a stay-at-home order that forced many businesses to close and other businesses to require residents to continue work only from their home to slow the spread of the virus. Additionally, the forced closure of several businesses caused a historic increase in unemployment across the U.S. and a resulting economic recession. While all the impacts of COVID-19 are not entirely known at this time, it has caused a shift in water use by customer class. In 2020, residential demands increased from 2019 demand, while commercial and industrial water use decreased. This shift is expected to be temporary with an anticipated return to previous levels once all stay at home orders are lifted and businesses can reopen. However, the economic recession could have longer term impacts to the region.

3.5 Land Uses within Service Area

The land uses within Monterey Main include residential, commercial, institutional, and open space conservation areas. AMBAG coordinated with local land use jurisdictions in the development of its regional growth forecast to ensure that local land use was considered. The projections of future water demand have included the expected impact of future changes in land use through the use of the regional growth forecast.

2020 URBAN WATER MANAGEMENT PLAN

4 Water Use Characterization

This chapter describes and quantifies the current and projected water uses within the service area.

IN THIS SECTION

- Distribution System Water Losses
- Past and Current Water Use
- Projected Water Use

4.1 Non-Potable Versus Potable Water Use

Monterey Main serves its customers potable water from a range of supply sources. This chapter focuses on potable demands produced and delivered by CAW. Multiple wastewater agencies provide wastewater collection and treatment within the area. Some of these agencies provide recycled water for use within the service area; the largest, Monterey One Water, operates the Pure Water Monterey (PWM) Project that is used as an important supply source for the Monterey Peninsula. Supply sources and recycled water use are discussed in Chapter 6.

4.2 Past, Current, and Projected Water Use

4.2.1 Water Use Sectors

Records of historical water consumption and meter data serve as the basis for developing the existing water demands by sector. Water consumption is the volume of water measured at each metered service, which includes all water delivered to customers. CAW tracks water consumption across different water use sectors, some of which are listed in the California Water Code (CWC). CAW's billing system changed in 2013, and the new billing system breaks down water use into eight sectors as follows:

- Residential – This encompasses both single- and multi-family residential water use.
- Commercial
- Industrial
- Fire – includes both fire hydrants and fire services.
- Other Public Authority (OPA) – this includes government accounts and schools.
- Co Acct. – This represents the California American Water company account.
- Resale – This includes sales to other agencies
- Miscellaneous – Primarily consists of construction meter usage.
- Distribution System Losses – this is not tracked in Monterey Main's billing database; however, this is a tracked water use based on the difference between produced water and metered usage.

In addition to the water uses listed above, Monterey Main pumps excess Carmel River flows during the winter months and injects them into the Seaside Groundwater Basin as part of its Aquifer Storage and Recovery (ASR) Program to be pumped back out and used in the summer months or stored for dry years. This is a type of conjunctive use management strategy. Monterey Main does not currently provide water for other groundwater recharge activities, saline water intrusion barriers or agricultural uses, exchanges or transfers or provide water for surface water augmentation or wetlands or wildlife habitat.

4.2.2 Past and Current Water Use

The historic water demand for Monterey Main since 2006 is shown in **Figure 4-1**. The water demand is equal to the production, or total amount of water that is pumped into the distribution system. Most of this water is delivered to customers and will appear as metered consumption, however, some production will be lost to leaks and authorized non-metered use. The difference between production and metered consumption is characterized as non-revenue water (NRW). The term "demand" is used to quantify water consumption plus an appropriate allowance for NRW. In this way total demand for all customer types will equal total production.

As shown in **Figure 4-1**, the demand in the Monterey Main peaked at about 14,600 acre-feet per year (AFY) in 2007 and has steadily declined since then. The decline in water use since 2007 is attributed to highly effective conservation programs and a drought rate structure which has resulted in a substantial drop in water use. The five-year average demand between 2016 – 2020 was about 9,300 AFY. In 2020 demands dropped to 9,138 AFY, but the drop from 2019 to 2020 was influenced by reduced tourism and commercial activity during the COVID-19 pandemic, and those restrictions are expected to ease in future years.

Monthly production data since 2010 is shown in **Figure 4-2**. There is a seasonal fluctuation in water use, with higher production during the summer months. The annual trend was declining from 2010 through approximately 2014. Since 2015, water use has been fairly consistent.

Figure 4-1. Monterey Main Historic Annual Demand

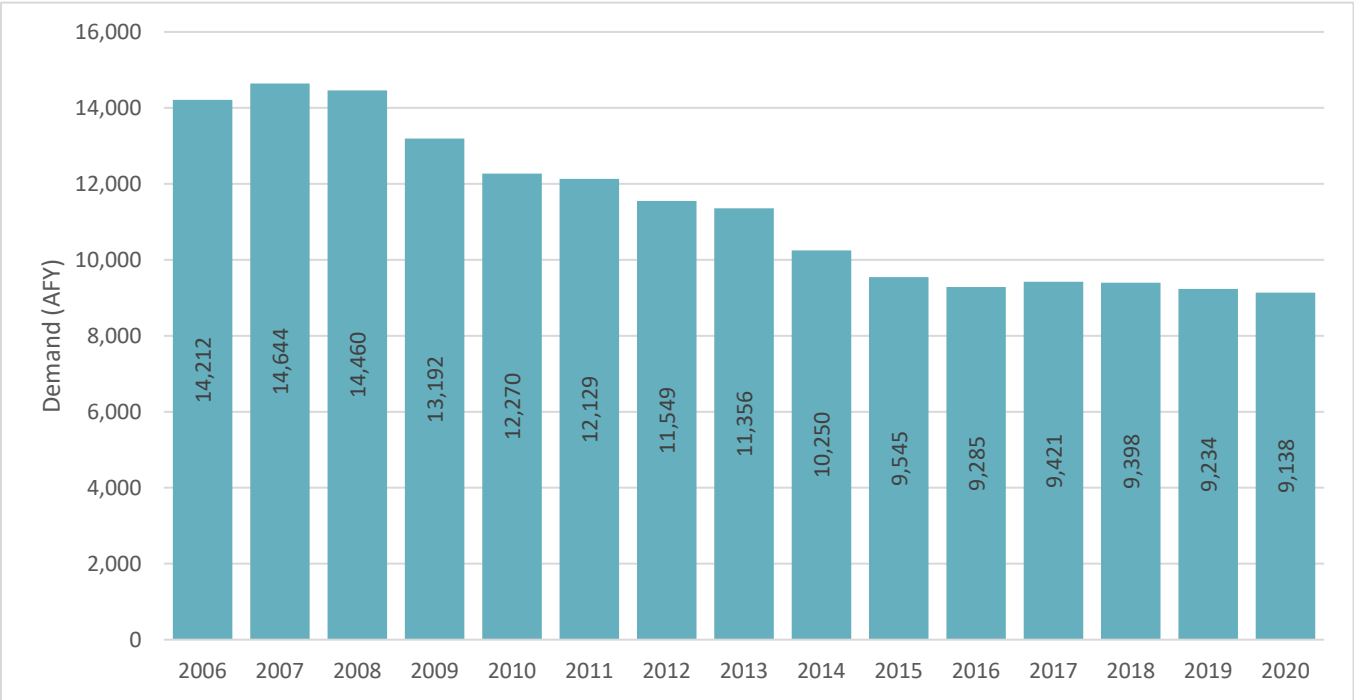


Figure 4-2. Monterey Main Historic Monthly Production

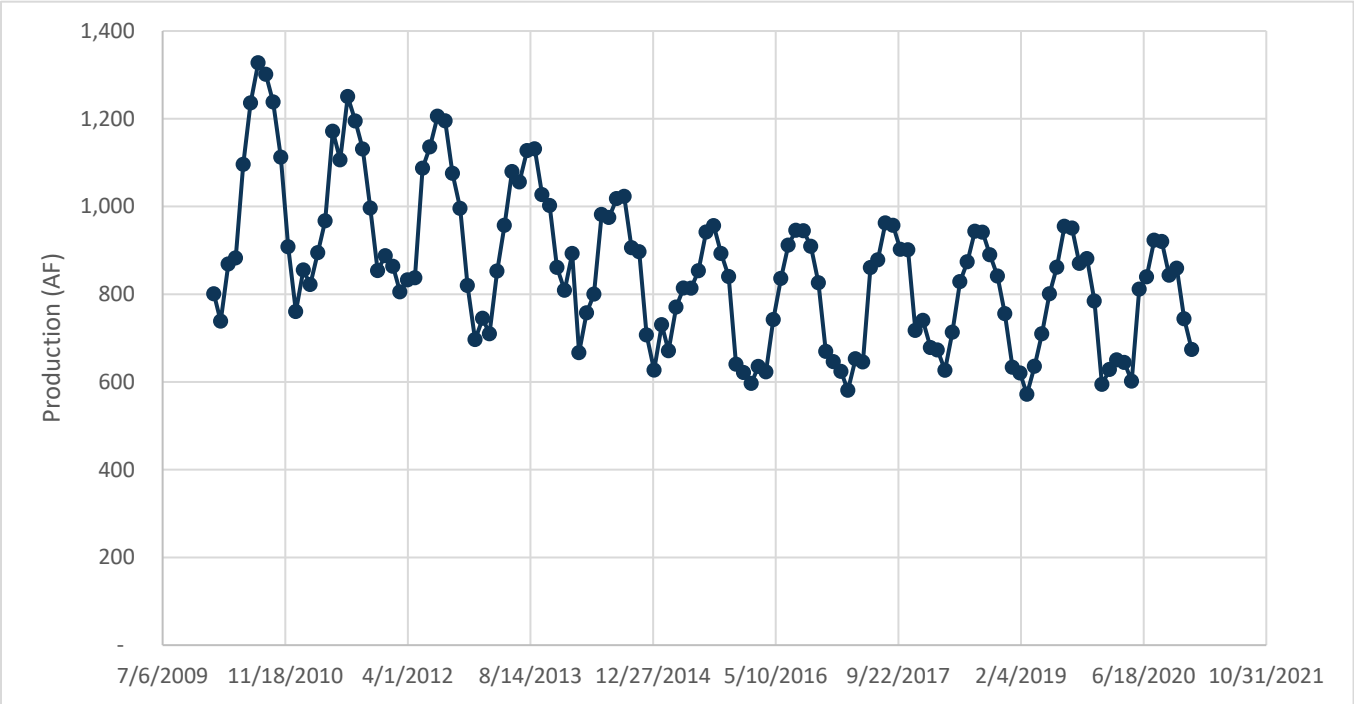


Table 4-1 provides the breakdown of actual water use by sector type in calendar year 2020.

Table 4-1. DWR 4-1R Actual Demands for Water

USE TYPE	ADDITIONAL DESCRIPTION	LEVEL OF TREATMENT WHEN DELIVERED	2020 VOLUME (AFY)
Residential	Single Family and Multifamily Residential	Drinking Water	5,133
Commercial		Drinking Water	3,001
Industrial		Drinking Water	13
Other Public Authority	Institutional/ Governmental. Includes government accounts and schools	Drinking Water	393
Company Accounts	CAW Accounts	Drinking Water	13
Sales for Resale	Sales to other agencies	Drinking Water	6
Fire	Fire Service	Drinking Water	443
Miscellaneous Sales	Construction meter usage	Drinking Water	13
Losses		Drinking Water	124
		Total:	**9,138**

4.2.3 Distribution System Water Losses

The 2016 through 2020 system losses are presented in Table 4-2. The 2016 through 2019 water losses are taken from the validated AWWA Water Audit Software and include both apparent losses and real losses. The AWWA Audits are included in Appendix D. CAW conducts annual water loss calculations and uses these calculations to monitor a number of aspects of the system. The AWWA Audits consider both production and customer meter inaccuracies and system data handling errors to determine the system water losses. The AWWA Audits were not completed for 2020 prior to the submittal of this plan, and the volume of water loss is estimated as the difference between water produced and metered water consumption for the calendar year. These water loss volumes will be updated once the AWWA Water Loss Audit is complete and may explain the negative water loss estimated in the Bishop system in 2020. Based on the losses presented in Table 4-2, the average water losses for the last 5 years in Monterey Main were 406 AFY, which is approximately 4 percent of the total production.

Table 4-2. DWR 4-4R 12 Month Water Loss Audit Reporting

REPORT PERIOD START DATE		VOLUME OF WATER LOSS, AF[1,2]				
MM	YYYY	MONTEREY	HIDDEN HILLS	RYAN RANCH	BISHOP	TOTAL
01	2016	607	27	3.8	-0.4	637
01	2017	290	34	2.5	6.3	332
01	2018	366	26	7.2	7.9	406
01	2019	458	30	5.0	16	509
01	2020	94	32	4.9	-6.8	124

Notes:

1. 2016 through 2019 Water Losses taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.
2. 2020 Water Losses estimated based on metered production and consumption records. These values do not account for metering inaccuracies and data handling errors that are considered in the AWWA Audits, and are likely responsibly for the negative water loss in the Bishop System.

4.2.4 Projected Water Use

In accordance with the CWC, this UWMP provides projections for water use in five-year increments through 2045, providing 20-year projections through the next UWMP cycle (2025).

4.2.4.1 Projection Methodology

Future demands were projected by evaluating monthly historic trends in customer water usage and incorporating estimated future changes in water use due to behavior, new water use regulations, projected growth, and tourism water use. Based on a review of the historic monthly consumption by customer class, the production and consumption have been relatively stable for the past six years. During 2020, the COVID-19 pandemic and government restrictions led to many people spending more time at home and less time at offices and businesses. In addition, many people with second homes in areas like the Monterey Peninsula spent more time at the second home and less time at their primary residence (e.g., in the Bay Area). These factors contributed to an increase in annual residential water use of approximately 500 AF from 2019 to 2020, and a reduction in non-residential use of approximately 600 AF. It is not yet clear whether these changes will persist as pandemic-related restrictions are lifted.

There are several reasons that future water use could be different than seen over the past six years:

1. Changes in behavior by current customers.
    a. CAW has implemented an aggressive water conservation program and has maintained a five-tier rate structure that incentivizes customers to reduce their water use. At some point the conservation program may see diminishing impact as some programs, such as fixture or appliance replacement, reach saturation. Customers may begin to increase their water use, particularly if the tiered rate structure is modified.
2. New government regulations
    a. The State of California is developing water use efficiency standards that will require suppliers to limit water use to allowable levels for indoor use, landscape irrigation, and other categories. The allowable indoor residential use is scheduled to reduce to 50 gallons per capita per day (GPCD) by 2030. The regional residential water use within Monterey Main (counting both indoor and outdoor) ranged from 48 to 52 GPCD from 2016 to 2020. The new State water use efficiency standards are not expected to affect water use in Monterey Main because the current water use is already at or below the State targets.
3. Growth and new development
    a. The Association of Monterey Bay Area Governments (AMBAG) prepares forecasts of regional growth that is expected to bring new population and employment to each jurisdiction. These projections can be analyzed to estimate future increases in population, households, and employment that are expected to occur.
    b. For residential development, a backlog of properties has accumulated that are not able to be developed because of limited water supply. The demand for these Lots of Record (LOR) has been calculated as 1,180 AF. The pace at which these properties could be developed if water were available would depend on economic factors and government policies.
    c. The region has a need for more affordable housing. The Regional Housing Needs Assessment (RHNA) is mandated by the State Housing Law as part of the periodic process of updating local housing elements of the General Plan. The RHNA quantifies the need for affordable housing, and communities must plan to meet low income housing requirements. In February 2020, the City of Monterey projected a future need for 250

AFY of water based on its RHNA allocation, and a need for 255 AFY for additional housing units (40 percent of them affordable) based on a study by Economic Planning Systems. Additionally, MPWMD has recently submitted a request to the State Water Resources Control Board (SWRCB) for relief from the current moratorium on new connections in order to allocate 75 AFY for affordable housing. Because this water use is pending approval from the SWRCB, it has not been incorporated in the projected water demands.

   d. Pebble Beach Entitlements. The Pebble Beach Company has entitlements to approximately 325 AFY that can be sold to other Del Monte Forest property owners. These entitlements constitute an existing obligation by CAW to serve the properties when developed.

4. Changes in Commercial Activity
   a. The region has historically been a popular destination for business and leisure travelers. In recent years, an economic slowdown contributed to reductions in visitor activity. The potential water demand increase due to a tourism bounce-back has been estimated by the CPUC as 500 AFY.
5. Climate change
   a. Future weather patterns may include warmer and dryer conditions on the Monterey Peninsula, and is anticipated to increase outdoor water use by customers and could increase the maximum month and day peak demands in the summer due to higher irrigation demands. More discussion on climate change impacts on water demand is discussed in Chapter 4.4.

The three factors that have previously been quantified in terms of their future demand are summarized in Table 4-3.

Table 4-3. Previously Quantified Factors Impacting Future Demand

FACTOR	ANNUAL DEMAND (AF)
Lots of Record	1,180
Tourism bounce-back	500
Pebble Beach entitlements	325
Total	**2,005**

The timeline over which development may occur to realize the demands shown in Table 4-3 will depend on a variety of factors, including government policies and economic conditions. The projected demands are shown in Table 4-4. The key assumptions in the calculations are listed below:

- For the purposes of this projection, the growth in population and employment projected by AMBAG was used to drive estimates of future water use:
  - For residential customers, the baseline residential water use from the last five years is 48 GPCD, and is anticipated to rebound 10 percent to 52.8 GPCD by 2030 when new supply sources are online, and then remain constant through 2045. The CPUC recommends using a 10-year baseline for conservative demand projections, which equates to an average demand of 10,324 AFY, and estimated residential demand of 53.5 GPCD. However, demands in Monterey Main have reduced significantly over the last 10 years and remained steady for the last six years. Residential use increased approximately 10 percent from 2019 to 2020, likely due to higher occupancy rate of second homes, which may be permanent. For conservative demand projections, a 10 percent residential demand rebound is applied to the baseline 48 GPCD, which increases average residential water use to 52.8 GPCD. This would represent a return of per-capita water use to its 10-year average and corresponds to an additional 500 AFY of

demand by 2030. The residential demand is expected to meet the state water use standard of 50 GPCD for residential indoor use by 2030 since the residential 52.8 GPCD includes both indoor and outdoor water use.

- The service area population will increase at the rate forecasted by AMBAG.
- For non-residential customers, water use will increase at the rate of employment growth forecasted by AMBAG. The 2016 to 2020 average non-residential water use of 4,372 AFY is the baseline for non-residential water projections.

- For the development of previously quantified factors impacting future demand, these are independent and additive to the AMBAG projections. These estimates include:
  - The Pebble Beach Entitlements are anticipated to be developed between 2030 and 2050 at a rate of 65 AFY every five years.
  - The Lots of Record are expected to be developed from 2030 to 2050. Due to pent-up demand, the demand from these lots is expected to be 300 AFY by 2030 and then increase at a rate of 220 AFY every five years between 2035 and 2050 as lots are developed.
  - Tourism activity will bring an increased number of business and leisure travelers to the region, generating economic activity in related businesses. The 500-AFY of tourism rebound determined by the CPUC is expected by 2030, with 250 AFY of tourism rebound by 2025.

Additionally, water use for fire service increased in 2019 and 2020 to an average of 400 AFY, when prior to 2019 the average fire demand was only 3 AFY. The increase is attributed to both better metering of fire services in 2019 and 2020, when some demand may have been tracked as water loss previously, as well as a warmer and drier climate increasing fire potential and lengthening the fire season, resulting in more fire flow use. Water use for fire service is projected to remain at about 400 AFY in the future.

Water losses dropped in year 2019 and 2020, and averaged about 2 percent of the total demand. Prior to 2019, water losses average about 4 percent of the total demand. The drop in water loss is attributed to CAW's investments in reducing water waste and enhanced metering. These investments have been incorporated into the projections by including water losses as 2 percent of the total demand. The projected demands through 2045 are shown in **Table 4-4**.

Table 4-4. Projected Demands, 2025 through 2045

	BASELINE (2016-2020)	2025	2030	2035	2040	2045
Demographics						
Service Area Population	91,717	93,577	95,437	97,297	99,157	101,017
Annual Population Growth Rate		0.41%	0.40%	0.39%	0.38%	0.38%
Service Area Employment	64,307	67,020	69,732	72,445	75,157	77,870
Residential Demand						
Residential Demand (GPCD)	48	48	52.8	52.8	52.8	52.8
Residential Demand (AF)	4,931	5,031	5,644	5,754	5,865	5,975
Non-Residential Demand						
Non-Residential Demand (AF)	4,372	4,556	4,741	4,925	5,110	5,294
Fire Service Demand (AF)		400	400	400	400	400
Other Future Demand						
Pebble Beach Entitlements (AF)		0	65	130	195	260
Tourism Rebound (AF)		250	500	500	500	500
Legal Lots of Record (AF)		0	300	520	740	960
Losses		205	233	245	256	268
Average Annual Demand (AFY)		**10,443**	**11,883**	**12,474**	**13,065**	**13,656**

Table 4-5 lists the total projected demands by customer type based on the projections described above. Monterey Main does not have any significant sales to other agencies as a wholesaler.

Table 4-5. DWR Table 4-2R Projected Demands for Water

USE TYPE	ADDITIONAL DESCRIPTION	PROJECTED WATER USE, AFY				
		2025	2030	2035	2040	2045
Residential[1]	Single Family and Multifamily Residential	5,031	6,009	6,404	6,800	7,195
Commercial		4,212	4,622	4,783	4,943	5,103
Industrial		27	28	29	30	31
Other Public Authority	Institutional/ Governmental. Includes government accounts and schools	533	555	577	598	620
Company Accounts	CAW Accounts	23	24	25	26	27
Sales for Resale	Sales to other agencies	0	0	0	0	0
Fire	Fire Service	400	400	400	400	400
Miscellaneous Sales	Construction meter usage	11	11	12	12	13
Losses		205	233	245	256	268
TOTAL:		**10,443**	**11,883**	**12,474**	**13,065**	**13,656**

Note:

1. Residential demand includes the projected residential demand due to AMBAG population growth plus Pebble Beach Entitlements and the Legal Lots of Record projections in Table 4-4.

Table 4-6 lists the gross water use in Monterey Main and includes potable demand projections plus recycled water use that offsets potable supplies.

In addition to the demand in Table 4-5, the Seaside Basin Watermaster has identified the need for an additional 1,000 AFY for 25 years for the protection of the groundwater basin from seawater intrusion. The Seaside Watermaster Board of Directors has reached out to CAW and Monterey One Water (M1W) to determine whether supplies are available for the basin. CAW is not under obligation to provide this water currently, but future negotiations are expected in an effort to help provide water for the Seaside Basin or further reduce Seaside Basin pumping.

These projections characterize normal water use and are used in Chapter 7 to estimate water supply reliability in the event of a normal year and single dry year.

Table 4-6. DWR Table 4-3R Gross Water Use

	2020	2025	2030	2035	2040	2045
Potable and Raw Water	9,138	10,443	11,883	12,474	13,065	13,656
Recycled Water Demand[1] Non-potable reuse subtotal Table 6-7	1,155	1,178	1,202	1,223	1,243	1,264
Total Water Use:	10,293	11,621	13,085	13,697	14,308	14,920
Other Regional Needs[2] (Seaside Basin)		1,000	1,000	1,000	1,000	1,000

Notes:

1. Recycled Water Demand excludes indirect potable reuse from the Pure Water Monterey and Expansion Projects because this supply contributes to the potable water use.
2. CAW is not under obligation to provide regional water for the Seaside Basin, and this is not included in the total water use. However, the Seaside Basin Watermaster has asked CAW to enter into negotiations to help supply this regional demand.

4.2.4.2 Characteristic Five-Year Water Use

A new component of the 2020 UWMP is to prepare a five-year drought risk assessment (DRA) to evaluate water service reliability for a drought lasting five years from 2021 through 2025. The five-year DRA is presented in Section 7.2. Under this five-year drought scenario, the DRA projects that potable demands would exceed the available supply beginning in year 2022, continuing through 2025. CAW would need to enact the Water Shortage Contingency Plan (WSCP) to reduce demands in every year after 2021 to close the gap between supply and demand.

4.3 Water Use for Lower Income Households

Changes to the CWC section 10631.1 since 2005 require demand projections to include projected water use for residential housing needed for lower income households. Low-income households are defined as households making less than 80 percent of Statewide median income.

The Regional Housing Needs Allocation (RHNA) Plan 2014-2023 for Monterey and Santa Cruz Counties prepared by AMBAG, separated regional housing goals by City and Income Category (Association of Monterey Bay Area Governments, 2014). According to the 2014-2023 RHNA, the percentage of households identified as low-income and very low-income equaled 24.1% and 15.7% of Monterey County, respectively. The Monterey Peninsula has a significant need for more affordable housing to meet the RHNA goals. The demand from the housing goals was estimated by applying the projected growth in residential demand and applying it to the housing goals set by AMBAG. The RHNA 2014-2023 housing goals were also applied to years beyond 2023 to estimate low-income demands beyond the RHNA planning period, however the RHNA will be updated before 2023 and the updated housing goals should be used to update future low-income demands. Table 4-7 shows the anticipated demand from low-income housing using the 2020-2022 RHNA goals applied to future years.

Table 4-7. Projected Low-Income Demands, AFY

	RHNA 2014-2023 FORECAST			PROJECTED LOW-INCOME DEMAND BASED ON CURRENT RHNA HOUSING GOALS				
	2020	2021	2023	2025	2030	2035	2040	2045
Residential Demand Projection[1]	4,931	4,951	4,971	5,031	6,009	6,404	6,800	7,195
Residential Demand Growth[2]	0	20	20	60	978	395	395	395
Low-Income Demand[2]	0	5	5	14	236	95	95	95
Very-Low Income Demand[2]	0	3	3	9	154	62	62	62

Notes:

1. Residential Demand Projection from Table 4-4. Demand for years 2021-2023 are interpolated between 2020 and 2025
2. Demand growth from previous year listed in the table. Growth in residential demand between 2020-2023 is annual residential demand growth. For years 2025-2045 residential demand growth shown is 5-year residential demand increases.

4.4 Climate Change Considerations

Climate change impacts to future water demands were considered in the demand projections. As described in the 2019 Final Draft Monterey Peninsula, Carmel Bay, and South Monterey Bay Integrated Regional Water Management Plan (IRWMP), based on the Cal-Adapt climate model interpretation tool, the projected increase in average temperature by the end of the century in the Monterey Main service area ranges from 6.6 – 6.8°F (Final Draft Monterey Peninsula, Carmel Bay, and South Monterey Bay Integrated Regional Water Management Plan, 2019). There are also studies that predict coastal fog is declining, which will contribute to average temperature and ETo increases.

Different climate models predict varying changes in rainfall, some with increases in average rainfall and other with average decreases in rainfall, but all agree precipitation patterns will change. The Climate Change Report technical study for the Carmel River Floodplain Restoration and Environmental Enhancement Project compares four climate models. Although there is considerable variability in the projected precipitation values, the average projected precipitation suggests an increase in January precipitation of approximately 2.5 inches and slightly less precipitation in the spring and fall months. These results are consistent with the academic literature which indicates that winter storms will likely increase in magnitude and frequency in wet months.

As listed in the IRWMP, the potential impacts to water demand due to climate change include:

- Agricultural water use is expected to increase to offset higher temperatures and ETo.
- Rangelands are expected to be drier.
- Domestic landscaping water needs will be higher due to increased temperatures and ETo and shifting rainfall patterns.
- Sea level rise and higher groundwater extractions will lead to increased rates of saltwater intrusion.
- Droughts will be more frequent and severe.

CAW does not provide water for agricultural use, however, customers within the service area do rely on CAW to provide water for landscaping. There is some recycled water in the service area used for landscape irrigation, discussed in Chapter 6, however, climate change impacts are projected to mainly affect demands for outdoor water use.

DWR's SGMA Data Viewer[1], developed using data previously compiled for the California Water Commission Water Storage Investment Program to assist Groundwater Management Agencies

[1] SGMA.water.ca.gov

incorporate climate change into their Groundwater Sustainability Plans, was leveraged to evaluate climate change impacts to Monterey Main's projected water demand. The SGMA Data Viewer includes the projected change in precipitation and ETo by 2030 and 2070 due to climate change for grid cells across California. A shapefile of the Monterey Main System was uploaded to the Data Viewer and intersected with the grid cells to understand the projected climate change impacts within the service area. The data estimates that ETo will only increase by 3 percent by 2030 and 16 percent by 2070. Using linear interpolation, the estimated increase in ETo in 2045 is about 5 percent. Irrigation demand is estimated to represent 20 percent of the total demand in the service area and applying a 5-percent increase in outdoor water use translates to a total 1 percent increase in water use by 2045 due to climate change. This increase due to climate change is within the range of accuracy of current projections. Climate impacts will increase if irrigation demand increases in the service area.

2020 URBAN WATER MANAGEMENT PLAN

5 SB X7-7 Baseline, Targets and 2020 Compliance

This Chapter describes the Monterey Main SB X7-7 2020 baseline and per capita water use targets. Based on 2020 water use and current population, Monterey Main has met its 2020 per capita water use target.

IN THIS SECTION

- Updated Calculations
- Baselines & Targets
- 2020 Compliance

On November 10, 2009, Governor Arnold Schwarzenegger signed Senate Bill X7-7 (SB X7-7) into law. The legislation requires California to achieve a total reduction in per capita water use of 20 percent by December 31, 2020, with an interim target of 10 percent reduction by December 31, 2015. The legislation requires each urban water supplier to develop and include in its UWMPs, estimates of:

2. Baseline daily per capita water use;
3. Daily per capita water use target;
4. Daily per capita water use interim target; and
5. Compliance daily per capita water use.

The UWMP must also include bases for determining the estimates, with references to supporting data. However, SB X7-7 did not include a detailed description of the allowable methodologies for determining the required values. Instead, it required DWR to develop appropriate methodologies and criteria, and to make them available to water suppliers.

The baseline per capita water use and targets were calculated in the 2015 UWMP and are provided in **Appendix C**. There have not been significant changes in the Monterey County District's service area since 2015, thus the calculations of baselines and targets included in the 2015 Plan are still valid for compliance in this 2020 UWMP.

5.1 SB X7-7 Forms and Summary Tables

CAW has completed the standard forms required by DWR to document calculation of the baseline, targets, and 2020 compliance. These forms are included in **Appendix C**.

5.2 Baseline and Target Calculations for 2020 UWMP

The Monterey County District has multiple service areas. Consistent with the requirements outlined in DWR's *Guidebook to Urban Water Management Guidebook 2020*, compliance is calculated for the Monterey County District as a whole. Methodologies consistent with those described in the Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use guidebook (Methodologies Guidebook) were used in developing baselines and targets. The selected procedure used to develop the required SB X7-7 estimates includes the following basic steps:

1. Calculate baseline water use, which is the average gross daily water use per capita, reported in gallons per capita per day, based on gross water use and service area population for a continuous 10-year period ending no earlier than December 31, 2004
2. Calculate urban water use target using one of the four methods described below
3. Check and confirm the urban water use target using the five-year running average
4. Calculate the interim urban water use target (equal to the average of the baseline and confirmed urban water use target)
5. Calculate the compliance daily per capita water use (equal to the gross daily water use per capita during the final year of the reporting period (i.e. 2010)

CAW prepared updated calculations of its baseline and targets for the 2015 UWMP cycle. CAW used the DWR Population Tool to re-calculate its service area population, baseline per-capita use, and compliance targets in the 2015 UWMP.

In the 2015 UWMP, per capita water use was calculated using gross water use values and the population estimates. The per capita water use baseline value was averaged across 10-year periods ranging from 1998-2007 through 2001-2010. The water use target was then calculated by subtracting total savings including residential indoor, metering, commercial industrial institutional (CII), and landscape and water loss savings. The water use target for 2020 was calculated at 118 GPCD with an interim target of 131 interpolated for 2015.

For the 2020 UWMP, CAW is not recalculating its baselines or targets. Monterey Main's baselines and targets are summarized in **Table 5-1**.

Table 5-1. DWR 5-1R Baselines and Targets Summary

BASELINE PERIOD	START YEAR	END YEAR	AVERAGE BASELINE GPCD[1]	CONFIRMED 2020 TARGET[2]
10-15 Year	1996	2005	144	118
5 Year	2004	2008	143	

Notes:

1. All values are in Gallons per Capita per Day (GPCD)
2. All cells in this table are populated manually from the supplier's SB X7-7 Verification Form.

5.3 Population and Gross Water Use

5.3.1 Service Area Population

To accurately calculate the compliance of the 2020 GPCD target, the population served by Monterey Main must be determined. In the 2015 UWMP, the population estimates for California American Water's service areas were calculated using DWR's online Population Tool, which utilizes Geographical Information Systems (GIS) service area boundaries, service connection data and Census data. The DWR Population Tool overlaps GIS shapefiles with Census populations by Census block for 1990, 2000 and 2010. The calculated population of each block within California American Water's service area is summed up to provide populations for 1990, 2000, and 2010. Populations are divided by the total service connections in each respective census year to come up with a persons per connection factor for the purposes of projecting populations from 2010-2015. Linear interpolation was used to determine the population for years in between the census years.

To stay consistent with the 2015 UWMP while also utilizing Association of Monterey Bay Area Governments (AMBAG) growth projections from Traffic Analysis Zones (TAZ) data, the DWR population tool was used to determine the 2020 service area population and then projected through 2050 using the growth percentages calculated from the AMBAG TAZ data.

5.3.2 Gross Water Use

SB X7-7 defines gross water use as:

> "The total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following: (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier; (2) The net volume of water that the urban retail water supplier places into long-term storage; (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.; (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24."

The gross water use is calculated as the sum of the production into the potable system from all supply sources.

5.4 2020 Compliance Daily Per-Capita Water Use (GPCD)

The determination of 2020 Target compliance is based on gross water use for the 2020 calendar year.

In 2020, Monterey Main had a gross water use of 9,138 AFY and a service area population of 91,717. Utilizing the noted gross water use and service area population values, the resultant actual per capita water use for Monterey Main in calendar year 2020 was 89 GPCD. As such, Monterey Main has met the 2020 target of 118 GPCD.

No extraordinary events or economic adjustments have taken place that would cause any adverse effects with regards to overall water usage. As was previously mentioned, no adjustments to the 2020 gross water use were made as is permissible with Water Code 10608.24 cited above.

The overall water usage trends have been greatly reduced due to the drought and the conservation measures that have been enacted. Attainment of the 2020 target has been influenced by: proactive education and outreach to the citizens and by the mandated water use reductions from the State Water Resources Control Board. These factors have played a significant role in the CAW's ability to meet and surpass the 2020 target. The values are summarized in **Table 5-2**.

Table 5-2. DWR 5-2R 2020 Compliance

ACTUAL 2020 GPCD*	2020 GPCD		2020 CONFIRMED TARGET GPCD	SUPPLIER ACHIEVED TARGETED REDUCTION IN 2020
	2020 TOTAL ADJUSTMENTS	ADJUSTED 2020 GPCD*		
89	0	89	118	Yes

*All values are in Gallons per Capita per Day (GPCD)

5.5 Regional Alliance

CAW calculated compliance with SB X7-7 as an individual agency and did not participate in a Regional Alliance.

2020 URBAN WATER MANAGEMENT PLAN

6 Water Supply Characterization

The Monterey Main System is entirely dependent on local water sources for its supply. This chapter identifies and quantifies, to the extent practicable, the existing and planned sources of water supplies for the Monterey Main System through 2045.

CAW's current and planned sources of supply for the Monterey Main System are:

1) Groundwater from Upper and Lower Carmel Valley Aquifers,
2) Groundwater from the Seaside Groundwater Basin and its sub-basins;
3) Aquifer Storage and Recovery (ASR);
4) Pure Water Monterey, a water recycling project;
5) Sand City Desalination; and
6) A New Ocean Desalination Plant as part of the Monterey Peninsula Water Supply Project (MPWSP).

The following sections characterize each supply source.

IN THIS SECTION

- Existing Water Supply Sources
- Future Water Projects
- Projected Water Supplies

6.1 Carmel River Aquifer

The Monterey Main System extracts water from wells located in the Carmel Valley Aquifer. The Carmel Valley Aquifer is located along the Carmel River, southeast of the Monterey Peninsula. The Monterey Main system's service area overlies the Carmel Valley Aquifer. The aquifer is comprised of the alluvial deposits that form the valley floor underlying the Carmel River. **Figure 6-1** shows the Carmel Valley Aquifer and the Monterey Main Service Area. The Carmel Valley Aquifer is identified by DWR as a high-priority basin. Because withdrawals are being regulated by the SWRCB through surface water rights, the basin is not currently being managed through SGMA.

Prior to 1995, the CAW diverted on average about 14,106 AFY from the Carmel River. In 1995, following three years of hearings, the State Water Resources Control Board (SWRCB) found CAW to be diverting on average 10,730 AFY from the river without a valid basis of right under Order No. WR-95-10, provided in **Appendix E** (California State Water Resources Control Board, 1995). The Carmel Valley Aquifer underlies, and closely parallels, the surface water course of the Carmel River, flowing in a subterranean stream subject to the jurisdiction of the SWRCB. In 1995, the SWRCB issued order WR 95-10, requiring CAW to reduce its Carmel River diversions from an estimated 14,000 AFY to its authorized diversion limits totaling 3,376 AFY, based on CAW's pre-1914 appropriative rights, riparian rights, and License #0011866.

On October 20th, 2009, the SWRCB issued an order to CAW to cease and desist all unauthorized diversions of water from the Carmel River (California State Water Resources Control Board, 2009). Among the conditions from the order, CAW will diligently implement actions to terminate its unlawful diversions and ultimately terminate all unlawful diversions by December 31, 2016.

In October 2013, the SWRCB authorized the additional diversion and use of water from the Carmel River by issuing a permit number 21330 to CAW. The water appropriated from the permit is limited to the quantity which can be beneficially used from December 1 of each year to May 31 of the succeeding year and cannot exceed a rate of 4.1 cubic feet per second (cfs) and a maximum annual diversion of 1,488 AF. The seasonal diversion under the permit is subject to specific minimum mean daily instream flow requirements, and as such may not always be available year to year.

In 2014, it became clear that more time was required to develop a CPUC-approved lawful alternative supply before all unlawful diversion of the Carmel River could be stopped. In April 2016, a coalition of stakeholders, including California American Water, the Monterey Peninsula Regional Water Authority (MPWRA), Monterey Peninsula Water Management District (MPWMD), Pebble Beach Company, and the City of Pacific Grove, submitted a revised request to the SWRCB seeking more time to develop alternative water supplies for the communities of the Monterey Peninsula before significant cutbacks on pumping from the Carmel River took effect. In July 2016, the SWRCB issued Order WR 2016-0016 (**Appendix F**) to amend the 2009 order and extended the deadline to terminate all unlawful diversions from the river to no later than December 31, 2021. Starting with a base of 8,310 AFY for water year 2015-2016, CAW was required to follow a scheduled diversion reduction structure, reducing their diversions by 1,000 AFY until the legal limit of 3,376 AFY would be reached by December 31, 2021.

The 2016 Order also included a schedule of milestones and deadlines for the purposes of calculating the diversion reductions, including construction and completion milestones for the MPWSP Desalination Plant. In September 2020, CAW missed a milestone because of Coastal Commission delays, and a court-ordered stay on construction of the desalination plant facility. Nevertheless, the SWRCB responded that regardless of fault a 1,000 AFY reduction was an appropriate and intended consequence of missing the milestone. CAW determined that sufficient supplies were available to meet demand in water year 2020-2021 even with the 1,000 AF cutback, and continues its efforts to move forward with the MPWSP to provide a reliable and permanent long-term water supply for the Peninsula.

The Monterey Main System pumps from both the Upper and Lower Carmel River Aquifer. State Board Order 95-10 has placed seasonal limits on the allowable production from the wells in the Upper Carmel Valley aquifer. The wells are operated during the winter months (November through April) and when the Carmel River flows are above 40 cfs. If the river flow at Don Juan Bridge is less than 20 cfs for five consecutive days, then a "low flow period" is triggered, and the upper valley wells cannot be used. If the river flow is above 40 cfs between November and April, then CAW is able to operate the upper valley wells but is required to minimize extractions from the Seaside aquifer to the maximum extent possible. The wells in the Upper Carmel River Aquifer are of good water quality and discharge directly into the distribution system with disinfection at the wellhead. The wells in the Lower Carmel River Aquifer do not have seasonal production limitations, but they pump into a common raw water transmission main, which transfers the groundwater to the Begonia Iron Removal Plant (BIRP) for treatment and removal of iron and manganese before being pumped into the distribution system.

Table 6-1 shows the historic and current supply from the Carmel River Aquifer. Table 6-2 shows the projected supply for the Carmel River Aquifer to be 3,376 AFY as authorized under the SWRCB cease and desist order.

6.2 Seaside Groundwater Basin

After the Carmel River, the Monterey Main's next largest source of supply is the Seaside Groundwater Basin. The Seaside Groundwater Basin overlies and is a subbasin to the Salinas Groundwater Basin, however it is adjudicated and has a different defined boundary in the adjudication than as defined by DWR.

The Salinas Valley Basin is made up of eight subbasins that span Monterey County and northern San Luis Obispo County. The Monterey and Laguna Seca Systems are located within and utilize water from the Seaside Area Subbasin of the Salinas Valley Groundwater Basin (California Department of Water Resources, 2004). Figure 6-1 shows the Salinas Valley Groundwater Basin and its subbasins with the Monterey Main service area. The Seaside Area Subbasin, as described by DWR and shown in Figure 6-1, is bounded by 180/400 Foot Aquifer subbasin to the north, the Corral de Tierra sub-basin to the south and east, and by the Pacific Ocean to the west.

The Seaside Basin Adjudication Order, filed in March 2006, defines the boundaries of the Seaside Groundwater Basin Aquifer as shown in Figure 6-2, which differ from the boundaries defined by DWR. The Seaside Groundwater Basin is located at the northwest corner of the Salinas Valley, adjacent to the Monterey Peninsula. The total surface area of the aquifer covers approximately 19-square miles. The southern boundary of the Seaside Groundwater Basin follows the Chupines fault, a relatively impermeable formation uplifted to near sea level. The western boundary of the basin extends to the shoreline. The eastern boundary of the basin is defined by the flow divide in the Paso Robles aquifer, which approximately coincides with surface drainage between the Canyon del Rey and El Toro Creek watersheds. Finally, the northern boundary of the basin also follows a groundwater flow divide from the Salinas Valley groundwater basin. The Seaside Groundwater Basin was subdivided into several subbasins as shown in Figure 6-2 including the Laguna Seca, Coastal, and Inland subareas; these divisions were created for planning purposes and not hydrogeological formations (Monterey Peninsula Water Management District, 2008). The Monterey and Ryan Ranch System both overlie the Coastal Subarea, and the Bishop and Hidden Hills Systems overlie the Laguna Seca Subarea.

In the adjudication, the CAW shares of the operating yield in water year 2020 for the Coastal and Laguna Seca subbasins were reduced to 1,820 and 0 AFY, respectively (California American Water v. City of Seaside, et al., 2006). Under the terms of the adjudication, CAW's share of the Seaside Basin operating yield decreased in Water Year 2021 to the ultimate safe yield of 1,474 AFY for the Coastal subbasin and 0 AFY for the Laguna Seca subbasin.

However, due to years of over pumping the Seaside Groundwater Basin prior to the 2006 adjudication, CAW has agreed to an over pumping repayment plan and to reduce their pumping from the basin by

700 AFY once a new reliable water supply source is operational for a 25-year period to help balance the basin. This Plan assumes a new reliable water supply source for the Peninsula will be online by 2030, and CAW's share from the Seaside Groundwater Basin will be reduced to 774 AFY from 2030 through 2055 as part of the over pumping repayment plan. The repayment could increase in volume or the duration of repayment could lengthen due to additional over pumping as a result of delays in securing a new reliable water supply not accounted for when the agreement was reached. The adjudication is included in **Appendix G.**

Historically, seawater intrusion had not been observed in existing monitoring and production wells in the Seaside Basin. In 2020, as detailed in the 2020 Seawater Intrusion Analysis Report, increased chloride concentrations were reported in two monitoring wells for the first time, which may be a precursor to seawater intrusion. The 2019 updated Water Quality, Seawater Intrusion Analysis Report, and Basin Management Action Plan found that despite recent pumping at levels less than the decision-established natural safe yield of 3,000 AFY, water levels in some portions of the Basin are continuing to drop. Water levels and chloride concentrations are expected to improve once a new supply source is secured for the Peninsula and CAW can reduce its pumping from the Seaside Groundwater Basin. As described in Chapter 4, the Seaside Basin Watermaster has projected the need to provide 1,000 AFY to protect the Seaside Basin.

The historic and projected Seaside Groundwater Basin supplies are listed in **Table 6-1** and **Table 6-2** respectively. Similar to the Carmel River, the Seaside Basin is vulnerable to climate impacts, notably after years of over pumping. The main climate vulnerability is continued seawater intrusion in the basin as seawater levels rise, plus increased agricultural water use and more severe and frequent droughts that may result in over pumping and further stress the basin. As shown, CAW is excepted to significantly reduce reliance on both the Carmel River and Seaside Basin in the future.

Table 6-1 DWR 6-1R Groundwater Volume Pumped

GROUNDWATER TYPE	LOCATION OR BASIN NAME	2016	2017	2018	2019	2020
Alluvial Basin	Carmel Valley Aquifer[1]	6,181	5,619	5,954	6,249	5,317
Alluvial Basin	Seaside Groundwater Basin	2,471	3,532	2,296	2,378	2,802
Total:		8,652	9,152	8,249	8,627	8,119

Notes:

1. The Carmel River Aquifer volume excludes water that was injected into the Seaside Basin for ASR. This volume is counted as ASR storage and supply.

Table 6-2. Projected Groundwater Volume

GROUNDWATER TYPE	LOCATION OR BASIN NAME	2025	2030	2035	2040	2045
Alluvial Basin	Carmel Valley Aquifer[1]	3,376	3,376	3,376	3,376	3,376
Alluvial Basin	Seaside Groundwater Basin[2]	1,474	774	774	774	774
Total:		4,850	4,150	4,150	4,150	4,150

Notes:

1. The CAW Monterey Main System has a total entitled right of 3,376 AFY from the Carmel River Aquifer. This volume does not include water for ASR injection to the Seaside Basin, which is reliant on seasonal diversions from the Carmel River.
2. The CAW Monterey Main System has a total entitled right of 1,474 AFY from the Seaside Groundwater Basin, however CAW has an agreement in place to not pump 700 AFY of this right for 25-years once a new supply source is operational. This Plan assumes the reduced pumping will beginning in 2030 and continue through 2055. The reduced pumping repayment volume or duration of payment is subject to increase in the future.

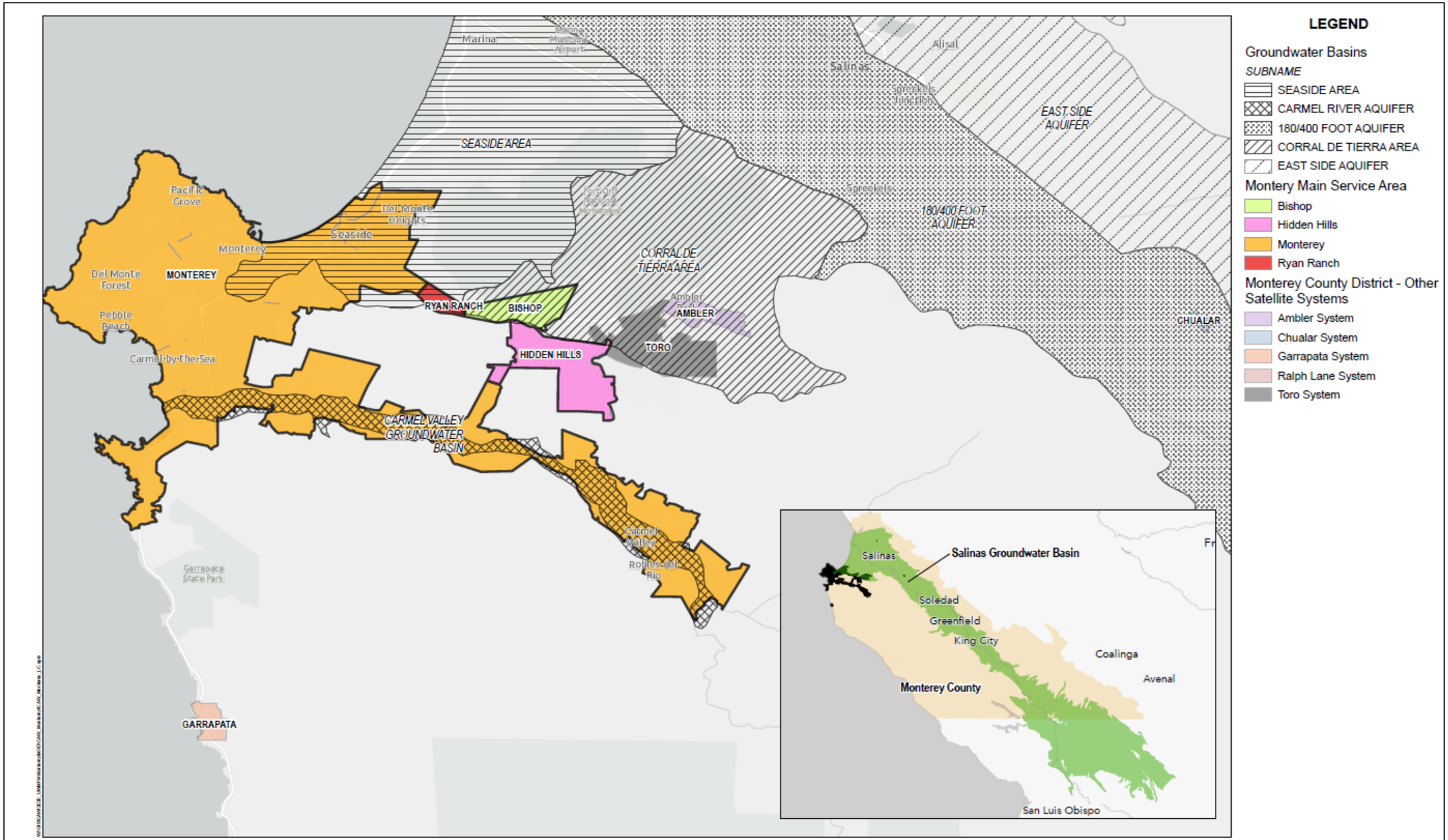


Figure 6-1. Carmel River Aquifer and Salinas Valley Groundwater Basin

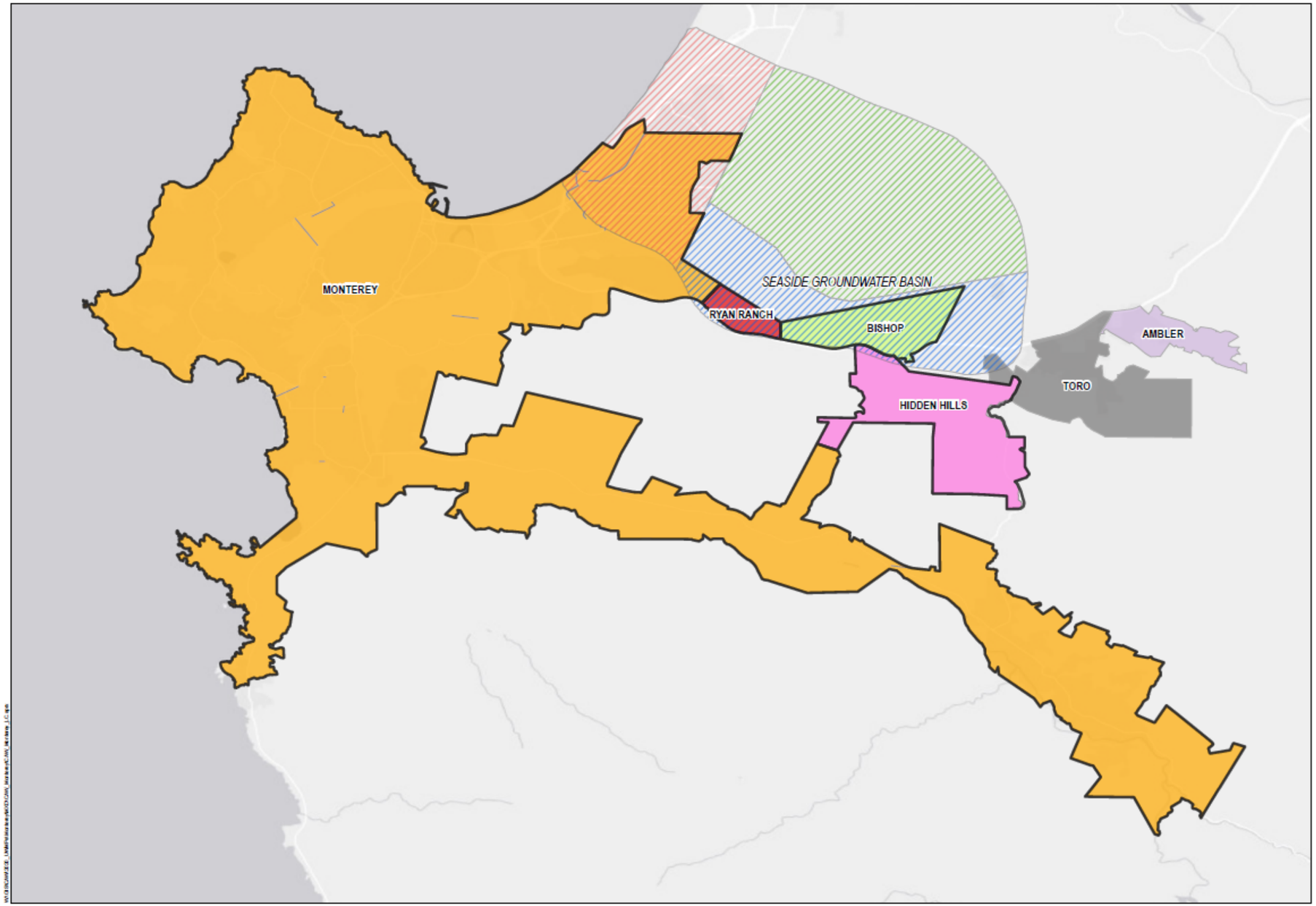


Figure 6-2. Seaside Groundwater Basin Aquifer

6.3 Aquifer Storage and Recovery (ASR)

The Aquifer Storage and Recovery (ASR) program allows for the storage of excess Carmel River flows in the Seaside Groundwater Basin Coastal Subbasin for later extraction during summer months. The ASR program is a joint program between CAW and the MPWMD.

In 1996, MPWMD began investigating the feasibility of ASR in the local setting. MPWMD constructed a "proof-of-concept" demonstration project in 1997, followed by a pilot test well in 1998 in the shallower aquifer of the Seaside Basin, the Paso Robles aquifer. After several years of successful pilot-well testing, MPWMD acquired property and approvals to construct a full-scale, 700-foot deep test well in 2001 in the deeper aquifer, the Santa Margarita Sandstone aquifer. The subsequent results of extensive water quality and quantity testing led to planning for a permanent ASR project.

In 2006, MPWMD and CAW developed an ASR Management and Operations Agreement to construct, operate and maintain ASR and ASR-related support facilities for the recharge, storage, and recovery of water. The ASR program was developed in two phases. CAW began utilization of ASR recovery in 2008. The wells inject excess river flows from December to May and extract water as needed (mainly between July and November).

The Phase 1 ASR operation is regulated under SWRCB Permit No. 20808A, which permits the withdrawal of 2,426 AFY from Santa Margarita Well Nos. 1 and 2. The Phase 2 ASR operation is regulated under SWRCB Permit No. 20808C, which permits the withdrawal of 2,900 AFY from the Seaside Middle School Well Nos. 3 and 4. The SWRCB permits allow for the ASR program to divert about 5,326 AFY from the Carmel River. Diversions are limited by river flow conditions and can only occur from December 1 of each year to May 31 at a maximum instantaneous rate of 3,000 gallons per minute (gpm) for each permit, or a total of 6,000 gpm.

CAW is currently receiving water produced at its Santa Margarita Well No. 1. MPWMD has recently completed the construction of the disinfection facility at the ASR 1 & 2 site that can be used to disinfect water from all current ASR wells. It is expected that all four ASR wells will be operational for future planning.

Because diversions for the ASR system are contingent on maintaining minimum daily instream Carmel River flows, and precipitation and streamflow can vary substantially from year to year, the actual supply from the ASR project can vary substantially. In wet years with high streamflow, CAW is able to inject a significant volume of water for ASR.

Due to climate change, in the future a larger percentage of precipitation is expected to come from intense single-day events, which may limit CAW's ability to maximize ASR injections (United States Environmental Protection Agency, 2021). In recent years, a larger percentage of precipitation has come in the form of intense single-day events.

Figure 6-3 shows the volume of water injected and extracted through the ASR program by water year since the program began in 2006, which has averaged 790 AFY of injection and 713 AFY of extraction. Also shown is the calculated storage over time, not including losses within the Seaside Basin, and the average storage over the period which is about 580 AF.

In dry years the Monterey Main System can only inject small volumes of excess flows for ASR. As shown, in the last drought ASR injection rates dropped and the built up storage was nearly depleted by 2013, only the second year into the drought. The ASR extraction declined in a drought and reduced to zero in 2014 and 2015. In wet years with high streamflow, like 2017 and 2019, CAW is able to inject a significant volume of water for ASR. However, the storage has not been shown to last through a multi-year drought. At the end of water year 2020, CAW had about 1,170 AF in the ASR storage balance. ASR deliveries can vary drastically year to year based on the availability of excess Carmel River flows.

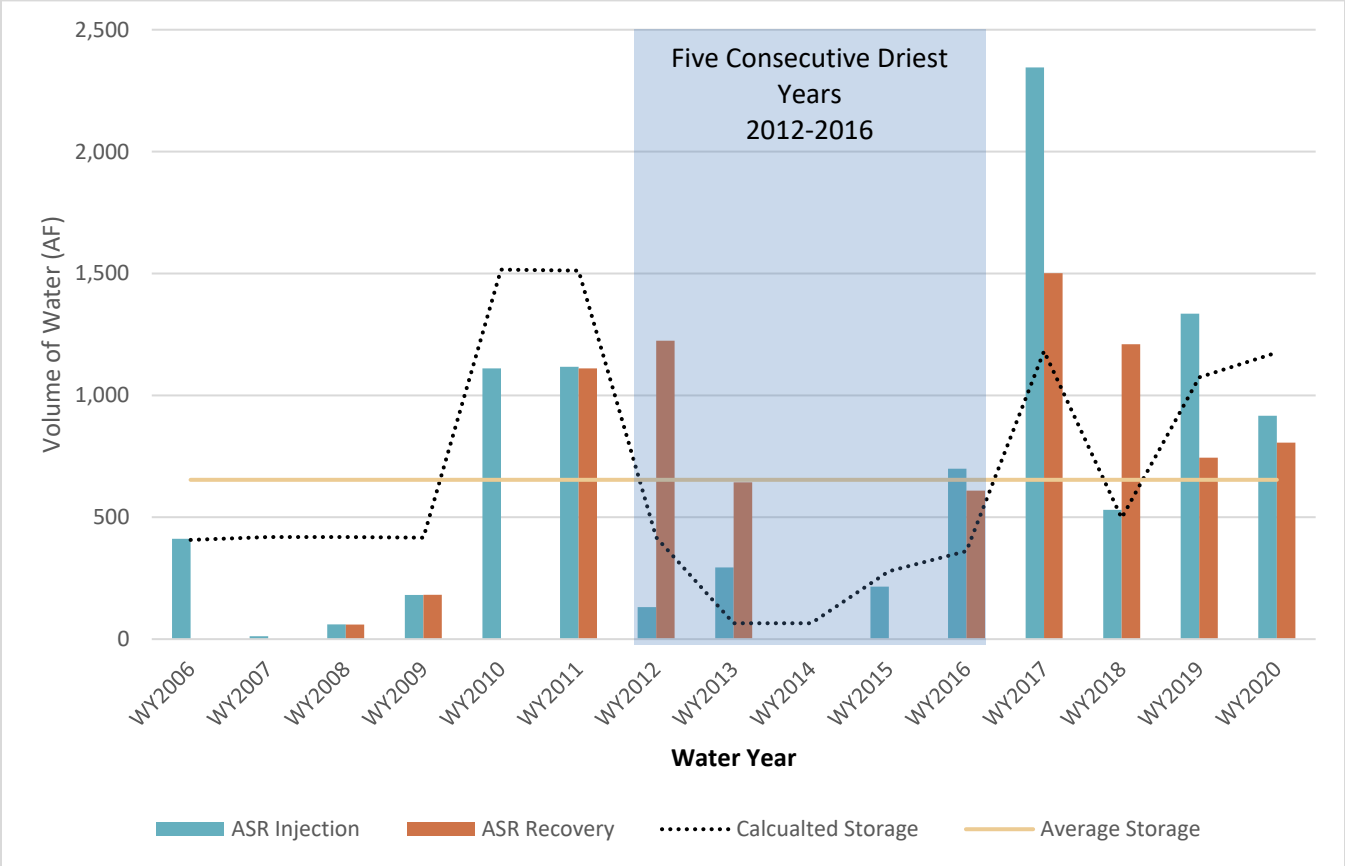


Figure 6-3. Injection and Recovery Volumes from ASR

Table 6-3 shows the historic and projected yield from ASR under normal years. Historically, the yield from ASR has varied significantly based on the hydrology and the available storage. The project has not been effective at building long term storage, and the average annual volume stored since 2006 is 84 AFY with multiple years of no stored water.

The projected ASR supply is 920 AFY based on the last three years, chosen to exclude the exceptionally wet year of 2017 and five preceding dry years from 2012-2016. From 2017 to 2020, the average ASR injection volume was 927 AFY. This suggests that in most normal years the injection volume from seasonal Carmel River flows beyond CAW's entitled rights, up to 1,488 AFY, is only slightly greater than the extraction volume and there is little to no excess supply available to build ASR storage. CAW is projected to build ASR storage only in wet years. In dry years, if storage is available, CAW could draw down the ASR storage when the excess Carmel River flows are unavailable, but it is not anticipated to last through a multi-year drought based on the previous drought. Additional ASR storage would allow the ASR supply to last longer in a multi-year drought, though increased demands and climate impacts, including shifting rainfall patterns and hotter summers, will increase the difficulty of building ASR storage.

Table 6-3. Historic and Projected Normal Year Supply from ASR (AFY)

	HISTORIC SUPPLY					PROJECTED SUPPLY				
	2016	2017	2018	2019	2020	2025	2030	2035	2040	2045
ASR Extraction	914	1,196	1,210	744	806	920	920	920	920	920

6.4 Surface Water

The Monterey Main System does not supply any surface water. Wells pumped from the Carmel River Aquifer are influenced by flows in the Carmel River. More information on the Carmel River is presented in Section 6.2.

6.5 Stormwater

Stormwater is not currently used directly as a supply source, although precipitation helps replenish local groundwater basins and both the cities of Pacific Grove and Seaside both operate stormwater diversion projects to divert dry weather flows to the Monterey One Water treatment plant.

CAW and MPMWD offered programs to support and incentivize onsite water capture and reuse through various rainwater and graywater programs available to water customers and landscape professionals, including a Cistern Water Tanks Rebate program that provides $50 per 50 gallons of water storage capacity (up to 500 gallons) in a Cistern, then $25 per 100 gallons of water storage capacity up to a maximum storage capacity of 25,000 gallons per qualifying property. They also provide educational materials for outdoor water savings, rainwater harvesting, and offer rebates for soil moisture sensors. More information can be found at https://www.montereywaterinfo.org/.

6.6 Wastewater and Recycled Water

Wastewater is treated by multiple agencies within the Monterey Main System, including:

- **Monterey One Water (M1W)** treats wastewater collected in Pacific Grove, Monterey, Del-Rey-Oaks, Seaside, Sand City, and Ryan Ranch.
- **Carmel Area Wastewater District (CAWD) and Pebble Beach Community Services District (PBCSD)** collect and treat wastewater in Pebble Beach, Carmel-by-the-Sea, and parts of Carmel Valley.
- **California American Water (CAW)** collects wastewater from the remainder of sewer served locations within the service area and provides treatment at four wastewater facilities.

There are also locations within the service area where wastewater is disposed of through on-site septic systems, including all the Hidden Hills System.

Table 6-5 and Table 6-6 summarize the wastewater collected and treated in the Monterey Main's service area along with the volume that meets recycled water standards. These wastewater quantities exclude those on private septic systems.

6.6.1 Monterey One Water

M1W, formerly Monterey Regional Water Pollution Control Agency, serves Del Rey Oaks, Monterey, Pacific Grove, Sand City, Ryan Ranch, and Seaside, which are within the CAW service area, as well as Salinas, Boronda, Castroville, Moss Landing, Fort Ord, Marina, and parts of Monterey County that are not serviced by CAW.

M1W operates a treatment plant that produces varying levels of recycled water. The M1W Regional Treatment Plant treats all collected wastewater through secondary treatment. Some secondary treated wastewater is treated to higher levels including Title 22 tertiary disinfected level for raw food crop irrigation or purified using advanced treatment as part of the PWM Project (About Monterey One Water, 2021). The tertiary treated recycled water is currently used to irrigate edible food crops in the northern Salinas Valley, outside of the Monterey Main service area. The remainder of the water that is not recycled or purified is discharged to the ocean.

6.6.1.1 Pure Water Monterey

The MPWMD and M1W recently completed the construction and startup of the PWM Project. The PWM Project provides purified recycled water for injection into the Seaside Groundwater Basin and ultimate potable use in Monterey Main. The PWM Project also provides purified recycled water for landscape irrigation for the Marina Coast Water District (MCWD) and recycled water to augment the existing Castroville Seawater Intrusion Project's agricultural irrigation supply.

CAW has a water purchase agreement to secure water from the project, which would deliver 3,500 AFY of advanced-treated recycled water for injection to the Seaside Groundwater Basin. The advanced treated recycled water will mix with the existing groundwater and will be pumped as a potable supply source. The PWM Project is a key component of CAW's MPWSP to reduce diversions from the Carmel River and will serve as a key component of the future water supply for the Monterey Peninsula.

Phase 1 of the project began operation near the end of 2019 and is intended to provide 3,500 AFY of water to Monterey Main once it is fully operational. MPWMD and M1W updated and certified the Supplemental EIR for the expansion of the PWM Project in April 2021. The PWM Expansion is envisioned to deliver an additional 2,250 AFY of water to the Seaside Basin that would be available to CAW. However, the PWM Expansion project has not been proven to have an adequate volume of source water to provide the full 2,250 AFY, especially during dry years.

In 2020, Hazen and Sawyer, contracted by CAW, completed a supply and demand analysis evaluating the wastewater source supply for PWM and the proposed PWM Expansion Project. The Hazen analysis, provided in **Appendix H**, reviewed the latest PWM Supplemental EIR and wastewater flows (source water) for the PWM and PWM Expansion projects. It found that the Supplemental EIR uses wastewater flows based on the period from 2009 to 2013, which is an average flow of 21,764 AFY. Wastewater flows and water use correlate closely, and as described in **Chapter 4**, water use on the Peninsula has significantly declined over the last ten years. The analysis updated wastewater flows for the project using more recent flow data and showed that the Supplemental EIR overstates the availability of wastewater flows for PWM and the PWM Expansion (Hazen and Sawyer, 2020). **Figure 6-4** below (Figure 3 from the Hazen and Sawyer analysis) shows the correlation between wastewater flows and water demand. As shown the current wastewater flows are projected to be much less than the 2009 to 2013 average flows used in the Supplemental EIR.

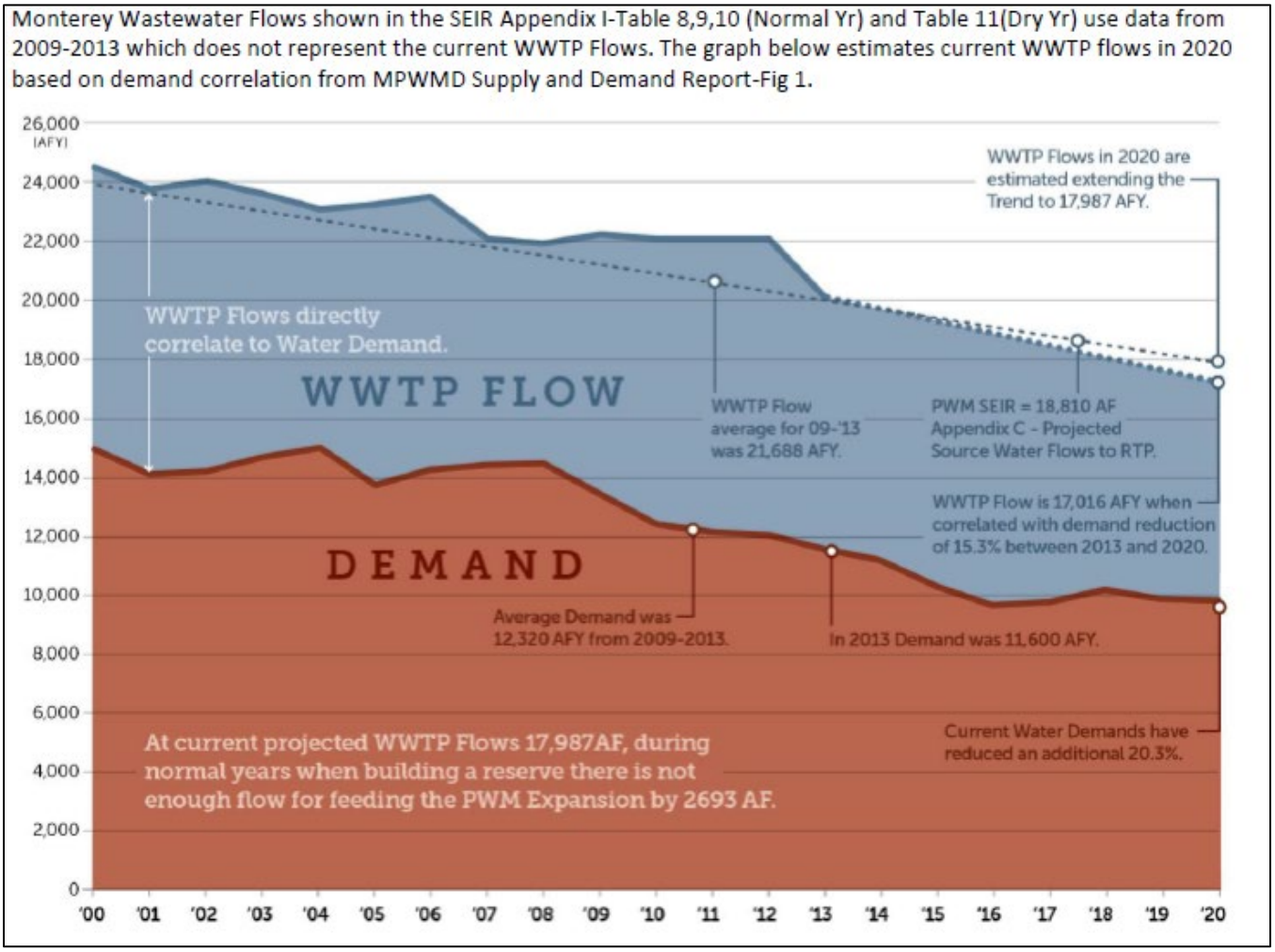


Figure 6-4. Correlation between Water Demand and Wastewater Flows and Reduced Source Water for PWM (Hazen and Sawyer, 2020)

Based on updated wastewater flows, the analysis updated the Supplemental EIR flow balance to understand the impacts of reduced flows on the water available to use for PWM, the PWM Expansion, and other promised water uses of the project including the Castroville Seawater Intrusion Project (CSIP) and the Regional Urban Water Augmentation Project (RUWAP). Figure 6-5 (Figure 5 in the Hazen and Sawyer analysis) show both the best-case normal year supply and worst-case dry year supply and demand balance on a monthly basis. The analysis found that with the current 2020 wastewater flows, in normal water years only 84 AFY is available to be fed to the PWM Expansion after meeting demands for the PWM Phase 1, CSIP and RUWAP. In the worst-case dry year conditions, there is no flow available for either the PWM Project or the PWM Expansion Project, and flow to CSIP would be reduced. Flow to the RUWAP could be taken as a water right to serve the PWM flows in dry years.

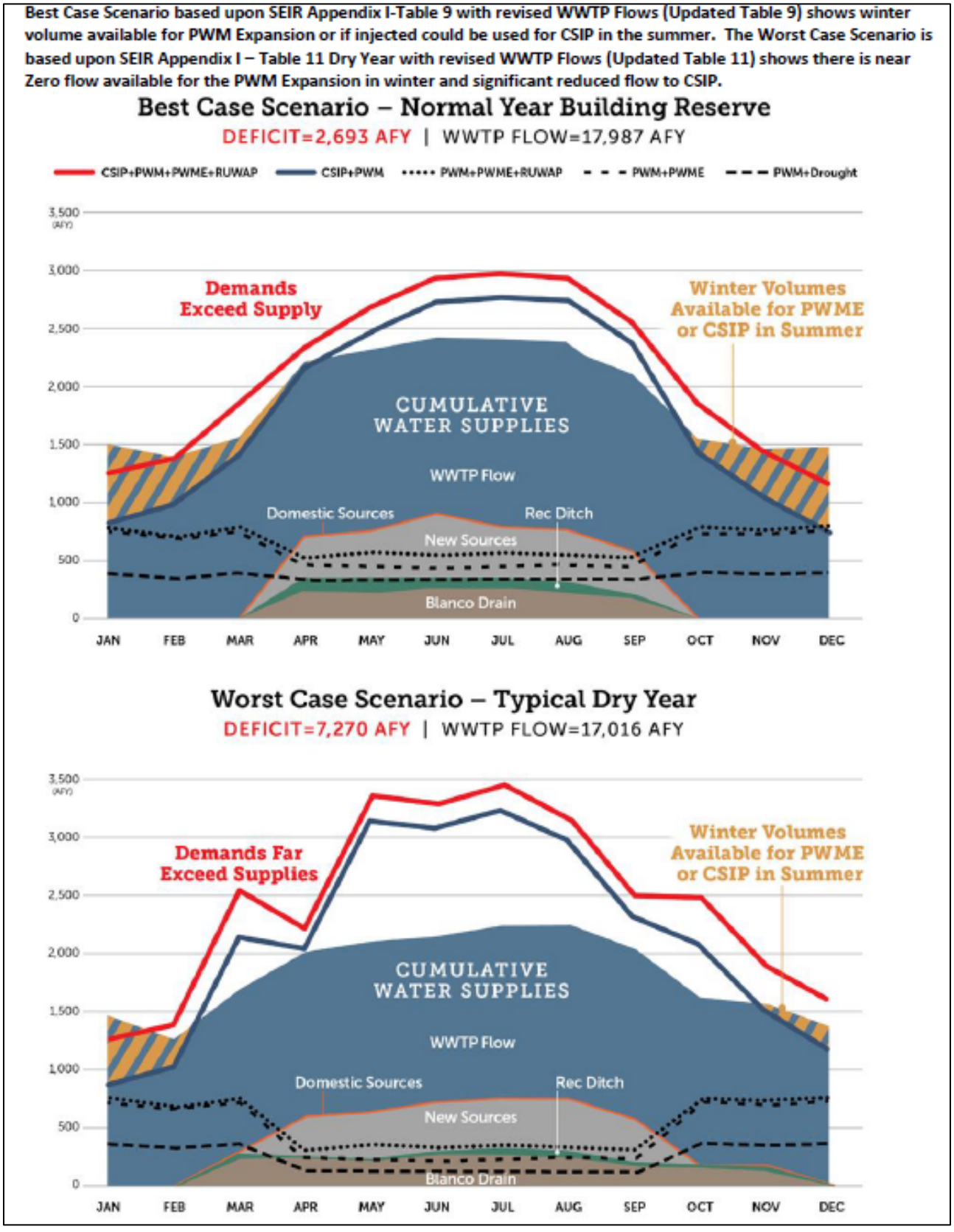


Figure 6-5. Seasonal Supply and Demand Balance for PWM, PWM Expansion, CSIP, and RUWAP (Hazen and Sawyer, 2020)

This analysis is based on 2020 water demands and estimated wastewater flows. As described in Chapter 4, water demands are anticipated to rebound by 2030 and allow for demand growth once the MPWSP Desalination Plant is online. To understand the available water for the PWM and PWM Expansion projects in normal and dry years through the planning period, the 2020 Hazen and Sawyer analysis was updated for future conditions using water demand projections presented in Chapter 4.

Table 6-4 shows the normal year and worst-case dry-year reliability for both projects. While M1W currently forecasts that the PWM Expansion will be operational in 2025, there are regulatory approvals and other obstacles that must be resolved before operations may commence, including obtaining CPUC approval of an agreement between M1W and CAW. Assuming the PWM Expansion is able to obtain all necessary approvals and commence operations in 2025, without the benefit of additional wastewater streams or other secure source waters, the 2020 Hazen and Sawyer analysis confirms that the PWM Expansion would be able to provide only 528 AF in a normal year. During a dry year, there would not be adequate source waters available for either the PWM Phase 1 or the PWM Expansion to produce any water. (Hazen & Sawyer, Sept. 2020, Appendix A.) The analysis presented in this UWMP projects that when the MPWSP becomes operational in 2030, the newly available desalinated water will increase water demand, which in turn will result in increased quantities of wastewater that would serve as a source water supply for both the PWM Phase 1 and the PWM Expansion during normal and dry years. Under these assumptions, starting in 2030 when the MPWSP desalination plant is operational, in a normal water year the PWM Phase 1 would be expected to provide 3,500 AF and the PWM Expansion would be expected to provide 2,250 AF. In 2030 during a dry year, the PWM Phase 1 would provide 3,500 AF and the PWM Expansion would provide 528 AFY, about 23 percent of its designated capacity as shown in Table 6-4. The overall reliability of the PWM Expansion would increase to 100 percent in dry years by 2040 due to anticipated increasing use of desalinated water from the MPWSP and associated wastewater production.

Table 6-4. PWM and PWM Expansion Projected Supply Reliability

	2020	2025	2030	2035	2040	2045
PWM Phase 1 Contractual Supply, AFY	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**
Normal Year Reliability	3,500	3,500	3,500	3,500	3,500	3,500
Worst-Case Scenario Multi-Dry Year Reliability	0	0	3,500	3,500	3,500	3,500
PWM Expansion Design Supply, AFY[1]		**2,250**	**2,250**	**2,250**	**2,250**	**2,250**
Normal Year Reliability		528	2,250	2,250	2,250	2,250
Worst-Case Scenario Dry Year Reliability		0	503	1,388	2,250	2,250

Notes:

1. PWM Expansion is not anticipated to be operational until 2025

6.6.2 Carmel Area Wastewater District

The Carmel Area Wastewater District (CAWD) owns and operates approximately 81 miles of sewer collection pipelines to collect wastewater in Carmel-by-the-Sea and parts of Carmel Valley (CAWD Facilties, 2021). The Pebble Beach Community Services District (PBCSD) owns and maintains approximately 75 miles of sewer collection and interceptor lines to collect wastewater in Pebble Beach (PBCSD About Us, 2021). Wastewater collected by both agencies is treated at the CAWD Wastewater Treatment Plant (WWTP) and Reclamation Plant. The CAWD WWTP has a permitted capacity of 3.0 million gallons per day (MGD) of dry weather flow, and the current average dry weather flow is approximately 1.1 MGD. The WWTP consists of headworks, primary and secondary treatment, and disinfection. On average, about 90 percent of the flows through the WWTP are treated at the 1.5-MGD Reclamation Plant. The Reclamation Plant includes tertiary treatment, microfiltration and reverse

osmosis (RO) treatment to produce recycled water for irrigation at the Pebble Beach golf course and other recreational open spaces within Pebble Beach. The recycled water from the Reclamation Plant offsets approximately 1,000 AFY of potable demand within the CAW service area (Reclamation Plan, 2021). Any wastewater that is not recycled is discharged to the ocean.

CAWD was granted approval to discharge RO reject water to the Carmel River Lagoon in 2008. The anticipated volume of water is 300 AFY per year, with 150 AFY discharged during the summer months when water levels are at their lowest.

6.6.3 California American Water Wastewater

CAW operates a total of seven small wastewater facilities in the Monterey County area, and four are operated within the Monterey Main water service area. Carmel Valley Ranch is the largest treatment facility, serving about 260 housing units. The treatment plant operates with an average inflow of 58,000 gallons per day (GPD) and the plant's maximum capacity is rated at 100,000 GPD. The facility's treatment process consists of primary and secondary treatment, sand filters, and chlorine disinfection. Treated effluent is discharged into two ponds adjacent to the treatment plant. The treated wastewater is subsequently used to irrigate two golf courses in the service area.

The Pasadera or Laguna Seca Ranch wastewater treatment facility serves around 250 housing units. This plant receives an average inflow of about 48,000 GPD and a maximum flow of 91,000 GPD. The treatment process consists of screening, a biological trickling filter, clarification, flocculation, filtration, and chlorine disinfection. The reclaimed water is stored in a reservoir and is eventually used for golf course irrigation near the plant (California American Water, 2007).

White Oaks and Village Green are septic systems that serve approximately 38-unit and 22-unit condominiums, respectively. The average flow to the septic tanks is 5,700 and 3,300 GPD for the White Oaks and Village green systems, respectively (California American Water, 2007). There is no anticipated increase in flow.

6.6.4 City of Pacific Grove

The City of Pacific Grove completed the Pacific Grove Local Water Project (PGLWP) in 2017, which consists of a new satellite recycled water treatment plant (SRWTP) that recycles a portion of Pacific Grove's municipal wastewater. The SRWTP includes screening, activated sludge secondary biological treatment, membrane filtration, and ultraviolet disinfection, along with chemical disinfection to maintain a chlorine residual within the storage tanks and recycled water distribution system. Recycled water produced at the SRWTP (located at the retired Point Pinos WWTP) is used primarily for landscape irrigation at the Pacific Grove Golf Links and El Carmelo Cemetery, owned by the City of Pacific Grove and located adjacent to the SRWTP. All recycled water waste is discharged back into the sewer and is delivered to the M1W Plant. The Project is currently offsetting approximately 85 AFY of potable water use for irrigation purposes.

Table 6-5. DWR 6-2R Wastewater Collected within Service Area in 2020

WASTEWATER COLLECTION			RECIPIENT OF COLLECTED WASTEWATER			
NAME OF WASTEWATER COLLECTION AGENCY	WASTEWATER VOLUME METERED OR ESTIMATED	WASTEWATER VOLUME COLLECTED FROM UWMP SERVICE AREA IN 2020 (AFY)	NAME OF WASTEWATER AGENCY RECEIVING COLLECTED WASTEWATER	WASTEWATER TREATMENT PLANT NAME	WASTEWATER TREATMENT PLANT LOCATED WITHIN UWMP AREA	WWTP OPERATION CONTRACTED TO A THIRD PARTY
City of Pacific Grove	Estimated	1,250	Monterey One Water	Monterey One Water Regional Treatment Plant	No	No
City of Monterey	Estimated	3,596	Monterey One Water	Monterey One Water Regional Treatment Plant	No	No
City of Seaside, City of Sand City, City of Del Rey Oaks	Estimated	2,825	Monterey One Water	Monterey One Water Regional Treatment Plant	No	No
Pacific Beach Community Services District	Metered	477	Carmel Area Wastewater District	Carmel Area Wastewater District Wastewater Treatment Plant	Yes	No
Carmel Area Wastewater District	Metered	919	Carmel Area Wastewater District	Carmel Area Wastewater District Wastewater Treatment Plant	Yes	No
California American Water	Estimated	69	California American Water	Carmel Valley Ranch WWTP	Yes	No
California American Water	Estimated	61	California American Water	Pasadera/ Laguna Seca Ranch WWTP	Yes	No
California American Water	Estimated	6	California American Water	White Oaks Septic System	Yes	No
California American Water	Estimated	4	California American Water	Village Green Septic System	Yes	No
City of Pacific Grove	Estimated	85	Monterey One Water	Pacific Grove Satellite Recycled Water Treatment Plant	Yes	No
Total		9,293				

Table 6-6. DWR 6-3R Wastewater Treatment and Discharge within Service Area in 2020

WASTEWATER TREATMENT PLANT NAME	DISCHARGE LOCATION NAME OR IDENTIFIER	DISCHARGE LOCATION DESCRIPTION	WASTEWATER DISCHARGE ID NUMBER	METHOD OF DISPOSAL	PLANT TREATS WASTEWATER GENERATED OUTSIDE THE SERVICE AREA	TREATMENT LEVEL	WASTEWATER TREATED (AFY)	DISCHARGED TREATED WASTEWATER (AFY)	RECYCLED WITHIN SERVICE AREA (AFY)	RECYCLED OUTSIDE OF SERVICE AREA (AFY)	INSTREAM FLOW PERMIT REQUIREMENT (AFY)
Monterey One Water Regional Treatment Plant	Pacific Ocean	Monterey Bay Ocean Outfall	NPDES No. CA0048551	Ocean outfall	Yes	Advanced	7,672	405	1,710	3,766	-
Carmel Area Wastewater District Wastewater Treatment Plant	Pacific Ocean	Carmel Bay Ocean Outfall	NPDES No. CA0047996	Ocean outfall	No	Tertiary	1,396	457	939	-	-
Carmel Valley Ranch Wastewater Treatment Plant	Carmel Valley Golf Course and Golf Course Lakes	Storage Pond for Recycled Water Use	WRR No. 01-083	Other	No	Tertiary	69	-	69	-	-
Pasadera / Laguna Seca Ranch Wastewater Treatment Plant	Laguna Seca Golf Course	Storage Pond for Recycled Water Use	WDR No. 98-58	Other	No	Tertiary	61	-	61	-	-
Pacific Grove Satellite Recycled Water Treatment Plant	Collection System	Collection System conveyed to the M1W Regional Treatment Plant	WRR No. R3-2016-0044	Collection System	No	Tertiary	85	-	85	-	-
Total							9,283	862	2,865	3,766	-

Note: Total wastewater treated excludes approximately 10 AF collected at the White Oaks and Village Green Septic Systems

6.6.5 Potential, Current, and Projected Recycled Water Uses

Table 6-7 shows the total amount of recycled water that is projected to be utilized in CAW's Main Monterey service area through 2045.

Table 6-7. Projected Uses of Recycled Water in CAW's Service Area (AFY)

TREATMENT FACILITY	ACTUAL USE	2020	2025	2030	2035	2040	2045
CAWD	Golf Course Irrigation	939	954	969	985	1,000	1,015
PGLWP	Golf Course and Cemetery Irrigation	85	85	85	85	85	85
California American Water	Golf Course Irrigation	130	139	147	153	159	165
Subtotal	**Non-potable reuse for irrigation**	**1,155**	**1,178**	**1,202**	**1,223**	**1,243**	**1,264**
M1W	Pure Water Monterey (Indirect Potable Reuse)	788	3,500	3,500	3,500	3,500	3,500
M1W	Pure Water Monterey Expansion (Indirect Potable Reuse)	0	528	2,250	2,250	2,250	2,250
Total		**1,943**	**5,206**	**6,952**	**6,973**	**6,993**	**7,014**

Table 6-8 summarizes 2020 projected water recycling uses from the 2015 UWMP and compares the previous estimates with actual recycled use in 2020. The table only shows estimated recycled water use in 2015 for the Main Monterey System. As shown, the 2015 UWMP projection is close to the actual 2020 recycled water use for golf course irrigation. The 2015 UWMP did not anticipate PWM to begin providing recycled water for groundwater recharge until after 2020, which is the largest difference between the 2015 projection and actual use.

Table 6-8. DWR 6-5R 2015 Recycled Water Use Projection Compared to 2020 Actual

USER TYPE	2015 PROJECTION FOR 2020 (AFY)	2020 ACTUAL USE (AFY)[1]
Agriculture	-	-
Golf Course Irrigation	1,414	1,155
Wildlife Habitat	-	-
Wetlands	-	-
Industrial	-	-
Groundwater Indirect Potable Reuse	-	788
Other	-	-
Total	1,414	1,943

Note: Estimated recycled water use from CAWD and California American Water used within service area.

CAW is an investor-owned utility and therefore does not have the authority to issue a mandatory recycled water use ordinance. However, due to a heavily weather dependent water supply and strong pressures to maintain the Monterey Peninsula's natural habitat, the governing bodies and wastewater agencies have developed an aggressive water recycling program.

6.7 Sand City Desalination

Construction of the Sand City Water Supply Project, shown in Figure 6-6, was completed in 2009. CAW began operating and distributing water from the plant in April 2010. The project includes a RO desalination plant, a pipeline to deliver the treated water to Sand City users, two water storage tanks, and a connection to CAW's Monterey Main distribution system.

The source for the desalination plant is brackish water from the Aroma Sands Formation aquifer near Monterey Bay. The brackish water is obtained through 4 brackish water feed wells. Concentrate is disposed through a below sea-level horizontal well.

The desalination facility is designed to produce up to 300 AFY, though it does not typically produce this volume and the 2016-2020 average deliveries were about 190 AFY as shown in Table 6-9. CAW has an allocation of 94 AFY from this facility and the remaining allocation of 206 AFY is reserved for future development and redevelopment. CAW may use the remaining supply available until new development utilizes the available remaining supply. CAW's allocation of 94 AFY is used for the estimated future supply from the desalination plant for 2025 through 2045, as shown in Table 6-10.



Figure 6-6. Sand City Desalination Plant (Desalination Plant Helps Save a California Coastal Community, 2010).

Table 6-9. DWR 6-8DS Source Water Desalination

PLANT NAME OR WELL ID	PLANT CAPACITY	INTAKE TYPE	SOURCE WATER TYPE	INFLUENT TDS	BRINE DISCHARGE	VOLUME OF WATER DESALINATED IN AFY				
						2016	2017	2018	2019	2020
Sand City Desalination Plant	300	Vertical Well	Groundwater	35,000 ppm	Note 1	185	256	194	106	213
-					Total:	185	256	194	106	213

Note 1: Brine is disposed via injection to a below sea-level horizontal concentrate well beneath the coastal bluff. The brine salinity does not exceed the seawater salinity. Source: https://www.mpwmd.net/water-supply/desalination/in-operation/

Table 6-10. Projected Supply from Sand City Desalination Plant (AFY)

	2025	2030	2035	2040	2045
Sand City Desalination Plant	94	94	94	94	94

6.8 Water Exchanges and Transfers

CAW has completed interconnections between the Monterey System and the Ryan Ranch and Bishop System which are now both supplied from the Monetary System. CAW is also working to complete an interconnection between the Monterey System and Hidden Hills System. The interconnections provide greater supply reliability for all systems. CAW does not have plans for other exchanges, transfers, or interties.

6.9 Future Water Projects

6.9.1 Monterey Peninsula Water Supply Project Ocean Desalination

CAW completed the Final EIR/EIS for the MPWSP Desalination Plant in March 2018. The proposed desalination plant would produce 6,252 AFY (6.4 mgd) of potable water. The desalination plant would be constructed near the Monterey One Water Regional Treatment Plant (MOWRTP). It would treat seawater that was filtered through the ocean floor, then collected through slant wells and piped to the desalination plant. The slant well approach would draw water from under the sea floor past the average high tide line and would avoid the impacts to marine life posed by open ocean intakes.

At the plant, seawater would be treated using various treatment technologies including RO. Brine would be blended with other treated effluent and discharged to the ocean via the existing outfall at MOWRTP.

Portions of the project have been constructed or are currently under construction, including 5,300 new feet of transmission main. The final permit to begin facility slant wells construction was refiled in November 2020 and is pending a hearing and approval by the California Coastal Commission. This plan assumes the MPWSP Desalination Plant will be fully operational by 2030.

6.9.2 Pure Water Monterey Expansion

The PWM Expansion project is currently designed to deliver an additional 2,250 AFY of water to the Seaside Basin that would be available to CAW. The project's Supplemental EIR was adopted by MPWMD and M1W in April 2021, and M1W anticipates the project to be operational by 2025. Based on the 2020 Hazen and Sawyer PWM and PWM Expansion supply and demand analysis with updated wastewater flows, discussed in **Section 6.6.1.1**, there is not currently enough source water to support the PWM Expansion project at this time. However, when the MPWSP Desalination Plant is online in 2030, it will provide a drought proof supply and allow increased water use and increase wastewater flows, which will provide more source water for the PWM Expansion project. In 2025, approximately 528 AFY of water is expected to be available from the PWM Expansion Project in normal years, and is expected to provide no water in the worst-case dry years, but will increase up to its design supply of 2,250 AFY in normal years by 2030 when the MPWSP Desalination Plant is online. Without the MPWSP Desalination Plant, the PWM Expansion Project is not expected to be able to provide its design supply in normal year types.

6.10 Summary of Existing and Planned Sources of Water

Summaries of the existing and planned sources of water are provided in **Table 6-11** and **Table 6-12.** The volumes shown for each supply source are projected for normal years and can vary in dry hydrologic years, as discussed in **Chapter 7**.

Table 6-11. DWR 6-8R Actual Water Supplies

		2020		
WATER SUPPLY	ADDITIONAL DETAIL ON WATER SUPPLY	ACTUAL VOLUME (AFY)	WATER QUALITY	TOTAL RIGHT OR SAFE YIELD
Groundwater	Carmel River Aquifer[1]	5,317[1]	Drinking Water	6,060[2]
Groundwater	Seaside Basin	2,802	Drinking Water	2,183[3]
Desalinated Water	Sand City Desalination	213	Drinking Water	300[4]
Other	Aquifer Storage and Recovery	806[5]	Drinking Water	1,300
Total		**9,138**		**9,843**

Notes:

1. CAW's total volume extracted from the Carmel River in 2020 was 5,977 AF, however, 660 AF was injected into the Seaside Basin for ASR. This volume is accounted for in the total ASR supply.
2. CAW's allowable diversion from the Carmel River Aquifer was 6,310 AFY in WY 2019-2020 and 5,310 AFY in WY 2020-2021, which equates to 6,060 AFY in calendar year 2020 based on equal diversion each month.
3. CAW's Seaside Groundwater Basin allocation was 1,820 AFY in WY 2019-2020 and 1,474 AFY in WY 2020-2021, which equates to 1,734 AFY in calendar year 2020. The total right is 1,734 AFY plus 136.23 AF carryover storage credits from WY 2019 and 845.93 AF storage credits for WY 2020 (calculated as 449 AF combined storage carryover credits for calendar year 2020). Note CAW did overproduce 334.21 AF beyond the Natural Safe Yield and 229.63 AF beyond the Operating Safe Yield in WY 2020 and paid an overproduction assessment (Source: Seaside Groundwater Basin Watermaster Annual Report WY 2020)
4. CAW's total rights from the Sand City Desalination Plant is 94 AFY, however the plant's capacity is 300 AFY and CAW may purchase available capacity.
5. In 2020 the ASR extraction volume was 806 AF, which includes 660 AF of injection volume from Carmel River seasonal flows plus 146 AF of ASR storage water.

Table 6-12. Projected Water Supplies

		REASONABLY AVAILABLE VOLUME, AF				
WATER SUPPLY	ADDITIONAL DETAIL ON WATER SUPPLY	2025	2030	2035	2040	2045
Groundwater	Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376
Groundwater	Seaside Basin[1]	1,474	774	774	774	774
Desalinated Water	Sand City Desalination	94	94	94	94	94
Other	Aquifer Storage and Recovery	920	920	920	920	920
Recycled Water	Pure Water Monterey	3,500	3,500	3,500	3,500	3,500
Recycled Water	PWM Expansion	528	2,250	2,250	2,250	2,250
Desalinated Water	MPWSP Ocean Desalination Project	0	6,252	6,252	6,252	6,252
Total		**9,892**	**17,166**	**17,166**	**17,166**	**17,166**

Notes:

1. The CAW Monterey Main System has a total entitled right of 1,474 AFY from the Seaside Groundwater Basin, however CAW has an agreement in place to not pump 700 AFY of this right for 25-years once a new supply source is operational. This Plan assumes the reduced pumping will beginning in 2030 and continue through 2055. The reduced pumping repayment volume or duration of payment is subject to increase in the future.

6.10.1 Climate Change Effects

There are numerous climate change impacts that may affect the Monterey Main's supply sources as described in the 2019 Final Draft Monterey Peninsula, Carmel Bay, and South Monterey Bay IRWMP, including:

- Shifting rainfall patterns may make Carmel River Aquifer supply less available in the spring and summer. Lower seasonal surface flows will likely lead to higher pollutant concentrations in the river.
- Increased flood recurrence along creeks, rivers, and coastal structures could inundate infrastructure, including production facilities. More intense rainfalls could increase sediment loading into the Carmel River and reduce water quality.
- Increased drought recurrence and severity could strain existing supply source availability further.
- Rising sea levels could impact groundwater quality and increase rates of seawater intrusion. The Seaside Groundwater Basin is especially vulnerable.

CAW is aware of the significant climate change impacts to its existing supply sources and is expected to reduce its reliance on the more vulnerable Carmel River Aquifer and Seaside Groundwater Basin in the future.

The increased recurrence of floods may impact CAW's ability to capture and inject more water for ASR storage during the rainy season, and a warmer and drier climate will make building up ASR storage more difficult because most, if not all, of the annual stored water could be needed each year. More severe droughts will also deplete any built-up ASR storage quicker, making it more difficult to build ASR storage in the future.

PWM and the PWM Expansion project rely on multiple source waters, each of which are impacted differently by climate warming and increased frequency of drought. As discussed in **Section 6.6.1.1**, during dry years there is limited source water available for PWM and the PWM Expansion project after meeting other contracted demands until demands and wastewater flows on the Peninsula increase. The increased frequency of droughts due to climate change will continue to reduce the reliability of source supply for these projects and as a water supply for the Monterey Main System.

After the MPWSP Ocean Desalination Plant is operational, CAW will have another large supply source, up to 6,252 AFY, that is less vulnerable to climate change impacts. The investments in new supply will allow CAW to reduce reliance on the existing vulnerable supply sources in the future.

6.10.2 Regulatory Conditions and Project Development

For Monterey Main's two main existing supply sources, the Carmel River and the Seaside Groundwater Basin, water rights are defined and protected by the SWRCB and the Seaside Groundwater Basin adjudication. Future supplies will predominantly shift toward ocean desalination and purified recycled water through PWM. The PWM project is in operation, and CAW has contractual amount of 3,500 AFY through 2050 (Water Purchase Agreement Pure Water Monterey, 2016). CAW's ocean desalination plant is awaiting final permit approval from the California Coastal Commission to begin construction of the slant wells that supply the plant. All other major permits have been received. If the Coastal Commission denies the permit or requires additional studies to approve the permit, it would further delay the startup of the ocean desalination plant.

6.11 Energy Intensity

CAW has compiled data for the energy used to pump, treat, and distribute potable water to its customers from 2016 through 2020. The data are summarized in Table 6-13, and show the average energy intensity to produce, treat, and deliver water in the Monterey Main is about 1,220 kilowatt-hour per acre-foot (kWh/AF).

Table 6-13. Energy Use and Estimated Energy Intensity

	2016	2017	2018	2019	2020
Volume of Water Entering Process (AF)	9,285	9,421	9,398	9,234	9,138
Energy Consumed (kWh)	11,064,588	12,621,066	10,895,231	11,378,044	10,671,334
Energy Intensity (kWh/AF)	1,192	1,340	1,159	1,232	1,168

7

2020 URBAN WATER MANAGEMENT PLAN

Water Service Reliability and Drought Risk Assessment

This section discusses the long-term reliability of supplies for the Monterey Main System. Anticipated supplies and demands through 2045 are compared for a normal year, single-dry year, and multiple-dry year period.

IN THIS SECTION

- Water Source Constraints
- Water Service Reliability Assessment
- Drought Risk Assessment

7.1 Water Service Reliability Assessment

This section describes the existing constraints on Monterey Main's existing and proposed supply sources and reliability in different hydrologic year types.

7.1.1 Constraints on Water Sources

7.1.1.1 Carmel River Aquifer

Under SWRCB Orders, CAW's Monterey County System Carmel River diversions are limited to 3,376 AFY based on its pre-1914 appropriative rights, riparian rights, and License #0011866. While CAW has historically pumped more than this volume, it is expected to reduce its diversion by December 31, 2021, as described in Chapter 6. For future supply projections, 3,376 AFY is expected to be reliably available from the Carmel River Aquifer through 2045.

Additional seasonal diversion, up to 1,488 AF, may also be available in normal to wet years between December 1 and May 31, depending on the stream flowrate, through CAW's permit 21330. These flows are expected to be injected in the Seaside Basin for ASR. Climatic changes that increase the frequency of droughts may reduce the availability of these seasonal flows.

While the Carmel River Aquifer is of generally good water quality and meets all primary drinking water standards, the lower aquifer wells are treated for iron and manganese, secondary contaminants that impact taste and color, at the Begonia Iron Removal Plant. Climate impacts due to more intense rainfalls and lower spring and summer flows may impact the good water quality in the Carmel River in the future through increased sedimentation or higher pollutant concentrations. Water quality impacts are expected to be short term vulnerabilities and CAW is able to construct additional treatment if needed.

7.1.1.2 Seaside Groundwater Basin

CAW has a right to pump 1,474 AFY of water from the Seaside Basin. CAW has a stipulation to reduce pumping by 700 AFY once a new sufficient and reliable water supply source for the Monterey Peninsula is operational for a 25-year period to help replenish the basin and protect it from seawater intrusion. The supply projections assume CAW will only pump up to 774 AFY from the Seaside Basin beginning in 2030 when new sufficient and reliable supply sources are online. The repayment could increase in volume or the duration of the repayment could lengthen due to additional over pumping as a result of delays in securing a new reliable water supply not accounted for when the agreement was reached.

Water quality issues caused by secondary contaminants are a constraint on the Seaside Basin. Groundwater produced at two of CAW's seaside wells is treated at the Ord Grove Ozone Treatment Facility to address taste and odor concerns caused by the presence of high sulfides (Water Systems Consulting, 2018). The Seaside Basin is also susceptible to seawater intrusion due to its coastal location and climate impacts of sea level rise. Historically, seawater intrusion has not been an issue in the basin. However increased chloride concentrations were reported in two monitoring wells in 2020, which may be an indication of incipient seawater intrusion. CAW and other stakeholders in the basin work collaboratively with the Seaside Groundwater Basin Watermaster to manage, protect, and promote sustainability of the basin.

7.1.1.3 Sand City Desalination

Currently CAW has an allocation of 94 AFY from the 300 AFY Sand City Desalination Plant, and the remaining 206 AFY are reserved for future development and redevelopment. Until new development utilizes the reserved supply, CAW can use the remaining supply. However, for conservative supply planning only 94 AFY is included as a reliable supply from the Sand City Desalination Plant in the future.

7.1.1.4 Aquifer Storage and Recovery

The ASR Program is currently limited by the availability of excess seasonal Carmel River flows. In normal and wet years, CAW can divert excess Carmel River flows in the winter and spring months for injection into the Seaside Groundwater Basin and later extraction in the summer months. In most years, the volume injected is subsequently extracted in the summer and little to none is left for longer-term storage except in exceptionally wet years. The average annual stored volume since 2006 when ASR became operational is 84 AFY. ASR reliability decreases during dry hydrologic periods when excess Carmel River Flows are reduced or unavailable, and the program has not built a significant storage volume to continue to provide its normal year volume for a single dry year or a multiple dry year period.

7.1.1.5 Pure Water Monterey and Pure Water Monterey Expansion

California American Water's 2015 UWMP noted that unlike groundwater and surface water supplies, groundwater replenishment sources are generally consistent, and assumed for purposes of the 2015 UWMP that the water supply produced by the PWM Project would be 100% reliable. However, this assumption has been revised based on new source water supply information that became available since the 2015 UWMP. Specifically, new information on the PWM Project's source water supplies was

presented in the Supplemental EIR for the expansion of the PWM Project, and as discussed in Hazen and Sawyer's 2020 analysis of those source water supplies, the supplies are not 100% reliable.

The PWM project began injecting purified recycled water into the Seaside Basin in 2020. As listed in Table 6-7, 788 AF was injected into the basin in calendar year 2020. CAW has a contractual allocation of 3,500 AFY from PWM that it could pump from the Seaside Basin. The PWM Expansion Project's Supplemental EIR was certified in April 2021, and the expansion is designed to provide an additional 2,250 AFY of water to the Seaside Basin that CAW could pump for delivery.

PWM and PWM Expansion rely on municipal wastewater, industrial processing water, crop drainage water, and urban stormwater runoff as the source waters to treat to purified levels before injection in the basin. Stormwater runoff and wastewater flows generally decline during drought periods due to less rainfall and the robust water conservation programs in place. These factors would reduce the available source water for PWM and PWM Expansion during a drought.

As described in Chapter 6, PWM is on track to deliver the contractual volume this year but may have source water constraints in future dry years. The PWM Expansion project is only expected to provide 528 AFY by 2025 in normal years, which will decline to zero in the worst-case dry years due to source water constraints. The reliability from PWM and PWM Expansion will increase when the MPWSP Desalination Plant comes online because it will provide sufficient drought proof supply to allow demands and wastewater flows to increase, relieving some of the source water constraints.

7.1.1.6 Ocean Desalination

Desalination is a highly reliable source of supply. Once CAW's MPWSP Ocean Desalination Plant is operational, it is expected to supply 6,252 AFY of water for the Monterey Main System. There are no anticipated reliability issues due to varying hydrologic conditions.

Progress on the project is currently behind schedule due to the California Coastal Commission delays, and a court-ordered stay on construction of the desalination plant facility. The supply projections in this plan assume that the desalination plant will be operational by 2030.

7.1.2 Water Supply Management

Currently CAW relies on Carmel River Aquifer supply in the winter and spring months to comply with minimum stream flows in the Carmel River. Typically pumping from the Carmel River in the summer months is lower than the winter months, but in dry years the monthly diversions from the Carmel River could be constant throughout the year. In the Seaside Basin, the typical seasonal pattern is reversed. CAW injects excess available water from the Carmel River Aquifer into the Seaside Groundwater Basin from December to May as part of the ASR Program, and generally pumps less native groundwater from the basin in these same months. In the summer and fall when CAW diverts less from the Carmel River, it pumps higher volumes from the Seaside Groundwater Basin and typically extracts most of the stored ASR water. While the ASR injection and extraction season is limited seasonally, normal groundwater production from the Seaside Basin is not seasonally constrained, and CAW could pump equal amounts of water each month throughout the year if needed.

Water from the Sand City Desalination plant is used year-round at the same rate. Water from PWM and the future ocean desalination plant are assumed to be available year-round and in all year types.

7.1.3 Year Type Characterization

Normal water year, single-dry water year, and five-consecutive-year drought period supply projections were developed for existing and projected supply sources. The basis for water year data and anticipated supply reliability for each supply source excepted the PWM and PWM Expansion Project is presented in Table 7-1.

CAW has entitled rights from the Carmel River and Seaside Groundwater Basin can be reliably pumped in all year types. Desalination is not affected by hydrology, and as such both desalination plants are anticipated to be 100 percent reliable in all water year types.

The historic injection and extraction volumes for ASR were analyzed to understand ASR reliability for a single-dry year and consecutive five-year drought. As described in Chapter 6, the five driest year for ASR were 2012 through 2016, where no water was available from ASR in 2014 and 2015 when the storage was depleted. In 2012, the first year of the drought, CAW was able to pull 100 percent of the average ASR supply using mostly stored water because the two previous water years were wet and CAW was able to build significant storage. Due to climate change it will be more difficult for CAW to build ASR storage volume in the future. For this reason, in a single-dry year ASR supply is assumed to be 67 percent of the average volume and supplied from storage. For the five-consecutive dry years, the first year is assumed to be 67 percent of the average supply and similar to a single-dry year because it can rely on built up storage. In the following years ASR supply declines linearly, and no supply is available from ASR by year three of a five-consecutive year drought similar to the 2012-2016 drought when the ASR storage volume was depleted by year three. No ASR supply is assumed in year three, four, and five of the five-year drought.

Table 7-1. DWR 7-1R Basis for Water Year Data and Supply Reliability

		PERCENT OF AVERAGE SUPPLY BY WATER YEAR TYPES						
				CONSECUTIVE DRY YEARS				
BASE YEAR	WATER RIGHT, CONTRACTUAL/ DESIGN SUPPLY, AFY	NORMAL YEAR	SINGLE-DRY YEAR	1ST YEAR	2ND YEAR	3RD YEAR	4TH YEAR	5TH YEAR
		2004	2015	2012	2013	2014	2015	2016
Carmel River Aquifer	3,376	100%	100%	100%	100%	100%	100%	100%
Seaside Groundwater Basin[1]	774	100%	100%	100%	100%	100%	100%	100%
Sand City Desalination	94	100%	100%	100%	100%	100%	100%	100%
Aquifer Storage and Recovery	920	100%	67%	67%	33%	0%	0%	0%
MPWSP Ocean Desalination	6,252	100%	100%	100%	100%	100%	100%	100%

Note:

1. The CAW Monterey Main System has a total entitled right of 1,474 AFY from the SGWB, however it plans to only pump 774 AFY, leaving 700 AFY of this right in the Basin for 25-years once a new supply source is operational. In year 2025 new supplies will not be online and CAW plans to pump the full right of 1,474 AFY.

The supply reliability for PWM and PWM Expansion is presented in Table 7-2 and Table 7-3. The reliability of both projects varies by the hydrologic year type and the future year because it is dependent on wastewater flows which are projected to increase as demands increase. As described in Section 6.6.1 and Table 6-4, PWM and the PWM Expansion project are not reliable during the worst-case scenario dry year due to reduced wastewater flows, but when the MPWSP Desalination Plant becomes operational, the demands are projected to increase on the Peninsula and the wastewater flows will also increase, improving the PWM and PWM Expansion project's supply reliability.

In normal years PWM is projected to provide 100 percent of the contractual supply volume. The PWM Expansion project can only provide up to 528 AFY in normal year types until the MPWSP Desalination

Plant comes online in 2030. The worst-case dry year supply reliability presented in Table 6-4 is used to represent the last year of a consecutive five-year drought. The water supply available from PWM and PWM Expansion are projected to decline during a drought as conservation is increased and source flows for the projects decline. For years one through four of the consecutive five-year drought, the supply reliability is assumed to decline linearly until the worst-case dry year availability in year five. The single-dry year reliability is the same as year one of a five-year drought. Based on the projected increase in water use and wastewater flows once the MPWSP Desalination Plant is online, the PWM Phase 1 project and PWM Expansion project are expected to be reliable in all hydrologic year types by 2030 and 2040, respectively. Without the MPWSP Desalination Plant, PWM and PWM Expansion reliability would decline in a drought and during the worst-case dry year would continue to be zero. More information on how the reliability of PWM and PWM Expansion are calculated is included in Appendix H.

Table 7-2. Pure Water Monterey Basis for Supply Reliability

		2025	2030	2035	2040	2045
PWM CONTRACTUAL SUPPLY, AFY		3,500	3,500	3,500	3,500	3,500
NORMAL YEAR		100%	100%	100%	100%	100%
SINGLE-DRY YEAR		80%	100%	100%	100%	100%
CONSECUTIVE DRY YEARS	**1ST YEAR**	80%	100%	100%	100%	100%
	2ND YEAR	60%	100%	100%	100%	100%
	3RD YEAR	40%	100%	100%	100%	100%
	4TH YEAR	20%	100%	100%	100%	100%
	5TH YEAR	0%	100%	100%	100%	100%

Table 7-3. Pure Water Monterey Expansion Basis for Supply Reliability

		2025	2030	2035	2040	2045
PWM EXPANSION DESIGN SUPPLY, AFY		2,250	2,250	2,250	2,250	2,250
NORMAL YEAR		23%	100%	100%	100%	100%
SINGLE-DRY YEAR		19%	84%	92%	100%	100%
CONSECUTIVE DRY YEARS	**1ST YEAR**	19%	84%	92%	100%	100%
	2ND YEAR	14%	69%	85%	100%	100%
	3RD YEAR	9%	53%	77%	100%	100%
	4TH YEAR	5%	38%	70%	100%	100%
	5TH YEAR	0%	22%	62%	100%	100%

Note:

The Hazen analysis identified a reliability of zero for Pure Water Monterey Expansion during a worst-case dry year. It is expected that reliability would decrease gradually over a number of dry years as water use, wastewater flows, and supply available for PWM Expansion decreased. It was assumed that over a five-year period, the reliability would decrease linearly from its value in a normal year to zero in the fifth dry year.

7.1.4 Water Service Reliability

This section compares projected supplies and demands for a normal year, single-dry year, and five-dry year period. In each year type a 10 percent operational buffer is subtracted from the total supplies for conservative planning purposes. The operational buffer incorporates a safety factor in the supply and demand analysis to account for production facilities down time due to maintenance or other reasons. This analysis assumes both the MPWSP desalination plant and the PWM Expansion are operational by 2030.

Table 7-4 and Table 7-5 compare the normal and single dry year water supply and demand. Each table lists each available supply based on the projected reliability and compares the projected demand to the total supply both with and without the MPWSP Desalination Plant. As shown, there is a shortfall in supply in all years when excluding additional supplies from the MPWSP Desalination Plant. Not only does the desalination plant provide 6,252 AFY of drought proof supply, but it also allows the demands and wastewater flows to increase on the Monterey Peninsula, which results in more source water and greater supply from the PWM and PWM Expansion projects in dry years. After 2030, when the MPWSP Desalination Plant is projected to be online, the available supply exceeds unrestricted demands. In 2025 before the new supply sources are online, the projected demand is anticipated to exceed the available supply. To close the gap between supply and demand CAW will need to reduce demands through the Water Shortage Contingency Plan (WSCP) until the new supply sources are online. In a normal year, demands will need to be reduced by approximately 15 percent in 2025 to close the supply gap. In the single-dry year, the demand will need to be reduced by about 24 percent.

Table 7-4. DWR 7-2R Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Demand Totals, AFY	**10,443**	**11,883**	**12,474**	**13,065**	**13,656**
WATER SUPPLY WITHOUT MPWSP DESALINATION, AFY	**9,892**	**10,914**	**10,914**	**10,914**	**10,914**
Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376
Seaside Groundwater Basin	1,474	774	774	774	774
Sand City Desalination	94	94	94	94	94
ASR	920	920	920	920	920
Pure Water Monterey	3,500	3,500	3,500	3,500	3,500
Pure Water Monterey Expansion[1]	528	2,250	2,250	2,250	2,250
Shortfall without MPWSP Desalination	-551	-969	-1,560	-2,151	-2,742
ADDITIONAL WATER SUPPLY FROM MPWSP DESALINATION, AFY	**0**	**6,252**	**6,252**	**6,252**	**6,252**
Total Water Supply, AFY	**9,892**	**17,166**	**17,166**	**17,166**	**17,166**
Operation Buffer (10%)	-989	-1,717	-1,717	-1,717	-1,717
Surplus/ Shortfall without WSCP Action	-1,540	3,566	2,975	2,384	1,793
WSCP Savings	1,540	0	0	0	0
DIFFERENCE:	**0**	**3,566**	**2,975**	**2,384**	**1,793**

Note:

1. PWM Expansion during a normal hydrologic year is only anticipated to supply up to 528 AFY.
2. When the MPWSP Desalination Plant comes online, it will provide a drought-proof supply that will allow the demands to increase to the projected levels, wastewater flows to increase, which provides more source water for the PWM Expansion Project and improve its supply reliability.

Table 7-5. DWR 7-3R Single-Dry Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Demand Totals, AFY	**10,443**	**11,883**	**12,474**	**13,065**	**13,656**
WATER SUPPLY WITHOUT MPWSP DESALINATION, AFY	**8,783**	**8,083**	**8,083**	**8,083**	**8,083**
Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376
Seaside Groundwater Basin	1,474	774	774	774	774
Sand City Desalination	94	94	94	94	94
ASR	616	616	616	616	616
Pure Water Monterey	2,800	2,800	2,800	2,800	2,800
Pure Water Monterey Expansion	422	422	422	422	422
Shortfall without MPWSP Desalination	-1,660	-3,800	-4,391	-4,982	-5,573
ADDITIONAL WATER SUPPLY FROM MPWSP DESALINATION, AFY	**0**	**8,430**	**8,609**	**8,780**	**8,780**
MPWSP Ocean Desalination	0	6,252	6,252	6,252	6,252
Pure Water Monterey[1]	0	700	700	700	700
Pure Water Monterey Expansion[1]	0	1,478	1,657	1,828	1,828
Total Water Supply, AFY	**8,783**	**16,513**	**16,691**	**16,862**	**16,862**
Operation Buffer (10%)	-878	-1,651	-1,669	-1,686	-1,686
Surplus/ Shortfall without WSCP Action	-2,539	2,979	2,548	2,111	1,520
WSCP Savings	2,539	0	0	0	0
DIFFERENCE:	**0**	**2,979**	**2,548**	**2,111**	**1,520**

Note:

1. When the MPWSP Desalination Plant comes online, it will provide a drought-proof supply that will allow the demands to increase to the projected levels, wastewater flows to increase, which provides more source water for the PWM and PWM Expansion Project and improve both projects supply reliability. This excess supply is only available in dry years if the MPWSP is operational.
2. Reductions in availability for Pure Water Monterey are applied proportionately to PWM and PWM Expansion.

Table 7-6 compares the average annual supply and demand in a five-consecutive year drought. As shown, the total supply declines each year into the drought. Like the normal and single dry year scenarios, without the MPWSP Desalination Plant there is a supply deficit every year and the unrestricted demands exceed the supply until the MPWSP Desalination Plant is online in 2030. In year 2025, the tables show unrestricted demands and the WSCP savings needed to close the gap between supply and demand. As the supplies decline each year into the drought, the conservation required to reduce demands also increases. In year 2025, the demand reduction needed to meet the available supplies is about 2,539 AFY, or about a 24% percent reduction in projected demand. By the fifth year of a drought in 2025 conditions, the WSCP savings increases to about 5,990 AFY, or upwards of a 57 percent reduction in projected demands.

The new supply sources, including the desalination plant providing 6,252 AFY of drought proof supply and the PWM Expansion project, are both needed to provide a secure and reliable water supply for the Monterey Peninsula, and eliminate the need for stringent demand reduction measures to close the gap between supply and demand. But with the PWM Expansion project alone there will continue to be shortfalls in supplies as shown in the tables, and water use will need to continue to be restricted in the future. Without the MPWSP Desalination Plant, the PWM Expansion project is not expected to supply its full design supply and will continue to have supply source limitations. Beginning in 2022, when the Carmel River supply is reduced to its lawful diversions, CAW will need to reduce demands through the WSCP until the future supply sources are online in all year types. The WSCP stage and required

demand reduction from customers increases in dry years as supply reliability and available volume are also reduced.

Table 7-6. DWR 7-4R Multiple Dry Years Supply and Demand (Average Annual, AFY)

		2025	2030	2035	2040	2045
First Year	**Water Demand**	**10,443**	**11,883**	**12,474**	**13,065**	**13,656**
	WATER SUPPLY WITHOUT MPWSP DESALINATION	**8,783**	**8,083**	**8,083**	**8,083**	**8,083**
	Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376
	Seaside Groundwater Basin	1,474	774	774	774	774
	Sand City Desalination	94	94	94	94	94
	ASR	616	616	616	616	616
	Pure Water Monterey	2,800	2,800	2,800	2,800	2,800
	Pure Water Monterey Expansion	422	422	422	422	422
	Supply Shortfall without MPWSP Desalination	-1,660	-3,800	-4,391	-4,982	-5,573
	ADDITIONAL SUPPLY WITH MPWSP DESALINATION	**0**	**8,430**	**8,609**	**8,780**	**8,780**
	MPWSP Ocean Desalination	0	6,252	6,252	6,252	6,252
	Pure Water Monterey	0	700	700	700	700
	Pure Water Monterey Expansion	0	1,478	1,657	1,828	1,828
	Total Water Supply	**8,783**	**16,513**	**16,691**	**16,862**	**16,862**
	Operation Buffer (10%)	-878	-1,651	-1,669	-1,686	-1,686
	Surplus/ Shortfall without WSCP Action	-2,539	2,979	2,548	2,111	1,520
	WSCP Savings, AFY	2,539	0	0	0	0
	DIFFERENCE	**0**	**2,979**	**2,548**	**2,111**	**1,520**
Second Year	**Water Demand**	**10,443**	**11,883**	**12,474**	**13,065**	**13,656**
	WATER SUPPLY WITHOUT MPWSP DESALINATION	**7,669**	**6,969**	**6,969**	**6,969**	**6,969**
	Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376
	Seaside Groundwater Basin	1,474	774	774	774	774
	Sand City Desalination	94	94	94	94	94
	ASR	308	308	308	308	308
	Pure Water Monterey	2,100	2,100	2,100	2,100	2,100
	Pure Water Monterey Expansion	317	317	317	317	317
	Supply Shortfall without MPWSP Desalination	-2,774	-4,914	-5,505	-6,096	-6,687
	ADDITIONAL SUPPLY WITH MPWSP DESALINATION	**0**	**8,886**	**9,243**	**9,585**	**9,585**
	MPWSP Ocean Desalination	0	6,252	6,252	6,252	6,252
	Pure Water Monterey	0	1,400	1,400	1,400	1,400
	Pure Water Monterey Expansion	0	1,234	1,591	1,933	1,933
	Total Water Supply	**7,669**	**15,855**	**16,212**	**16,554**	**16,554**
	Operational Buffer (10%)	-767	-1,586	-1,621	-1,655	-1,655
	Surplus/ Shortfall without WSCP Action	-3,541	2,387	2,117	1,834	1,243
	WSCP Savings, AFY	3,541	0	0	0	0
	DIFFERENCE	**0**	**2,387**	**2,117**	**1,834**	**1,243**

		2025	2030	2035	2040	2045
Third Year	**Water Demand**	**10,443**	**11,883**	**12,474**	**13,065**	**13,656**
	WATER SUPPLY WITHOUT MPWSP DESALINATION	**6,555**	**5,855**	**5,855**	**5,855**	**5,855**
	Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376
	Seaside Groundwater Basin	1,474	774	774	774	774
	Sand City Desalination	94	94	94	94	94
	ASR	0	0	0	0	0
	Pure Water Monterey	1,400	1,400	1,400	1,400	1,400
	Pure Water Monterey Expansion	211	211	211	211	211
	Supply Shortfall without MPWSP Desalination	-3,888	-6,028	-6,619	-7,210	-7,801
	ADDITIONAL SUPPLY WITH MPWSP DESALINATION	**0**	**9,342**	**9,878**	**10,391**	**10,391**
	MPWSP Ocean Desalination	0	6,252	6,252	6,252	6,252
	Pure Water Monterey	0	2,100	2,100	2,100	2,100
	Pure Water Monterey Expansion	0	990	1,526	2,039	2,039
	Total Water Supply	**6,555**	**15,198**	**15,733**	**16,246**	**16,246**
	Operational Buffer (10%)	-656	-1,520	-1,573	-1,625	-1,625
	Surplus/ Shortfall without WSCP Action	-4,543	1,795	1,686	1,556	965
	WSCP Savings, AFY	4,543	0	0	0	0
	DIFFERENCE	**0**	**1,795**	**1,686**	**1,556**	**965**
Fourth Year	**Water Demand**	**10,443**	**11,883**	**12,474**	**13,065**	**13,656**
	WATER SUPPLY WITHOUT MPWSP DESALINATION	**5,750**	**5,050**	**5,050**	**5,050**	**5,050**
	Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376
	Seaside Groundwater Basin	1,474	774	774	774	774
	Sand City Desalination	94	94	94	94	94
	ASR	0	0	0	0	0
	Pure Water Monterey	700	700	700	700	700
	Pure Water Monterey Expansion	106	106	106	106	106
	Supply Shortfall without MPWSP Desalination	-4,693	-6,833	-7,424	-8,015	-8,606
	ADDITIONAL SUPPLY WITH MPWSP DESALINATION	**0**	**9,798**	**10,512**	**11,196**	**11,196**
	MPWSP Ocean Desalination	0	6,252	6,252	6,252	6,252
	Pure Water Monterey	0	2,800	2,800	2,800	2,800
	Pure Water Monterey Expansion	0	746	1,460	2,144	2,144
	Total Water Supply	**5,750**	**14,848**	**15,562**	**16,246**	**16,246**
	Operational Buffer (10%)	-575	-1,485	-1,556	-1,625	-1,625
	Surplus/ Shortfall without WSCP Action	-5,268	1,480	1,532	1,556	965
	WSCP Savings, AFY	5,268	0	0	0	0
	DIFFERENCE	**0**	**1,480**	**1,532**	**1,556**	**965**

		2025	2030	2035	2040	2045
Fifth Year	**Water Demand**	**10,443**	**11,883**	**12,474**	**13,065**	**13,656**
	WATER SUPPLY WITHOUT MPWSP DESALINATION	**4,944**	**4,244**	**4,244**	**4,244**	**4,244**
	Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376
	Seaside Groundwater Basin	1,474	774	774	774	774
	Sand City Desalination	94	94	94	94	94
	ASR	0	0	0	0	0
	Pure Water Monterey	0	0	0	0	0
	Pure Water Monterey Expansion	0	0	0	0	0
	Supply Shortfall without MPWSP Desalination	-5,499	-7,639	-8,230	-8,821	-9,412
	ADDITIONAL SUPPLY WITH MPWSP DESALINATION	**0**	**10,255**	**11,147**	**12,002**	**12,002**
	MPWSP Ocean Desalination	0	6,252	6,252	6,252	6,252
	Pure Water Monterey	0	3,500	3,500	3,500	3,500
	Pure Water Monterey Expansion	0	503	1,395	2,250	2,250
	Total Water Supply	**4,944**	**14,499**	**15,391**	**16,246**	**16,246**
	Operational Buffer (10%)	-494	-1,450	-1,539	-1,625	-1,625
	Surplus/ Shortfall without WSCP Action	-5,993	1,166	1,378	1,556	965
	WSCP Savings, AFY	5,993	0	0	0	0
	DIFFERENCE	**0**	**1,166**	**1,378**	**1,556**	**965**

7.2 Drought Risk Assessment

A new provision of the Water Code directs Suppliers to prepare a DRA. The DRA considers a drought period lasting five consecutive years, starting from the year following the when the assessment is conducted. For this plan, the DRA considers five consecutive dry years from 2021 through 2025. CAW may conduct an interim update or updates to this DRA within the five-year cycle of its UWMP update.

The DRA analysis allows CAW to examine the management of its supplies during stressed hydrologic conditions and provides an opportunity to evaluate the functionality of its WSCP during the next actual drought period lasting at least five years. To help evaluate the impacts of a multi-year drought, the DRA was performed using the DWR Planning Tool to evaluate supply and demand on a monthly basis. The supply and demand assumptions used in the DRA are described in Table 7-7.

Table 7-7. 2021-2025 DRA Supply and Demand Assumptions

	DEMAND/ SUPPLY SOURCE	ASSUMPTIONS
Demand	**Customer Demand**	WSCP is enacted to reduce customer demands in all years of the 5-year drought
Supply	**Carmel River Aquifer**	5,060 AF available in 2021 based on cut back schedule. 3,376 AF available in 2022-2025.
	Seaside Basin	1,474 AFY available every year
	Sand City Desalination	94 AFY available every year
	ASR	ASR supply is based on the current ASR storage volume of 1,170 AF multiplied by the five-consecutive dry year reliability percentages in Table 7-1: 780 AFY in year one, 390 AFY in year two, and no ASR supply in year three, four, and five.
	PWM	The contractual supply amount from PWM based on contract amount of 3,500 AFY multiplied by the five-consecutive dry year reliability percentages in Table 7-2: 2,800 AFY in year one, 2,100 AFY in year two, 1,400 AFY in year three, 700 AFY in year four, and no water available in year five.
	PWM Expansion	No supply from PWM Expansion. Although this is projected to be online in 2025, the supply from PWM Expansion during the fifth year of a drought (2025) is 0 AFY.
	MPWSP Ocean Desalination	No supply from Ocean Desalination
	Operational Buffer	A 10% operational buffer is subtracted from the total supplies to account for production facilities down time due to maintenance or other reasons.

The annual DRA summary is provided in Table 7-8. As shown, without the future supply sources, CAW would need to enact its WSCP to reduce demands in the service area if a five-year drought occurred beginning 2021. Customer demands would need to be restricted in all years, ranging from 29 percent reduction in year one to 57 percent in year five of the drought. This would require aiding the MPWMD to implement all water rationing measures listed in the WSCP. At this stage water will be prioritized to ensure the health, safety and welfare of the community only.

Table 7-8. Five-Year Drought Risk Assessment, AFY

WATER USE TYPE	2021	2022	2023	2024	2025
Total Water Use	**9,399**	**9,660**	**9,920**	**10,181**	**10,442**
Total Supply	**10,208**	**7,434**	**6,344**	**5,644**	**4,944**
Carmel River Aquifer[1]	5,060	3,376	3,376	3,376	3,376
Seaside Groundwater Basin[2]	1,474	1,474	1,474	1,474	1,474
Sand City Desalination[3]	94	94	94	94	94
ASR[4]	780	390	0	0	0
Pure Water Monterey[5]	2,800	2,100	1,400	700	0
Operation Buffer (10%)	-1,021	-743	-634	-564	-494
Surplus/ Shortfall without WSCP Action	-212	-2,969	-4,211	-5,102	-5,992
WSCP Demand Reduction	212	2,969	4,211	5,102	5,992
Revised Surplus/ Shortfall	0	0	0	0	0
Percent Reduction from WSCP Action	**2%**	**31%**	**42%**	**50%**	**57%**

Notes:

1. Carmel River Supply in year 2021 is 5,060 AFY based on the Carmel River pump back schedule. Beginning in 2022, CAW will only be allowed to pump up to their lawful diversion of 3,376 AFY.
2. CAW has a right to 1,474 AFY from the Seaside Basin.
3. CAW has a right to 94 AFY from Sand City Desalination.
4. ASR supply is based on the current ASR storage volume of 1,170 AF multiplied by the five-consecutive dry year reliability percentages in Table 7-1 (100% in year 1, 67% in year 2, 33% in year 3, and 0% in year 4 and 5).
5. Pure Water Monterey supply is based on the contractual supply of 3,500 AFY multiplied by the five-consecutive dry year reliability percentages in Table 7-2 in 2025 (80% in year 1, 60% in year 2, 40% in year 3, 20% in year 4, and 0% in year 5).

2020 URBAN WATER MANAGEMENT PLAN

8 Water Shortage Contingency Plan

The WSCP is a detailed plan for how CAW intends to respond to foreseeable and unforeseeable water shortages.

IN THIS SECTION

- Summary of Plan

A water shortage occurs when the water supply is reduced to a level that cannot support typical demand at any given time. The WSCP is used to provide guidance to the Monterey County District's governing body, staff, and the public by identifying response actions to allow for efficient management of any water shortage with predictability and accountability. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought or catastrophic supply interruptions. The WSCP describes the following:

1. **Water Supply Reliability Analysis:** Summarizes Monterey Main's water supply analysis and reliability and identifies any key issues that may trigger a shortage condition.
2. **Annual Water Supply and Demand Assessment Procedures:** Describes the key data inputs, evaluation criteria, and methodology for assessing the system's reliability for the coming year and the steps to formally declare any water shortage levels and response actions.
3. **Six Standard Shortage Stages:** Establishes water shortage levels to clearly identify and prepare for shortages.
4. **Shortage Response Actions:** Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand as

well as minimize social and economic impacts to the community.

5. **Compliance and Enforcement:** Defines compliance and enforcement actions available to administer demand reductions.

6. **Legal Authority:** Lists the legal documents that grant CAW the authority to declare a water shortage and implement and enforce response actions.

7. **Financial Consequences of WSCP Implementation:** Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens.

8. **Monitoring and Reporting:** Summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation. Results are used to determine if additional shortage response actions should be activated or if efforts are successful and response actions should be reduced.

9. **WSCP Refinement Procedures:** Describes the factors that may trigger updates to the WSCP and outlines how to complete an update.

10. **Special Water Features Distinctions**: Identifies exemptions for ponds, lakes, fountains, pools, and spas, etc.

11. **Plan Adoption, Submittal, and Availability:** Describes the process for the WSCP adoption, submittal, and availability after each revision.

The 2021 WSCP is a standalone document that can be modified as needed and is included as **Appendix I**.

2020 URBAN WATER MANAGEMENT PLAN

9 Demand Management Measures

This chapter describes Monterey Main's efforts to promote water use efficiency, reduce demands, and prepare for future requirements.

IN THIS SECTION

- Demand Management Measures
- Reporting Implementation

This chapter describes the water conservation programs that CAW has implemented for the past five years, is currently implementing, and plans to implement to continue meeting its SB X7-7 water use target and position for future State mandated water use efficiency standards that are currently under development. The section of the CWC addressing Demand Management Measures (DMM) was significantly modified in 2014, based on recommendations from the Independent Technical Panel (ITP) to the legislature. The ITP was formed by DWR to provide information and recommendations to DWR and the Legislature on new DMMs, technologies and approaches to water use efficiency. The ITP recommended, and the legislature enacted, streamlining the requirements from the 14 specific measures reported on in the 2010 UWMP to six more general requirements plus an "other" category for measures agencies implemented in addition to the required elements. The required measures are summarized in Table 9-1.

Table 9-1. Demand Management Measures

	MEASURE
1	Water waste prevention ordinances
2	Metering
3	Conservation pricing
4	Public education and outreach
5	Programs to assess and manage distribution system real loss
6	Water conservation program coordination and staffing
7	Other demand management measures

9.1 Existing Demand Management Measures for Retail

The DMM section provides a comprehensive description of the water conservation programs that CAW has implemented for the past five years, is currently implementing, and plans to implement. These measures help reduce overall water consumption and aided in Monterey Main's attainment of the water use reduction targets discussed in **Chapter 5**. Consistent with the requirements of the CWC, this section describes the DMMs that have been implemented to meet water use targets pursuant to Section 10608.20 of the CWC. The following sections provide a description of the DMM including the nature and extent of each.

9.1.1 Water Waste Prevention Ordinances

CAW does not have the legal authority to create ordinances as a public utility company and must obtain approval from the CPUC to implement its WSCP, including voluntary and/or mandatory measures. Rule 14.1 defines water conservation measures and the approval process that CAW must follow to implement mandatory water conservation (**Appendix I, Attachment 1**).

Section D of Rule 14.1 (B) defines water conservation requirements that are effective at all times until deactivated by the CPUC. These conservation requirements define non-essential uses of water and limit water waste from new developments and existing customers. Although these are considered requirements, they are voluntary and serve as the CAW's Voluntary Water Conservation Program.

Sections E through H of Rule 14.1 list the specific requirements of CAW's three mandatory conservation stages. CAW must receive authorization from the CPUC before implementing mandatory conservation measures.

The mandatory conservation stages listed in Rule 14.1 shall remain dormant until Monterey Main submits a letter to the CPUC and receives authorization to declare mandatory conservation. The mandatory conservation request letter to the CPUC shall include justification for activating the particular mandatory conservation stage, as well as the expected duration the mandatory conservation will be in effect. The WSCP contains a more in-depth discussion of these prohibitions and consequences associated with them.

9.1.2 Metering

All connections in Monterey Main are metered with the exception of a few unmetered free water accounts in Carmel Valley that are planned to have meters installed by end of the year. CAW performs meter reading on a bi-monthly basis and consequently bills customers on a bi-monthly basis. All customers, with the exception of private fire connections, are billed a service charge and a usage rate/commodity charge for each unit of water consumed.

CAW maintains a database to track meters and record years in service. Monterey Main follows a program to test, repair, and replace water meters. CAW replaces 5/8-inch and 1-inch meters on a 15-year cycle. CAW tests 1 ½-inch and 2-inch meters on a four-year cycle; meters that do not pass testing requirements are replaced. The number of meters replaced each year varies due to varying installation dates.

9.1.3 Conservation Pricing

Conservation pricing sends a signal to customers regarding their water use. The type of rate structure used by Monterey Main for each connection type is shown in **Table 9-2** and is described here:

- **Residential Connections:** Monterey Main's water rate structure encourages residential customers to conserve water by using tiered rates. Monterey Main has a five-tiered rate structure. The tiered rate structure establishes volumetric rates; that is the more water a customer consumes, the more

expensive the water becomes. In addition, Monterey Main's rates include a monthly service charge per meter depending on the size of the connection.

- **Non-Residential Connections (except private fire):** Monterey Main has a four-tier rate structure for commercial, public authority, irrigation, and industrial customers. In addition, rates include a monthly service charge per meter depending on the size of the connection.
- **Private Fire Connections:** Private fire protection systems and private fire hydrants are charged a fixed monthly fee per hydrant or connection.

Table 9-2. Water Rate Structures

CUSTOMER TYPE	WATER RATE STRUCTURE
Residential	Five Tier Volumetric Rate
Commercial	Four Tier Volumetric Rate
Industrial	Four Tier Volumetric Rate
Institutional/Government	Four Tier Volumetric Rate
Irrigation	Four Tier Volumetric Rate
Private Fire	Fixed

9.1.4 Public Education and Outreach

Monterey Main has participated in a variety of public outreach meetings, community events, and educational campaigns. All public outreach and educational efforts are managed by CAW's local external affairs and conservation departments in cooperation with Monterey Peninsula water Management District's (MPWMD's) conservation department.

9.1.4.1 Public Information Program

California American Water in partnership with MPWMD continued its Monterey Water Conservation Facebook page to keep local contacts informed about conservation efforts. The page provides timely conservation tips and news about upcoming events and local water issues.

Email Blasts and Social Media

California American Water continued encouraging customers to maintain high levels of conservation throughout the year and provided educational emails on what conservation resources and activities customers can undertake.

Three focused campaigns took place in 2019 -- surrounding Earth Day, summer conservation and fall conservation. The materials shared water saving tips for indoor and outdoor use as well as promoting available rebates, water wise house calls and other offerings. These themes were echoed through concurrent radio advertising and accompanying handouts were created to share at the front office and at community events.

Additional online ads were employed to encourage customers to turn off their sprinklers at the start of the rainy season. This message was additionally promoted through newspaper advertising, direct mail and an email blast.

Mailers/Bill Inserts

Two postcards were sent to customers in 2019 which focused specifically on conservation, the first advising customers to call California American Water's conservation department to schedule a free yearly season sprinkler check-up at the start of the irrigation season; and the second promoting the company's rain sensor program. Three bill inserts were sent themed around Earth Day, summer

conservation tips and fall conservation tips. Each piece contained information on rebates, water conservation tips and further resources available from California American Water and the Monterey Peninsula Water Management District.

Local Community Events

CAW also participates in a multitude of local community events throughout the year where they host a booth and provide information such as conservation tips to the community as well devices to promote conservation. However, due to the COVID-19 Pandemic many of these events were canceled in 2020 and continue to be postponed.

9.1.4.2 School Education Program

In 2019, California American Water continued reaching its key objectives for ongoing school education and outreach in water conservation.

The key goals included:

• Ongoing relationship building with the Water Awareness Committee (WAC);

• Outreach to students at community events offering free educational materials;

• Outreach to students in-class and at afterschool activities to offer education regarding water conservation.

Zun Zun School Performances

California American Water, through the Water Awareness Committee of Monterey County, offered school presentations by the Zun Zun performance group. In 2019, Zun Zun provided fifteen 45-minute performances within California American Water's service territory. The performances reached a total of 2,762 students and covered topics such as the water cycle, watershed, indoor conservation and conservation tips, including information about fixing leaks. In addition, we continued to sponsor Zun Zun to perform at the Monterey County Fair which it is estimated that 1,250 children, teenagers and adults attended the event.

Students were encouraged to participate during the event through a song and dance presentation of the water cycle. Conservation tips were also presented to the students such as taking shorter showers, not letting the faucet run when brushing teeth, using a positive shut off nozzle at the end of a hose when watering the plants, and to notify their parents when they see leaks at home or their school teacher when they see leaks at school.

9.1.5 Programs to Assess and Manage Distribution System Real

Monterey Main's system water audits, leak detection, and repair programs are ongoing and focus on high probability leak areas. **Table 4-2** in Chapter 4 of the 2020 UWMP documents the total system losses.

9.1.6 Water Conservation Program Coordination and Staffing Support

CAW has conservation staff to coordinate and implement the programs described in this chapter. Most Monterey Main conservation staff were compensated as part of regular operating expenses and not through the conservation surcharge.

9.1.7 Other Demand Management Measures

CAW is committed to implementing cost-effective programs that will increase water efficiency throughout the entire service area. Though not required, CAW has implemented the following demand management measures during the past five years and will continue implementation into the future in order to increase the overall water efficiency of the Monterey Main's customers.

9.1.7.1 Residential Water Audits

California American Water continued its Water Wise House Call Program in 2019 utilizing in house trained certified audit staff at no cost to the conservation budget. The program has been in effect since 2008 and consists of offering free residential audits for single and multi-family properties to identify ways the customer can save water indoors and out and detect leaks.

California American Water's conservation staff completed 481 Water Wise House Calls in 2019 and 125 irrigation sprinkler checks at the beginning of the spring season. Residential customers are sent a postcard at the beginning of the irrigation season offering a free sprinkler check up. The program is becoming more popular each year where customers' irrigation systems were evaluated to ensure there were no leaks and to identify root causes of possible high water use. Outdoor tips and recommendations were also provided to customers, as well as the offering of free rain sensors installed by California American Water Company's contractors.

California American Water promoted the Water Wise House Call program through bill inserts, rebate brochures, offering the service to customers who visited the office to make payments and by targeting customers who had received high water bills and had been billed in the higher tiers of California American Water's five-tiered rate design.

During the Water Wise House Calls and high bill investigations, California American Water identified common inefficiencies and water waste in many of the Monterey residences. The most common occurrences were:

- Toilet and faucet leaks
- Irrigation controllers set to run too long resulting in water waste
- Water softener issues
- Misaligned and broken sprinkler heads
- Customer service line leaks

California American Water's conservation staff assisted customers by showing them how to read their water meters and properly convert cubic feet units to gallons so that customers can better monitor their daily usage and also compare the meter readings to the billing units identified on their water bills. In addition, conservation staff also assisted customers by properly adjusting their irrigation controllers to meet the plant water needs and to irrigate in compliance with MPWMD's two day a week watering schedule. Conservation staff also provided free water conserving devices to customers. The audit reports also include recommendations on utilizing the rebate program for the replacement of high water-use fixtures and appliances at customers' homes.

The effectiveness of the Water Wise House Call program was measured through the evaluation of water savings, as well as by inclusion of an evaluation survey form along with a pre-stamped envelope in the customer report package. Many evaluation surveys were returned from the Water Wise House Call service showed high customer appreciation.

Leak Detection

CAW's conservation staff utilizes data logging technology to assist in evaluating difficult to diagnose high water hills by downloading up to 180 days of usage, hour by hour, from the company's radio read meters. By evaluating hourly usage patterns, usage data reports have aided in identifying the date range in which high usage occurred, and resulted in the identification of issues including improperly programmed irrigation controllers, leaks in the irrigation system, toilet leaks, service line leaks, and hoses been left running. A total of 695 Data Log reports were evaluated by Conservation staff in Monterey in 2019.

9.1.7.2 Residential Plumbing Retrofit

CAW has been offering various free water savings devices for its residential and commercial customers including showerheads and kitchen faucet aerators with a flow rate of 1.5 gallons per minute, bathroom faucet aerators with a flow rate of 0.5 gallons per minute, leak detection tablets/kits and outdoor water saving tools such as soil moisture meters and hose nozzles that automatically shut off when not in use.

The residential plumbing retrofit program was funded out of the conservation surcharge one-way balancing account. Items provided through MPWMD were funded out of MPWMD's conservation budget.

9.1.7.3 Residential and Commercial Rebates (MPWMD Rebates)

Monterey Main's rebate program is funded by CAW but administered by MPWMD. CAW has been working closely with MPWMD to implement advertising campaigns and press releases that draw customers' attention to the rebate program benefits. MPWMD is in the process of creating an online rebate application that would be available from the "montereywaterinfo.org" website http://www.montereywaterinfo.org/ .

The rebate program was funded out of the conservation surcharge one-way balancing account.

9.1.7.4 Large Landscape Grant Program

CAW's successful landscape grant program, implemented in 2011, continues to reduce the water demand of municipal properties by changing landscaping and upgrading irrigation systems. CAW marketed the large landscape grant program with a focus on replacing turf on city properties and schools with low water use plants, and/or installation of water saving irrigation technology. The grant award was intended to provide funding for a demonstration project with high visibility, water savings, exemplary landscaping, and/or use of water-saving irrigation technology.

9.1.7.5 WBIC, Rain Sensor Install Program and Soil Moisture Sensors

CAW continued its Rain Sensor Installation Program and has installed 523 rain sensors since the program began in 2011 for residential and non-residential customers. In addition, soil moisture sensors were offered to select customers who have landscapes which would benefit from this add-on to the Sensor Program. The rain sensor has a shut off device which automatically signals the irrigation controller to curtail irrigation when it rains and allows watering to resume when needed. The rain sensor can be programmed to halt irrigation for up to 72 hours after a rainfall event. The soil moisture sensor can be used throughout the year to assist customers in monitoring their usage and to refrain from overwatering their landscapes.

9.1.7.6 CII Audits

CAW continued its commercial audit program established in 2009 along with its contract with WaterWise Consulting to conduct commercial, institutional, and industrial audits. Water Wise Consulting completed 32 audits with an estimated potential savings of 60.99 acre feet following the implementation of the audit recommendations. Since the program began in 2009, over 200 commercial customers have been reached with great potential water savings as the result.

CAW's conservation staff followed up with the customers on site and in person to review the audit reports and provide free devices, such as faucet aerators and pre-rinse spray valves.

Customers were given audit reports that focused on applicable water-saving devices, and estimated water and cost savings together with expected payback periods for such upgrades. The payback period calculations included the rebate incentives available to CII customers through the CAW and MPWMD Rebate Program.

9.1.7.7 Low Income Water/Energy Joint Direct Install Program

California American Water partnered with Pacific Gas and Electric Company (PG&E) to offer a first of its kind Water-Energy Joint Partnership Direct Install Program for its Low Income customers. The program provides low income residential customers with free home improvements to make their home more energy and water efficient. Partnering with PG&E allowed both utilities to share costs as part of an Energy Savings Assistance Program (ESA) Water pilot where California American Water provided funding for the cold water conservation measures (Toilets, Toilet Flappers, Hose nozzles) and water conservation education. PG&E provided funding for all hot water measures (Faucet aerators, showerheads, thermostatic valves, water heater leak repair, etc.). This joint program provided participating customers the convenience of a single contractor visit and single contact to the program administrator instead of separate water and energy audits and multiple installation visits.

In addition to the energy, home weatherization and water measures, California American Water customers also received an indoor and outdoor home water audit and received a brief water conservation education at their home. In 2019, a total of 115 low income households in Monterey were retrofitted through this program.

This partnership was the first Water/Energy Joint program of its kind in California and served as a model for similar programs now developed in other areas of California. Funding for California American Water's portion of the program came from CPUC authorized conservation program funds for low income direct install programs.

9.2 Reporting Implementation

9.2.1 Implementation Over the Past Five Years

Table 9-3 summarizes the DMM implementation over recent years.

Table 9-3. DMM Implementation

NAME OF MEASURE	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020
	Number of Units	Estimated Annual Savings (AFY)	Number of Units	Estimated Annual Savings	Number of Units	Estimated Annual Savings	Number of Units	Estimated Annual Savings	Number of Units	Estimated Annual Savings
Conservation Staff / Training								n/a		
Public Information Programs					35			n/a		
School Education Programs	14		14		12			n/a		
Residential Water Audits	350	14	476	17.0	437	17.48	606	24.24		
Low Flow Fixtures	25,181		25,181	40.3	30,752	34.5	20,876	23.1		
Rebates			2,076		1,148	152.	1,023	15.7		
Soil Moisture and Rain Sensor Install Program	46		46	unknown	28		39			
Low Income Water/Energy Direct Install			189		0		115	2.8		
Landscape Upgrade Grant Program	1		1				1			
CII and Large Landscape Conservation (Audits)	25	16.5	25	16.5	7	4.62	6	3.96		
Sustainable Landscape Programs					1		0			
Total				73.5		208.8		69.7		

9.2.2 Implementation to Achieve Water Use Targets

As discussed in **Chapter 5**, CAW has met its 2020 water use target. However, Monterey Main also realizes a portion of the observed conservation is due to the strict water use restrictions imposed during the drought. If those restrictions are lifted, Monterey Main will remain diligent in continuing use of the above described DMMs. The extensive metering program, ongoing public outreach, and education programs, and assessing and managing distribution system losses over the last several years has helped Monterey Main to maintain overall lower water consumption.

9.3 Water Use Objectives (Future Requirements)

New water use objectives are currently being developed that will define an efficient standard for indoor water use per person. The final water use objectives for Monterey Main have not yet been determined.

2020 URBAN WATER MANAGEMENT PLAN

10 Plan Adoption, Submittal, and Implementation

This chapter describes the steps taken to adopt and submit the UWMP and to make it publicly available. This chapter also includes a discussion of the agency's plan to implement the UWMP.

IN THIS SECTION

- Public Hearing Notices
- Adoption
- Public Availability
- Amendment Process

10.1 Inclusion of all 2020 Data

This UWMP update has been prepared on a calendar year basis and includes all water use and planning data for the 2020 calendar year.

10.2 Notice of Public Hearing

CAW has notified all necessary Cities, Counties, and Districts within its service area of its intent to review the UWMP and consider changes to the plan. These governmental entities as well as a host of local water purveyors and agencies were notified of the preparation of the UWMP and public hearing and encouraged to participate in the development of this plan update, as shown in **Table 2-1**. Copies of the notifications are included in **Appendix J**.

10.3 Public Hearing and Adoption

CAW held a public hearing and adopted the 2020 UWMP on June 17, 2021. Prior to the public hearing notices were published notifying the public of the date of time of the hearing.

CAW adopted the 2020 UWMP after the hearing on June 17, 2021. A copy of the adopting resolution is included in **Appendix K**.

10.4 Plan Submittal

Once the 2020 UWMP and WSCP have been adopted, copies of the 2020 UWMP and WSCP and any subsequent amendments will be submitted to DWR (electronically using the WUEdata reporting tool), the State Library, and all necessary Cities and Counties, within 30 days of adoption.

10.5 Public Availability

Once the plan has been adopted, a hardcopy will be made available for public review at CAW's local Monterey Peninsula office at 511 Forest Lodge Road, Suite 100, Pacific Grove, CA 93950 (subject to office closures due to COVID-19 restrictions). Additionally, an electronic copy will be uploaded to the CAW webpage and available for public reference.

10.6 Notification to Public Utilities Commission

Per Water Code Section 10621(c), those Suppliers that are regulated by the California Public Utilities Commission (CPUC) must submit their UWMP and WSCP to the CPUC as part of their general rate case filings.

CAW will include these plans as part of its general rate case filings.

10.7 Amending an Adopted UWMP or WSCP

If CAW revises its UWMP after approved by DWR, the public notice, hearing, and adoption process will be repeated and an electronic copy of the revised UWMP will be submitted to DWR within 30 days of its adoption.

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A

Appendix A. 2020 UWMP Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Executive Summary
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Executive Summary
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier	Plan Preparation	Chapter 1 Description, 2.2 Basis for Preparing a Plan
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	2.3 Coordination and Outreach
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan	Plan Preparation	10.2 Notice of Public Hearing and 10.3 Public Hearing and Adoption
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Not Applicable
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types	System Supplies	Not Applicable
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	3.2 Service Area Boundary
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	3.3 Service Area Climate
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045	System Description	3.4.1 Service Area Population
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	3.4.2 Other Social, Economic, and Demographic Factors
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	3.4.1 Service Area Population
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	3.5 Land Uses within Service Area
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	4.2.2 Past and Current Water Use, Table 4-1, 4.2.4 Projected Water Use, Table 4-5
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	4.2.3 Distribution System Water Loss, no loss standards have been adopted
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans and other policies or laws.	System Water Use	4.2.4.1 Projection Methodology, references new State Regulations
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	4.2.4.1 Projection Methodology, references new State Water Use Objective Regulations
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	4.2.3 Distribution System Water Loss
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	4.3 Water Use for Lower Income Households
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	4.4 Climate Change Considerations
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data	Baselines and Targets	5.2 Baseline and Target Calculations for 2020 UWMP, Table 5-1
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	5.4 2020 Compliance Daily Per-Capita Water Use (GPCD), Table 5-2
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Not Applicable
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Not Applicable
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Not Applicable

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form	Baselines and Targets	Appendix C
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought	System Supplies	Table 6-12, Table 7-4, Table 7-5, Table 7-6
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought,*including changes in supply due to climate change.*	System Supplies	Table 6-12, Table 7-4, Table 7-5, Table 7-7, 6.10.1 Climate Change Effects
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies	System Supplies	7.1.2 Water Supply Management
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water	System Supplies	6.9 Future Water Projects
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045	System Supplies	Table 6-11 and Table 6-12
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	6.1 Carmel River Aquifer, 6.2 Seaside Groundwater Basin, Table 6 1, Table 6-2
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization	System Supplies	Not Applicable
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	6.1 Carmel River Aquifer, 6.2 Seaside Groundwater Basin, Figure 6-1, Figure 6-2
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump	System Supplies	6.2 Seaside Groundwater Basin (is adjudicated), Appendix G
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	6.1 Carmel River Aquifer
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Table 6-1
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Table 6-2
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	6.8 Water Exchanges and Transfers
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project	System Supplies (Recycled Water)	Table 6-5 and Table 6-6
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	6.6 Wastewater and Recycled Water, Table 6-6
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	6.6.5 Potential, Current, and Projected Recycled Water Uses, Table 6-7
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	6.6.5 Potential, Current, and Projected Recycled Water Uses, Table 6-7, Table 6-8
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	6.6.5 Potential, Current, and Projected Recycled Water Uses / Not Applicable
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	6.6.5 Potential, Current, and Projected Recycled Water Uses / Not Applicable
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	6.7 Sand City Desalination, 6.9.1 Monterey Peninsula Water Supply Project Ocean Desalination
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods	System Supplies (Recycled Water)	6.6 Wastewater and Recycled Water, Table 6-5
x	x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	6.9 Future Water Projects
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	6.11 Energy Intensity
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	7.1.1 Constraints on Water Sources

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	7.1.2 Water Supply Management
x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	7.1.4 Water Service Reliability, Table 7-4, Table 7-5, Table 7-6
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	7.2 Drought Risk Assessment
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	7.2 Drought Risk Assessment, Table 7-7
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	7.1.3 Year Type Characterization, Table 7-1, Table 7-2
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Table 7-5, Table 7-6
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	7.1.1 Constraints on Water Sources, 7.1.3 Year Type Characterization
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Appendix I
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Appendix I, 1.1 Water Supply Reliability Analysis
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	1.10 WSCP Refinement Procedures
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Appendix I, 1.2 Annual Water Supply and Demand Assessment
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Appendix I, 1.2 Annual Water Supply and Demand Assessment
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Appendix I, 1.3 Six Standard Water Shortage Levels, Table 1, Figure 1
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Appendix I, 1.3.5 Standard Water Shortage Level Crosswalk, Figure 1
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Appendix I, 1.4.2 Supply Augmentation, Table 3
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Appendix I, 1.4.1 Demand Reduction, Table 2
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Appendix I, 1.4.3 Operational Changes
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Appendix I, 1.1.1 Shortage Level 1, Attachment 2
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Appendix I, Table 2
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Appendix I, 1.4.5 Seismic Risk Assessment and Mitigation Plan
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Appendix I, 1.5 Communication Protocols, Figure 2
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Appendix I, 1.5 Communication Protocols, Figure 3
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Appendix I, 1.6 Compliance and Enforcement
x		Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Appendix I, 1.7 Legal Authorities

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Not Applicable- CAW as a public utlity does not have the authority to declare a water shortage emergency, but will advise the CPUC of a water shortage emergency and them the MPWMD will implement the appropriate stage and enforcement, as described in Appendix I, 1.3 Six Standard Water Shortage Levels
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Appendix I, 1.7 Legal Authorities
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix I, 1.8 Financial Consequences of WSCP
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix I, 1.8 Financial Consequences of WSCP
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	Appendix I, 1.8 Financial Consequences of WSCP
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Appendix I, 1.9 Monitoring and Reporting
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas	Water Shortage Contingency Planning	Appendix I, 1.11 Special Water Feature Distinction
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Appendix I, 1.12 Plan Adoption, Submittal, and Availability, TBD
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan	Water Shortage Contingency Planning	Appendix I, 1.12 Plan Adoption, Submittal, and Availability, TBD
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Not Applicable
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	9.1 Existing Demand Management Measures for Retail, 9.2 Reporting Implementation
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	10.3 Public Hearing and Adoption
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1	Plan Adoption, Submittal, and Implementation	10.2 Notice of Public Hearing, 2.3 Coordination and Outreach
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	TBD

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	TBD

B

Appendix B. DWR Standardized Tables

2-1R | Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020
CA2710004	Cal Am Water Company - Monterey	38,644	8,808
CA2701882	Cal Am Water Company - Bishop	418	147
CA2710022	Cal Am Water Company - Hidden Hills	452	134
CA2701466	Ryan Ranch WS	214	49
	Total:	**39,728**	**9,138**

2-2 | Public Water Systems

Type of Plan	Member of RUWMP	Member of Regional Alliance	Name of RUWMP or Regional Alliance
Individual UWMP	No	No	

2-3 | Agency Identification

Type of Supplier	Year Type	First Day of Year		Unit Type
		DD	MM	
Retailer	Calendar Years			Acre Feet (AF)

Conversion to Gallons: *325851*
Conversion to Gallons per Day: *892.7425*

2-4R | Water Supplier Information Exchange

Wholesale Water Supplier Name
Not Applicable

3-1R | Current & Projected Population

Population Served	2020	2025	2030	2035	2040	2045
Monterey Main	91,717	93,577	95,437	97,297	99,157	101,017
Total	**91,717**	**93,577**	**95,437**	**97,297**	**99,157**	**101,017**

4-1R | Actual Demands for Water

Use Type	Additional Description	Level of Treatment When Delivered	2020 Volume
Residential	Single Family and Multifamily Residential	Drinking Water	5,133
Commercial		Drinking Water	3,001
Industrial		Drinking Water	13
Other Public Authority	Institutional/ Governmental. Includes government accounts and schools	Drinking Water	393
Company Accounts	CAW Accounts	Drinking Water	13
Sales for Resale	Sales to other agencies	Drinking Water	6
Fire	Fire Service	Drinking Water	443
Miscellaneous Sales	Construction meter usage	Drinking Water	13
Losses		Drinking Water	124
		Total:	**9,138**

4-2R | Projected Demands for Water

Use Type	Additional Description	Projected Water Use				
		2025	2030	2035	2040	2045
Residential	Single Family and Multifamily Residential	5,031	6,009	6,404	6,800	7,195
Commercial		4,212	4,622	4,783	4,943	5,103
Industrial		27	28	29	30	31
Other Public Authority	Institutional/ Governmental. Includes government accounts and schools	533	555	577	598	620
Company Accounts	CAW Accounts	23	24	25	26	27
Sales for Resale	Sales to other agencies	-	-	-	-	-
Fire	Fire Service	400	400	400	400	400
Miscellaneous Sales	Construction meter usage	11	11	12	12	13
Losses		205	233	245	256	268
Total:		**10,442**	**11,882**	**12,475**	**13,065**	**13,657**

4-3R | Total Gross Water Use

	2020	2020	2030	2035	2040	2045
Potable and Raw Water From Table 4-1R and 4-2R	9,138	10,442	11,882	12,475	13,065	13,657
Recycled Water Demand* Non-Potable Reuse from Table 6-4R	1,155	1,178	1,202	1,223	1,243	1,264
Total Water Use:	**10,293**	**11,620**	**13,084**	**13,698**	**14,308**	**14,921**

4-4R | 12 Month Water Loss Audit Reporting

Report Period Start Date		Volume of Water Loss*
MM	YYYY	
1	2016	637
1	2017	332
1	2018	406
1	2019	509
1	2020	124

4-5R | Inclusion in Water Use Projections

Are Future Water Savings Included in Projections? Refer to Appendix K of UWMP Guidebook.	Yes
Section or page number where the citations utilized in the demand projects can it be found:	Section 4.2.4.1 on Page 4-5, references new State Water Use
Are Lower Income Residential Demands Included in Projections?	Yes

5-1R | Baselines & Targets Summary

Baseline Period	Start Year	End Year	Average Baseline GPCD*	Confirmed 2020 Target *
10-15 Year	1996	2005	114	118
5 Year	2004	2008	143	

*All values are in Gallons per Capita per Day (GPCD)

5-2R | 2020 Compliance

Actual 2020 GPCD*	Optional Adjustments to 2020 GPCD					2020 GPCD* (Adjusted if applicable)	Supplier Achieved Targeted Reduction in 2020
	Extraordinary Events*	Economic Adjustment*	Weather Normalization*	Total Adjustments*	Adjusted 2020 GPCD*		
89	0	0	0	0	0	0	Yes

*All values are in Gallons per Capita per Day (GPCD)

6-1R | Groundwater Volume Pumped

Supplier will complete the table.

Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Carmel Valley Aquifer	6,181	5,619	5,954	6,249	5,317
Alluvial Basin	Seaside Groundwater Basin	2,471	3,532	2,296	2,378	2,802
	Total:	**8,652**	**9,152**	**8,249**	**8,627**	**8,119**

Note: The Carmel River Aquifer volume excludes water that was injected into the Seaside Basin for ASR. This volume is counted as ASR storage and supply.

6-2R | Wastewater Collected within Service Area in 2020

The supplier will complete the table.

Percentage of 2020 service area covered by wastewater collection system (optional):	

Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	**Wastewater Volume Metered or Estimated**	**Wastewater Volume Collected from UWMP Service Area in 2020**	**Name of Wastewater Agency Receiving Collected Wastewater**	**Wastewater Treatment Plant Name**	**Wastewater Treatment Plant Located within UWMP Area**	**WWTP Operation Contracted to a Third Party**
City of Pacific Grove	Estimated	1,250	**Montery One Water**	Monterey One Water Regional Treatment Plant	No	No
City of Monterey	Estimated	3,596	**Montery One Water**	Monterey One Water Regional Treatment Plant	No	No
City of Seaside, City of Sand City, City of Del Rey Oaks	Estimated	2,825	**Montery One Water**	Monterey One Water Regional Treatment Plant	No	No
Pacific Beach Community Services District	Metered	477	**Carmel Area Wastewater District**	Carmel Area Wastewater District Wastewater Treatment Plant	Yes	No
Carmel Area Wastewater District	Metered	919	**Carmel Area Wastewater District**	Carmel Area Wastewater District Wastewater Treatment Plant	Yes	No
California American Water	Estimated	69	**California American Water**	Carmel Valley Ranch WWTP	Yes	No
California American Water	Estimated	61	**California American Water**	Pasadera/ Laguna Seca Ranch	Yes	No
California American Water	Estimated	6	**California American Water**	White Oaks Septic System	Yes	No
California American Water	Estimated	4	**California American Water**	Village Green Septic System	Yes	No
City of Pacific Grove	Estimated	85	**Montery One Water**	Pacific Grove Satellite Recycled Water Treatment Plant	Yes	No
Total:		**9,293**				

6-3R | Wastewater Treatment & Discharge Within Service Area in 2020

The supplier will complete the table.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number	Method of Disposal	Plant Treats Wastewater Generated Outside the Service Area	Treatment Level	2020 Volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Monterey One Water Regional Treatment Plant	Pacific Ocean	Monterey Bay Ocean Outfall	NPDES No. CA0048551	Ocean outfall	Yes	Advanced	7,672	405	1,728	3,766	-
Carmel Area Wastewater District Wastewater Treatment Plant	Pacific Ocean	Carmel Bay Ocean Outfall	NPDES No. CA0047996	Ocean outfall	No	Tertiary	1,396	457	939	-	-
Carmel Valley Ranch Wastewater Treatment Plant	Carmel Valley Golf Course and Golf Course Lakes	Storage Pond for Recycled Water Use	WRR No. 01-083	Other	No	Tertiary	69	-	69	-	-
Pasadera / Laguna Seca Ranch Wastewater Treatment Plant	Laguna Seca Golf Course	Storage Pond for Recycled Water Use	WDR No. 98-58	Other	No	Tertiary	61	-	61	-	-
Pacific Grove Satellite Recycled Water Treatment Plant	M1W Collection System	Collection System conveyed to the M1W Regional Treatment Plant	WRR No. R3-2016-0044	Other	No	Tertiary	85		85		
						Total:	**9,283**	**862**	**2,883**	**3,766**	**-**

Volume of collected and treated wastewater and the volume of such that went to recycled water is estimated except for at the Carmel Wastewater District Plant, where flows are metered and 100% from the CAW service area. Total wastewater treated excludes approximately 10 AF collected at the White Oaks and Village Green Septic Systems.

6-4R | Recycled Water Direct Beneficial Uses Within Service Area

The supplier will complete the table.											
Name of Supplier Producing (Treating) the Recycled Water:			Carmel Area Wastewater District, Monterey One Water, California American Water, City of Pacific Grove								
Name of Supplier Operating the Recycled Water Distribution System:			Carmel Area Wastewater District, Monterey One Water, California American Water, City of Pacific Grove								
Supplemental Volume of Water Added in 2020:											0%
Source of 2020 Supplemental Water:			N/A								
Beneficial Use Type	**Potential Beneficial Uses of Recycled Water**	**Amount of Potential Uses of Recycled Water**	**General Description of 2020 Uses**	**Level of Treatment**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Landscape Irrigation (excludes golf courses)										
Golf Course Irrigation	Unrestricted outdoor use	1,300	Pebble Beach, Carmel Valley, Laguna Seca, and Pacific Grove Links Golf Course Irrigation	Tertiary	1,155	1,178	1,202	1,223	1,243	1,264
Commercial Use										
Industrial Use										
Geothermal and Other Energy Production										
Seawater Intrusion Barrier										
Recreational Impoundment										
Wetlands or Wildlife Habitat										
Groundwater Recharge (IPR)*	Unrestricted use	5,750	Pure Water Monterey and Expansion Seaside Basin Injection	Advanced	788	4,028	5,750	5,750	5,750	5,750
Surface Water Augmentation (IPR)*										
Direct Potable Reuse										
				Total:	**1,943**	**5,206**	**6,952**	**6,973**	**6,993**	**7,014**

*IPR - Indirect Potable Reuse

6-5R | 2015 Recycled Water Use Projection Compared to 2020 Actual

The supplier will complete the table.

Use Type	2015 Projection for 2020	2020 Actual Use
Agricultural Irrigation		
Landscape Irrigation (excludes golf courses)		
Golf Course Irrigation	1,414	1,155
Commercial Use		
Industrial Use		
Geothermal and Other Energy Production		
Seawater Intrusion Barrier		
Recreational Impoundment		
Wetlands or Wildlife Habitat		
Groundwater Recharge (IPR)*		788
Surface Water Augmentation (IPR)*		
Direct Potable Reuse		
Total:	**1,414**	**1,943**

Note: Estimated recycled water use from CAWD and California American Water used within service area.

6-6R | Methods to Expand Future Recycled Water Use

NOTES: California American Water is an investor owned utility and therefore does not have the authority to issue a mandatory recycled water use ordinance.

The supplier does not plan to expand recycled water use in the future.
The supplier will not complete the table below but will provide narrative explanation.

6-7R | Expected Future Water Supply Projects or Programs

The supplier will complete the table.						
Name of Future Projects or Programs	**Joint Project with Other Suppliers**	**Agency Name**	**Description**	**Planned Implementation Year**	**Planned for Use in Year Type**	**Expected Increase in Water Supply to Supplier**
Pure Water Monterey Expansion	Yes	Monterey Peninsula Water Management District and Monterey One Water	Expansion of the Pure Water Monterey Project to provide an additional 2,250 AFY to the Seaside Basin for CAW's use.	2025	All Year Types	Up to 2,250 AFY when avaliable. Only 528 AFY projected in 2025 normal year, less in dry years
Monterey Peninsula Water Supply Project Ocean Desalination	No		Ocean Desalination Plant	2030	All Year Types	6,252 AFY

6-8R | Actual Water Supplies

Water Supply	Additional Detail on Water Supply	2020		
		Actual Volume	Water Quality	Total Right or Safe Yield
Groundwater (not desalinated)	Carmel River Aquifer (Note 1 & 2)	5,317	Drinking Water	6,060
Groundwater (not desalinated)	Seaside Groundwater Basin (Note 3)	2,802	Drinking Water	2,183
Desalinated Water - Groundwater	Sand City Desalination (Note 4)	213	Drinking Water	300
Other	Aquifer Storage and Recovery (Note 5)	806	Drinking Water	1,300
	Total:	**9,138**		**9,843**

Notes:

1.CAW's total volume extracted from the Carmel River in 2020 was 5,977 AF, however, 660 AF was injected into the Seaside Basin for ASR. This volume is accounted for in the total ASR supply.

2.CAW's allowable diversion from the Carmel River Aquifer was 6,310 AFY in WY 2019-2020 and 5,310 AFY in WY 2020-2021, which equates to 6,060 AFY in calendar year 2020 based on equal diversion each month.

3.CAW's Seaside Groundwater Basin allocation was 1,820 AFY in WY 2019-2020 and 1,474 AFY in WY 2020-2021, which equates to 1,734 AFY in calendar year 2020. The total right is 1,734 AFY plus 136.23 AF carryover storage credits from WY 2019 and 845.93 AF storage credits for WY 2020 (calculated as 449 AF combined storage carryover credits for calendar year 2020). Note CAW did overproduce 334.21 AF beyond the Natural Safe Yield and 229.63 AF beyond the Operating Safe Yield in WY 2020 and paid an overproduction assessment (Source: Seaside Groundwater Basin Watermaster Annual Report WY 2020)

4.CAW's total rights from the Sand City Desalination Plant is 94 AFY, however the plant's capacity is 300 AFY and CAW may utilize the unused rights until development occurs and acquires the rights to the remaining capacity.

5.In 2020 the ASR extraction volume was 806 AF, which includes 660 AF of injection volume from Carmel River seasonal flows plus 146 AF of ASR storage water.

6-8DS | Source Water Desalination

The supplier will complete the table below.

Plant Name or Well ID	Plant Capacity	Intake Type	Source Water Type	Influent TDS	Brine Discharge	Volume of Water Desalinated in AFY				
						2016	2017	2018	2019	2020
Sand City Desalination Plant	300	Vertical Well	Groundwater	35,000 ppm	Other (describe in notes)	185	256	194	106	213
					Total:	**185**	**256**	**194**	**106**	**213**

Brine is disposed via injection to a a below sea-level horizontal concentrate well beneath the coastal bluff. The brine salinity does not exceed the seawater salinity. Source: https://www.mpwmd.net/water-supply/desalination/in-operation/.

6-9R | Projected Water Supplies

Water Supply	Additional Detail on Water Supply	Projected Water Supply									
		2025		2030		2035		2040		2045	
		Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield
Groundwater (not desalinated)	Carmel River Aquifer	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376
Groundwater (not desalinated)	Seaside Basin	1,474	1,474	774	774	774	774	774	774	774	774
Desalinated Water - Groundwater	Sand City Desalination	94	94	94	94	94	94	94	94	94	94
Other	Aquifer Storage and Recovery	920	920	920	920	920	920	920	920	920	920
Recycled Water	Pure Water Monterey	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Recycled Water	PWM Expansion	528	528	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
Desalinated Water - Surface Water	MPWSP Ocean Desalination Project	-	-	6,252	6,252	6,252	6,252	6,252	6,252	6,252	6,252
Total:		**9,892**	**9,892**	**17,166**	**17,166**	**17,166**	**17,166**	**17,166**	**17,166**	**17,166**	**17,166**

7-1R | Basis of Water Year Data (Reliability Assessment)

Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP.	
Page Location for Narrative in UWMP:	Section 7.1.3, pages 7-3 through 7-5

7-2R | Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Supply Totals (Note 1)	8,903	15,449	15,449	15,449	15,449
Demand Totals (Note 2)	8,903	11,882	12,475	13,065	13,657
Difference:	**0**	**3,567**	**2,974**	**2,384**	**1,792**

Notes:
1. Supply totals from Table 6-9R minus 10 percent for a supply buffer.
2. Demand totals from Table 4-2R. In year 2025 demand is projected to exceed supply and the WSCP is needed to reduce demands by about 1,540 AFY, or 15%.

7-3R | Single Dry Year Supply & Demand Comparison

	2025	2030	2035	2040	2045
Supply Totals (Note 1)	7,904	14,862	15,022	15,176	15,176
Demand Totals (Note 2)	7,904	11,883	12,474	13,065	13,656
Difference:	**0**	**2,979**	**2,548**	**2,111**	**1,520**

Note:
1. Supply totals listed incorporate a 10 percent buffer subtracted from the supply total.
2. Demand is reduced by 2,539 AFY, or 24%, in 2025 through the WSCP. From 2030 to 2045 demand is unrestricted.

7-4R | Multiple Dry Years Supply & Demand Comparison

		2025	2030	2035	2040	2045
First Year	**Supply Totals (Note 1)**	9,661	18,164	18,361	18,549	18,549
	Demand Totals (Note 2)	7,904	11,883	12,474	13,065	13,656
	Difference:	**1,757**	**6,281**	**5,887**	**5,484**	**4,893**
Second Year	**Supply Totals (Note 1)**	8,436	17,441	17,833	18,210	18,210
	Demand Totals (Note 2)	6,902	11,883	12,474	13,065	13,656
	Difference:	**1,534**	**5,558**	**5,359**	**5,145**	**4,554**
Third Year	**Supply Totals (Note 1)**	7,211	16,717	17,306	17,871	17,871
	Demand Totals (Note 2)	5,900	11,883	12,474	13,065	13,656
	Difference:	**1,311**	**4,834**	**4,832**	**4,806**	**4,215**
Fourth Year	**Supply Totals (Note 1)**	6,325	16,333	17,118	17,871	17,871
	Demand Totals (Note 2)	5,175	11,883	12,474	13,065	13,656
	Difference:	**1,150**	**4,450**	**4,644**	**4,806**	**4,215**
Fifth Year	**Supply Totals (Note 1)**	5,438	15,948	16,930	17,871	17,871
	Demand Totals (Note 2)	4,450	11,883	12,474	13,065	13,656
	Difference:	**989**	**4,065**	**4,456**	**4,806**	**4,215**

Note:
1. Supply totals listed incorporate a 10 percent buffer subtracted from the supply total.
2. Demand is reduced through the WSCP in 2025 by 24% in the first year and increases each year to the maximum 57% in the fifth year. From 2030 to 2045 demand is unrestricted.

2021	**Gross Water Use**	9,399
	Total Supplies	9,187
	Surplus/Shortfall without WSCP Action	**-212**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	212
	Revised Surplus/Shortfall	**0**
	Resulting Percent Use Reduction from WSCP Action	**2%**
2022	**Gross Water Use**	9,660
	Total Supplies	6,691
	Surplus/Shortfall without WSCP Action	**-2,969**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	2,969
	Revised Surplus/Shortfall	**0**
	Resulting Percent Use Reduction from WSCP Action	**31%**
2023	**Gross Water Use**	9,920
	Total Supplies	5,710
	Surplus/Shortfall without WSCP Action	**-4,210**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	4,210
	Revised Surplus/Shortfall	**0**
	Resulting Percent Use Reduction from WSCP Action	**42%**
2024	**Gross Water Use**	10,181
	Total Supplies	5,080
	Surplus/Shortfall without WSCP Action	**-5,101**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	5,101
	Revised Surplus/Shortfall	**0**
	Resulting Percent Use Reduction from WSCP Action	**50%**
2025	**Gross Water Use**	10,442
	Total Supplies	4,450
	Surplus/Shortfall without WSCP Action	**-5,992**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	5,992
	Revised Surplus/Shortfall	**0**
	Resulting Percent Use Reduction from WSCP Action	**57%**

10-1R | Notification to Cities & Counties

City	60 Day Notice	Notice of Public Hearing	Other
City of Carmel-by-the-Sea	Yes	Yes	
City of Del Rey Oaks	Yes	Yes	
City of Monterey	Yes	Yes	
City of Pacific Grove	Yes	Yes	
City of Sand City	Yes	Yes	
City of Seaside	Yes	Yes	
County	**60 Day Notice**	**Notice of Public Hearing**	**Other**
County of Monterey	Yes	Yes	
Presidio of Monterey	Yes	Yes	
Other	**60 Day Notice**	**Notice of Public Hearing**	**Other**
Pebble Beach Community Services District	Yes	Yes	
Carmel Area Wastewater District	Yes	Yes	
Monterey Regional Water Pollution Control Agency	Yes	Yes	
Monterey Peninsula Water Management District	Yes	Yes	
Alisal Water Corporation	Yes	Yes	
Monterey County CSA 75	Yes	Yes	

C

Appendix C. SBx7-7 Tables and Verification Forms

SBx7-7 Verification Tables and Targets

Appendix A to
California American Water – Monterey County District
2015 Urban Water Management Plan

Technical Memorandum

Date: 6/22/2016

To: Mark Reifer, P.E.
California American Water
8657 Grand Avenue
Rosemead, CA 91770

Phone: (916) 568-4218

Prepared by: Spencer Waterman

Project: 2015 Urban Water Management Plan for the Central Division- Monterey County District

SUBJECT: **BASELINE DAILY PER CAPITA WATER USE AND TARGET WATER USE UPDATE**

This memorandum presents the procedure used by California American Water's Central Division Monterey County District to meet the requirements of Senate Bill x 7-7 (SB7) as defined in the Water Conservation Act of 2009 as incorporated into Division 6 of the California Water Code, commencing with Section 10608 of Part 2.55.

Background

On November 10, 2009, Governor Arnold Schwarzenegger signed Senate Bill x 7-7 into law. The legislation requires all water suppliers to achieve a reduction in per capita water use of 20% by December 31, 2020, with an interim target of 10% reduction by December 31, 2015. The legislation requires each urban water supplier to develop, and include in its Urban Water Management Plans (UWMPs), estimates of: 1) *baseline* daily per capita water use; 2) daily per capita water use *target*; 3) daily per capita water use *interim target*; and 4) *compliance* daily per capita water use. The UWMP must also include bases for determining the estimates, with references to supporting data. However, SB 7 did not include a detailed description of the allowable methodologies for determining the required values. Instead, it required California Department of Water Resources (DWR) to develop appropriate methodologies and criteria, and to make them available to water suppliers no later than October 1, 2010. In consideration of this delay, the bill extended the deadline for adoption of the 2010 UWMP to July 1, 2011.

In connection with preparation of California American Water's Monterey County District 2010 UWMP update, California American Water hired Water Systems Consulting, Inc. (WSC) to develop the required estimates described by SB 7. The Monterey County District has multiple service areas. Consistent with the requirements outlined in DWR's *Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan*, compliance is calculated for the District as a whole. California American Water directed WSC to apply methodologies consistent with those described in the Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use guidebook (Methodologies Guidebook). The selected procedure used to develop the required SB7 estimates includes the following basic steps:

1. Calculate baseline water use, which is the average gross daily water use per capita, reported in gallons per capita per day, based on gross water use and service area population for a continuous 10-year period ending no earlier than December 31, 2004
2. Calculate urban water use target using one of the four methods described below
3. Check and confirm the urban water use target using the five-year running average
4. Calculate the interim urban water use target (equal to the average of the baseline and confirmed urban water use target)
5. Calculate the compliance daily per capita water use (equal to the gross daily water use per capita during the final year of the reporting period (i.e. 2010)

DWR allows the urban water supplier to choose one of four different methods to calculate the urban water use target in Step 2 above.

- Method 1 involves calculating the target based on 80% of baseline daily per capita water use and the interim target based on 90% of the baseline daily per capita water use.
- Method 2 involves calculating the per capita daily water use by using the sum of performance standards applied to indoor residential use, landscaped area water use, and commercial, industrial, and institutional uses.
- Method 3 calculates the water use target as 95% of the applicable state hydrologic region target as stated in the draft 20x2020 Water Conservation Plan. California American Water's service areas are located in the Monterey hydrologic region number 5 as defined in the State's 20x2020 Water Conservation Plan.
- Method 4 is an approach developed by DWR and it uses a spreadsheet to calculate estimated water savings factors to estimate targets.

Gross Water Use

SB 7 defines gross water use as:

> *"The total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following: (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier; (2) The net volume of water that the urban retail water supplier places into long-term storage; (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.; (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24."*

From 1987 to 2003, the Monterey County District utilized both surface diversions from the Carmel River and groundwater as the primary sources of supply. However, 2004 marked the first year that the Monterey County District ceased all surface diversions and supplied water solely from groundwater. Presently, groundwater represents 99% of the current supply with some quantities deriving from desalination. Therefore, gross water use is calculated as the sum of California American Water's total groundwater and desalination production.

Population Estimates and Projections

The population estimates for California American Water's service areas were calculated using DWR's online Population Tool, which utilizes Geographical Information Systems (GIS) service area boundaries, service connection data and Census data. The DWR Population Tool overlaps GIS shapefiles with Census populations by Census block for 1990, 2000 and 2010. The calculated population of each block within California American Water's service area is summed up to provide populations for 1990, 2000, and 2010. Populations are divided by the total service connections in each respective census year to come up with a persons per connection factor for the purposes of projecting populations from 2010-2015. Linear interpolation was used to determine the population for years in between the census years. In 2010, there were 10,600 census blocks within the Monterey County District. The Monterey District service area intersected with 2,776 of those census blocks

Baseline Per Capita Water Use

WSC calculated per capita water use using gross water use values and the population estimates shown in Table 1. The annual per capita water use value was averaged across 10-year periods ranging from 1998-2007 through 2001-2010. Figure 1 shows the historical population, along with the annual per capita water use for the years 1998 through 2010.

Table 1. Baseline Daily Per Capita Water Use

Calendar Year	Distribution System Population[1]	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	10 year running average (gpcd)
1994	95,607	n/a	n/a	
1995	95,806	n/a	n/a	
1996	96,006	14	151	
1997	96,205	15	158	
1998	96,405	13	130	
1999	96,604	14	141	
2000	96,803	13	139	
2001	96,464	14	145	
2002	96,125	13	140	
2003	95,787	14	141	
2004	95,448	14	148	
2005	95,109	14	144	144
2006	94,770	13	138	142
2007	94,431	13	142	141
2008	94,092	13	143	142
2009	93,753	12	131	141
2010	93,414	11	122	139
Base Daily Per Capita Water Use				**144**

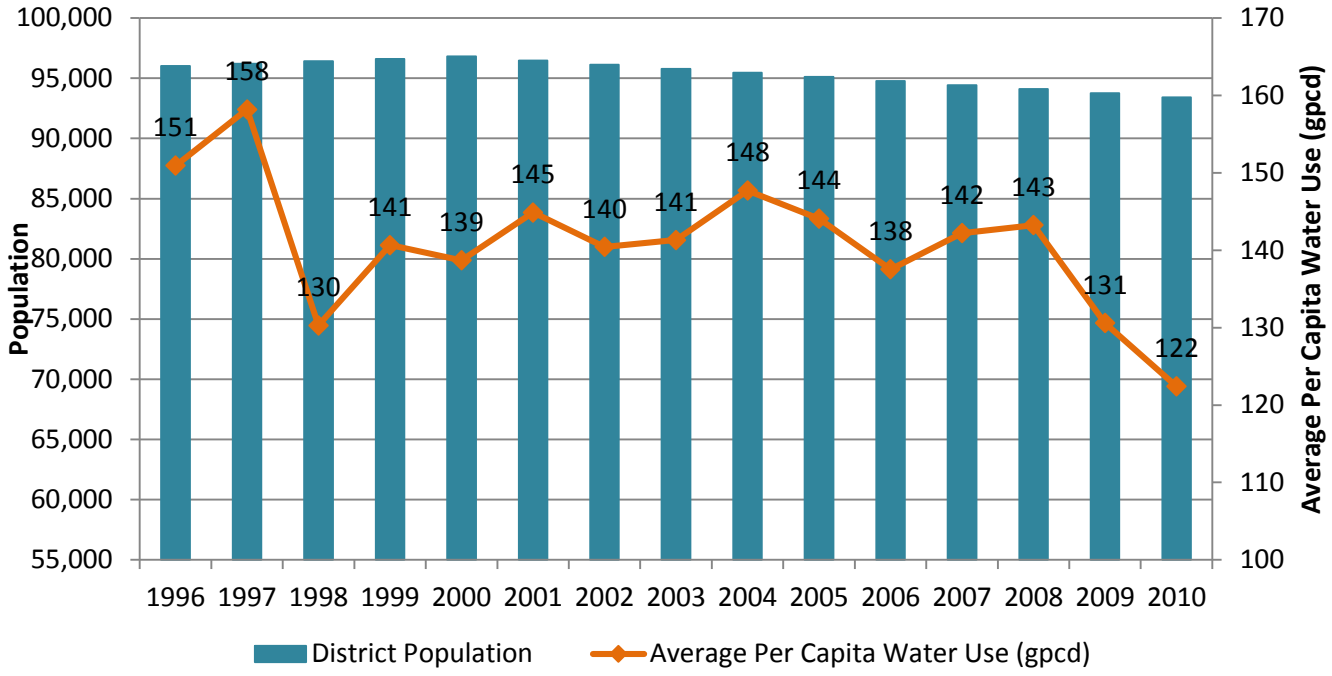


Figure 1. Historical Population and Per Capita Water Use for the Monterey County District

Water Use Targets

The baseline daily per capita water use is used to calculate the urban water use target and the interim urban water use target. The per capita water use target and interim target estimates are calculated using Method 1, Method 3, and Method 4 from the Methodologies Report. Method 2 was not used due to a lack of available data. Table 2 shows the estimated daily per capita water use targets for each method analyzed.

Table 2. Daily Per Capita Water Use Targets

Calculation Method	Water Use Target (gpcd)
Method 1: 80% of Baseline Per Capita Water Use	115
Method 2: Performance Standards	Not calculated
Method 3: 95% of Regional Target	117
Method 4: DWR Approach	118
Selected Urban Water Use Target	118

Minimum Water Use Reduction Requirements

The selected target must be less than 95% of a selected five-year running average ending no earlier than December 31, 2007 and ending no later than December 31, 2010 per the requirements of California Water Code Section 10608.22. Table 3 shows the five-year running averages, with the selected 5-year running average of 141 gpcd. Table 4 shows that the selected target from Table 2 meets the minimum water use reduction requirement; that is, the selected target of 118 gpcd is less than 95% of 134 gpcd. Thus, the confirmed water use target is set to 118 gpcd. Table 5 shows the final baseline, compliance, interim target, and target per capita water use. Table 6 shows the status of meeting the interim target and target based on current compliance per capita water use. The values shown will be reported in California American Water's 2010 Monterey County District UWMP.

Table 3. Minimum Water Use Reduction

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	5 year running average
2003	95,787	14	141	
2004	95,448	14	148	
2005	95,109	14	144	
2006	94,770	13	138	
2007	94,431	13	142	142.58
2008	94,092	13	143	142.96
2009	93,753	12	131	139.53
2010	93,414	11	122	135.20
Base Daily Per Capita Water Use				142.96

Table 4. Target Confirmation

Parameter	Value
Selected Urban Water Use Target (gpcd)	118
95% of 5-year Base Daily Per Capita Water Use (gpcd)	136
Selected Urban Water Use Target < 95% of 5-year Base GPCD	Yes
Confirmed Urban Water Use Target (gpcd)	118

Table 5. Baseline, Compliance, Interim Target, and Target Water Use

Parameter	Water Use (gpcd)
Base Daily Per Capita Water Use	144
2015 Actual Daily Per Capita Water	94
2015 Interim Urban Water Use Target	131
2020 Urban Water Use Target	118

Table 6. Water Use Reduction Status

Water Use Reduction (on gpcd basis)	% Reduction[1]
Achieved by 2015	34.6%
Needed to meet 2015 target	-39.1%
Needed to meet 2020 target	-25.2%
[1] A negative % means the compliance is currently lower than the target.	

Figure 2 shows the historical, baseline, targets, compliance, and projected per capita water use for the Monterey County District.

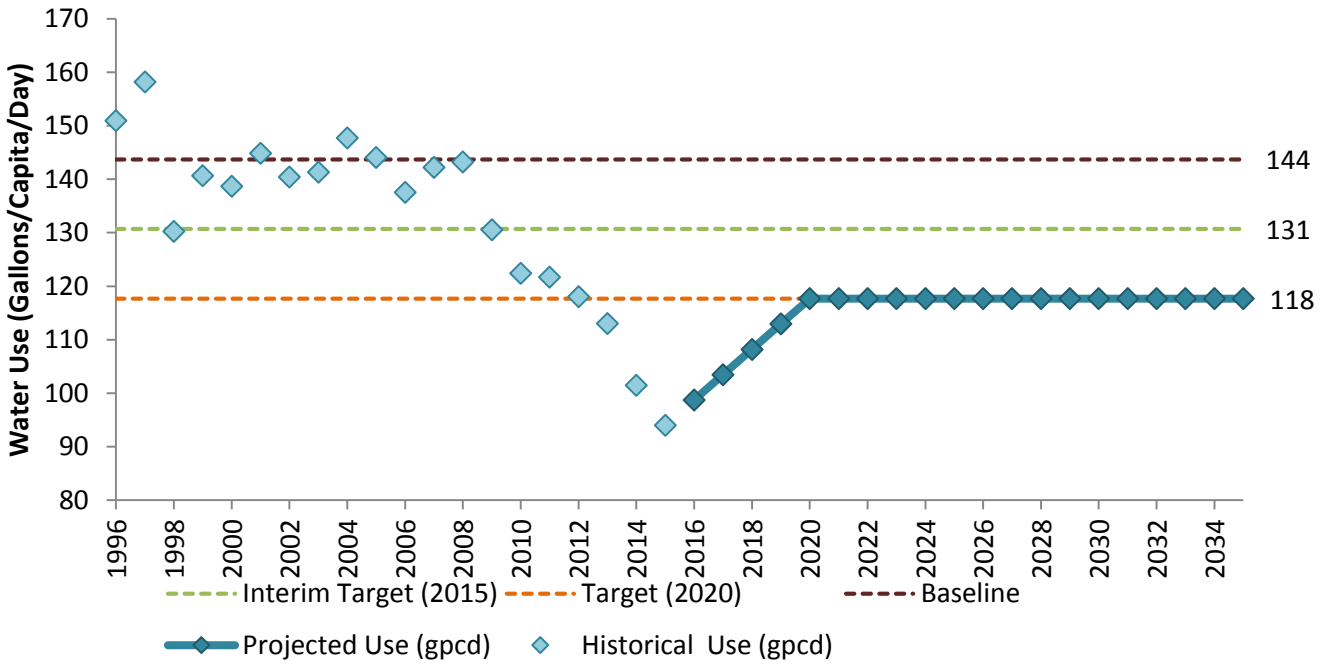


Figure 2. Historical Per Capita Water Use, Baseline, and Targets

Appendix A. User Input- Method 4

User Input -- Provisional Method 4 Target

Target Calculation Option (select one): * Calculate Targets Using Default Indoor Residential Savings

* = Required Data

Water Supplier Name: * California American Water- Monterey County District

10-15 Year Baseline Water Use Information

Baseline Period: * 1996-2005

Midpoint of Baseline Period: 2000

Baseline Water Use GPCD: * 143.7

Population in Midpoint Year: * 96,803

5 Year Baseline Water Use Information

Baseline Period: * 2004-2008

Baseline Water Use GPCD: * 142.7

95% of 5-Year Baseline GPCD: 135.6

Unmetered Connections

Number of Unmetered Connections in 2000: * 0

Water Use By Unmetered Connections In 2000: * 0 Acre-Feet

Baseline CII Water Use[1]

CII Water Use in 2000: * 4,558 Acre-Feet

Per Capita Use: 42.0 GPCD

[1]CII = Commercial, Industrial, Institutional.

If you have chosen to calculate targets using the Default Indoor Residential Savings, you do not need to complete the remaining tables.
Go to the "Calculated Targets" worksheet.

Appendix B. Calculator-Method 4

Target Calculation -- Provisional Method 4 Target

Step 1. Calculation of Landscape Water Use and System Water Loss

Urban Supplier	1996-2005 Baseline GPCD	—	Assumed Indoor Residential per Capita Water Use GPCD	—	CII per Capita Water Use GPCD	=	Estimated Landscape Water Use and System Water Loss GPCD
California American Water- Monterey	143.7		70.0		42.0		31.7

Step 2. Calculation of Savings Using BMP Calculators

(Alternate) STEP 2 BEING USED TO CALCULATE TARGET

Urban Supplier	Indoor Residential Savings Calculators					+	Metering Savings BMP 1.3	+	CII Savings BMP 4	+	Land-scape + Water Loss Savings 21.6%	=	Total Savings GPCD
	Single Family Toilets	Multi Family Toilets	Resi-dential Washers	Resi-dential Showers	Total IR Savings								
California American Water- Monterey	XXXX	XXXX	XXXX	XXXX	XXXX		XXXX		XXXX		XXXX		XXXX

(Alternate) Step 2. Calculation of Savings Using Default Indoor Residential Savings

Urban Supplier	Default Resi-dential Indoor Savings	+	Metering Savings BMP 1.3	+	CII Savings BMP 4	+	Land-scape + Water Loss Savings 21.6%	=	(alt) Total Savings GPCD
California American Water- Monterey	15.0		0.0		4.2		6.8		26.0

Step 3. Calculation of Urban Water Use Targets

Urban Supplier	1996-2005 Baseline GPCD	—	Total Savings GPCD	=	Computed 2020 Target GPCD	⇒	Less Than 95% of 5-Year Baseline	⇒	Final 2020 Target	⇒	Final 2015 Target
California American Water- Monterey	143.7		26.0		117.7		TRUE		117.7		130.7

SBx7-7 Compliance Forms

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 Population (may check more than one)	
☐	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	91,717
NOTES:	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**2020 Deductions**					**2020 Gross Water Use**
		Exported Water *	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	9,138	-	-	-	-	-	**9,138**

*** Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Carmel River Aquifer Groundwater
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	5,317	-	5,317

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES: Volume does not include Carmel River Water that was injected for Aquifer Storage and Recovery. This volume is counted in the Aquifer Storage and Recovery volume to not double count supplies.

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source	Seaside Groundwater Basin
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	2,802		2,802

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Sand City Desalination Plan
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	213		213

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Aquifer Storage and Recovery
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	806		806

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
9,138	91,717	**89**
NOTES:		

SB X7-7 Table 9: 2020 Compliance							
Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD Enter "0" if Adjustment Not Used			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
89	-	-	-	-	89	118	**YES**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

NOTES:

D

Appendix D. AWWA Water Audits

AWWA Free Water Audit Software:
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Water Audit Report for: California American Water - Monterey District Main System (2710004)
Reporting Year: 2015 | 1/2015 - 12/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	8	2,935.780	MG/Yr	n/a			MG/Yr
Water imported:	8	68.590	MG/Yr	n/a			MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 3,004.370 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	7	2,923.790	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	8	12.270	MG/Yr			
Unbilled unmetered:		37.555	MG/Yr	1.25%		MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 2,973.615 MG/Yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

30.755 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		7.511	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	5	29.657	MG/Yr	1.00%	MG/Yr
Systematic data handling errors:		7.309	MG/Yr	0.25%	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 44.478 MG/Yr

Check input values; APPARENT LOSSES should be less than WATER LOSSES

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: -13.722 MG/Yr

WATER LOSSES: 30.755 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 80.580 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	516.6	miles
Number of active AND inactive service connections:	7	37,502	
Service connection density:		73	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	8	93.0	psi

COST DATA

Total annual cost of operating water system:	7	$36,756,178	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$18.08	$/1000 gallons (US)
Variable production cost (applied to Real Losses):	7	$930.90	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 73 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

AWWA Free Water Audit Software:
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Water Audit Report for: California American Water - Monterey Main System (2710004)
Reporting Year: 2016 1/2016 - 12/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	5	2,923.490	MG/Yr	3	-5.00%		MG/Yr
Water imported:	n/a		MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 3,077.358 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	6	2,872.510	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	4	1.360	MG/Yr			
Unbilled unmetered:	7	5.840	MG/Yr		5.840	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 2,879.710 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 197.648 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:	3	1.000	MG/Yr		1.000	MG/Yr
Customer metering inaccuracies:	3	29.029	MG/Yr	1.00%		MG/Yr
Systematic data handling errors:		7.181	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 37.210 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 160.438 MG/Yr

WATER LOSSES: 197.648 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 204.848 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	555.5	miles
Number of active AND inactive service connections:	7	39,256	
Service connection density:		71	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 4 87.7 psi

COST DATA

Total annual cost of operating water system:	10	$27,584,871	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$12.48	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	6	$1,281.56	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 57 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Unbilled metered

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Water Audit Report for: California American Water - Monterey Main System (2710004)
Reporting Year: 2017 | 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	5	2,966.220	MG/Yr	3			-8.220	MG/Yr
Water imported:	n/a	0.000	MG/Yr					MG/Yr
Water exported:	n/a	0.000	MG/Yr					MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 2,974.440 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	2,876.690	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	8	1.800	MG/Yr			
Unbilled unmetered:	8	1.570	MG/Yr		1.570	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 2,880.060 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 94.380 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		7.436	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	6	36.257	MG/Yr		36.257	MG/Yr
Systematic data handling errors:		7.192	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 50.885 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 43.495 MG/Yr

WATER LOSSES: 94.380 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 97.750 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	564.0	miles
Number of active AND inactive service connections:	7	39,183	
Service connection density:		69	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 90.1 psi

COST DATA

Total annual cost of operating water system:	10	$27,043,530	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$14.93	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	7	$1,410.45	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 66 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

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Water Audit Report for: California American Water - Monterey Main System (2710004)
Reporting Year: 2018 | 1/2018 - 12/2018

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	5	2,961.640	MG/Yr	3			-30.160	MG/Yr
Water imported:	n/a	0.000	MG/Yr					MG/Yr
Water exported:	n/a	0.000	MG/Yr					MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 2,991.800 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	7	2,845.670	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	8	2.160	MG/Yr			
Unbilled unmetered:	8	24.620	MG/Yr		24.620	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 2,872.450 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

119.350 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		7.480	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	6	35.176	MG/Yr		35.176	MG/Yr
Systematic data handling errors:		7.114	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 49.770 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 69.580 MG/Yr

WATER LOSSES: 119.350 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 146.130 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	564.7	miles
Number of active AND inactive service connections:	7	38,854	
Service connection density:		69	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 90.1 psi

COST DATA

Total annual cost of operating water system:	10	$29,450,922	$/Year
Customer retail unit cost (applied to Apparent Losses):	10	$15.78	$/1000 gallons (US)
Variable production cost (applied to Real Losses):	7	$1,313.43	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 66 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

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Water Audit Report for: California American Water - Monterey Main System (2710004)
Reporting Year: 2019 | 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

							Pcnt:	Value:		
Volume from own sources:	+	?	7	2,907.350	MG/Yr	+ ? 6		-18.510	MG/Yr	
Water imported:	+	?	n/a	0.000	MG/Yr	+ ?			MG/Yr	
Water exported:	+	?	6	0.760	MG/Yr	+ ? 3		0.000	MG/Yr	

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 2,925.100 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

						Pcnt:	Value:	
Billed metered:	+	?	7	2,769.280	MG/Yr			
Billed unmetered:	+	?	n/a	0.000	MG/Yr			
Unbilled metered:	+	?	8	2.570	MG/Yr			
Unbilled unmetered:	+	?	8	4.080	MG/Yr		4.080	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: ? 2,775.930 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 149.170 MG/Yr

Apparent Losses

						Pcnt:	Value:	
Unauthorized consumption:	+	?		7.313	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	7	41.879	MG/Yr		41.879	MG/Yr
Systematic data handling errors:	+	?		6.923	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 56.115 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 93.055 MG/Yr

WATER LOSSES: 149.170 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 155.820 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	8	570.9	miles
Number of active AND inactive service connections:	+	?	7	37,934	
Service connection density:		?		66	conn./mile main
Are customer meters typically located at the curbstop or property line?				Yes	
Average length of customer service line:	+	?			(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	+	?	5	90.1	psi

COST DATA

Total annual cost of operating water system:	+	?	10	$32,058,913	$/Year	
Customer retail unit cost (applied to Apparent Losses):	+	?	10	$16.06	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	+	?	7	$1,465.75	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 74 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Unauthorized consumption

AWWA Free Water Audit Software:
Reporting Worksheet

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Water Audit Report for: California American Water - Monterey District Bishop System (2701882)
Reporting Year: 2015 | 1/2015 - 12/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

Volume from own sources:	+ ?	8	45.040	MG/Yr	+ ?	n/a	Pcnt:	Value:	MG/Yr
Water imported:	+ ?	n/a	0.000	MG/Yr	+ ?				MG/Yr
Water exported:	+ ?	n/a	0.000	MG/Yr	+ ?				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 45.040 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:	
Billed metered:	+ ?	7	42.410	MG/Yr			
Billed unmetered:	+ ?	n/a	0.000	MG/Yr			
Unbilled metered:	+ ?	8	0.310	MG/Yr			
Unbilled unmetered:	+ ?		0.563	MG/Yr	1.25%		MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: ? 43.283 MG/Yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

1.757 MG/Yr

Apparent Losses

					Pcnt:	Value:	
Unauthorized consumption:	+ ?		0.113	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	6	0.432	MG/Yr	1.00%		MG/Yr
Systematic data handling errors:	+ ?		0.106	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 0.650 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 1.107 MG/Yr

WATER LOSSES: 1.757 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 2.630 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	8	15.1	miles
Number of active AND inactive service connections:	+ ?	7	394	
Service connection density:	?		26	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 8 81.0 psi

COST DATA

Total annual cost of operating water system:	+ ?	7	$36,756,178	$/Year	
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	$18.08	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	+ ?	7	$930.90	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 73 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

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Reporting Worksheet

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Water Audit Report for: California American Water - Monterey District - Bishop System (2701882)
Reporting Year: 2016 | 1/2016 - 12/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	7	42.670	MG/Yr	3	-1.00%		MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 43.101 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	7	38.450	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	8	4.670	MG/Yr			
Unbilled unmetered:	5	0.120	MG/Yr		0.120	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 43.240 MG/Yr

Check input values; WATER SUPPLIED should be greater than AUTHORIZED CONSUMPTION

WATER LOSSES (Water Supplied - Authorized Consumption) -0.139 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		0.108	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	6	0.430	MG/Yr		0.430	MG/Yr
Systematic data handling errors:		0.096	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.634 MG/Yr

Check input values; APPARENT LOSSES should be less than WATER LOSSES

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: -0.773 MG/Yr

WATER LOSSES: -0.139 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 4.651 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	16.5	miles
Number of active AND inactive service connections:	7	413	
Service connection density:		25	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 81.0 psi

COST DATA

Total annual cost of operating water system:	7	$301,052	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$16.42	$/1000 gallons (US)
Variable production cost (applied to Real Losses):	5	$1,152.52	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 68 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Variable production cost (applied to Real Losses)
3: Billed metered

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Reporting Worksheet

WAS v5.0

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Water Audit Report for: California American Water - Monterey District - Bishop System (2701882)
Reporting Year: 2017 | 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	7	41.620	MG/Yr	3		○ ◉	-0.360	MG/Yr
Water imported:	n/a	0.000	MG/Yr			◉ ○		MG/Yr
Water exported:	n/a	0.000	MG/Yr			◉ ○		MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 41.980 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	36.440	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	8	3.470	MG/Yr			
Unbilled unmetered:	5	0.010	MG/Yr	○ ◉	0.010	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 39.920 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 2.060 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	0.105	MG/Yr	0.25% ◉ ○		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	6	0.400	MG/Yr	○ ◉	0.400 MG/Yr
Systematic data handling errors:		0.091	MG/Yr	0.25% ◉ ○	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.596 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1.464 MG/Yr

WATER LOSSES: 2.060 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 5.540 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	16.7	miles
Number of active AND inactive service connections:	7	412	
Service connection density:		25	conn./mile main
Are customer meters typically located at the curbstop or property line?		Yes	
Average length of customer service line:			(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	5	77.6	psi

COST DATA

Total annual cost of operating water system:	7	$298,028	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$19.18	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	5	$1,305.93	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 68 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Variable production cost (applied to Real Losses)
3: Billed metered

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Water Audit Report for: California American Water - Monterey District - Bishop System (2701882)
Reporting Year: 2018 | 1/2018 - 12/2018

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

Volume from own sources:	5	41.130	MG/Yr	n/a			Pcnt:	Value:	
Water imported:	n/a	0.000	MG/Yr						MG/Yr
Water exported:	n/a	0.000	MG/Yr						MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 41.130 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	35.090	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	8	3.790	MG/Yr			
Unbilled unmetered:	5	0.010	MG/Yr		0.010	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 38.890 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 2.240 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		0.103	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	5	0.390	MG/Yr		0.390	MG/Yr
Systematic data handling errors:		0.088	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.581 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1.659 MG/Yr

WATER LOSSES: 2.240 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 6.040 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	16.2	miles
Number of active AND inactive service connections:	7	422	
Service connection density:		26	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 77.6 psi

COST DATA

Total annual cost of operating water system:	10	$318,635	$/Year
Customer retail unit cost (applied to Apparent Losses):	10	$20.22	$/1000 gallons (US)
Variable production cost (applied to Real Losses):	7	$990.36	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 65 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

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Water Audit Report for: California American Water - Monterey District - Bishop System (2701882)
Reporting Year: 2019 | 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

									Pcnt:	Value:	
Volume from own sources:	+ ?	5	49.530	MG/Yr	+ ?	n/a					MG/Yr
Water imported:	+ ?	n/a	0.000	MG/Yr	+ ?						MG/Yr
Water exported:	+ ?	5	5.610	MG/Yr	+ ?	n/a					MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 43.920 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:	
Billed metered:	+ ?	7	35.750	MG/Yr			
Billed unmetered:	+ ?	n/a	0.000	MG/Yr			
Unbilled metered:	+ ?	8	2.740	MG/Yr			
Unbilled unmetered:	+ ?	5	0.110	MG/Yr		0.110	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: ? 38.600 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

5.320 MG/Yr

Apparent Losses

					Pcnt:	Value:	
Unauthorized consumption:	+ ?		0.110	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	5	0.380	MG/Yr		0.380	MG/Yr
Systematic data handling errors:	+ ?		0.089	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 0.579 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 4.741 MG/Yr

WATER LOSSES: 5.320 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 8.170 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	8	16.7	miles
Number of active AND inactive service connections:	+ ?	7	410	
Service connection density:	?		25	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 5 77.6 psi

COST DATA

Total annual cost of operating water system:	+ ?	10	$347,006	$/Year	
Customer retail unit cost (applied to Apparent Losses):	+ ?	10	$19.14	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	+ ?	7	$1,334.90	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 65 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

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Water Audit Report for: California American Water - Monterey District Hidden Hills System (2710022)
Reporting Year: 2015 | 1/2015 - 12/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

Volume from own sources:	+ ?	8	43.600	MG/Yr	+ ?	n/a			Pcnt:	Value:
Water imported:	+ ?	n/a	0.000	MG/Yr	+ ?					MG/Yr
Water exported:	+ ?	n/a	0.000	MG/Yr	+ ?					MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 43.600 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:
Billed metered:	+ ?	7	36.980	MG/Yr		
Billed unmetered:	+ ?	n/a	0.000	MG/Yr		
Unbilled metered:	+ ?	8	0.010	MG/Yr		
Unbilled unmetered:	+ ?		0.545	MG/Yr	1.25%	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: ? 37.535 MG/Yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

6.065 MG/Yr

Apparent Losses

					Pcnt:	Value:
Unauthorized consumption:	+ ?		0.109	MG/Yr	0.25%	MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	6	0.374	MG/Yr	1.00%	MG/Yr
Systematic data handling errors:	+ ?		0.092	MG/Yr	0.25%	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 0.575 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 5.490 MG/Yr

WATER LOSSES: 6.065 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 6.620 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	8	20.8	miles
Number of active AND inactive service connections:	+ ?	7	439	
Service connection density:	?		21	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 8 121.0 psi

COST DATA

Total annual cost of operating water system:	+ ?	7	$36,756,178	$/Year	
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	$18.08	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	+ ?	7	$930.90	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 73 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

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Water Audit Report for: California American Water - Monterey District - Hidden Hills System (2710022)
Reporting Year: 2016 | 1/2016 - 12/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<---------- Enter grading in column 'E' and 'J' ---------->

WATER SUPPLIED

	Grading	Value		Master Meter and Supply Error Adjustments Grading	Pcnt:	Value:	
Volume from own sources:	7	40.560	MG/Yr	3	-1.00%		MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr
WATER SUPPLIED:		**40.970**	MG/Yr				

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

	Grading	Value		Pcnt:	Value:	
Billed metered:	7	31.990	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	8	0.070	MG/Yr			
Unbilled unmetered:	5	0.050	MG/Yr		0.050	MG/Yr
AUTHORIZED CONSUMPTION:		**32.110**	MG/Yr			

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

8.860 MG/Yr

Apparent Losses

	Grading	Value		Pcnt:	Value:	
Unauthorized consumption:		0.102	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

	Grading	Value		Pcnt:	Value:	
Customer metering inaccuracies:	6	0.320	MG/Yr		0.320	MG/Yr
Systematic data handling errors:		0.080	MG/Yr	0.25%		MG/Yr
Apparent Losses:		**0.502**	MG/Yr			

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **8.357** MG/Yr

WATER LOSSES: **8.860** MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: **8.980** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

	Grading	Value	
Length of mains:	8	22.1	miles
Number of active AND inactive service connections:	7	453	
Service connection density:		20	conn./mile main
Are customer meters typically located at the curbstop or property line?		Yes	
Average length of customer service line:			

(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

	Grading	Value	
Average operating pressure:	5	121.0	psi

COST DATA

	Grading	Value		
Total annual cost of operating water system:	7	$330,780	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$16.41	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	5	$1,213.05	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 68 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Variable production cost (applied to Real Losses)
3: Billed metered

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Water Audit Report for: California American Water - Monterey District - Hidden Hills System (2710022)
Reporting Year: 2017 | 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	7	43.280	MG/Yr	3		○ ◉	-0.170	MG/Yr
Water imported:	n/a	0.000	MG/Yr			◉ ○		MG/Yr
Water exported:	n/a	0.000	MG/Yr			◉ ○		MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 43.450 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	32.300	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	8	0.070	MG/Yr			
Unbilled unmetered:	5	0.160	MG/Yr	○ ◉	0.160	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 32.530 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

10.920 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	0.109	MG/Yr	0.25% ◉ ○		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	6	0.320	MG/Yr	○ ◉	0.320 MG/Yr
Systematic data handling errors:		0.081	MG/Yr	0.25% ◉ ○	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.509 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 10.411 MG/Yr

WATER LOSSES: 10.920 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 11.150 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	22.5	miles
Number of active AND inactive service connections:	7	454	
Service connection density:		20	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 95.5 psi

COST DATA

Total annual cost of operating water system:	7	$330,769	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$15.80	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	5	$1,331.30	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 68 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Variable production cost (applied to Real Losses)
3: Billed metered

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Water Audit Report for: California American Water - Monterey District - Hidden Hills System (2710022)
Reporting Year: 2018 | 1/2018 - 12/2018

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	40.580	MG/Yr	n/a			MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 40.580 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	32.170	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	8	0.070	MG/Yr			
Unbilled unmetered:	5	0.250	MG/Yr		0.250	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 32.490 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 8.090 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	0.101	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	5	0.320	MG/Yr	0.320	MG/Yr
Systematic data handling errors:		0.080	MG/Yr	0.25%	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.502 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 7.588 MG/Yr

WATER LOSSES: 8.090 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 8.410 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	21.1	miles
Number of active AND inactive service connections:	7	458	
Service connection density:		22	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 95.5 psi

COST DATA

Total annual cost of operating water system:	10	$344,453	$/Year
Customer retail unit cost (applied to Apparent Losses):	10	$17.38	$/1000 gallons (US)
Variable production cost (applied to Real Losses):	7	$1,250.95	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 65 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

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Water Audit Report for: California American Water - Monterey District - Hidden Hills System (2710022)
Reporting Year: 2019 | 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	5	39.840	MG/Yr	n/a			0.000	MG/Yr
Water imported:	n/a	0.000	MG/Yr					MG/Yr
Water exported:	n/a	0.000	MG/Yr					MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 39.840 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	7	30.030 MG/Yr			
Billed unmetered:	n/a	0.000 MG/Yr			
Unbilled metered:	8	0.070 MG/Yr			
Unbilled unmetered:	5	0.050 MG/Yr		0.050	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 30.150 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 9.690 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		0.100 MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	5	0.300 MG/Yr		0.300	MG/Yr
Systematic data handling errors:		0.075 MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.475 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 9.215 MG/Yr

WATER LOSSES: 9.690 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 9.810 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	22.5	miles
Number of active AND inactive service connections:	7	449	
Service connection density:		20	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	5	95.5	psi

COST DATA

Total annual cost of operating water system:	10	$372,550	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$22.20	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	7	$1,419.38	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 65 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

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Water Audit Report for: California American Water - Monterey District Ryan Ranch System (2701466)
Reporting Year: 2015 | 1/2015 - 12/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	8	17.260	MG/Yr	n/a				MG/Yr
Water imported:	n/a	0.000	MG/Yr					MG/Yr
Water exported:	n/a	0.000	MG/Yr					MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 17.260 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	15.450	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	n/a	0.000	MG/Yr			
Unbilled unmetered:		0.216	MG/Yr	1.25%		MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 15.666 MG/Yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

1.594 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		0.043	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	6	0.156	MG/Yr	1.00%		MG/Yr
Systematic data handling errors:		0.039	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.238 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1.356 MG/Yr

WATER LOSSES: 1.594 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 1.810 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	4.7	miles
Number of active AND inactive service connections:	7	199	
Service connection density:		42	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 8 | 82.0 psi

COST DATA

Total annual cost of operating water system:	7	$36,756,178	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$18.08	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	7	$930.90	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 72 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

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Water Audit Report for: California American Water - Monterey District - Ryan Ranch System (2701466)
Reporting Year: 2016 | 1/2016 - 12/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	7	19.070	MG/Yr	3	-1.00%		MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 19.263 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	7	17.530	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	n/a	0.000	MG/Yr			
Unbilled unmetered:	5	0.482	MG/Yr		0.482	MG/Yr

Unbilled Unmetered volume entered is greater than the recommended default value

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 18.012 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

1.251 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		0.048	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	6	0.180	MG/Yr		0.180	MG/Yr
Systematic data handling errors:		0.044	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.272 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 0.979 MG/Yr

WATER LOSSES: 1.251 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 1.733 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	4.9	miles
Number of active AND inactive service connections:	7	210	
Service connection density:		43	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 82.0 psi

COST DATA

Total annual cost of operating water system:	7	$150,938	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$14.32	$/1000 gallons (US)
Variable production cost (applied to Real Losses):	5	$1,200.54	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 67 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Variable production cost (applied to Real Losses)
3: Billed metered

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Water Audit Report for: California American Water - Monterey District - Ryan Ranch System (2701466)
Reporting Year: 2017 | 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

						Pcnt:	Value:	
Volume from own sources:	7	18.690	MG/Yr	3	-1.00%		MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 18.879 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	17.590	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	n/a	0.000	MG/Yr			
Unbilled unmetered:	5	0.472	MG/Yr		0.472	MG/Yr

Unbilled Unmetered volume entered is greater than the recommended default value

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 18.062 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

0.817 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		0.047	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	6	0.180	MG/Yr		0.180	MG/Yr
Systematic data handling errors:		0.044	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.271 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 0.546 MG/Yr

WATER LOSSES: 0.817 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 1.289 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	5.0	miles
Number of active AND inactive service connections:	7	211	
Service connection density:		42	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 82.0 psi

COST DATA

Total annual cost of operating water system:	7	$149,794	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$15.21	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	5	$1,350.75	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 67 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Variable production cost (applied to Real Losses)
3: Billed metered

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Water Audit Report for: California American Water - Monterey District Ryan Ranch System (2701466)
Reporting Year: 2018 1/2018 - 12/2018

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	18.920	MG/Yr	n/a			MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 18.920 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	16.320	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	n/a	0.000	MG/Yr			
Unbilled unmetered:	5	0.250	MG/Yr		0.250	MG/Yr

Unbilled Unmetered volume entered is greater than the recommended default value

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 16.570 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

2.350 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	0.047	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	5	0.160	MG/Yr	0.160	MG/Yr
Systematic data handling errors:		0.041	MG/Yr	0.25%	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.248 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 2.102 MG/Yr

WATER LOSSES: 2.350 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 2.600 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	4.6	miles
Number of active AND inactive service connections:	7	211	
Service connection density:		46	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 82.0 psi

COST DATA

Total annual cost of operating water system:	10	$158,168	$/Year
Customer retail unit cost (applied to Apparent Losses):	10	$16.28	$/1000 gallons (US)
Variable production cost (applied to Real Losses):	7	$1,259.40	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 64 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

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Water Audit Report for: California American Water - Monterey District Ryan Ranch System (2701466)
Reporting Year: 2019 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	11.440	MG/Yr	n/a			MG/Yr
Water imported:	5	6.380	MG/Yr	n/a			MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 17.820 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	16.200	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	n/a	0.000	MG/Yr			
Unbilled unmetered:	5	0.045	MG/Yr		0.045	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 16.245 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

1.575 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	0.045	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	5	0.160	MG/Yr	0.160	MG/Yr
Systematic data handling errors:		0.041	MG/Yr	0.25%	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 0.245 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1.330 MG/Yr

WATER LOSSES: 1.575 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 1.620 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	5.0	miles
Number of active AND inactive service connections:	7	203	
Service connection density:		40	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 82.0 psi

COST DATA

Total annual cost of operating water system:	10	$168,508	$/Year
Customer retail unit cost (applied to Apparent Losses):	10	$17.59	$/1000 gallons (US)
Variable production cost (applied to Real Losses):	7	$1,406.34	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 64 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Water imported
3: Customer metering inaccuracies

E

Appendix E. State Water Resources Control Board Order No. WR-95-10

Order on Four Complaints Filed Against The California-American Water Company

Carmel River
Monterey County

Order No. WR 95-10

JULY 6, 1995

STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

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CITING THE RECORD

When citing evidence in the hearing record, the following conventions have been adopted:

Information derived from the hearing transcript:

T,II,12:1 - 15:17

- T — identifying abbreviation of the information source
- II — hearing transcript volume number
- 12:1 — beginning page and line number
- 15:17 — ending page and line number (may be omitted if single line reference is cited)

Information derived from an exhibit:

SWRCB:5,4

- SWRCB — identifying abbreviation of information source
- 5 — exhibit number
- 4 — page number, volume, table, graph, or figure number; or application number if a file is cited

Abbreviations of information sources:

AC	Archeological Consulting
ACOE	U.S. Army Corps of Engineers
CAL-AM	California American Water Company
CRSA	Carmel River Steelhead Association
CSPA	California Sportfishing Protection Alliance
DISTRICT or MPWMD	Monterey Peninsula Water Management District
DFG	California Department of Fish and Game
ESSELEN TRIBE	Esselen Tribe of Monterey County
ESSELEN NATION	Esselen Nation of United Families of the Central Coast of CA
EVANS	Willis Evans
PARK	Monterey Peninsula Regional Park District
PHBr	Post-Hearing Brief
SWRCB	State Water Resources Control Board
SIERRA CLUB	Ventana Chapter of the Sierra Club
T	Hearing Transcript

Other commonly used abbreviations:

af	Acre-feet
afa	Acre-feet annually
cfs	Cubic feet per second
CEQA	California Environmental Quality Act
gpm	Gallons per minute
RM	River mile, measured from river mouth
USGS	United States Geologic Survey

ORDER FINDING AGAINST RESPONDENT, IN PART, AND DIRECTING CORRECTIVE ACTIONS

SYNOPSIS

The California-American Water Company (Cal-Am) currently diverts water from the Carmel River and supplies the water, primarily, for use outside of the watershed to users on the Monterey Peninsula. Four complaints were filed with the State Water Resources Control Board (SWRCB) against Cal-Am for its diversion of water from the Carmel River. The complaints generally allege that Cal-Am: (a) does not have the legal right to divert water from the river and (b) diversions are adversely affecting public trust resources within the river. The SWRCB concludes that Cal-Am: (a) does not have legal right for about 10,730 acre-feet annually which is currently diverted from the river (about 69 percent of the water currently supplied to Cal-Am users) and (b) diversions are having an adverse affect on the public trust resources of the river. This order directs Cal-Am to: (a) diligently proceed in accord with a time schedule to obtain rights to cover its existing diversion and use of water and (b) implement measures to minimize harm to public trust resources. Measures to minimize harm to public trust resources require Cal-Am to reduce the quantity of water which is currently being pumped from the river. Because water is not available for appropriation by direct diversion in the river during summer months, Cal-Am must either obtain the right to additional water supplies from: (a) sources other than the river, (b) a storage project similar to the New Los Padres (NLP) project proposed by the Monterey Peninsula Water Management District (District), or (c) contract with the District for supply from the proposed NLP project.

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Complaints Against Diversion and Use of Water by the **CALIFORNIA-AMERICAN WATER COMPANY,** Respondent, **CARMEL RIVER STEELHEAD ASSOCIATION, RESIDENTS WATER COMMITTEE, SIERRA CLUB, CALIFORNIA DEPARTMENT OF PARKS AND RECREATION,** Complainants.	)	ORDER: WR 95-10 SOURCE: Carmel River Tributary to Pacific Ocean COUNTY: Monterey

ORDER FINDING AGAINST RESPONDENT, IN PART, AND DIRECTING CORRECTIVE ACTIONS

BY THE BOARD:

Complaints having been filed against Cal-Am for its diversion and use of water from the Carmel River by Carmel River Steelhead Association, Residents Water Committee, Sierra Club, and Department of Parks and Recreation; a hearing having been held on August 24, 25, 26, 31, September 1, 8, and 9, October 19 and 21, and November 7, 8, and 22, 1994; the complainants, Cal-Am, and other interested persons having been provided opportunity to present evidence; closing briefs having been filed; the evidence and briefs having been duly considered; the Board finds as follows:

1.0 CAL-AM, CAL-AM FACILITIES AND CAL-AM OPERATIONS

Cal-Am is an investor-owned public utility subject to the jurisdiction of the California Public Utilities Commission. (T,Sept. 9, 1992, 95:1-95:7; T,I,49:14-49:22.) Cal-Am currently diverts about 14,106 afa of water from the Carmel River and

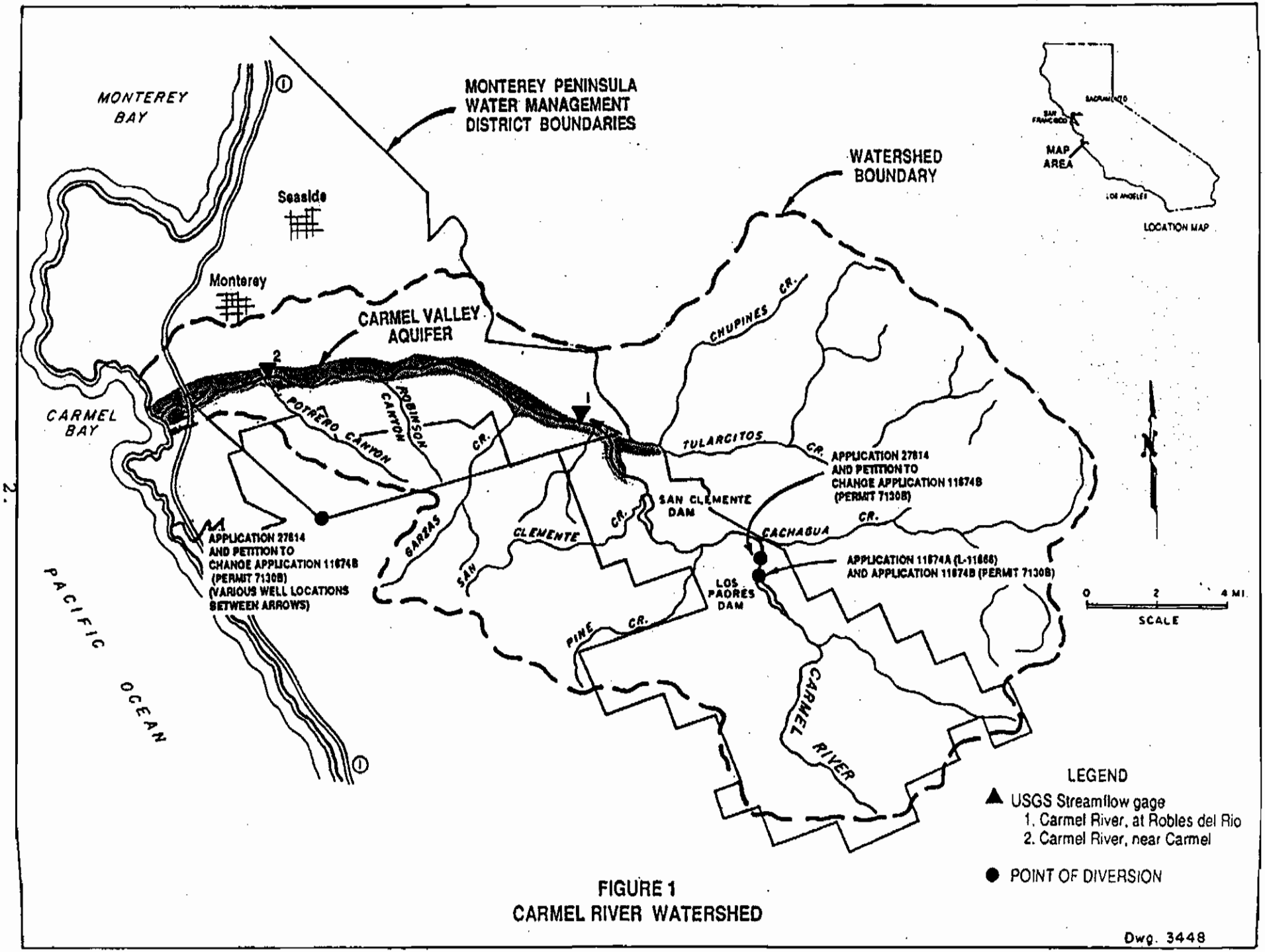


FIGURE 1
CARMEL RIVER WATERSHED

Dwg. 3448

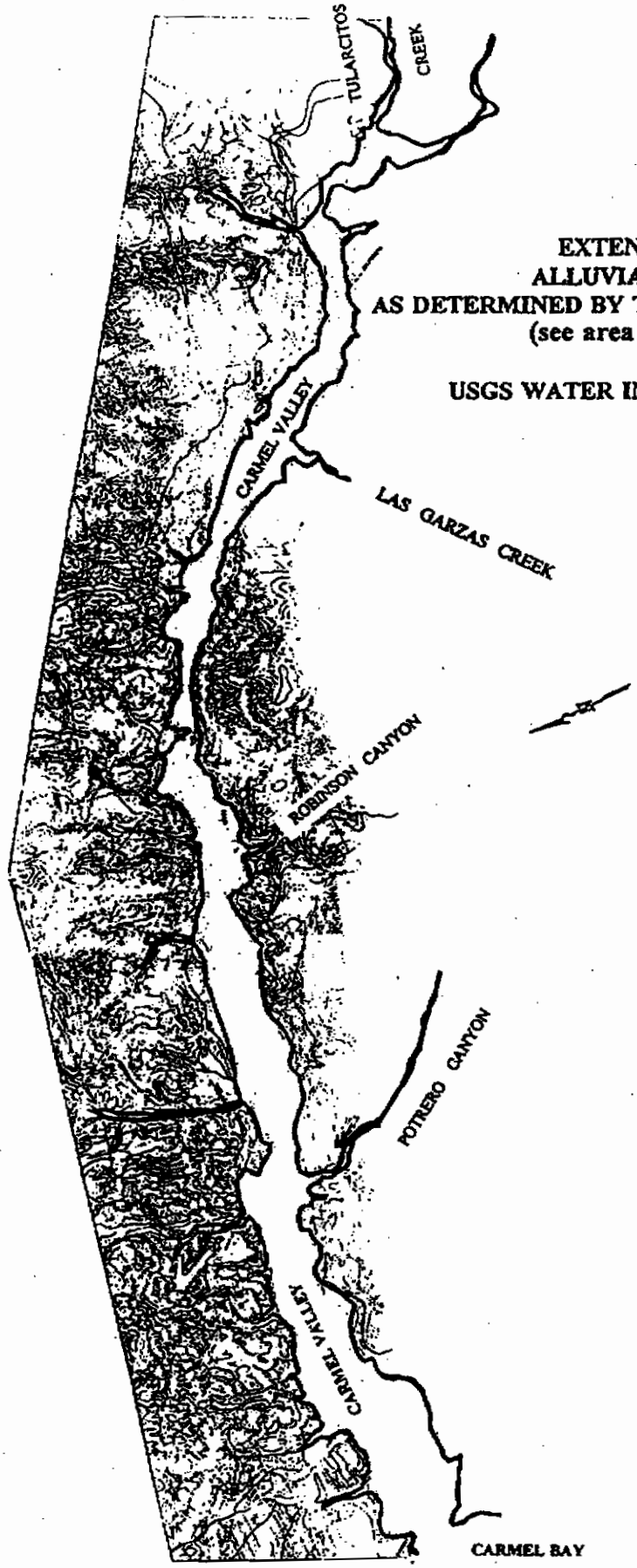


FIGURE 2

EXTENT OF CARMEL VALLEY ALLUVIAL GROUNDWATER BASIN AS DETERMINED BY THE U.S. GEOLOGICAL SURVEY (USGS) (see area defined by the bold lines)

USGS WATER INVESTIGATIONS REPORT 83-4280
JUNE 1984

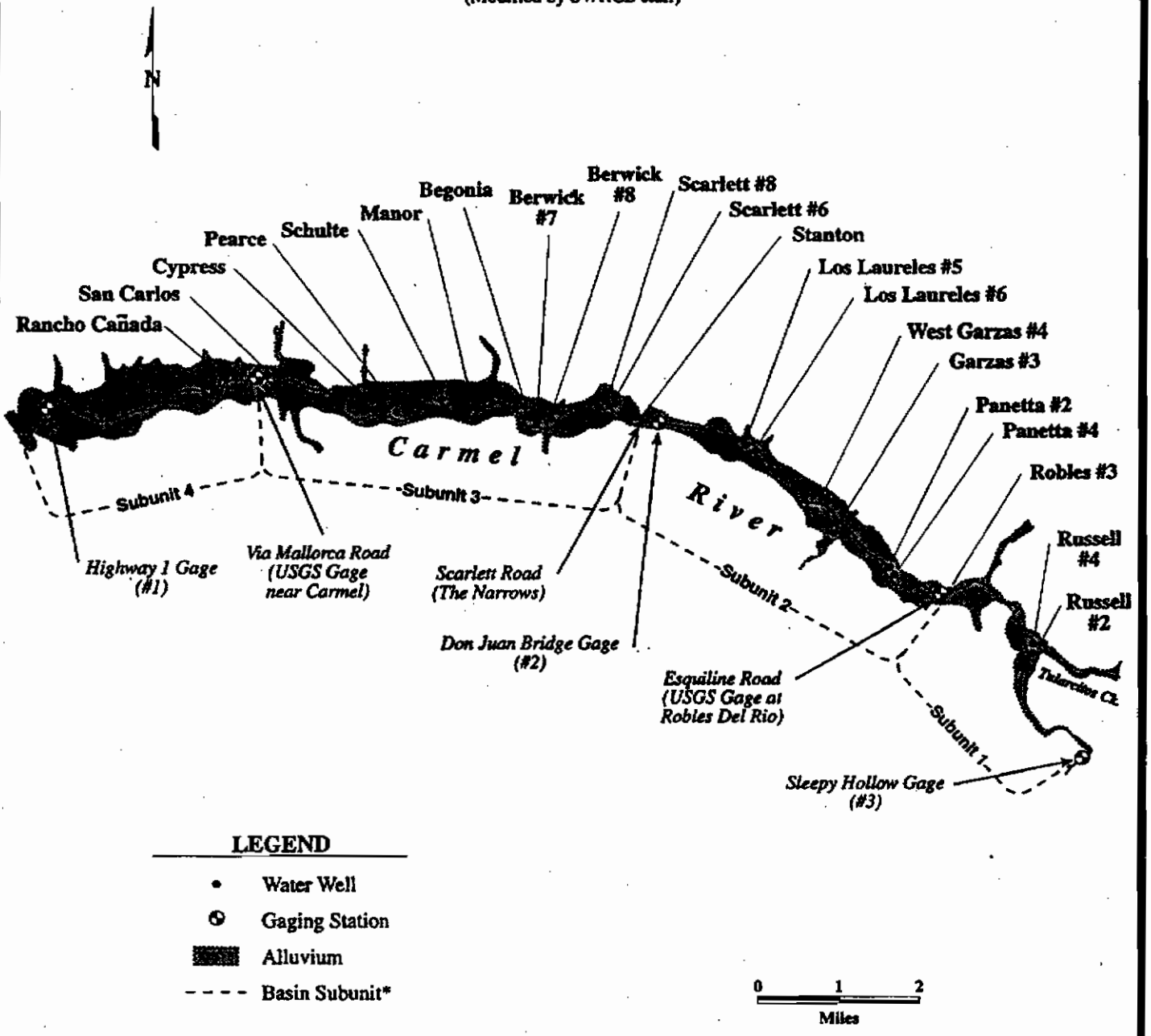
THE CARMEL RIVER (NOT SHOWN) FLOWS THROUGH CARMEL VALLEY

1 2 Miles
Scale

FIGURE 3

ALLUVIAL GROUNDWATER BASIN SHOWING THE LOCATION OF THE CALIFORNIA-AMERICAN WATER COMPANY WELLS

Information obtained from MPWMD Exhibit 287 - Figure 7-2
(Modified by SWRCB staff)

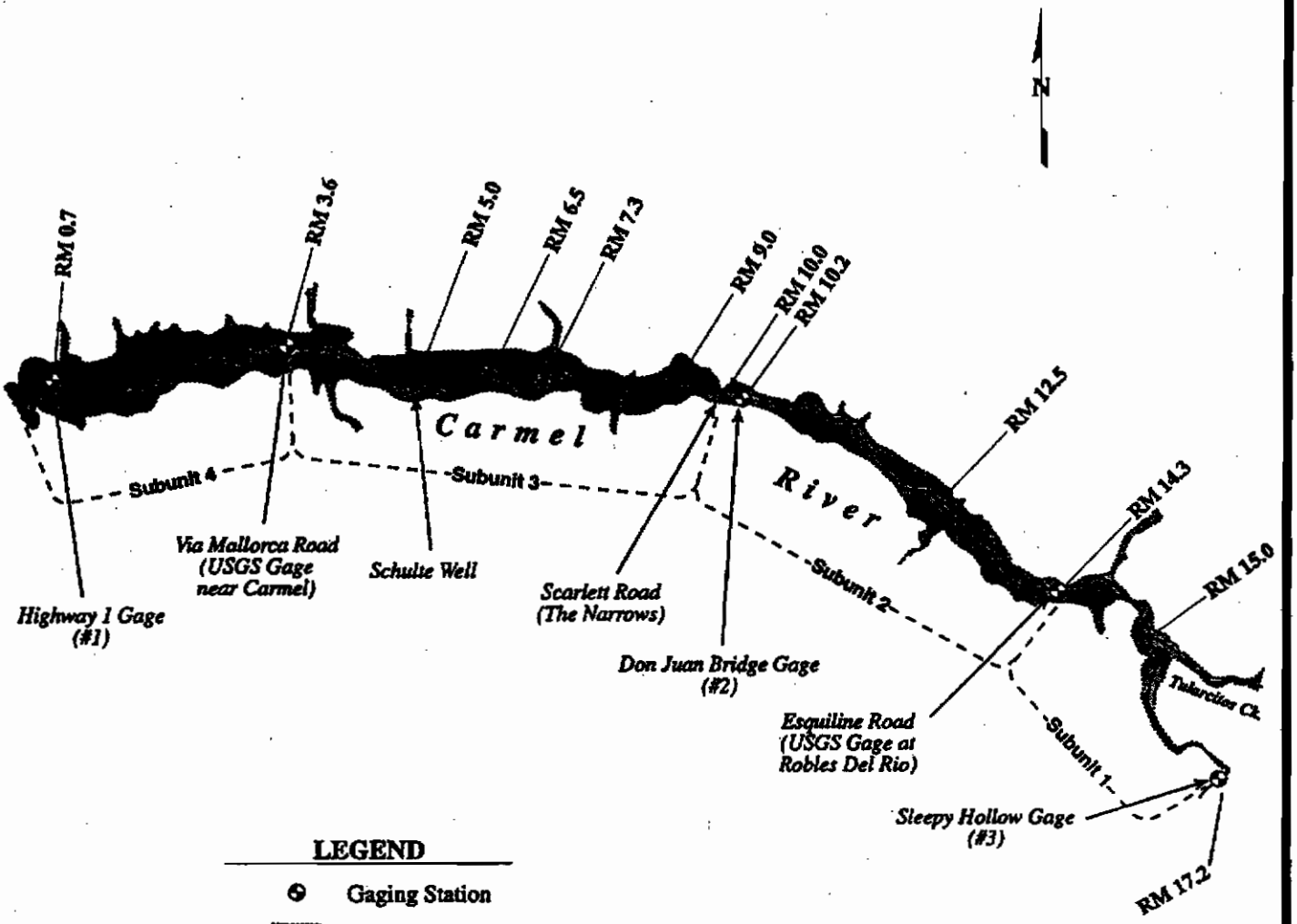


* Subunits 1-4 form the Carmel Valley Groundwater Basin. The subunit boundaries are: 1. Via Mallorca Road (USGS Gage Near Carmel), 2. Scarlett Road (The Narrows), 3. Esquiline Road (USGS Gage at Robles Del Rio), 4. Sleepy Hollow Gage.

Streamgaging will occur at the Highway 1 Gage (#1), Don Juan Bridge Gage (#2), and Sleepy Hollow Gage (#3).

FIGURE 4

ALLUVIAL GROUNDWATER BASIN
IDENTIFYING RIVER MILES (RM)



* Subunits 1-4 form the Carmel Valley Groundwater Basin. The subunit boundaries are: 1. Via Mallorca Road (USGS Gage Near Carmel), 2. Scarlett Road (The Narrows), 3. Esquiline Road (USGS Gage at Robles Del Rio), 4. Sleepy Hollow Gage.

Streamgaging will occur at the Highway 1 Gage (#1), Don Juan Bridge Gage (#2), and Sleepy Hollow Gage (#3).

supplies the water, primarily, for use outside of the watershed to users on the Monterey Peninsula.[1] About 105,000 persons are provided service by Cal-Am, most are supplied water from the Carmel River. (T,I,48:1-48:18.)

The primary source of water supply for Cal-Am customers is 21 wells situated on the lower Carmel River. (CAL-AM:91.) These wells supply about 69 percent of the water needs of Cal-Am customers. The balance of the water delivered to Cal-Am customers is supplied from: (1) San Clemente and Los Padres reservoirs in the upper reaches of the Carmel River and (2) pumped ground water in the City of Seaside.[2] (T,I,131:1-19.)

San Clemente Dam has a storage capacity of approximately 2,140 af. Water is stored in this facility under claim of pre-1914 appropriative right.[3] (Statement of Water Diversion and Use No. 8538.) Los Padres Dam is operated pursuant to License 11866 (Application 11674) and authorizes maximum annual withdrawal of 2,950 af. Stored water is released from Los Padres to the river and it is rediverted for use at San Clemente Dam. (T,I,130:16-24.) Sedimentation has reduced the combined usable storage at the

---

[1] *Cal-Am supplies about 17,000 af during a normal year . This estimate is obtained by adding the 2,700 af which is supplied from the wells in Seaside (T,I,131:1-19) to the 14,106 af which is obtained from the Carmel River. (CAL-AM:90.) The 14,106 af represents the recent average, non-drought use (average use from 1979 through 1988, based upon Cal-Am Exhibit 90). (14,106 + 2,700 = 16,806 af, or approximately 17,000 afa.)*

[2] *In addition to supplies from the Carmel River and pumped ground water in the area of Seaside, reclaimed wastewater is available to some Cal-Am users from the Carmel Area Wastewater District/Pebble Beach Community Services District Wastewater Reclamation Project. The Project will provide 800 acre-feet of reclaimed water for the irrigation of golf courses and open space in the Del Monte Forest. In return for financial guarantees, the Pebble Beach Company and other sponsors, received a 380 af potable water entitlement from the District, based upon issuance of an appropriative right permit to the District, for development within Del Monte Forest. As of the end of fiscal 1993-1994, the District had not allocated the remaining 420 af of project yield. (MPWMD,337,25.)*

[3] *Diversion at San Clemente Dam was the sole supply for the Monterey Peninsula until the 1940s when wells at the upper end of the Carmel Valley began producing water to meet summer demand (SWRCB:1, A-27614, Folder 6A).*

reservoirs to about 2,600 af, about one-half of their combined original capacity. The reservoirs supply about 15 percent of Cal-Am's estimated normal year customer demand. (MPWMD:106,7.) Finally about 2,700 afa is produced from wells in Seaside, California.

2.0 COMPLAINTS

Between 1987 and 1991, the SWRCB received four complaints regarding Cal-Am's operations in the Carmel River watershed. The complaints are summarized below:

2.1 Carmel River Steelhead Association (CRSA)

On July 27, 1987 CRSA filed a complaint alleging that Cal-Am diversions from the underflow of the Carmel River are unauthorized and are destroying the public trust resources of the river, including steelhead. As a possible solution, the CRSA recommended rescue and rearing in ponds of fish stranded by the unauthorized diversions, irrigation of riparian vegetation affected by the unauthorized diversions, and release of more water from San Clemente Dam for rediversion through wells downstream. (SWRCB,1,a, Complaint File, Monterey Co., 27-01; CSRA:10,35-28.)

2.2 Resident's Water Committee (RWC)

On August 9, 1989 RWC filed a complaint with the Public Utilities Commission alleging that the supply of water needed to serve Cal-Am's customers exceeded available supply.[4] RWC also alleges that Cal-Am diversions from the Carmel River will reduce steelhead in the Carmel River to remnant levels. RWC recommends that Cal-Am be prohibited from serving new customers until an additional supply of water is obtained. (SWRCB:1, A-27614, Folder G.)

2.3 Ventana Chapter of the Sierra Club (Sierra Club)

On March 5, 1991, the Sierra Club filed a complaint alleging: (1) Cal-Am's pumping from the subsurface flow of the Carmel River

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[4] *A copy of the complaint was received by the SWRCB around the same time.*

is unauthorized and (2) Cal-Am's diversion from San Clemente Reservoir during low-flow periods is an unreasonable method of diversion. The Sierra Club's proposed solution includes the following: (1) Cal-Am should be enjoined from diverting water during periods of low flow, (2) Cal-Am and Water West should apply for appropriative water rights from the SWRCB, (3) Cal-Am and Water West should be required to pay for development and implementation of a program to restore public trust resources affected by their diversions,[5] and (4) Cal-Am should be required to release all diversions at San Clemente Reservoir down the Carmel River for collection at downstream wells, instead of diverting water at San Clemente. (SWRCB:1,A-27614, Folder J.)

2.4 California Department of Parks and Recreation (DPR)

On March 8, 1991, DPR filed a complaint alleging that Cal-Am's diversion of water from the underflow of the Carmel River is: (1) unauthorized, (2) results in mortality to mature riparian forests along a 4,000-foot length of river within the Carmel River State Beach, and (3) interferes with DPR's riparian right to divert water from the Carmel River for irrigation purposes. DPR's proposed solution is for Cal-Am to apply for an appropriative water right with the SWRCB and be subject to conditions to protect riparian, wetland, and aquatic resources in the lower Carmel River, and lagoon and riparian rights along the lower Carmel River. (SWRCB:1, A-27614, Folder J.)

2.5 Monterey Peninsula Water Management District

On May 5, 1992, the District petitioned to intervene in the complaints against Cal-Am because of its interest in assuring an appropriate balance between competing demands for the use of the limited water supply. (SWRCB:1, A-27614, Folder K.)

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[5] *Water West is a water company owned by Cal-Am. Water West has rights to divert and use water at about one-half mile below San Clemente Dam. The complaint was directed at only Cal-Am's diversions. Although Water West is not a party to this proceeding, its diversions are analyzed as diversions under the control of Cal-Am.*

2.6 Interested Persons

In addition to the complainants and the District, other persons participated in the hearing. Participation was directed at the effect Cal-Am diversions were having on the instream resources of the Carmel River and measures which might be taken to mitigate such effects. Such participants included the DFG, Willis Evans, John Williams, Charity Crane and others appearing on their own behalf.

3.0 DESCRIPTION OF THE WATERSHED

The Carmel River drains a 255-square mile watershed tributary to the Pacific Ocean. Its headwaters originate in the Santa Lucia Mountains at 4,500 to 5,000-foot elevations, descend and merge with seven major stream tributaries along a 36-mile river course, and discharge into Carmel Bay about 5 miles south of the City of Monterey. Above the confluence of Tularcitos Creek, the Carmel River constitutes about 65 percent of the watershed. Downstream from RM 15, the river has a 40 feet per mile gradient where the river flows to the bay are over and within an alluvium-filled Carmel Valley floor.

Carmel River flow is in a well-defined channel. The channel in the lower 15 river miles ranges from 20 to 150 feet wide. (SWRCB:19.) The channel changes progressively from cobble to gravel between RM 15 and RM 7, from gravel to sand between RM 7 and RM 2.5 and consists entirely of sand from RM 2.5 to Carmel Bay. (DFG:4,2.)

Downstream from RM 15, alluvial deposits comprise a ground water basin which underlies the river flow in the Carmel Valley portion of the watershed. The legal classification of the ground water basin is discussed in Section 3.2 *infra*. Local ground water levels within the aquifer are influenced by pumping or production at supply wells, evapotranspiration by riparian vegetation, seasonal river flow infiltration and subsurface inflow and outflow.

During the dry season, pumping of wells has caused significant declines in the ground water levels. The Carmel River surface flow

decreases due to pump-induced infiltration which recharges the seasonally-depleted ground water basin. During normal water years, surface flow in the lower Carmel Valley is known to become discontinuous or non-existent. Downstream from RM 3.2, there was no river runoff between April 1987 and March 1991. (MPWMD:287, 2-8.)

3.1 Geologic Setting

The principal hydrogeologic units (from oldest to youngest) along the Carmel River alluvial basin that are significant include: (1) pre-tertiary metamorphic and igneous rocks, (2) tertiary sedimentary rocks comprised primarily of sandstone beds (Paleocene and Miocene age) and Monterey shale (Miocene age), (3) older alluvium (Pleistocene age), and (4) younger alluvium (Holocene age). (SWRCB:19.)

Metamorphic (mainly schist and gneiss) and igneous (granitic) rocks form the basement complex which is extensively exposed along or near the river upstream from RM 10 at the downstream extremity of the river narrows. Tertiary sandstone units, which overlie the basement rocks, are exposed primarily along the southern flank of the alluvial valley from about RM 1.5 to 3 and 5.5 to 12.5. The Monterey Shale formation overlies the sandstone. It is exposed extensively along the north side of the Carmel Valley alluvium from approximately RM 2 to 12 and surficially borders the southern side of the valley from about RM 3 to 5.5 (in the vicinity of Potrero Canyon) and RM 14.5 to 15.5 (in the community of Carmel Valley). The older alluvium, consisting mainly of gravel and sand, form remnant terraces which directly overlie the Monterey shale and/or basement complex rocks. These terraces are laterally discontinuous patches along the north side of the valley alluvium from RM 1 to 16 and along both sides from about RM 16.5 to 18. The basement complex and the shale formation are considered to be non-water bearing. The sandstone has no subsurface hydrologic significance and the older alluvium is found on terraces above the level of ground water. (SWRCB:19.)

The younger alluvium, which formed the valley floor, consists principally of boulders, cobbles, gravel, and sand (which contains silt and clay layers of limited horizontal and vertical extent downstream from the river narrows). This alluvium was deposited by river flows (along the lowermost 18 miles of the drainage basin) within a canyon that was incised (by earlier flows) into the shale formation, sandstone units, and basement complex rocks. Its thickness varies from less than a foot at RM 18 to approximately 200 feet in the vicinity of the river mouth. These deposits comprise the most important aquifer in Carmel Valley (MPWMD:105,3) because of their ability to transmit significant amounts of subsurface water to wells.

3.2 Physical (Hydrologic) Characteristics of the Carmel Valley Aquifer

Carmel River surface flow is generally within the well-defined 20- to 150-foot wide channel over the alluvial deposits that form the valley floor. These deposits are the younger alluvium that comprise the Carmel Valley aquifer.

On behalf of the District, Thomas M. Stetson reviewed District Exhibit 108 and SWRCB Exhibits 19, 24, 27, and 29 in connection with his evaluation of the physical aspects of the subsurface water in Carmel Valley. Mr. Stetson also reviewed hydrographs of Carmel Valley aquifer water levels obtained at numerous wells. (MPWMD:107.) In addition, he reviewed Carmel River streamflow hydrographs for the USGS Robles Del Rio and Carmel gaging stations. By superimposing surface and subsurface water level hydrographs, Mr. Stetson established that there is a direct relationship between recovery of seasonally-lowered subsurface water levels at wells and recurrent river flow increases during ensuing wet periods. On this basis, Mr. Stetson concluded that surface flow recharges river underflow and, consequently, causes a rise in Carmel Valley aquifer water levels. (MPWMD,107,4.)

Mr. Stetson provided written testimony that such underflow is only through the younger alluvium within a known and definite channel

along the entire length of Carmel Valley. (MPWMD:107,4.) Mr. Stetson supported his testimony utilizing the following information: (1) essentially nonwater-bearing rocks (described in Section 3.1) border and underlie the younger alluvium or Carmel Valley aquifer and (2) the average hydraulic conductivity of the younger alluvium is about 60 feet per day (ft/day), as compared to the hydraulic conductivity of the rocks which is in the order of 0.1 to 0.0001 ft/day or less. (MPWMD:107,6.) Mr. Stetson concluded that the hydraulic conductivity difference is substantial and renders the aquifer a "pipeline" for subsurface flow. (MPWMD:107,6.)

Mr. Stetson's testimony is consistent with the findings of SWRCB staff. Ms. Laudon submitted testimony and evidence that the relatively impermeable granitic and sedimentary rocks form the bed and banks of a known and definite channel which restricts the flow of subsurface water to the alluvium. (SWRCB:7&8.) This information is further supported by evidence regarding the subsurface occurrence of granitic or sedimentary rocks beneath the Carmel Valley aquifer at all well installations throughout the valley.

Except where water levels have been influenced by drawdown due to pumping, the general down valley or westerly subsurface flow direction within the aquifer is the same as that of the Carmel River flow. The subsurface flow has a pattern which demonstrates that it is within a known and definite channel rather than that of a diffused body of percolating ground water. (MPWMD:107,6.)

Cal-Am and other parties did not contest the testimony and evidence which describes the subsurface flow of the Carmel River as a subterranean stream flowing through a known and definite channel. Nor did Cal-Am or other parties offer evidence that the ground water in the alluvial basin should be classified as percolating ground water not within the SWRCB's permitting jurisdiction. Accordingly, we find that downstream of RM 15 the aquifer underlying and closely paralleling the surface water course of the

Carmel River is water flowing in a subterranean stream and subject to the jurisdiction of the SWRCB.

3.3 Location of Cal-Am Wells

The locations of Cal-Am's wells are described in the following table:

CAL-AM CARMEL RIVER WELLS (CAL-AM EXHIBIT 91)			
Well Name	*Well Location*	*Depth To Water Static/ Pumping*	*Date Drilled*
Los Laureles #5	NE¼ of SE¼ of Sect.29,T16S,R2E	18 feet/44 feet	1947
Los Laureles #6	SE¼ of SE¼ of Sect.29,T16S,R2E	16 feet/43 feet	1977
Robles #3	NE¼ of NE¼ of Sect.10,T17S,R2E	12 feet/30 feet	1989
Russell #4	SW¼ of SE¼ of Sect.11,T17S,R2E	16 feet/35 feet	1947
Russell #2	SE¼ of SE¼ of Sect.11,T17S,R2E	16 feet/35 feet	1947
Scarlett #6	SW¼ of SW¼ of Sect.19,T16S,R2E	20 feet/26 feet	1963
Scarlett #8	SW¼ of SW¼ of Sect.19,T16S,R2E	20 feet/35 feet	1989
Manor #2	NE¼ of SW¼ of Sect.23,T16S,R1E	30 feet/65 feet	1989
Schulte	SW¼ of NW¼ of Sect.23,T16S,R1E	15 feet/58 feet	1967
Stanton	NW¼ of NE¼ of Sect.30,T16S,R2E	3 feet/35 feet	1977
Begonia #2	NW¼ of SW¼ of Sect.24,T16S,R1E	not listed	1990
Berwick #7	SW¼ of SW¼ of Sect.24,T16S,R1E	23 feet/63 feet	1981
Berwick #8	SE¼ of SW¼ of Sect.24,T16S,R1E	20 feet/50 feet	1986
Rancho Cañada (aka Cañada)	NE¼ of SW¼ of Sect.17,T16S,R1E	15 feet/49 feet	1981
San Carlos	NE¼ of SE¼ of Sect.17,T16S,R1E	16 feet/55 feet	1982
Pearce	SE¼ of NW¼ of Sect.22,T16S,R1E	16 feet/50 feet	1981
Cypress	SW¼ of NW¼ of Sect.22,T16S,R1E	15 feet/48 feet	1981
Continued to next page			

CAL-AM CARMEL RIVER WELLS (CAL-AM EXHIBIT 91)			
Well Name	*Well Location*	*Depth To Water Static/ Pumping*	*Date Drilled*
Continued from previous page			
Panetta #1	NW¼ of NW¼ of Sect.03,T17S,R2E	13 feet/16 feet	1989
Panetta #2	NW¼ of NW¼ of Sect.03,T17S,R2E	16 feet/22 feet	1989
Garzas #3	SW¼ of SE¼ of Sect.33,T16S,R2E	13 feet/16 feet	1989
Garzas #4	NE¼ of SW¼ of Sect.33,T16S,R2E	12 feet/16 feet	1989

In addition, the location of these wells in relation to the Carmel River and the aquifer associated with the river is shown by Figure 3. The depth to water for each well is identified in the above table. Figure 3 and the table demonstrate that Cal-Am's wells are extracting water from the subterranean stream associated with the Carmel River.

4.0 ANALYSIS OF CAL-AM'S WATER RIGHTS

Among the issues noticed for hearing is the following:

> "Does [Cal-Am] have a legal right to divert water from wells located adjacent to the Carmel River?" (SWRCB 1, June 1992 Hearing Notice.)

Cal-Am extracts, on average, 14,106 afa via 21 wells from the alluvial aquifer along the Carmel River. Cal-Am claims the right to divert and use this water under pre-1914 appropriative, riparian, prescriptive, and rights acquired under License 11866. (CAL-AM:92,1,10-27; October 1, 1992 letter to SWRCB from Cal-Am transmitting supplemental exhibits.) During the hearing, Cal-Am's representatives presented testimony and numerous exhibits in support of its claimed rights to divert water from the river. The following sections analyze Cal-Am's rights to divert and use water from the Carmel River.

4.1 Applicable Water Law

The following sections set forth the law applicable to the water rights claimed by Cal-Am.

4.1.1 *Pre-1914 Appropriative Rights*

Prior to 1914, an appropriative right for the diversion and use of water could be obtained two ways.[6] First, one could acquire a nonstatutory (common law) appropriative right by simply diverting water and putting it to beneficial use. (Haight v. Costanich (1920) 194 P. 26, 184 Cal. 426.) Second, after 1872, a statutory appropriative right could be acquired by complying with Civil Code Sections 1410 et seq. (*Id.*) Under the Civil Code, a person wishing to appropriate water was required to post a written notice at the point of intended diversion and record a copy of the notice with the County Recorders Office which stated the following: the amount of water appropriated, the purpose for which the appropriated water would be used, the place of use, and the means by which the water would be diverted. (Cal. Civil Code Sections 1410-1422, now partially repealed and partially reenacted in the Water Code; Wells A. Hutchins, The California Law of Water Rights (1956) at 89.)

Generally, the measure of an appropriative right is the amount of water that is put to reasonable beneficial use, plus an allowance for reasonable conveyance loss. (Felsenthal v. Warring (1919) 40 Cal.App. 119, 133, 180 P. 67.) The quantity of water to which an appropriator is entitled, however, is not necessarily limited to the amount actually used at the time of the original diversion. Rather, under the doctrine of "progressive use and development", pre-1914 appropriations may be enlarged beyond the original appropriation. (Haight, 194 P. 26 at 28-29; Hutchins at 118; 62 Cal.Jur. at 370.)

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[6] *After 1914, an appropriative right could only be obtained by complying with the provisions of the California Water Code for the appropriation and use of water. (Water Code Section 1225; Stats. 1913, C. 586, p. 1012, Section 1(c).)*

Under the progressive use and development doctrine, the quantity of water to which an appropriator is entitled is a fact-specific inquiry. According to Haight, "this right to take an additional amount of water reasonably necessary to meet increasing needs is not unrestricted; the new use must have been within the scope of the original intent, and additional water must be taken and put to a beneficial use in keeping with the original intent, within a reasonable time by the use of reasonable diligence...." (194 P. at 29.) Thus, the progressive use and development doctrine allows an appropriator to increase the amount of water diverted under a pre-1914 right, provided: (a) the increased diversion is in accordance with a plan of development and (b) the plan is carried out within a reasonable time by the use of reasonable diligence. (Senior v. Anderson (1896) 115 Cal. 496, 503-504, 47 P. 454; Trimble v. Heller (1913) 23 Cal.App. 436, 443-444, 138 P. 376.)

4.1.2 *Riparian Rights*

The riparian doctrine confers on the owner of land abutting a watercourse the right to the reasonable and beneficial use of water on the land. California riparian rights have the following general characteristics. The riparian right is part and parcel of land which abuts a river, stream, lake, or pond. The riparian right may be used only for direct diversion of naturally occurring flow. Unless adjudicated, the riparian right is unquantified and extends to the use of as much water as can reasonably and beneficially be used on riparian lands. A riparian right is a shared right and, therefore, a riparian has a right to the use of the watercourse in common with the equal and correlative rights of other riparians. Finally, the riparian right generally is paramount to all other rights, and must be satisfied before appropriative rights are exercised. (CEB Manual, Water Rights, Water Supply, & Water Related Law (1987) at 7.)

4.1.3 *Prescriptive Rights*

Generally, "prescription" means the taking of another person's property by adverse use. With regard to water, prescription can only be accomplished by the adverse diversion and use of water that

other private persons are entitled to use under the law. Subsequent to 1914, prescription will not lie against the State for the unappropriated waters of the State. (Water Code Sections 102 and 1225; Stats. 1913, C. 586, p. 1012, Section 1(c); Crane v. Stevinson (1936) 5 Cal.2d 387; People v. Shirokow (1980) 26 Cal.3d 301.)

As to private persons, prescription can be accomplished only by adverse possession that is actual, open and notorious, continuous and uninterrupted, exclusive, hostile and adverse, and under claim of right or color of title for a period of not less than five years. (Locke v. Yorba Irr. Co. (1950) 35 Cal.2d 205; City of Pasadena v. City of Alhambra (1949) 33 Cal.2d 908.) Even though some private rights may be prescripted, the unappropriated waters of the State and post-1914 appropriative water rights cannot be prescripted unless they are supported by a permit. (Shirokow.)

4.1.4 *Licenses*

Under the California permit system, once a permittee has completed construction of a diversion structure and applied the water to beneficial use, the SWRCB investigates to confirm completion and compliance. The SWRCB will issue a license confirming the amount of water found to have been perfected by reasonable beneficial use subject to the terms and conditions included in the permit and required by statute and California case law. (Water Code Sections 1600, et seq.)

4.2 Analysis of Cal-Am's Water Right Claims

Sections 4.2.1 though 4.2.4, *infra*, analyze the evidence introduced in support of Cal-Am's claimed water rights. For purposes of this order when evaluating Cal-Am's claims, the evidence in the hearing record is considered in the light most favorable to Cal-Am due to the difficulty, at this date, of obtaining evidence that specific pre-1914 appropriative claims of right were actually perfected and have been preserved by continuous use.

4.2.1 *Analysis of Pre-1914 Appropriative Rights*

The lower Carmel River Valley, Monterey Peninsula, and surrounding areas were settled and developing before 1800. Many of Cal-Am's predecessors in interest developed or acquired appropriative water rights to divert water from the Carmel River and its subsurface waters prior to 1914. (CAL-AM:93, Attachment 1.) Cal-Am's predecessors in interest included: C.P. Huntington, Pacific Improvement Company, Monterey County Water Works, the Monterey County Water Works, Del Monte Properties Co., and California Water and Telephone Company. (*Id.*) Some of these appropriative rights were initiated and probably acquired in accordance with Civil Code Sections 1410, et seq. Other appropriative rights were acquired by the nonstatutory method of simply taking the water and putting it to reasonable beneficial use. (See 4.1.1, *supra*.)

Cal-Am submitted over 100 documents, including deeds and notices of appropriations by Cal-Am's predecessors, "which represent virtually all title documents bearing upon Cal-Am's water rights and chain of title." (CAL-AM, PHBr at 14:15-18.) Cal-Am Exhibit 93 (Attachment 1) summarizes the deeds and notices of appropriation pertaining to Cal-Am's appropriative rights. Nevertheless, Cal-Am did not present nor does the record contain any evidence which would enable the SWRCB to determine for each claimed pre-1914 appropriative right:[7] (1) whether diversion works were actually constructed, (2) whether water was ever diverted and used under any claimed right prior to 1914 or pursuant to a notice given in accordance with Civil Code Section 1410, or (3) the quantity of water which was put to reasonable beneficial use and maintained by continuous use by Cal-Am's predecessors.

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[7] *Despite the fact that Issue #2 was clearly noticed for hearing, Cal-Am asserted throughout the proceedings that the complaint proceedings were not the proper forum to evaluate Cal-Am's appropriative rights. (October 1, 1992 letter to Messrs. Stubchaer and Samaniego from Leonard G. Weiss transmitting supplemental exhibits at 1, n.1; CAL-AM Post-Hearing Brief, 13:14-18.) Nonetheless, Cal-Am submitted extensive evidence of its water rights based on deeds, notices of appropriation, and other documents.*

Cal-Am submitted two categories of documents to establish the total quantity of water used under all of its pre-1914 appropriative rights. These are:

> "(1) Direct evidence of actual usage in 1913 and earlier; and (2) Material dating back to the 1880s which demonstrate ... the existence of the water company's physical plant, dollar volumes of sales, and the like, prior to 1914." (CAL-AM, PHBr at 15:6-11; October 1, 1992 letter to SWRCB from Cal-Am transmitting supplemental exhibits.)

Several parties objected to the admissibility of the above exhibits on the ground that they are hearsay. (E.g., Carmel Valley Water Users, Closing Brief, 5-8.)

Title 23, California Code of Regulations, Section 761(d) provides, in part, that in a hearing before the SWRCB:

> "The hearing need not be conducted according to technical rules relating to evidence and witnesses. Any relevant, non-repetitive evidence shall be admitted *if it is the sort of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs.* Hearsay evidence may be used for the purpose of supplementing or explaining any direct evidence but shall not be sufficient by itself to support a finding *unless it would be admissible over objection in civil actions* ...." (Emphasis added.)

Cal-Am exhibits are admissible under Section 761(d) because: (a) it is the sort of evidence on which responsible persons are accustomed to rely and (b) the exhibits would likely be admissible over objection in a civil action.[8] Moreover, these exhibits

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[8] *The SWRCB is of the opinion that those exhibits pertaining to proceedings of the California Railroad Commission would be admissible over objection in a civil trial. It is difficult to find a clear statement in the California Evidence Code or cases specifically addressing this evidentiary issue. However, there are multiple theories, including: the official notice doctrine, the official records exception to the hearsay rule, and other "residual" exceptions to the hearsay rule that support this conclusion.*

Official notice may be taken of the existence of any specific record of the California Railroad Commission. While official notice generally may not be taken of the truth of the Railroad Commission's factual findings (see Sosinsky v. Grant (1992) 8 Cal.Rptr.2d 552, 558-59), the factual statements within such exhibits are admissible under the official records exception to

(continued...)

likely are the best, if not the only, evidence available for events which occurred over eighty years ago. Thus, the SWRCB will allow Cal-Am's exhibits as evidence for the purpose of evaluating its pre-1914 appropriative claims.

These documents, however, do not show the amount of water that was actually used beneficially or maintained by continuous beneficial use by Cal-Am's predecessors under any specific pre-1914 appropriative rights. Thus, Cal-Am has not demonstrated that the

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[8] *(...continued)*
the hearsay rule. Section 1280 of the Evidence Code provides:

> *"Evidence of a writing made as a record of an act, condition, or event is not made inadmissible by the hearsay rule when offered to prove the act, condition, or event if:*
>
> *(a) The writing was made by and within the scope of duty of the public employee;*
>
> *(b) The writing was made at or near the time of the act, condition, or event; and*
>
> *(c) The sources of information and method and time of preparation were such as to indicate its trustworthiness."*

In this case, those exhibits pertaining to proceedings of the California Railroad Commission generally satisfy the requirements of Section 1280. However, some courts have held that the public employee must have had personal knowledge of the act, condition, or event, or received the information recorded from someone in the agency who had personal knowledge in order for the official records exception to apply. (See People v. Parker (1992) 8 Cal.App.4th 114.) Because it is unclear whether any public official had personal knowledge of the quantity of water allegedly being used by Cal-Am's predecessor, it is possible that a court may find such information inadmissible under the official records exception. Nonetheless, the SWRCB concludes that these exhibits should be admitted under the official records exception because "the sources of information and method of time of preparation were such as to indicate [the exhibits'] trustworthiness." (See Cal. Evidence Code Section 1280(c).)

Alternatively, these exhibits would likely be admissible under one of the "residual" exceptions to the hearsay rule that allow California courts to recognize hearsay exceptions "in addition to those exceptions expressed in the statutes." (In re Malinda S, 51 Cal.3d 368, 376 (1990).) For example, evidence of a statement contained in a writing more than 30 years old is admissible if "the statement has been since generally acted upon as true by persons having an interest in the matter." (Cal. Evidence Code Section 1331.)

The deeds are admissible for the purpose of demonstrating chain of title. (Cal. Evidence Code Sections 1330 and 1600.) Finally, Exhibit 93 (Schematic of Chain of Title) is also admissible, but only to the extent the information therein is confirmed by the underlying documents which it purports to summarize.

notices of appropriation were ever perfected into appropriative rights.[9]

The best evidence regarding the amount of water actually put to reasonable beneficial use prior to 1914 by Cal-Am's predecessors is found in Cal-Am Exhibits 126, 131 and 133. The following sections briefly describe these exhibits:

(a) Exhibit 126 is a copy of a "Petition of the Monterey County Water Works For an Increase of its Water Rates," (MCWW) Application No. 950, filed before the California Railroad Commission on or about January 14, 1914. Exhibit "C" of this petition shows that in 1913 the MCWW sold a total of 314,879,755 gallons (966 afa) of water to its customers.

(b) Exhibit 131 is an MCWW brief to the Railroad Commission dated June 29, 1914, supporting its position for increased water rates. Page 6 of this brief discusses various estimates of water use and presents a likely total annual water use of 370,515,000 gallons (1,137 afa).

(c) Exhibit 133 is a January 27, 1915, engineer's report to the MCWW about the impact of the Railroad Commission's Decision regarding the MCWW's petition for a rate increase. Table 1A of this exhibit presents the MCWW's annual use of water in 1913-1914 as 43,444,600 cubic feet (997 afa).[10]

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[9] *Cal-Am's claimed pre-1914 appropriative rights could not possibly have been perfected and maintained for the face value of the rights being claimed. Assuming that the appropriative rights conveyed to Cal-Am were all perfected and maintained by continuous reasonable beneficial use, the maximum quantity which could be diverted from the Carmel River would be 751,608 afa, an amount which vastly exceeds the amount of water available in the river during even the wettest years of record. (MPWMD:199, Attachment 1 (showing maximum unimpaired Carmel River flow of approximately 325,000 afa).)*

[10] *The record contains other contradictory evidence as to the amount of water used prior to 1914. For example, less than 507 afa is reported as having been used in 1916. (CAL-AM:90.)*

These exhibits shed some light on the amount of water used by Cal-Am's predecessor in interest around 1914. These exhibits are inconclusive as to the actual amount of water used by the MCWW around 1914 due to the different water use figures. For purposes of this analysis and order, the 1,137 afa figure is used because: (1) the range between the high and low values is only fifteen percent and (2) it is reasonable to use the maximum annual water use estimate of 1,137 afa to establish the baseline quantity of water being used under pre-1914 appropriative claims.

In addition to the actual quantity of water used by Cal-Am's predecessors prior to 1914, Cal-Am might have been entitled to an additional quantity of water under the progressive use and development doctrine. However, Cal-Am neither asserted such a claim nor presented evidence which might support findings that it is entitled to additional water under the doctrine.[11] In addition, the diversion of a large amount of the water currently taken from the river or its underflow was not initiated until rapid growth occurred on the Monterey Peninsula, which commenced after 1960. (T,I,48:1-9; T,I,38:12-18; CAL-AM,90.) Cal-Am drilled 18 of its 21 wells after 1960. (CAL-AM:91.) Thus, Cal-Am is not entitled to additional water under the progressive use and development doctrine. Cal-Am's pre-1914 rights, therefore, should be limited to the estimated actual use by Cal-Am's predecessors in 1913, an amount which does not exceed 1,137 afa.[12]

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[11] *Indeed, Cal-Am requested that the Board "decline to attempt to quantify Cal-Am's rights until it hears Cal-Am's pending applications for permits." (CAL-AM's Post Hearing Brief at 21:9-11.) This request is rejected because this issue was noticed for this proceeding and Cal-Am had an opportunity to present evidence on the issue.*

[12] *Pre-1914 appropriative claims for San Clemente Dam. Persons diverting water under pre-1914 claims or right are required to file Statements of Diversion and Use with the SWRCB. (Water Code Sections 5100, et seq.) Cal-Am filed its first statements for San Clemente Dam in 1975. Cal-Am contends that this right was established under four Notices filed under the Civil Code. (CAL-AM, Exhibit A, pp.3 and 4; CAL-AM exhibits 4, 5, 6 and 8.)*

The first statements included water diverted for years 1972 through 1975. The statements indicate that Cal-Am was able to divert 1,529 af to storage at San Clemente Reservoir and that Cal-Am was claiming the right to divert up to 20 cfs by direct diversion. Over succeeding years, Cal-Am has

(continued...)

4.2.2 *Analysis of Riparian Rights*

Cal-Am's riparian claims are limited to the use of water on only those parcels which adjoin the surface water course of the river or which overlie water flowing in the subterranean channel.[13] Clearly, Cal-Am wells extract water flowing in the subterranean channel. Cal-Am also presented testimony indicating that 60 afa were used to irrigate riparian habitat along the river. (T,I,54:3-10.) Nevertheless, Cal-Am did not identify any specific parcels for which riparian claims were asserted. In summary, although Cal-Am did not submit testimony or exhibits in support of any specific riparian claim, it appears that Cal-Am has riparian rights and it is not unlikely that such rights are being exercised to divert 60 af to irrigate riparian vegetation along the Carmel River.[14]

4.2.3 *Analysis of Prescriptive Rights*

Cal-Am bases its claim to prescriptive water rights on the alleged fact that the claimed combined diversions of two of Cal-Am's predecessors depleted the flow in the Carmel River (CAL-AM: October 1, 1992 letter to SWRCB from Cal-Am transmitting supplemental exhibits, pp. 7 and 8; CAL-AM:136,2) during some years and the fact that the Carmel River often has no surface flow. (CAL-AM:132,14.) Assuming the truth of these facts, Cal-Am's post-1914 claims of prescriptive rights are, nevertheless, not supported

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[12] *(...continued)*
stated that it has approximately diverted between 1,200 to 8,000 af per year under this claim. (SWRCB, Files, Statements of Diversion and Use, Statement 8538.) More recent information indicates the dam can only store between 320 and 800 af. (MPWMD:287,4-49.) Amounts which are currently directly diverted are taken at the Carmel Valley Filter Plant about one-half mile below the San Clemente Dam.

San Clemente Dam was constructed in 1921, seven years after the modern Water Code respecting appropriation became effective. No evidence was presented: (1) as to which, if any, Notice is the basis for the pre-1914 claim of right, (2) that work was commenced on facilities to divert water prior to 1914, or (3) that water was diverted and used prior to 1914 or within a reasonable time thereafter under any Civil Code Notice.

[13] *Cal-Am does not claim that water being diverted from the subterranean channel associated with the Carmel River can be served to persons on the Monterey Peninsula under riparian rights claims. (T,I,91:13-92:8.)*

[14] *Cal-Am does not claim that water served outside the valley can be diverted from the river under riparian right claims. (T,I,91:13-92:8.)*

by the record because Cal-Am failed to introduce other essential evidence necessary to support prescriptive claims. Cal-Am did not: (1) demonstrate that the basic elements of prescription were met and (2) identify any specific persons, lands, or types of water rights that were allegedly prescripted. Thus, there is no basis for finding that Cal-Am is entitled to divert any water from the river under the doctrine of prescription.

4.2.4 *Analysis of Rights Under License 11866 (Application 11674A)*

On February 14, 1986, Cal-Am was issued License 11866 (Application 11674A) to divert 3,030 afa to storage from October 1 to May 31 from the Carmel River for municipal, domestic, industrial, and recreational uses. (SWRCB:1,b.) The maximum annual withdrawal under this right, however, is 2,950 afa. The above analysis of appropriative, riparian, and prescriptive rights does not affect the rights exercised under License 11866.

4.3 Conclusions Regarding Cal-Am's Claimed Water Rights

In summary, Cal-Am has valid pre-1914 appropriative rights to divert no more than 1,137 afa, based upon the amount of water actually used by Cal-Am's predecessors prior to 1914. Cal-Am is not entitled to additional water under the progressive use and development doctrine because Cal-Am did not present evidence of a plan of development carried out within a reasonable time.

Cal-Am has riparian rights for use within the Carmel River Valley on only those parcels which adjoin the surface watercourse of the river or which overlie water flowing in the subterranean channel. It is not unlikely that such rights are being exercised to irrigate the riparian vegetation along the Carmel River. Such rights do not extend to water that is served outside the valley or water served to non-riparian parcels located within the valley.

Cal-Am is not entitled to any prescriptive water rights because Cal-Am did not identify the persons, lands, or types of water rights that are allegedly prescripted. Cal-Am has an appropriative

right to divert 3,030[15] afa of water to storage in Los Padres Reservoir from October 1 to May 31 pursuant to the conditions imposed by License 11866. Thus the total quantity of water which Cal-Am is presently using under legal rights is 3,376 afa.[16]

Because the amount of water to which Cal-Am is legally entitled under the appropriation and riparian doctrines, pre-1914 storage rights, and License 11866 is much less than the amount Cal-Am presently is diverting, Cal-Am is diverting about 10,730[17] afa from the Carmel River or its underflow without a valid basis of right. Accordingly, Cal-Am should be required to diligently develop and implement a plan for obtaining water from the Carmel River or other sources consistent with California water law.

5.0 EFFECT OF CAL-AM DIVERSION ON INSTREAM BENEFICIAL USES

The following sections will discuss the effects of Cal-Am's diversions on the instream beneficial uses of the Carmel River. Such effects include the loss of riparian habitat in the lower river and the near extinction of the Carmel River steelhead run. Cal-Am diversions, standing alone, are not the sole cause of current conditions in the Carmel River. Other causes include the diversion and use of water by other persons and, significantly, a series of dry and critically dry years during the late 1980s and early 1990s. Nevertheless, Cal-Am's combined diversions from the Carmel River constitute the largest single impact to the instream beneficial uses of the river.

5.1 Vegetative Resources

Three vegetation communities are found within the Carmel River watershed: coastal wetlands within the Carmel River Lagoon,

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[15] *The actual diversion is limited to 2,179 af due to siltation.*

[16] *1,137 afa, pre-1914 appropriative + 60 afa, riparian + 2,179 afa, license 11866 = 3,376.*

[17] *10,730 afa represents Cal-Am's total diversions from the Carmel River minus that amount which appears to be legally diverted. (14,106 - 3,376 = 10,730.)*

riparian communities along the river itself, and upland vegetation on the upper alluvial terraces and hills surrounding the valley. Mature multistoried riparian vegetation supports a wide diversity of plant and animal species, including a number of which are protected pursuant to federal and state endangered species acts.

Historically, riparian vegetation was more extensive than at present, particularly in the lower nine river miles. Prior to 1956, losses were primarily attributable to agricultural development. Since that time, the decline has coincided with the increasing export of ground water to meet growing urban demand on the Monterey Peninsula. (SWRCB:17; SWRCB:42,III-28.) Were it not for the extensive riparian corridor irrigation efforts of the District and Cal-Am, it is estimated that current ground water pumping would severely stress approximately 59 percent of the existing riparian vegetation in the upper portion of Aquifer Subunit 3 (see Figure 2) in normal water years, and nearly all vegetation during critically dry years. (MPWMD:289,9G-1.)

The Carmel River Lagoon contains a mixture of freshwater and salt marsh vegetation. Coastal salt marsh is considered one of the most fragile and rapidly disappearing habitats in California. The Carmel River coastal wetland represents some of the last remaining habitat of this type on the Central Coast. (SWRCB:42,III-32.)

Upland vegetation within the watershed is composed of a mixture of coastal scrub, hardwood forest, coastal dune, chaparral, and closed-cone coniferous forest. Cal-Am's diversions have no direct effect on such resources.

5.2 Wildlife Resources

Carmel River riparian and wetland communities support a diverse group of resident and migratory wildlife. A number of amphibian and reptile species occur within the riparian and wetland zones as well, including the red-legged frog and the western pond turtle. These are, respectively, a proposed and candidate species for listing under the Federal Endangered Species Act. A more detailed

description of these resources is found in the District's EIR/EIS. (MPWMD:287-290.)

5.3 Fishery Resources

The Carmel River supports populations of at least ten resident freshwater and anadromous fish species. Of these fishes, the steelhead (*Onchrhynchus mykiss*) has been considered the most important, and extensive studies have been performed to define its ecology in the river. (SWRCB:42,III-41.)

Adult steelhead live in the ocean and migrate into the upper reaches of the Carmel River to spawn. Migration may begin in the fall after the Lagoon sandbar is breached by artificial means or by the first major storm and when sufficient flow is established in the lower river to allow upstream passage.

Typically, in early January the adults spawn and migrate back to the ocean. After approximately three to eight weeks of incubation, depending on water temperature, the eggs hatch and fry soon emerge from the gravel. These fry continue development in the river until fall. By fall, fry will have developed into juveniles and begin moving downstream. They remain in the lower reaches of the river and the lagoon adapting to brackish water until late spring. In late spring, as high river flows are receding, they migrate out into the Pacific Ocean. Some juveniles and adults remain in the river for one or two additional years before migrating to the ocean, hence these life stages may be found in the river throughout the entire year. (SWRCB:42,III-42.)

5.4 Extent of the Steelhead Resource

When first seen by Spanish explorers in 1603, the Carmel River supported a spectacular steelhead run, believed to have been well in excess of 12,000 fish annually. (CSRA:5,2.) Heavy fishing in the 1850s through the 1870s diminished the fishery. Fish planting began in 1910 and continued through the 1940s. (MPWMD:289,8-8.)

When San Clemente Dam was constructed in 1921 (RM 18.5), a fish ladder was also built. (MPWMD:289,8-8.) Access to a major portion of the steelhead spawning and rearing habitat was effectively eliminated in 1949 with the construction of Los Padres Dam at RM 23.5. (CSRA:5,2.) Although a fish trap was installed downstream of the dam and captured adults transported into the reservoir, the facility proved ineffective at maintaining steelhead populations. (MPWMD:289,8-8.)

Annual counts of steelhead passing through the San Clemente fishway began in 1961. The critical dry years of 1976-77 and 1987-92, drought, and diversion by Cal-Am from its wells have combined to reduce water available to steelhead and have also reduced the steelhead population to remnant levels. Only one fish was recorded in 1991 and 15 fish in 1992. (MPWMD:337,49.) Past reviews of Carmel River environmental problems have identified flow reduction and habitat alteration as major factors associated with steelhead decline. (SWRCB:42,III-44.)

Paralleling the declining steelhead population during this period was the rising urban demand for water. Originally, the Monterey Peninsula water supply was diverted entirely from the two reservoirs and from surface flow. When demand exceeded the developed surface resources, wells drilled in the Carmel Valley alluvium aquifer were added to supplement supply. In recent times, dry season surface flows below the Narrows at RM 10 have been depleted in most years as a result of heavy ground water pumping. This results in the stranding and death of many juvenile fish as surface flow recedes. (DFG:4,32.)

5.5 The Effect of Cal-Am Diversions Should be Mitigated

To summarize, Cal-Am diversions have historically had an adverse effect on: (1) the riparian corridor along the river below RM 18.5, (2) wildlife which depend on riparian habitat, and (3) steelhead and other fish which inhabit the river. Measures should be adopted requiring Cal-Am to mitigate the effect of its diversions on the environment until such time as it is able to

obtain water from the Carmel River or other sources consistent with California water law.

6.0 MITIGATING EFFECTS OF CAL-AM DIVERSIONS

The following sections identify the measures which are in effect to mitigate the effect of Cal-Am's diversions in the instream beneficial uses of the Carmel River. Many significant measures to protect the instream beneficial uses of the river have been initiated and are being carried out by the Monterey Peninsula Water Management District. In order to avoid confusion, an explanation of the District's role is necessary.

The District was created by special act of the Legislature in 1977. (Water Code Appendix Section 118-2.) The District is responsible for managing available surface and ground water sources to supply water within the District and to protect the environmental quality of the area's water resources, including the protection of fish and wildlife resources. (*Id.*; MPWMD:16,1-2.) Much of the watershed of the Carmel River is within the District's boundaries (Figure 1) and the District has broad powers over the use and distribution of water within its boundaries, including the operations of Cal-Am. (Water Code Appendix Sections 118-2, 118-102.)

6.1 Interim Relief Program

In 1988, as a result of the complaint filed by the CRSA (Section 2.1), the District formed an Environmental Advisory Committee. The committee was composed of citizen groups and public agency representatives, including representatives from Cal-Am and DFG. (MPWMD:53;3&4.) Their efforts resulted in an Emergency Relief Program and an Interim Relief Program, both designed to address chronic environmental degradation in the lower Carmel River. (MPWMD:53.)

The focus of the Interim Relief Program was on rescuing stranded steelhead during critically dry years, preserving the riparian corridor, and enhancing aquatic habitat by increasing streamflow. Specifically, the District undertook to: (1) limit surface

diversion at San Clemente Dam to 29 percent of total Cal-Am production, (2) hire fishery professionals to assess habitat and coordinate steelhead rescue efforts, and (3) monitor the health of riparian vegetation and install, operate, and maintain drip irrigation systems along the lower Carmel River. The provisions of the program expired in November 1993, but are carried forward as elements of the Water Allocation EIR mitigation program of the District. (MPWMD:53; SWRCB:42.)

6.2 Water Allocation Mitigation Program

In 1981, the District established an annual Water Allocation Program to apportion water to each of its member jurisdictions. In 1990, a Water Allocation Program EIR was completed and certified by the District. (SWRCB:42; MPWMD:16.) The EIR analyzed the environmental and socioeconomic impacts of varying levels of water production from the Monterey Peninsula Water Resource System, including the Carmel River. The document found that the amount of water which could be produced without significant environmental impact was less than previous estimates. As a result, the Cal-Am allocation was reduced from 18,600 to 16,744 afa.[18] Even at the reduced level, diversion of water from the Carmel River was found to have significant adverse environmental impacts on fisheries, riparian vegetation and wildlife, and the Lagoon. Therefore, the District also approved the Water Allocation Mitigation Program and committed itself to implement the mitigation program. The Program provides for the following mitigation measures:

Fisheries (MPWMD:16,55)

- Continue Interim Relief Program
- Expand program to capture emigrating smolts in spring
- Prevent stranding of early fall and winter migrants
- Rescue juveniles downstream of Robles Del Rio in summer

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[18] *The quantity of water which the District allocated to Cal-Am was not based on the amount of water diverted by Cal-Am and not on Cal-Am's legal right to divert water.*

- Modify spillway and transport juveniles around Los Padres Dam

Riparian Vegetation and Wildlife (MPWMD:16,64)

- Continue Interim Relief Program
- Conservation and water distribution management to retain water in the Carmel River
- Prepare and oversee a Riparian Corridor Management Plan (MPWMD:69)
- Implement the Riparian Corridor Management Plan
- Expand monitoring programs for soil moisture and vegetative stress

Lagoon Vegetation and Wildlife (MPWMD:16,72)

- Continue Interim Relief Program
- Assist with Lagoon Enhancement Plan investigations
- Expand long-term monitoring program
- Identify feasible alternatives to maintain adequate Lagoon volume

The program was adopted and funded by the District for an initial five-year period, due to expire in late 1995, after which allocations are to be reassessed based on results of monitoring studies. Annual progress reports have been prepared by the District and submitted to the SWRCB. (SWRCB:43; MPWMD:307-308.) Funded primarily by user fees and taxes, the program costs will slightly exceed $6.5 million over five years. (MPWMD:309.)

The effectiveness of this mitigation program and the degree to which the District has implemented the mitigation program was the subject of considerable testimony during the SWRCB hearing. Both the CSRA and the DFG expressed dissatisfaction with the implementation of the program. (CRSA:94-1,3; T,X,100:2.) Further, DFG stated that it was the Department's position that fish rescue is inappropriate as a long-term mitigation measure and that provision of adequate instream flow is the preferable alternative. (T,IX,8:2.)

6.3 Other District Actions

In addition to the above programs, the District has engaged in a number of other activities to lessen the impact of water extraction on the Carmel River system. These measures include:

- Limitation on total system production
- Mandatory rationing and moratoriums
- Conservation and community education programs
- Development of Seaside aquifer
- Wastewater reclamation

Although these programs have been effective in reducing demand on the Carmel River, their combined effect is inadequate to reverse severe environmental degradation. It is the position of the District and DFG wildlife experts that river flow is the critical element in reversing this degradation. The District has also concluded that a firm municipal supply and water for environmental restoration cannot be provided without additional water storage upstream of Cal-Am's existing well field. (MPWMD:287,2-8.)

6.4 Conditions On the Operation of Los Padres and San Clemente Dams

In 1948 the SWRCB adopted Decision 582 approving an appropriative right for the Los Padres Dam. The Decision and Permit 7130 require, in general, that Cal-Am maintain a flow of not less than 5 cfs in the channel of the Carmel River directly below the outlet structure of the Los Padres Dam at all times during which water is being stored under this permit.

Diverting under a claim of pre-1914 appropriative right, San Clemente Dam has no bypass requirement and, until the early 1980s, the entire summer streamflow was diverted into the filter plant downstream of San Clemente Dam. (DFG:4,8.) During the 1980s, DFG and Cal-Am began negotiating year-to-year agreements for the release of some water at San Clemente Dam to benefit fish in the river. Bypass flows have generally been in the range of 3.5 to 5 cfs. Under more normal hydrologic conditions, the bypass

maintains flow in the stream to the Narrows at RM 10. This habitat below San Clemente Dam is considered significant steelhead habitat.

6.5 Interim Measures to Mitigating Effects of Cal-Am Diversions Should Continue to be Implemented

As previously stated, Cal-Am's diversions have an adverse effect on the instream beneficial use of the river. Although the interim measures discussed herein are beneficial, they are by no means sufficient to offset the total effect of Cal-Am's diversions. Thus, these measures should be continued until such time as Cal-Am is able to obtain water from the Carmel River or other sources consistent with California water law.

That most interim measures have been undertaken by the District and not Cal-Am is a matter of concern. There is no assurance that the District will indefinitely continue to mitigate the effects of Cal-Am's diversions. Furthermore, there is no basis for the SWRCB to order the District to continue implementing the interim measures on behalf of Cal-Am. Thus, a condition should be adopted requiring Cal-Am to implement these interim measures in the event the District fails to continue with its programs.

7.0 OTHER PROPOSALS FOR MITIGATING THE EFFECTS OF CAL-AM DIVERSIONS FROM THE CARMEL RIVER

In addition to the interim mitigation measures being implemented by the District, the Complainants, DFG, and Mr. Evans contend that additional mitigation measures should be implemented by Cal-Am. Some of these measures are discussed in the following sections.

7.1 Maximize Production in Seaside Aquifer, Minimize Production from Carmel River

Several parties advanced the concept that production from the Seaside aquifer should be increased and diversions from the Carmel River should be reduced. Cal-Am produces about 2,700 afa from the Seaside ground water basin from wells in Seaside, California. The Seaside northern and southern coastal ground water subbasins have a usable storage capacity of 4,700 af. (MPWMD:101,6,144.) The long-term yield of the Seaside ground water subbasin, however, is

estimated to be 3,300 afa, using the practical rate of withdrawal method. (SWRCB:1, "Hydrology Update, Seaside Coastal Ground Water Basins, Monterey County, California", Staal, Gardner & Dunne, Inc., 1990, p.22.) A new well became available to Cal-Am and its customers during 1994, the Peralta Well, which is located in the Seaside aquifer. The well is capable of producing approximately 1,000 afa. The District has allocated the potential production from the Peralta Well for purposes which include water for community benefit and among eight jurisdictions for new connections, remodeling, and additions. (MPWMD,291,4:1-17; MPMD,3378,28,Figure 10.) By more fully utilizing water available in the Seaside aquifer, Cal-Am can reduce its diversions from the Carmel River and the effects of such diversions on public trust values. Thus, we find that Cal-Am should be required to maximize production from the Seaside aquifer and reduce diversions from the river to the greatest practicable extent.

7.2 Maximize Production from the Most Downstream Wells

Several parties advanced the proposal that by maximizing production from the most downstream wells that surface water in the Carmel River could be extended farther downstream.[19] The benefit of operating the wells in this manner would be to provide more habitat for fish during some years and seasons. (T,IV,248:24-251:3.) Testifying for DFG, Keith Anderson indicated that Cal-Am was already operating in this manner pursuant to an agreement with DFG. (T,IX,17:2-10.) Testimony did indicate, however, that too much pumping of wells nearer to the Lagoon might result in water quality degradation and adversely affect supply of water to other wells. Thus, we find that Cal-Am should be required to satisfy the water demands of its customers outside of the Carmel River watershed by extracting water from its most downstream wells to the maximum practicable extent.

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[19] *Some parties advocated drilling more wells farther down the river as near to the Lagoon as possible. The feasibility of this proposal was not demonstrated. Testimony and exhibits indicated that such wells and pumping could result in: (a) poorer water quality for Cal-Am customers, (b) dewatered wells used by other persons in the area, and (c) seawater intrusion into the lower aquifer. (T,IV,251:4-254:4; 258:5-269:4; 272:14-284:2.)*

7.3 Supply Water to the Carmel Village Filter Plant from Wells

The Carmel Village is supplied water from a filter plant located downstream of the San Clemente Dam. The filter plant is supplied water from the dam via a pipeline. Several parties advanced the proposal that more surface flow could remain in the river if the filter plant was supplied water from wells instead of the dam. The water diverted to storage at the dam could then be released to the river for fish and to recharge the subterranean stream from which the downstream wells extract water. No evidence was presented to demonstrate the feasibility of the proposal. Indeed the evidence indicates that it is not feasible to supply water to the filter plant from the most downstream wells. No evidence was introduced which would indicate whether the filter plant could be supplied from more nearby wells and thus keep more water at the surface of the stream for some additional distance. We find that Cal-Am should be required to conduct a reconnaissance level study of the feasibility, benefits, and costs of this proposal.[20]

7.4 Bypass Early Storm Runoff at the Dams

On behalf of DFG, Keith Anderson suggested that runoff from early storms be passed by the Los Padres and San Clemente Dams. (T,IX,21:4-22:6.) This proposal can result in recharging the subterranean stream and restoring surface water flows in the river at an earlier date. An earlier reestablishment of surface flows would increase the likelihood that steelhead could successfully migrate up and down the stream to complete their life cycle. The record does not include any evidence which demonstrates the feasibility of this suggestion; however, the storage capacity of the dams is so small that it appears likely that this suggestion could be implemented in even the driest water years and the

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[20] *The SWRCB recognizes that the wells nearest the filter plant are not the most downstream wells. The feasibility of supplying the filter plant may depend upon supplying the plant via the nearest wells. Supplying the filter plant from nearby wells would, implicitly, conflict with the principle that water be supplied to Cal-Am customers via the most downstream wells to the maximum practicable extent. Nevertheless, we find that the feasibility, benefits, and costs of this proposal should be evaluated.*

reservoirs could still be refilled. We find that Cal-Am should be required to study the feasibility of this proposal.

7.5 Modify Critical Stream Reaches to Facilitate Fish Passage

In the context of this section, a critical stream reach means any portion of the river which, due to low flow, acts as a barrier to migrating steelhead. Such barriers interfere with the ability of steelhead to successfully complete all life stages and to reproduce in the river. Testifying for DFG, Keith Anderson expressed the opinion that modifying critical stream reaches was an action which could be taken to mitigate the effect of Cal-Am's diversions from the river. (T,IX,20:24-21:3.) Thus, we find that Cal-Am should be required to conduct a study of the feasibility, benefits, and cost of this proposal.

7.6 Remove Boulder Below Los Padres Dam

A large boulder or rock outcrop is situated below the spillway of Los Padres Dam. A significant percentage of steelhead juvenile fail to survive downstream migration during low water conditions over the spillway because they fall upon the rock. Removal of the rock could improve the survival rate of steelhead juvenile moving downstream from Los Padres Dam. Accordingly, Cal-Am should be required to remove the rock or implement some other reliable measure to assure safe passage for fish over or around the rock.

8.0 ENFORCEMENT OPTIONS

Three enforcement options are available to the SWRCB for the unlawful diversion and use of water. First, Water Code Section 1052 declares that the unauthorized diversion of water is a trespass. Such diversions may be referred to the Attorney General for injunctive relief. (Section 1052(c).) Persons committing a trespass may be liable for up to $500 for each day in which a trespass occurs. (Section 1052(d).)

Second, Water Code Sections 1055 and 1052 authorizes the SWRCB to impose administrative civil liability for the unlawful diversion and use of water. Persons committing a trespass may be liable for

up to $500 for each day in which a trespass occurs. (Section 1052(b).) Persons committing a trespass may be liable for up to $500 for each day in which a trespass occurs.

Finally, Sections 1825, et seq. authorizes the SWRCB to adopt cease and desist orders for violation of conditions in permits and licenses. Cease and desist orders may require compliance forthwith or in accordance with a time schedule. (Section 1831.) Diversion of water in excess of the quantity authorized by permit or license can be treated as a violation subject to enforcement under Section 1831. Persons failing to comply with a cease and desist order are liable for $1,000 for each day in which violation occurs.

This proceeding was not noticed under any of the enforcement provisions and the SWRCB cannot, at this time, proceed directly to an order under Sections 1055 or 1830. The SWRCB, however, can request the Attorney General to take action under Section 1052. Alternatively, the SWRCB can suspend such a referral provided that Cal-Am takes appropriate actions to: (a) mitigate the effect of its diversions on the environment and (b) develop and diligently pursue a plan for obtaining water from the Carmel River or other sources consistent with California water law.[21]

8.1 Considerations Mitigating Against the Use of Punitive Enforcement Options

In the short term, Cal-Am cannot significantly reduce its extraction from the wells along the Carmel River. As previously stated, most of Cal-Am's supply is obtained from the Carmel River and most of that supply is provided by the wells along the river. The people and businesses on the Monterey Peninsula must continue to be served water from the Carmel River in order to protect public health and safety.

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[21] *Cal-Am could satisfy this requirement by contracting with MPWMD for the supply from its proposed project or by proposing to develop water under applications to appropriate water from the Carmel River by storage or from other sources.*

Cal-Am introduced exhibits during the hearing which show that during 1980 and 1981, on the basis of available information, the SWRCB was not of the opinion that the water pumped by the wells would require a permit from the SWRCB. (CAL-AM, F and G.) Further, Cal-Am does not contend that the wells are not extracting water from a subterranean stream. (CAL-AM, Closing Brief, 20.) Indeed, Cal-Am has filed an application to appropriate water with the SWRCB. (Application 30215.)[22]

Cal-Am also supports the New Los Padres Project proposed by the District as one means for providing a reliable and legal water supply for its customers. (CAL-AM, Closing Brief, 2:4-12.) Finally, Cal-Am has cooperated with the District, DFG, and others to develop and implement measures to mitigate the effect of its diversions on the instream resources of the river. (MPWMD:287,2-15.)

Under circumstances such as these, the imposition of monetary penalties make little sense. Rather, the SWRCB's primary concern should be the adoption of an order which, until a legal supply of water can be developed or obtained, will require that Cal-Am: (1) minimize its diversions from the Carmel River, (2) mitigate the environmental effects of its diversions, and (3) prepare a plan setting forth: (a) specific actions to develop or obtain a legal supply of water and (b) the dates specific actions will have occurred so that progress on the plan can be objectively monitored.

9.0 SUMMARY AND CONCLUSIONS

To summarize the foregoing, we find that:

1. Downstream of RM 15 of the Carmel River, the aquifer underlying and closely paralleling the surface water course of the Carmel River is water flowing in a subterranean stream and subject to

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[22] *Administrative notice is taken that on May 29, 1992, Cal-Am submitted Application 30215 to the SWRCB. The application is for the direct diversion of 42 cfs from its wells along the river.*

the jurisdiction of the SWRCB. Cal-Am's wells are drawing water from the subterranean stream associated with the Carmel River.

2. Cal-Am is diverting about 10,730 afa from the Carmel River or its underflow without a valid basis of right. In addition, Cal-Am does not have a pre-1914 right to divert and use water at San Clemente Dam. Cal-Am should be required to diligently develop and implement a plan for obtaining water from the Carmel River or other sources consistent with California water law.

3. Cal-Am diversions are having an adverse effect on: the riparian corridor along the river below San Clemente Dam at RM 18.5, wildlife which depend on instream flows and riparian habitat, and steelhead which spawn in the river. Interim measures mitigating the effects of Cal-Am diversions undertaken by the District should continue to be implemented. Cal-Am should be required to implement interim measures in the event the District fails to continue with its program. In addition, Cal-Am should be required to implement other mitigation measures. Cal-Am should be required to mitigate the effect of its diversions until such time as it is able to obtain water from the Carmel River or other sources consistent with California water law.

4. The SWRCB can request the Attorney General to take action under Section 1052. Alternatively, the SWRCB can suspend such a referral provided that Cal-Am takes appropriate actions to: mitigate the effect of its diversions on the environment and develop and diligently pursue a plan for obtaining water from the Carmel River or other source consistent with California water law. The SWRCB's primary concern should be the adoption of an order requiring Cal-Am to: (1) prepare a plan setting forth (a) specific actions which will be taken to develop or obtain a legal supply of water and (b) the dates specific actions will have occurred so that progress on the plan can be

objectively monitored, (2) minimize its diversions for the Carmel River, and (3) mitigate the environmental effects of its diversions.

ORDER

NOW THEREFORE, IT IS HEREBY ORDERED that Cal-Am shall comply with the following conditions:

1. Cal-Am shall forthwith cease and desist from diverting any water in excess of 14,106 afa from the Carmel River, until unlawful diversions from the Carmel River are ended.

2. Cal-Am shall diligently implement one or more of the following actions to terminate its unlawful diversions from the Carmel River: (1) obtain appropriative permits for water being unlawfully diverted from the Carmel River, (2) obtain water from other sources of supply and make one-for-one reductions in unlawful diversions from the Carmel River, provided that water pumped from the Seaside aquifer shall be governed by condition 4 of this Order not this condition, and/or (3) contract with another agency having appropriative rights to divert and use water from the Carmel River.

3. (a) Cal-Am shall develop and implement an urban water conservation plan. In addition, Cal-Am shall develop and implement a water conservation plan based upon best irrigation practices for all parcels with turf and crops of more than one-half acre receiving Carmel River water deliveries from Cal-Am. Documentation that best irrigation practices and urban water conservation have already been implemented may be substituted for plans where applicable.

   (b) Urban and irrigation conservation measures shall remain in effect until Cal-Am ceases unlawful diversions from the Carmel River. Conservation measures required by this Order in combination with conservation measures required

by the District shall have the goal of achieving 15 percent conservation in the 1996 water year and 20 percent conservation in each subsequent year.[23] To the extent that this requirement conflicts with prior commitments (allocations) by the District, the Chief, Divison of Water Rights shall have the authority to modify the conservation requirement. The base for measuring conservation savings shall be 14,106[24] afa. Water conservation measures required by this order shall not supersede any more stringent water conservation requirements imposed by other agencies.

4. Cal-Am shall maximize production from the Seaside aquifer for the purpose of serving existing connections, honoring existing commitments (allocations), and to reduce diversions from the Carmel River to the greatest practicable extent. The long-term yield of the basin shall be maintained by using the practical rate of withdrawal method.

5. Cal-Am shall satisfy the water demands of its customers by extracting water from its most downstream wells to the maximum practicable extent, without degrading water quality or significantly affecting the operation of other wells.

6. Cal-Am shall conduct a reconnaissance level study of the feasibility, benefits, and costs of supplying water to the Carmel Valley Village Filter Plant from its more nearby wells downstream of the plant. The objective of supplying water from the wells is to maintain surface flow in the stream as far downstream as possible by releasing water from San Clemente Dam for maintenance of fish habitat. The results

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[23] *Each water year runs from October 1 to September 30 of the following year.*

[24] *14,106 afa represents Cal-Am's total diversions from the Carmel River.*

of the study and recommendations shall be provided to the District and DFG for comment.

7. Cal-Am shall evaluate the feasibility of bypassing early storm runoff at Los Padres and San Clemente Dams to recharge the subterranean stream below San Clemente Dam in order to restore surface water flows in the river at an earlier date. The results of the study and recommendations shall be provided to the District and DFG for comment.

8. Cal-Am shall conduct a study of the feasibility, benefits, and costs of modifying critical stream reaches to facilitate the passage of fish. The study shall be designed and carried out in consultation with DFG and the District. The results of the study and recommendations shall be provided to the District and DFG for comment.

9. The studies required by conditions 6, 7, and 8 shall be carried out by persons with appropriate professional qualifications. The studies required by condition 7 shall be completed and submitted to the Chief, Division of Water Rights, within 5 months from the date of this order. The Chief, Divison of Water Rights may extend the time for performing the study required by condition 8 upon making a finding that adequate flows were not available to perform the study. The studies required by conditions 6 and 8 shall be completed and submitted to the Chief, Division of Water Rights, within 12 months from the date of this order. The Chief, Division of Water Rights may extend the time for performing the study required by condition 8 upon making a finding that adequate flows were not available to perform the study. The report (or reports) transmitting the results of the study (or studies) shall describe the action (or actions) which Cal-Am will undertake to correct the problems addressed by the studies. Cal-Am shall provide a written response to any comments received on the study. If no action (or actions) will be taken to correct the underlying problem (or problems),

Cal-Am's report shall provide written justification why corrective action is not appropriate. Based upon the results of the studies, recommendations, comments by the District and DFG, and Cal-Am responses, the Chief, Division of Water Rights, shall determine what actions shall be taken by Cal-Am consistent with this Order and establish reasonable times for implementation.

10. Cal-Am shall remove the large rock immediately below the spillway of the Los Padres Dam which results in substantial loss of juvenile steelhead or implement some other reliable measure (or measures) to assure safe passage for fish over or around the rock. Prior to removing the rock Cal-Am shall consult with DFG and obtain any streambed alteration permit required by Fish and Game Code Section 1601. If Cal-Am leaves the rock in place, it shall consult with DFG when evaluating what other measures can be used to assure safe fish passage. Cal-Am shall comply with this measure within 4 months.

11. Cal-Am shall be responsible for implementing all measures in the "Mitigation Program for the District's Water Allocation Program Environmental Impact Report" not implemented by the District after June 30, 1996.[25] Not later than August 30, 1996, Cal-Am shall submit a report to the Chief, Division of Water Rights, identifying mitigation measures which the District does not continue to implement after June 30, 1996. At the same time, Cal-Am shall submit a plan for the approval of the Chief, Division of Water Rights, detailing how it will implement mitigation measures not implemented by the District. The Chief, Division of Water Rights, may excuse Cal-Am from implementing specific mitigation measures only upon making a finding that Cal-Am has demonstrated that it does not have

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[25] *On November 5, 1990 the District adopted a mitigation program to be carried out for five years. The plan is summarized in Section 6.2, infra. There is no assurance the District will continue with any or all of the elements of its mitigation program after November of 1995. (MPWMD:289, Vol. III, Appendix 2-D.)*

adequate legal authority to implement the ability to finance such measures or demonstrates that such measures are demonstrably ineffective.

12. Within 90 days of the date of this order, Cal-Am shall submit for the approval of the Chief, Division of Water Rights:

    (a) A compliance plan detailing the specific actions which will be taken to comply with condition 2 and the dates by which those actions will be accomplished;

    (b) An urban water conservation plan; and

    (c) An irrigation management plan.

13. Starting with the first full month following adoption of this order, Cal-Am shall file quarterly with the Chief, Division of Water Rights:

    (a) Reports of the monthly total amounts being: (1) pumped from wells; and (2) diverted from the Carmel River,

    (b) Reports of the progress being made in complying with the schedule submitted to comply with condition 11, and

    (c) Reports of the progress being made in complying with conditions 6, 7, 8, and 9.

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14. The Chief, Division of Water Rights, is authorized to refer any violation of these conditions to the Attorney General for action under Section 1052 or to initiate such other enforcement action as may be appropriate under the Water Code.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on July 6, 1995.

AYE: John P. Caffrey
Mary Jane Forster
Marc Del Piero
James M. Stubchaer
John W. Brown

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché

Maureen Marché
Administrative Assistant to the Board

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Appendix F. State Water Resources Control Board Order No. WR 2016-0016

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WR 2016-0016

In the Matter Of Application of

California American Water Company

To Amend State Water Board Order 2009-0060

SOURCE: Carmel River

COUNTY: Monterey County

ORDER AMENDING IN PART REQUIREMENTS OF STATE WATER BOARD ORDER WR 2009-0060

BY THE BOARD:

1.0 OVERVIEW

For decades, California-American Water Company (Cal-Am) has been unlawfully diverting water from the Carmel River to provide municipal water to a large area of the Monterey Peninsula. State Water Resources Control Board (State Water Board) Order WR 2009-0060 (hereafter, WR 2009-0060) is a cease and desist order that, among other requirements, established a compliance timeline for cessation of Cal-Am's unlawful diversions from the Carmel River by December 31, 2016. This timeline was based on evidence gathered at hearing that indicated that a regional desalination plant would be built, enabling the area's municipal water needs to be met by new water supplies. It is now clear that no desalination plant will be in operation by the end of this year. In light of this recognition, Cal-Am has proposed modifying the compliance schedule to accommodate the anticipated pace for approval and implementation of several proposed projects (1) a different desalination plant, the Monterey Peninsula Water Supply Project; (2) a water recycling project, entitled Pure Water Monterey; and (3) the expansion of the facilities for an existing groundwater storage project entitled Aquifer Storage and Recovery (ASR). These projects are undergoing review by permitting agencies.

Since the adoption of WR 2009-0060 in 2009, Cal-Am's diversions from the Carmel River have consistently been well below the annual diversion levels set by WR 2009-0060, but still remain thousands of acre-feet per annum above the amount available under Cal-Am's lawful water rights.(See Table 1, p. 2.) The reductions in Carmel River diversions have resulted from a number of factors, including conservation and efficiency measures and implementation of local supply projects, combined with a moratorium on increased water use within Cal-Am's service area. To address the impacts of its diversions, Cal-Am has also applied significant resources to fishery conservation and habitat improvement programs.

Seven years after adoption of WR 2009-0060, the State Water Board is again placed in a position of deciding whether to adopt a compliance schedule that may allow for obtaining lawful supplies with less disruption to existing communities than meeting the required legal pumping limit by December 31, 2016. For the reasons described herein, this order adopts a new compliance schedule that essentially maintains an ongoing diversion level as long as specified progress towards alternative supplies is met, but sharply drops allowable diversions should the progress towards these supplies slip. In taking this action, the State Water Board is facilitating local cooperation in development of alternate water supplies and at the same time requiring that unauthorized diversions end by December 31, 2021, regardless of whether the envisioned projects are timely built.

2.0 BACKGROUND

WR 2009-0060 and State Water Board Order WR 95-10 (hereinafter WR 95-10) detail specific information regarding Cal-Am's lawful and unlawful diversions from the Carmel River, which does not require repetition here.

Since the adoption of WR 2009-0060, Cal-Am has lowered its diversions from the Carmel River more rapidly than the minimum compliance terms in the CDO required, and has not missed the CDO diversion reduction requirements in any year.

Table 1

Water Year (Oct. 1 – Sept. 30)	Carmel River Pumping (to nearest acre-foot)	Pumping Limit under Order 2009-0060
2009-2010	9,786	10,209
2010-2011	8,559	9,994
2011-2012	7,646	9,883
2012-2013	8,008	9,772
2013-2014	7,744	9,661
2014-2015	7,228	9,550

The pumping limit under Order 2009-0060 for Water Year (hereinafter also WY) 2015-2016 is 9,318, and there is no indication from current reporting or based on recent historical use, to think that Cal-Am will not fall well under this mark.

The reductions in pumping are the result of demand reductions as well as new supplies, both of which were required under WR 2009-0060. In terms of demand reduction, Cal-Am and the Monterey Peninsula Water Management District (District) have adopted programs encouraging conservation by business and residential customers, including turf replacement programs, water efficiency requirements, and tiered conservation rates. Cal-Am has also implemented new technologies to identify and address leaks. Additionally, Cal-Am has proposed revisions to its water rationing program pending at the California Public Utilities Commission (CPUC). The CPUC anticipates making a decision on the proposed changes in October 2016.

Three new non-Carmel River supplies have either already come online, expanded or have received regulatory approval since 2009. Sand City's desalination plant provides to Cal-Am, in the form of offset deliveries, a minimum of 94 acre-feet per annum (afa), and the balance of its

capacity which is not needed for expanded use in Sand City. Pebble Beach's water recycling facility has expanded its capacity and technology, and increased its offset of Cal-Am's unlawful pumping to an average of 970 afa. Its average offset prior to the technology changes completed in 2008 was 450 afa. This increase far out-measures the modest increase in usage entitlements, which now measure 65 afa, and are expected to reach on the order of 140 afa[1] by the end of the proposed compliance period. As of June 2016, the City of Pacific Grove was scheduled to have begun construction of a recycled water plant that will offset 100 to 125 afa of current Cal-Am deliveries for golf course and cemetery irrigation.

Additionally, Cal-Am has pursued lawful water rights in the Carmel River. Cal-Am has obtained water right Permit 21330, allowing lawful diversion in the high flow season, under certain bypass flow conditions, at a rate of 4.1 cubic feet per second with an limit of 1,488 afa. This water may only be used within the Carmel River watershed, rather than throughout the Cal-Am service area. In WY 2014-2015, Cal-Am diverted approximately 42 acre-feet under this water right.

Joint owners Cal-Am and the District have lawful water rights under Permit 20808A and Permit 20808C to develop and use up to 5,326 afa (2,426 afa and 2,900 afa, respectively) of pumping from the Carmel River under certain bypass flow conditions for operation of the ASR project. The ASR project has expanded its capacity since the adoption of WR 2009-0060, although increased water has not been available for diversion during the recent drought. The ASR project diverted just over 1,110 afa of water in WY 2009-2010 and WY 2010-2011, and between 0 and 210 afa in the drier water years from WY 2011-2012 through WY 2014-2015. The ASR water is pumped to the Seaside Groundwater Basin and WR 2009-0060 requires Cal-Am to recover the ASR water during the months most beneficial to the fishery. By June 1 of each year, Cal-Am, National Marine Fisheries Service (NMFS) and the California Department of Fish and Wildlife (CDFW) agree on a schedule for using the ASR water by reducing Carmel River pumping for fishery benefits. Cal-Am's diversions from the Carmel River are reduced on a one-to-one basis with the scheduled recovery. NMFS and CDFW can and have agreed to allow some ASR water to be carried over in Seaside Groundwater storage for the next water year's use, as allowed under WR 2009-0060. Cal-Am carried over 215 acre-feet of ASR water, and WY 2015-2016 storms allowed for an additional 699 acre-feet of ASR diversions such that Cal-Am had 914 acre-feet of available ASR water stored in the Seaside Groundwater Basin by June 1, 2016. NMFS and DFW agreed that Cal-Am would recover the ASR water from June through September of 2016, and carry over approximately 315 acre-feet for WY 2016-2017.

Water previously pumped from the Carmel River for the Odello Ranch under License 13868A, is being provided to offset Cal-Am's unlawful diversions on an interim basis. The water will not be available on a long-term basis. The project provided 85 acre-feet of water to offset Cal-Am's unlawful diversions in 2015, and will provide a minimum of 50 acre-feet in 2016 and 25 acre-feet in 2017. Cal-Am and the Eastwood Trust have reached an agreement for Cal-Am to divert up to 85 afa on an interim basis, to the extent that the water is not being sold by the Malpaso Water Company to other users.

[1] Pebble Beach estimates that deliveries of water under new entitlements through the end of December 2020 will be 140 afa. While the application now requests an extension of the compliance deadline for an additional year, there is no reason to think that this number will be significantly different by 2021, given the prior rate of growth in the area and the necessarily imprecise nature of such estimates.

Since adoption of WR 2009-0060, Cal-Am has also funded or otherwise implemented significant measures to improve fish habitat and survival. WR 2009-0060 required some of these measures, while others were implemented as part of an agreement with the NMFS and the CDFW.

After the failure of efforts to build the Coastal Water Project and the Regional Desalination Project[2], it became clear that there would not be a lawful alternative supply of water for the Cal-Am service area prior to the end of 2016, when WR 2009-0060 requires Cal-Am to end all unlawful diversions from the Carmel River.

In 2014, Cal-Am approached State Water Board staff regarding the possibility of reaching an agreement on a proposal to amend the CDO's compliance schedule which State Water Board staff would recommend to the State Water Board for consideration. Staff met with Cal-Am and other stakeholders over a period of two years in an effort to craft a proposal that staff, Cal-Am, and a range of stakeholders could endorse. At points over the two year period, the discussion included representatives from Cal-Am, the District, the Monterey Peninsula Regional Water Authority, the Sierra Club, the Planning and Conservation League, the Pebble Beach Company, and NMFS.[3] The group was able to reach an agreement on a framework for a proposal to amend the Cal-Am CDO's compliance schedule until the end of December 2020, even as some of the specifics remained contested. The broad area of agreement was maintaining a diversion limit significantly lower than that required for WY 2015-2016 in the current CDO as long as milestones based on securing alternative water supplies are met. Failure to meet the milestones would result in significant reductions of the diversion limits under the compliance schedule, such that Cal-Am's diversions from the Carmel River would be limited to lawful diversion limits prior to the end of the compliance period.

Cal-Am, in conjunction with the District, Monterey Peninsula Regional Water Authority, the City of Pacific Grove and the Pebble Beach Company, submitted an application to amend the Cal-Am CDO on November 20, 2015. On April 28, 2016, Cal-Am submitted a revised application to amend the CDO, in light of significant delays in the CPUC's schedule for consideration of a proposed desalination facility, the Monterey Peninsula Water Supply Project (MPWSP) Desalination Project. These delays resulted from the CPUC's desire to prepare a joint environmental impact statement and environmental impact report in conjunction with a federal partner, the Monterey Bay National Marine Sanctuary. In addition, the CPUC needed to evaluate a potential conflict of interest issue involving one of the contractors evaluating the project under the California Environmental Quality Act. There have also been repeated interruptions in operations of the test wells used to evaluate the impacts and viability of the proposed facility's slant well technology.

3.0 CAL-AM'S PROPOSAL

Cal-Am's April 28, 2016 revised application to amend WR 2009-0060 was submitted pursuant to Water Code section 1832, which allows the State Water Board to "modify, revoke or stay" cease and desist orders.

[2] The CPUC approved an alternative to the Coastal Water Project – the Regional Desalination Project.
[3] Cal-Am and other stakeholders indicated that a broader group met in preparation for meetings with staff, including participation by the Carmel River Steelhead Association, Quail Lodge, Bernardus Lodge, and Carmel Valley Ranch.

The primary change Cal-Am proposes is maintaining an "effective diversion limit" (or EDL) of 8,310 afa from the Carmel River from the start of WY 2015-2016 until December 31, 2021, as long as alternate water supply projects meet defined approval and construction milestones. Cal-Am proposes a milestone for each water year from 2017-2018 until the end of December 2021. If Cal-Am fails to achieve a milestone by the last day of the water year, then the effective diversion limit would be reduced by 1,000 afa for the following water year.[4] For example, if construction on the Pure Water Monterey project fails to begin and the CPUC fails to issue a certificate of public convenience and necessity for the proposed MPWSP Desalination Project by September 30, 2018, then the proposed effective diversion limit for WY 2018-2019 would be 7,310 acre-feet. Thus, if Cal-Am fails to meet each milestone, the effective diversion limit would fall by 1,000 afa each water year from WY 2018-2019 on. The limit for WY 2021-2022 would be 4,310 acre-feet until the end of December 2021. As discussed above, WR 2009-0060 requires all unlawful diversions from the Carmel River to end by December 31, 2016. This EDL would replace the "base level" that formed the foundation for diversion limits under WR 2009-0060.

Cal-Am also proposes several changes to the manner of calculating the diversion limit, or of assessing compliance with that limit.

One significant change in determining compliance with a diversion limit is Cal-Am's proposal that it be allowed to accrue "credits" in years in which its diversions are lower than the EDL for a particular water year, starting in WY 2015-2016. Cal-Am could then apply any such "credits" to be able to pump more than the EDL in future years, without penalty. WR 2009-0060 had no such credit system. Cal-Am's proposal includes a Cap on Carryover Credits that would need to be calculated to confirm that the sum of non-ASR diversions from the Carmel River plus the amount of ASR water recovered that year cannot exceed the EDL plus 750 afa.

Another substantial calculation change that Cal-Am proposes is to amend the accounting for winter pumping under the ASR.

Under WR 2009-0060, any ASR diversions are counted towards the annual limit on Carmel River diversions: Here, Cal-Am proposes to count only the first 600 afa towards the diversion limit. Thus, as proposed, diversions to storage under the ASR program above 600 afa could occur without impacting Cal-Am's subsequent diversions from the Carmel River in a particular water year. For example, Cal-Am reported diversion of 699 afa to ASR storage in WY 2015-2016, so 99 afa would not be considered in measuring compliance with the EDL.

A third significant change to calculating the diversion limits would be the manner in which the limit is changed by the addition of lawful supplies. Under WR 2009-0060, production from new sources of water generally lowered the Carmel River diversion limit acre-foot by acre-foot. Under Cal-Am's proposed application, the EDL would be lowered for water delivered under the Pure Water Monterey water recycling project in this same manner, and the reductions for Sand City desalination project and for accounting for Pebble Beach entitlements would continue unchanged (except that the provision on unlawful diversions to serve Pebble Beach entitlements would be extended until December 31, 2021). However, Cal-Am proposes that fifty percent of

[4] The deadline for measuring achievement of a milestone for the 2021-2022 water year is December 31, 2021. Because this is the end of the compliance period, failure to meet this milestone would not result in a reduction of the effective diversion limit, as the limit to Carmel River diversions after that time is the limit of Cal-Am's lawful water rights.

any water Cal-Am may acquire from other willing water right holders on the Carmel River be added to the EDL, with the other fifty percent being added to instream use. Additionally, Cal-Am proposes that water rights purchased from the Malpaso Water Company LLC to Cal-Am be added to the EDL. Finally, Cal-Am proposes that the EDL not apply to excess pumping that any of the petitioners establish was necessary to meet reductions required by mitigation measures imposed by the Seaside Basin watermaster or the court to address seawater intrusion within the Seaside Groundwater Basin.

Cal-Am's application also includes new reporting requirements. The first new reporting requirement is an annual report to the State Water Board regarding progress towards each milestone due 120 days prior to its deadline. In the event that the annual milestones report anticipates a delay in achieving a milestone, Cal-Am proposes that the State Water Board determine whether the delay is beyond the control of the applicants, and, if so, that the State Water Board determine whether or not to lower the EDL by 1,000 afa after a missed milestone. The second proposed reporting requirement is Cal-Am's funding of an annual report on the status of the Carmel River steelhead population that may include adaptive management recommendations.

Cal-Am's application also notes Cal-Am's substantial completion of downstream fish passage facilities at Los Padres Dam, and states that the company will endeavor to remove the Old Carmel River Dam and Sleepy Hollow Ford prior to September 30, 2017.

4.0 NOTICE AND COMMENTS RECIEVED

The State Water Board noticed Cal-Am's application on May 6, 2016. The State Water Board received 16 comments prior to June 1, 2016, the deadline for consideration of comments by staff prior to releasing a preliminary staff recommendation. Staff released a preliminary staff recommendation, along with a rationale document explaining the reasoning behind the proposed adoption of the broad framework of the extension, and for the recommended changes from certain terms in the submitted application. The document further set notice of a comment deadline of July 13, 2016 for written comments. The State Water Board received an additional 77 comments prior to the written comment deadline of July 13, 2016. All comments received were posted on the State Water Board, Division of Water Rights page for the Cal-Am CDO Change Application: http://www.waterboards.ca.gov/waterrights/water_issues/projects/california_american_water_company/index.shtml.

5.0 ANALYSIS

5.1 Adoption of Proposed Approach to Extension of CDO

Seven years after adoption of Order 2009-0060, the State Water Board finds itself in a situation that is in some respects analogous to the situation before it at the Cal-Am CDO hearings. A project that was presented to the State Water Board as a solution to end unlawful diversions has failed to come to fruition: then, the Los Padres Dam, here the Coastal Water Project.

Cal-Am's service area continues to depend on thousands of acre-feet of unlawful diversions from the Carmel River each year. Cal-Am has plans to develop a substitute supply that could resolve reliance on unlawful diversions, and proposes a CDO compliance schedule that would allow continued diversions at recent historic levels during the foreseeable timeframe for construction. The plans are supported by a number of stakeholders, but there is also substantial opposition. Permitting is incomplete and construction not yet begun.

In other ways, however, the situation is different than that in 2009. Cal-Am has complied with the compliance schedule in WR 2009-0060, including making significant reductions in diversions from the Carmel River despite the ultimate failure of the Coastal Water Project and the Regional Desalination Project. WR 2009-0060 required Cal-Am to reduce diversions from the Carmel River as much as possible and set minimum reductions. Cal-Am reduced diversions at a faster rate than the minimum required under the order. (See Table 1, p. 2.) The pumping limit Cal-Am is currently requesting is approximately 2,000 afa less than the first limit for diversions imposed under WR 2009-0060, and the actual reductions top 3,000 af of reduction in some years. These amounts constitute a reduction of approximately one third to almost half of the average annual unlawful diversions found in 2009.

Additionally, Cal-Am has undertaken or funded a number of fishery restoration actions since 2009. As required under an agreement with NMFS and CDFW, Cal-Am has funded a number of significant habitat improvement and fishery recovery projects as mitigation for unlawful diversions. Cal-Am helped fund removal of the San Clemente Dam, with benefits for not only the steelhead fishery, but also public safety. Under an agreement with NMFS, Cal-Am has contributed funding towards a series of steelhead recovery projects identified by the State Coastal Conservancy in consultation with NMFS, CDFW and Carmel River stakeholders. These include ongoing projects to facilitate fish passage by removing barriers, including removal of Old Carmel River Dam and Sleepy Hollow Ford anticipated by the end of September 2017,[5] to restore habitat upstream of San Clemente Dam and in the Carmel Lagoon and to augment water availability for fisheries purposes in the Carmel Lagoon and during the summer. Cal-Am and other stakeholders have also constructed downstream fish passage facilities at Los Padres Dam and the company is helping fund a planning effort to address long-term disposition of Los Padres Dam. These actions are in addition to ongoing habitat restoration and steelhead rescue operations on the lower Carmel River. NMFS has commented that the habitat has improved since 2009, and that an additional four years of diversion at levels similar to recent years would be unlikely to cause jeopardy.

Further significant habitat restoration actions have also been set in motion, indicating that habitat improvement will continue over the next few years even absent an immediate cessation of Cal-Am's unlawful diversions.

Cal-Am has also funded a forbearance agreement with Rancho Cañada to add approximately 300 afa to the Carmel River for the next three years. This agreement is part of a larger effort to convert much of the property to riparian habitat, with additional potential ecological benefits. Cal-Am is also a purchaser of water from Malpaso Water Company, to offset unlawful

[5] This order adds reopener provisions if these anticipated efforts to undertake major habitat expansion efforts do not continue to develop according to the schedule set forth. That schedule would enable realization of the project benefits for almost the entire duration of the extension of the compliance schedule.

diversions, and with the funds from the purchase to facilitate the transfer of the Eastwood/Odello Ranch for wetland restoration near the Carmel Lagoon.

Thus, the current situation on the Carmel River has improved in that the Cal-Am service area has meaningfully reduced its dependence on unlawful diversions, fish habitat has undergone improvement and expansion, plans are underway to undertake additional large fishery habitat improvements, robust fish rescue and habitat restoration efforts have been ongoing for years and will continue throughout the requested extension period, and additional instream flows have been secured. These factors all indicate that the impact of extending the compliance period will not be as great as the impacts found in 2009. The broad terms of the proposed revisions to the compliance plan also provide a framework that encourages success in constructing new water supplies, and that allow for planned reductions to lawful levels of diversions regardless of the success of supply projects.

Cal-Am is proposing a more diversified approach to water supply on the Monterey Peninsula than the efforts in 2009, so that the water supply does not depend so heavily on the success of any one project. In 2009, the State Water Board required Cal-Am to diligently pursue small projects, including requiring implementation of small projects that would result in at least 500 afa of additional water supply, and also required annual reductions in Carmel River diversions of between 121 and 242 afa. The central element of the effort to reduce diversions to sustainable levels, however, required construction of the Coastal Water Project. Development of a water supply project large enough to address the region's water needs has proven a challenge, given the failure of several major proposed water supply projects: the New Los Padres Dam, the Carmel River Dam and Reservoir Project, the Coastal Desalination Project, and the Regional Water Supply Project. Here, Cal-Am has proposed three potential projects to substitute for unlawful Carmel River diversions: a 6,250 to 9,752 afa desalination facility currently undergoing environmental review and permitting at the CPUC; a 3,500 afa water recycling project with completed environmental review that is currently undergoing expedited permitting review at the CPUC, with a decision expected in August 2016; and a proposed expansion of facilities to complete the ASR groundwater storage project, which is permitted to produce up to 5,326 afa, albeit subject to water availability. Each of these projects has the potential to provide a significant amount of new lawful water supplies to the Cal-Am Service area, and to greatly reduce Cal-Am's remaining unlawful diversions of approximately 3,500-4,500 afa.

The application changes the incentive for conservation and for adopting smaller-scale projects. WR 2009-0060 required yearly reductions in diversion amounts and did not specify whether these reductions stem from conservation measures or small water supply projects. As described above, conservation and small projects have resulted in a combined reduction of approximately 2,000 to 3,000 afa of demand from the Carmel River. As these projects were the first to be implemented, they likely represent some of the lowest-hanging fruit in terms of demand reduction. Rather than imposing additional reductions, the application proposes adopting a "credit" system that incentivizes conservation and small projects. Should the larger projects fail to proceed on their expected timelines, Cal-Am can draw on these credits to offset the majority of the required reduction in diversions. Thus, Cal-Am and other stakeholders can anticipate whether the milestones will be met, and undertake efforts to build credits in anticipation of failures to meet milestones, but are otherwise not required to expend additional resources on conservation and small projects. Stakeholders can thus focus efforts on working to make implementation of the larger supply projects go more smoothly.

The Board implements the overall concept of credits in this order, but imposes more limits on the accrual and use of credits so as to avoid overwhelming other incentives and results of the extended compliance schedule. (see explanation below)

The milestones approach proposed is similarly broadly acceptable, as it accomplishes two important goals. First of all, it provides structural encouragement to timely develop lawful water supplies for the Cal-Am service area. Implementing a large municipal water supply project is a long-term decision that affects a wide range of stakeholders and involves impacts to costs of service to existing users, to the environment, and to the cost of and potential for municipal growth. The potential for sharp reductions in water availability provides an incentive to multiple stakeholders to make diligent progress, and to shift the baseline of a discussion regarding the area's water needs away from a status quo that relies on cheap unlawful diversions. If the alternative to implementation of a project is severely limited access to water there is an incentive to implement change from the status quo.[6] It is the Board's hope that the focus on annual deadlines with large but achievable reductions of up to 1,000 afa for failure to meet them will be an effective incentive. The fact that Cal-Am did meet the more incremental annual reductions each year under WR 2009-0060 provides reason to believe that the incremental approach may be an effective inducement to alternate water supply development. Secondly, in the event that one or more of the proposed projects fails to move forward as envisioned, the step-wise reduction of diversions ensures a staggered approach to ending reliance on unlawful Carmel River diversions through continued conservation, efficiency and smaller supply development. This step-wise reduction approach allows for greater planning for reductions and implementation of alternative projects. As discussed below, this order does make changes to the milestones proposal to better serve the goals described above.

This more diversified approach, in combination with diversion reductions for failure to achieve milestones allows for Cal-Am to reduce its diversions to lawful levels by the end of December 2021, regardless of whether any one of the proposed projects – or any of them at all - are built. Implementation of one or more of these projects in combination with diversion limits for any failure to reach particular milestones provides sufficient assurance that the State Water Board will not again find itself in the same position of again extending the compliance deadlines in the CDO at the end of December 2021.

The proposed annual reporting on milestone progress will give the State Water Board the opportunity to track compliance. This order adopts the annual reporting requirement with minor timeline modifications that better accommodate State Water Board processes. The report gives time for a formal warning should progress towards a milestone be lacking, which will allow Cal-Am and other stakeholders to prepare for step-wise reductions through development of additional supplies, to generate additional credits, or to implement additional conservation

[6] Numerous commenters have asserted that the milestone approach inappropriately burdens ratepayers and water users for Cal-Am's unlawful diversions, and that therefore the CDO should impose monetary fines in-lieu-of requiring diversion reductions. The remedies of issuing a CDO and imposing penalties for unlawful diversions are not mutually exclusive, however, and payment of a penalty does not authorize continuing violations. The penalty addresses past violations; the law still requires elimination of future violations. Moreover, the argument that the State Water Board should impose penalties *in-lieu*-of requiring elimination of unlawful diversions fails to recognize the connection between Cal-Am's diversions and the ratepayers – Cal-Am diverts water only for the purpose of serving it to ratepayers, whose costs have been artificially lowered and expectations of supply have been artificially raised because of diversions in excess of the available lawful supply. California law prohibits both the diversion and the use of water without a lawful right. The State Water Board's concern is not forcing one party or another to bear a burden, but is rather to encourage compliance, and both Cal-Am and its customers have a role in achieving that outcome.

measures. It also provides for the opportunity for the State Water Board to re-assess whether to impose EDL cuts where the anticipated failure to meet a milestone is not reasonably within the control of the Applicants.

The annual report on the state of the fishery gives the State Water Board additional assurance that an extension of the compliance period will not cause undue harm to the fishery. If the restoration measures planned are not undertaken or fail to achieve the improvements that this order relies on in part, then the report will recommend adaptive management measures.

The foreseeable consequences if State Water Board were not to extend the compliance schedule also provide reasons to extend the schedule.

Without amendment of WR 2009-0060's deadline, Cal-Am would need to cease its unlawful diversions from the Carmel River by the end of December 2016. This would mean that Cal-Am's diversions from the Carmel River would be limited to 3,376 afa, plus whatever lawful diversions are available in the diversion seasons under Permit 21330, and Permits 20808A and 20808C for the ASR project, plus any water available under transfers from other rights holders on the Carmel River. Because the Cal-Am service area continues to rely on thousands of acre-feet per year of unlawful diversions, a reduction to lawful levels would require immediate and substantial curtailment of use, and the purchase and importation of additional supplies at costs previously believed to be untenable. Since 2009, the average total reported diversions in the Carmel River basin under other confirmed or claimed rights are approximately 2,000 afa. But, there is no indication that users are willing or able to transfer that amount of water for use in the Cal-Am service area. State Water Board staff have calculated that the annual average residential per-capita usage in the Cal-Am service area from June 2014 through May 2016 was 55 to 57 gallons per person per day, based on reporting required under emergency conservation regulations. This level is in the lowest 12% of urban water users in the state. During this period, such residential use accounted for between 40 and 70% of total usage. Numerous commenters have suggested that additional measures would cause economic harm, and could potentially affect health and safety.

With respect to the claims of potential health and safety impacts, there is no established level of per capita water use required for health and safety in the U.S. or California. The State Water Board has used 50 gallons per person per day as a benchmark for drought evaluation of diversions – just slightly under the amount typically considered for indoor use. Some Coastal California communities have achieved averages of approximately 40 gallons per person per day during the ongoing drought emergency. The standards adopted by the United Nations General Assembly in 2010 to implement a basic human right to water require 50-100 liters per person per day (13-26 gallons).

The State Water Board recognizes that requiring major reductions in water use rates over a relatively short period could cause substantial adverse economic impacts, and even greater inconvenience. Rapid curtailments in water use and implementation of rationing may be necessary, however, to end unlawful diversions on the Carmel River if the area continues to fail to develop alternative supplies. Economic impacts are a consideration in establishing a schedule of compliance, but cannot justify a decision not to require compliance. This order allows for cuts to occur on a predictable schedule, should the planned projects not meet development milestones, and also sets forth a clear method to address health and safety

concerns as the reductions of 1,000 afa for each milestone missed occur. The plans also allow time for and provide incentive for additional innovation in water supply planning should the processes underway fail.

To the extent that additional demand reduction and immediate supply acquisition efforts fail, Cal-Am would face significant fines. Each day of violation of a CDO accrues a potential administrative penalty of $10,000 in certain drought years, or of $1,000 in wetter years. (See Wat. Code, § 1845, subd. (b)(1).)

This administrative penalty is in addition to the potential administrative civil liability penalties for unlawful diversion of water under Water Code section 1052, which may be imposed for all unlawful diversions, not just those which are in excess of the levels set in the CDO. Such penalties are up to $1,000 per day and $2,500 per acre-foot of unlawfully diverted water in certain drought years, and up to $500 per day in wetter years. (See Wat. Code, § 1052, subd. (c).) Thus, in wetter years, Cal-Am would face approximately $550,000 for each year of violation of the CDO. In certain drought years, such as those the state is currently experiencing, Cal-Am could face over $4 million per year of violation in per-diem penalties, in addition to up to $2.5 million in penalties for every 1,000 acre-feet that the company diverts unlawfully. These penalties would be deposited in the Water Rights Fund for the state, rather than being used directly to fund a more stable water supply for the Monterey Peninsula. To the extent that Cal-Am or others dispute the imposition of fines, the process could result in additional expenditures of time and resources on issues related to the peninsula's lack of water supply, but that do not have the potential to provide a long-term solution. The CPUC would determine the question of whether these penalties would ultimately be borne by Cal-Am as a corporation or by the area's ratepayers, or whether the burden of these penalties would be shared. (See Cal. Const., Art XII, 6; Pub. Util. Code, §§ 427, 727.5.)

The result of an immediate reduction in pumping such that Cal-Am is taking only lawful supplies by the end of December 2016 is likely to divert time and resources from building a permanent, lawful supply, and to cause significant hardship to the residents of the Monterey Peninsula and to have broad economic impacts.

An immediate end to unlawful diversions would provide significantly more water for the fishery, and NMFS continues to have serious concerns regarding the impact of diversions on the fishery. However, NMFS supports extension of the CDO for the 6 years requested, under the conditions outlined for fishery protection, habitat restoration and rescue efforts, so long as sufficient monitoring of the fishery occurs.[7] Environmental organizations with longstanding and immediate experience in the area similarly support the limited extension of the compliance period, as conditioned.

[7] Some comments have proposed specific additional measures during the compliance period in order to mitigate impacts to the Carmel River fisheries. The State Water Board does not have before it sufficient information regarding the potential efficacy, need for, and cost of these measures, and is reluctant to re-balance the suite of priorities that NMFS has expressed without this information. This order provides for an annual fisheries report that includes the opportunity for recommendations for any adaptive management measures, including those suggested by commenters.

Amending the existing compliance schedule in WR 2009-0060 is appropriate in light of the fishery agency's support, the substantial mitigation measures that are completed, ongoing and planned for the immediate future, and the substantial hardships in immediately cutting off unlawful diversions where there is no clear alternative supply.

For the reasons discussed above, the Board will extend the CDO in a manner following the application's broad approach. This order does, however, make modifications to the application's proposal, as discussed below.

5.2 Adoption of Initial Effective Diversion Limit

Cal-Am's application proposes a starting Carmel River diversion limit of 8,310 acre-feet per annum, which is approximately 1,000 acre-feet less than the requirement of WR 2009-060 for WY 2015-16, and approximately the five-year average of pumping from WY 2009-2010 until WY 2012-2013. Staff's Preliminary Recommendation had suggested reducing this limit to 7,990, which is the most recent six-year average of diversions with adjustments to reflect modifications to ASR accounting.[8]

A table comparing the various average diversion levels over the past few years is below:

Requested Limit	8,310 af
Unadjusted Averages	
WY 2009/10 to 2013/14	8,348 af
WY 2009/10 to 2014/15	8,162 af
WY 2010/11 to 2014/15	7,836 af
Averages Adjusted - New ASR Accounting	
WY 2009/10 to 2013/14	8,143 af
WY 2009/10 to 2014/15	7,990 af
WY 2010/11 to 2014/15	7,733 af

Applicants submitted a letter in response to the preliminary recommendation requesting again that the State Water Board set the EDL at 8,310.[9] The submittal included additional information on the proposed EDL, demand levels during the historic drought, and the scheduled decreases in pumping from the Seaside Basin[10] under the management plan ordered under the Seaside Groundwater Basin Adjudication, *California American Water v. City of Seaside* (Monterey County Superior Court, Case Number M66343). This information indicates that, because of a scheduled reduction in allowable pumping from the Seaside Groundwater Basin of approximately 400 afa starting in WY 2017-2018, setting the diversion limit at 7,990 afa would require improvement on conservation levels from those achieved during the historic drought.

[8] As described above, the application proposes counting only the first 600 acre-feet of ASR pumping in any water year towards the EDL.

[9] A number of additional commenters also wrote in support of setting the diversion level at 8,310, either independently or in explicit support of the Applicants' letter.

[10] Cal-Am's major alternative supply to Carmel River water is groundwater extracted from the Seaside Groundwater Basin, an adjudicated basin regulated by a watermaster. Due to a continued negative gradient for seawater intrusion, there is a ten percent reduction every three years in to the production allocations to the Basin users, including Cal-Am. According to the Watermaster Report for WY 2014-15, the watermaster has implemented another ten percent reduction. Cal-Am exceeded its allotments from the Basin in 2014-2015.

Thus, setting the EDL at 7,990 would therefore require immediate efforts to lower demand or cultivate alternate sources, rather than only requiring such efforts if milestones are missed. This would potentially undermine one of the benefits of the milestone structure – namely, allowing parties to focus on development of the primary water supply projects already underway.

The only comments submitted in support of lowering the proposed EDL were submitted by Planning and Conservation League and the Sierra Club, prior to the submittal of Cal-Am's revised application. The two environmental organizations have submitted a new joint letter explaining that they now support the EDL level of 8,310 for two primary reasons: (1) Cal-Am has entered into a forbearance agreement with Rancho Cañada which will increase flows in the river by 300 afa, reducing the fisheries impact of a slightly higher pumping level than that used over the past three years; and (2) the agreements to accelerate the Pure Water Monterey project indicate that it will provide water by 2018, resulting in an EDL after that date of 4,810.

For the reasons discussed above, this order adopts an initial EDL of 8,310, despite the fact that diversions at this level would constitute an actual increase in Carmel River diversions over those in recent years, and would likely result in Cal-Am accruing a significant number of credits prior to implementation of further restrictions on Seaside Groundwater Basin diversions.[11]

5.3 Modifications to Cal-Am's Application

5.3.1 Changes to Proposed Credit Framework

As discussed above, allowing Cal-Am to generate "credits" for reducing unlawful diversions from the Carmel River below the EDL is a worthwhile tool to encourage continued efficiency and conservation measures, as well as to encourage investment by various parties in development of water supply and re-use projects. Any additional reductions in diversions are likely to assist the fishery. However, allowing too generous accrual and use of credits threatens to undermine the basic principle of having a substantial drop in diversions for failure to meet a milestone and of ensuring that the diversion limits are ratcheted down such that unlawful diversions end by December 31, 2021 regardless of whether Cal-Am meets the milestones.

Therefore, this order adopts the concept of credits, but makes a minor adjustment to the proposed method of their accrual and use.

The order sets a clear limit to the number of credits that can be used in any year to 750 acre-feet. This 750 acre-foot limit prevents the entire reduction from a missed milestone (and its associated incentive to meet deadlines) from being cancelled out by significant accrual of credits.

Cal-Am also proposes limiting the quantity of credits available for use in any one year, but using a different calculation for this limit. The application proposes limiting carryover credits once the non-ASR total production from the Carmel River plus the amount of ASR water recovered that year exceeds the sum of EDL + 750 acre-feet. Because Cal-Am's pumping from Carmel River to ASR storage typically often exceeds the amount of ASR recovered that year (due to allowable ASR carryover), the value of non-ASR water plus ASR recovery is less than the Carmel River production counted under the EDL in most years. Thus, under the calculation method in the application, Cal-Am could use credit to pump up to 1,350 acre-feet above the

[11] Since the adjusted average for usage in the last six years is 7,990 afa, using an EDL for 8,310 afa is likely to result in accrual of approximately 400 afa of credits in 2015-2016 and in 2016-2017, prior to enactment of the next reductions in Seaside Groundwater Basin pumping.

otherwise-applicable limit, if it had diverted 600 or more acre-feet to storage in that year and had not recovered that amount from storage. In simpler terms, there would potentially be no reduction in diversions for missing a milestone during a year when there is water banking under the ASR, which could undermine the incentives for compliance, and the step-down structure towards ending unlawful diversions by the end of December 2021.

Additionally, it is easier to understand, comply with, and enforce the order when it treats ASR water in the same manner, rather than counting it in different ways for different purposes.

5.3.2 Changes to Proposed EDL Following Late Achievement of Milestones

This order adjusts Cal-Am's proposed accounting system by modifying the requested elimination of step-wise reductions when compliance with a milestone is achieved late. Under the application, Cal-Am proposes that the 1,000 afa reduction in the EDL be eliminated in the water year following late achievement of a milestone. This proposal reduces too greatly the incentive to meet a milestone. Additionally, it does not provide meaningful incentives for stakeholders to adhere as closely as possible to proposed timelines, even in the event of a delay. The order requires that for milestones achieved within the month following the deadline, the continuing reduction shall be 250 afa. For those achieved between one and six months after the deadline, the continuing reduction shall be 500 afa. For milestones achieved between six and nine months after the deadline, the continuing reduction shall be 750 afa. The 1,000 afa reduction to the EDL shall remain for milestones achieved more than nine months after the deadline. This structure provides meaningful incentives for adhering as closely as possible to the timelines proposed. Additionally, as discussed below in the Changes to EDL Accounting section, this order permits the accrual of credits for up to 50 percent of instream flow agreements, upon approval of the Deputy Director for the Division of Water Rights.

5.3.3 Changes to Milestones

5.3.3.1 New Milestones

This order adds two milestones to those proposed. These additions are necessary to track progress towards completion of the Pure Water Monterey recycled water project, even in the face of delays for the review of the desalination project. The first added milestone, for WY 2015-2016, is for CPUC approval of the Water Purchase Agreement for Cal-Am's purchase of water from the Pure Water Monterey Project, and of construction of the Cal-Am components of the Pure Water Monterey facilities. On April 25, 2016, Administrative Law Judge Sandoval ruled that the Pure Water Monterey portions of Cal-Am's pending request for a certificate of public convenience and necessity should be expedited. The order set an accelerated schedule for hearings and a decision on Cal-Am's ability to purchase and convey water from the recycled water project, with a decision anticipated in August 2016. The joint Applicants' letter of June 29, 2016 informed the Board that the CPUC has subsequently issued a ruling, on June 10, 2016, that includes a newly-noticed workshop and public hearing that will address the Pure Water Monterey Project. Cal-Am has filed a motion to the CPUC to confirm whether a decision is still anticipated on August 18, 2016. Absent such confirmation, Applicants have requested that the deadline for meeting this milestone be set for the end of December 2016, rather than the September 30, 2016 date proposed in the preliminary staff recommendation. This order sets December 31, 2016 as the deadline for meeting the milestone, but notes that, should there be additional delay in the decision or a denial, the entire 1,000 afa reduction in use would occur for the 2016-2017 water year, despite the extension of the deadline.

The order also adds a second milestone for start of construction of the Cal-Am portion of Pure Water Monterey Project to track progress on this Pure Water Monterey Project, for WY 2016-2017.

The Applicants have affirmed in their April 2016 application, and in their letter of June 29, 2016, that they anticipate water deliveries to begin under the Pure Water Monterey project in 2018. This timeline is significantly accelerated compared to the timeline in the initial application, and is based on the CPUC's ruling expediting proceedings for this project. In the initial application, the start of construction of the Pure Water Monterey project facilities constituted part of a WY 2017-2018 milestone. However, in the April 2016 application, this milestone was pushed back to 2018-2019 in its entirety, including the Pure Water Monterey portions. This order returns the Pure Water Monterey construction milestone to WY 2017-2018, as there is no indication that such an extension is necessary—acceleration rather than delay of the project is anticipated.

5.3.1.2 New Limit to Milestone Reductions

This order additionally limits the cuts to the EDL for missing a milestone when the diversions from the Carmel River in a particular water year are reduced to lawful levels. This addition is necessary because the Pure Water Monterey Project is anticipated to begin providing 3,500 afa to the Cal-Am service area, with water deliveries beginning in 2018. While this amount of water is insufficient on its own to eliminate the threat of unlawful diversions, implementation of the project followed by a failure to meet milestones related to the desalination project could result in the EDL falling below lawful pumping levels. Implementation of Pure Water Monterey and use of significant ASR water in the same water year could allow Cal-Am to pump lawfully at a level above the EDL if milestones are missed. However, as ASR water is not always available, the CDO would not likely be lifted under this scenario: termination of the CDO requires that Cal-Am have a permanent supply available.

5.3.1.3 Requirement to Revisit Milestones Based On Alternative Supply Projects

In a final change to the proposed milestones, this order adds the requirement that Cal-Am submit revised milestones within 60 days of CPUC approval of any water purchase agreement with Cal-Am for a major water supply project not specified in the milestones receives CPUC approval.

Two competing desalination projects at Moss Landing are currently undergoing environmental review: the People's Moss Landing Water Desalination Project and the Deep Water Desal Project. Proponents of both projects project that they could be permitted and built to begin serving water by 2019. The People's Moss Landing Water Desalination Project is a proposed 13,400 afa project that could serve the North Monterey County and Monterey Peninsula communities. The Moss Landing Harbor District is the lead agency for environmental review. The facility would use existing open ocean intakes that operate under proven technologies, and would be built on a previously-used industrial site. The use of these facilities could significantly reduce the cost of the facilities, and therefore of the water produced.

The Deep Water Desal Project is a proposed 25,000 afa project that could serve from Santa Cruz to the Monterey Peninsula, and east to Salinas. The facility would use open ocean intakes that draw deep ocean water, with the goal of lessening impacts on ocean organisms. It would be run conjunctively with a computer data center, to reduce the energy demand of each

of the two facilities, as compared to separate operation. The District has identified the Deep Water Desal Project as a potential supply project for the service area, should Cal-Am's proposed desalination facility not be built.

Open ocean intakes can cause significant impacts to the ocean. The State Water Board's 2015 amendments to the Ocean Plan require that subsurface intakes be infeasible, including consideration of alternative siting and sizing of facilities, before issuance of a permit for a surface intake of ocean water. (State Water Board Resolution No. 2015-0033, approved by Office of Administrative Law on January 28, 2016.) The Coastal Commission would also need to permit construction of either of these facilities, and The Public Utilities Commission would need to issue a Certificate of Public Convenience and Necessity in order for the facilities to sell water in the Cal-Am Service Area.

Additionally, the Central Coast Regional Water Quality Control Board has suggested that there is significant untapped potential in recycling water from wastewater treatment plants owned by Cal-Am and others in the Salinas area. Discharges that are not currently recycled could be routed through the existing water recycling facilities operated by the Monterey Peninsula Reginal Water Pollution Control Agency.

Cal-Am's application does not include milestones for either of these larger desalination facilities, and neither of the project proponents have submitted usable potential amendments to the existing milestones.[12] Yet, the construction of either Moss Landing facility could provide sufficient water to end unlawful diversions from the Carmel River, were its water approved for sale within the Cal-Am Service Area. Other large projects, such as the wastewater recycling augmentations mentioned above, may emerge as review of the proposed projects continues. The State Water Board's interest is in ending unlawful diversions from the Carmel River, rather than in supporting a particular facility. The specification of the MPSWP desalination and water recycling facilities in the milestones in this order are based on

Cal-Am's application and on evidence suggesting that they have made regulatory progress and are capable of ending unlawful diversions by the end of 2021. Should either of the other large desalination projects, or any other major water supply project, emerge as an alternative to all or part of the MPWSP, the State Water Board should have the opportunity to consider amendment of the proposed milestones.

5.3.1.4 Changes to EDL Accounting

The order adopts some of the new water diversion accounting methods proposed, in order to encourage full development of new water supplies. But it also amends or rejects other proposed changes that undermine the principle that new supplies must offset current unlawful diversions. It also clarifies whether or not various sources of additional supply count towards the EDL, rather than raising the EDL for specific supplies, in order to reduce confusion about what the EDL actually is.

[12] Water Plus has suggested requiring Cal-Am to support the People's Water Supply Project, but as discussed above, the State Water Board supports a more diversified approach at this point, given the track record for large water supply projects in the area.

The order adopts a new method of accounting for lawful winter diversions from the Carmel River to aquifer storage for later recovery, under the ASR. These changes encourage Cal-Am to maximize diversion during the winter months when sufficient water is available to meet bypass flows, and encourage further development of facilities to capture flows when they are available. The ASR permits authorize diversion of 5,326 afa of winter high flows, but the pumping and transportation pipeline facilities have limited the diversions to a maximum of about 1,110 af. Because the fisheries impact of diversions during periods of higher flow in winter, and under specified bypass requirements, are significantly less than the impact of the same amount of diversion in the lower-flow summer months, it makes sense to implement a strong incentive signal in the pumping limits to encourage reliance on this pumping rather than on summer diversions. Because the pumping continues to have some impact on the fishery, the first 600 afa will continue to count towards determination of the EDL. Additional pumping will not be counted in the EDL.

The application recommends that water delivered on an interim basis by the Malpaso Water Company LLC to Cal-Am under State Water Board License 13868A be added to the EDL for the water year. License 13868A requires that all water diverted under the right and provided to Cal-Am for municipal purposes be for the purpose of reducing Cal-Am's unlawful diversions[13] in 2015, that 50 afa be used to reduce unlawful diversion in 2016, and that 25 afa be so used in 2017. Because these amounts are used to offset unlawful diversions rather than increase deliveries, they should not increase the EDL. The order does add clarification, provided in State Water Board Division of Water Rights Decision 2005-0001, regarding the extent to which Condition 2 of WR 2009-0060 applies to water that Cal-Am may wheel on behalf of Malpaso Water Company. Namely, where Cal-Am is the purchaser of the water, Condition 2 applies. Where Malpaso Water Company sells to a customer outside the current service area, however, Condition 2 does not apply. The order also establishes monthly reporting requirements to monitor implementation of this condition.

The application additionally requests that fifty percent of the water from other water supply projects and from forbearance agreements be used to increase the EDL, with the other fifty percent of the water being used for instream use. Increasing the EDL is contrary to the basic premise of the enforcement action that new water supplies must offset current unlawful diversions. However, in the event that a milestone is missed, small projects and instream flow agreements may prove to be the fastest and best way to obtain supplies and river protection in the short term. The credit system as proposed provides incentives for small water supply projects and conservation: it does not, however, provide incentives for instream flow projects, as increasing instream flows does not directly[14] affect water supplies or demand. Therefore, this order adds provisions to incentivize such projects.[15] This order provides that fifty percent of the flows provided through forbearance agreements or other instream water dedications may be accrued as carryover credits, provided that the Deputy Director reviews the agreements to ensure that the agreement provide increased flows in the river as envisioned.

[13] See Division of Water Rights Decision 2005-0001, Condition 2.
[14] In certain winters, increasing instream flows above the ASR points of diversion may have minor impacts on the number of days that ASR pumping can occur, by affecting whether bypass flows are achieved. However, these changes are likely to be minimal as the bypass flows are set to be triggered only when there are high flows. It is unlikely that flows would remain in the range where an instream flow dedication makes the difference in the ability to pump ASR supplies.
[15] This change did not appear in the preliminary staff recommendations distributed on June 17, 2016.

It is worth noting that the temporary non-diversion of water, and its use instream for fisheries and instream habitat improvement purposes may be considered a reasonable and beneficial use of water in some circumstances. Consistent with state policy and water rights law, the State Water Board encourages appropriately-documented forbearance agreements to improve fisheries flows. Short-term agreements and agreements regarding riparian rights may be structured in such a manner that the subject rights are not prejudiced. The substantive standards of Water Code section 1707, and various decisions approving such instream flow dedication, provide guidance as to the appropriate manner by which to construct forbearance agreements that provide real benefits to instream flow and which do not prejudice the water holder dedicating the flow or the rights of other lawful water users.

The application requests that the State Water Board provide assurances regarding a particular forbearance agreement with Rancho Cañada for a significant amount of water in calendar years 2016-2019. This agreement generates funding for a planned permanent land conservation and restoration project, and for the potential permanent retirement of associated water diversions. This proceeding is not the context to make definitive findings regarding the water rights at issue in the agreement: This is neither a noticed adjudicative proceeding regarding the rights at issue, nor a rulemaking regarding instream fishery needs. However, it is worth noting that a four-year cessation of diversion cannot be the basis for forfeiture, and that the State Water Board has recently approved a water right change petition to add instream beneficial use and use for wetland protection in the vicinity.

5.3.1.5 Changes as to Form

Attachment 1 to the Application recommends embedding the changes proposed in the ordering section of WR 2009-0060. Because WR 2009-0060 was issued after an evidentiary hearing, and is based on the evidence presented therein, the State Water Board has determined that it is clearer to issue a separate order based on the Water Code section 1832 application.

5.3.1.6 Modifications to Reporting

This order generally adopts the reporting provisions requested in the application, but modifies the timelines to better fit State Water Board needs and to give NMFS additional authority over the selection of a contractor to prepare the fisheries report, in the event that NMFS cannot itself prepare the report.

6.0 CONCLUSION

For the reasons discussed above, the State Water Board approves, with modifications, Cal-Am's application to modify the compliance schedule in WR 2009-0060.

ORDER

NOW, THEREFORE, IT IS ORDERED THAT as of the effective date of this Order, Cal-Am shall cease and desist from the unauthorized diversion of water from the Carmel River in accordance with the following schedule and conditions.

1. This Order shall supersede the requirements in State Water Board Orders WR 2009-0060, 95-10 and any other State Water Board orders affecting Cal-Am's diversions from the Carmel River, to the extent stated herein, or to the extent that there is an irreconcilable conflict between the requirements here and those orders. All other requirements in State Water Board orders affecting Cal-Am's diversions from the Carmel River remain in effect until terminated by operation of law or action of the Stat Water Board.

2. Cal-Am shall diligently implement actions to terminate its unlawful diversions from the Carmel River and shall terminate all unlawful diversions from the river no later than December 31, 2021. This date supersedes the December 31, 2016 date in State Water Board Order WR 2009-0060, ordering paragraph 1.

3. At a minimum, Cal-Am shall adjust its diversions from the Carmel River in accordance with the following terms and conditions. These terms and conditions supersede the annual reductions in State Water Board Order 2009-0060, ordering paragraph 3.a.(2), after the effective date of this Order:

a. **Effective Diversion Limit**: The limit set forth in this Condition 3.a., as may be further reduced or increased pursuant to the terms and conditions of this Order, is referred to as the "Effective Diversion Limit."

i. **Immediate Reduction**: Commencing on October 1, 2015 (Water Year 2015-2016) the Effective Diversion Limit shall be 8,310 acre-feet per annum (afa). This Effective Diversion Limit shall not be exceeded through December 31, 2021 except as provided in condition 3.b.ii or 3.c. of this Order. This limit supersedes the reduction limit required under Order 2009-0060 for Water Year 2015-2016.

b. Adjustments to the Effective Diversion Limit:

i. **Pure Water Monterey Groundwater Replenishment Project Offset**: In any year that Cal-Am delivers water stored in the Seaside Groundwater Basin as part of the Pure Water Monterey Groundwater Replenishment Project to its customers for use, the Effective Diversion Limit shall be reduced by one acre foot for every acre foot of Pure Water Monterey Groundwater Replenishment Project Water so delivered. If this reduction will result in the Effective Diversion Limit for that year being lower than Cal-Am's available lawful diversions from the Carmel River in that year, Cal-Am may apply to the Deputy Director for a limitation of this condition such that the provision will not limit lawful diversions.

ii. **Seaside Groundwater Basin Limitations**: The Board may adjust the Effective Diversion Limit if an unexpected reduction in Cal-Am's production allocation from the Seaside Groundwater Basin, or access to water pumped makes the supply unavailable. The Applicants[16] may request such relief whenever they can establish that access to water in the Seaside Groundwater Basin is limited due to unexpected mitigation measures imposed pursuant to the Seaside Basin Watermaster's Seawater Intrusion Response Plan, or by the court pursuant to the Seaside Groundwater Basin Judgment in response to a detection of seawater intrusion within the Seaside Groundwater Basin.

iii. **Carryover**: After October 1, 2015 if Cal-Am's diversions from the Carmel River during a given water year are less than the Effective Diversion Limit for that water year, Cal-Am will accumulate credit for the difference between the Effective Diversion Limit and Cal-Am's actual diversions. Additionally, Cal-Am may generate credits through instream flow agreements, as described in 3.b.xii, below. Any such credit may be carried over to offset an exceedance of the Effective Diversion Limit prior to December 31, 2021, subject to the restriction in Paragraph 3.b.iv below, and subject to the overall cap on diversions in Paragraph 3.a.i., above.

iv. **Cap on Carryover**: The amount of carryover water accumulated under Paragraph 3.b.iii that may be credited in any one water year shall not exceed 750 afa.

v. **Milestones:** For purposes of calculating a reduction to the Effective Diversion Limit, the following Milestones and Deadlines will apply:

Water Year	Milestone[17]	Deadline
2015-2016	CPUC approval of (1) the Water Purchase Agreement for Cal-Am's purchase of Pure Water Monterey water, and of (2) construction of the Cal-Am components of the Pure Water Monterey conveyance facilities,[18] including the Monterey Pipeline and pump station.	December 31, 2016*
2016-2017	Start of construction of the Cal-Am components of the Pure Water Monterey project, meaning commencement of physical work after issuance of required regulatory permits and authorizations to begin work.	September 30, 2017

[16] "Applicants" refers to the joint applicants for the request to modify State Water Board Order WR 2009-0060: Cal-Am, the Monterey Peninsula Regional Water Authority, the Monterey Peninsula Water Management District, the Pebble Beach Company, and the City of Pacific Grove.

[17] If at any point prior to completion of the facilities listed in these Milestones the CPUC authorizes Cal-Am to acquire more than 1,000 afa of water from an alternative source, then the following shall occur. Cal-Am shall submit to the Executive Director within 60 days a revised set of milestones taking this water supply source into account. If the proponents of the alternative project are unable to reach concurrence with Cal-Am on revised milestones to propose, the proponents may also submit revised milestones within that time period. The Executive Director shall determine whether to bring forward a recommendation to the State Water Board regarding amendment of the milestones.

[18] "Cal-Am components" of the Pure Water Monterey Project refers to the pump station and pipeline within or leading to Cal-Am's Service Area needed to transmit water to Cal-Am's service area.

Water Year	Milestone[17]	Deadline
2017-2018	Issuance of a Certificate of Public Convenience and Necessity to Construct the Monterey Peninsula Water Supply Project Desalination Plant ("MPWSP Desalination Plant") by the California Public Utilities Commission.	September 30, 2018
2018-2019	Start of construction for any of the Cal-Am Components of the MSWSP Desalination Plant[19], meaning commencement of physical work after issuance of required regulatory permits and authorizations to begin work.[20]	September 30, 2019
2019-2020	(1) Drilling activity for at least one MPWSP Desalination Plant source water production well[21] complete; (2) foundation and structural framing complete for MPWSP Desalination Plant pretreatment seawater reverse osmosis, and administration buildings at desalination plant; (3) excavation complete for MPWSP Desalination Plant brine and backwash storage basins; and (4) 25% of MPWSP Desalination Plant transmission pipelines installed based on total length, including 100% installation of the "Monterey Pipeline and other ASR related improvements".	September 30, 2020
2020-2021	For MPWSP Desalination Plant: (1) 50% of drilling activity complete for source water production wells based on total number of wells required; (2) mechanical systems for brine and backwash storage basins complete; (3) construction of filtered water tanks and finished water tanks complete; (4) 50% of transmission pipelines installed based on total length.	September 30, 2021
2021-2022 and beyond	Substantial completion of the Cal-Am Components of the MPWSP Desalination Plant, meaning the Cal-Am Components are sufficiently complete and appropriately permitted to allow delivery of MPWSP Desalination Plant produced potable water to Cal-Am's Monterey Main system, eliminating further Cal-Am diversions of Carmel River water without valid basis of right	December 31, 2021

* It is anticipated that this milestone will be achieved during Water Year 2015-2016. The deadline provides a three-month extension in the event that it occurs soon after the end of the water year.

vi. **Reductions to the Effective Diversion Limit Based on Missed Milestones**: The following reductions to the Effective Diversion Limit shall apply if an applicable Milestone Deadline is not met:

[19] For purposes of this proposal the Cal-Am Components of the MPWSP Desalination Plant include: source water production wells; desalination plant; brine disposal system; and transmission pipelines

[20] Such work may include, among other things, any of the following: desalination plant site grading and preparation; electric utility installation; yard piping; subsurface excavation for structural foundations; and transmission pipeline installation.

[21] Not including construction of the MPWSP Desalination Plant Test Well completed in 2015.

Water Year	Milestone Missed	Reduction in Effective Diversion Limit	Date Reduction Assessed
2016- 2017	1	1,000 AFA	Dec. 31, 2016*
2017- 2018	2	1,000 AFA	Oct. 1, 2017
2018- 2019	3	1,000 AFA	Oct. 1, 2018
2019- 2020	4	1,000 AFA	Oct. 1, 2019
2020-2021	5	1,000 AFA	Oct. 1, 2020
Oct. 1, 2021 – Dec 31, 2021	6	1,000 AFA	Oct. 1, 2021

* The entire 1,000 AFA reduction for failure to meet this milestone must occur in the 9 remaining months of WY 2016-2017.

If a Milestone is not achieved by its Deadline but is subsequently achieved, the 1,000 afa reduction to the Effective Diversion Limit shall be amended on the first day of the water year following achievement of the Milestone, as follows. For Milestones achieved within the first month following the deadline, the reduction shall be 250 afa. For Milestones achieved between one and six months after the deadline, the reduction shall be 500 afa. For Milestones achieved between six and nine months after the deadline, the reduction shall be 750 afa. The 1,000 afa reduction to the Effective Diversion Limit shall remain for milestones achieved 9 months after the deadline or later.

If the reductions required under this subparagraph will result in the Effective Diversion Limit for that year being lower than Cal-Am's available lawful diversions from the Carmel River in that year, Cal-Am may apply to the Deputy Director for Water Rights for a limitation of this section such that the provision will not limit lawful diversions.

vii. **Illustration:** The following table illustrates the effect of the reduction in the Effective Diversion Limit over the term of this Order, and assumes no Deadlines have been met and no carryover credits have been applied under Paragraph 3.b.iii, and no additional water rights have been obtained or other adjustments made to the Effective Diversion Limit. The result is an elimination of unauthorized diversions from the Carmel River on October 31, 2020 if no Deadlines are met.

Water Year	**EDL if All Milestones Missed, No Other EDL Adjustments**
2015-2016	8,310 AFA
2016- 2017	7,310 AFA
2017- 2018	6,310 AFA
2018-2019	5,310 AFA
2019-2020	4,310 AFA

Water Year	EDL if All Milestones Missed, No Other EDL Adjustments
2020–2021	Legal limit
Thereafter	Legal limit

viii. **Joint Annual Report**: Commencing in water year 2016-2017, at least 120 days prior to each Milestone Deadline described in Condition 3.b.v, Cal-Am, in coordination with Applicants, shall submit a joint report to the Deputy Director for Water Rights, describing progress towards that Milestone, whether Applicants expect the Milestone to be achieved by its Deadline and, if not, whether the Milestone will be missed for reasons beyond Applicants' control. Sufficient evidence supporting the reasons that missing a milestone is beyond the control of Applicants shall be included for any further action related to such a claim.

If requested, Cal-Am, in coordination with Applicants, shall present written and/or oral comments on the progress towards Milestones at a regularly scheduled State Water Board meeting that falls at least 60 days after submission of the report. If the report indicates that a Milestone is likely to be missed for reasons beyond Applicants' control, the State Water Board may make a determination during that meeting or at a subsequent meeting whether the cause for delay is beyond Applicants' control. If the State Water Board determines that the cause is beyond Applicants' control, it may suspend any corresponding reductions under Condition 3.b.vi until such time as the Applicants can reasonably control progress towards the Milestone.

ix. **ASR Project**: Commencing for water year 2015-2016, only the first 600 afa of the amount of any water diverted to underground storage under State Water Board Permits 20808A and 20808C as of May 31 of each water year shall be included in determining compliance with the Effective Diversion Limit: Diversions greater than 600 afa in a single water year shall not count as annual production of Carmel River water for the Effective Diversion Limit calculation. This section supersedes State Water Board Order WR 2009-0060, ordering paragraph 3.a.(3).

x. **Sand City Desalination Plant**: Any volume of water that is produced by the Sand City Desalination Plant and not served to persons residing within the City of Sand City shall be subtracted from the Effective Diversion Limit for the water year in which it is produced.

xi. **Pebble Beach**: Pebble Beach Company (PBC) shall continue to annually submit, on September 30, a report to the Deputy Director for Water Rights accounting for any additional water that is diverted from the Carmel River as the result of an increased use of its remaining District water entitlement. Any diversions from the river by Cal-Am to satisfy PBC remaining entitlements from District shall not be considered in calculating compliance with the Effective Diversion Limit. After December 31, 2021, Cal-Am shall not illegally divert water from the river to supply the holders of PBC entitlements. This order supersedes the last sentence of paragraph 3.a.(6) of State Water Board Order WR 2009-0060.

xii. **Supplemental Water Rights and Acquisitions**: Provided Cal-Am is able to identify suitable and willing transacting parties, Cal-Am will acquire supplemental Carmel River water rights, and/or will pursue other Carmel River water acquisitions and water right changes in order to increase flows in the Carmel River and decrease Cal-Am's unauthorized Carmel River diversions ("Carmel River Flow Enhancement Program"). Cal-Am will implement the Carmel River Flow Enhancement Program to the extent it can negotiate agreements with water right holders. Such acquisitions or water right changes may include forbearance agreements, leases and/or purchases of water rights along the Carmel River on a temporary or permanent basis, and may include water right change approvals or permits (permanent or temporary) from the State Water Board. The acquisitions may increase the proportion of Cal-Am's diversions that are made under lawful right, or increase Carmel River instream flows during periods of lower flow on the Carmel River. Instream flow agreements made with other parties can generate carryover credits described in 3.b.iii. at 50% of the amount that the Deputy Director confirms that the agreements have increased Carmel River flows without being diverted by other downstream users. To claim the credits, Cal-Am must first submit the agreement and a monitoring and reporting plan to the Deputy Director for concurrence. After concurrence in the plan, Cal-Am shall implement the monitoring and reporting, and shall annually submit the proposed credit amount for the water year within 2 months of the end of the instream flow agreement or of the water year, whichever comes first. The amount shall become available as credit in the amount approved by the Deputy Director.

xiii. **Malpaso Water Company**: Water provided by the Malpaso Water Company LLC to Cal-Am under water right License 13868A shall not be counted towards calculation of compliance with the Effective Diversion Limit for the water year in which the water is provided to Cal-Am to the extent that Cal-Am is merely transporting the water on behalf of Malpaso Water Company to serve Malpaso Water Company's contracts with water users. To the extent such water is used by Cal-Am to serve its customers, this water will be counted towards calculation of compliance with the EDL, and shall serve to increase the portion of such diversion that are made under lawful rights. Any use of the Malpaso Water Company's diversions shall be consistent with the terms of License 13868A and Division Decision 2015-0001.

c. Either Cal-Am or the District may petition the Deputy Director for Water Rights for relief from reductions imposed under this Order. No relief shall be granted unless all of the following conditions are met: (1) Cal-Am and the District continue the moratorium on new service connections; (2) the demand for potable water by Cal-Am customers meets all applicable conservation standards and requirements; and (3) a showing is made that public health and safety will be threatened if relief is not granted. Any relief granted shall remain in effect only as long as a prohibition on new service connections remains in effect, and compliance with applicable conservation standards and requirements remains in effect. This section supersedes ordering paragraph 3.b. of State Water Board Order WR 2009-0060.

4. Status of Steelhead Fishery Report. During the extension period Cal-Am will provide funding in an amount up to $175,000 per year for the preparation of an annual report that evaluates the status of the threatened South-Central California Coast Steelhead Distinct Population Segment ("SCCC Steelhead DPS") in the Carmel River ("Status of Steelhead Fishery Report"). If possible, the annual Status of the Steelhead Fishery Report will be

prepared by the National Marine Fisheries Science ("NMFS") Southwest Fisheries Science Center ("SWFSC"). If NMFS West Coast Region finds a significant change in the status of the SCCC Steelhead DPS since the previous report (or, in the case of the first report, since the effective date of this Order), NMFS West Coast Region may provide recommendations for additional adaptive management measures to be taken with respect to the SCCC Steelhead DPS in the Carmel River. If SWFSC cannot complete the Status of the Steelhead Fishery Report for any or all years during the extension period, Cal-Am will designate another individual or entity, in consultation with the other Applicants and other stakeholders, with requisite expertise to complete the report. If NMFS objects to the choice, Cal-Am shall designate a different individual or entity. If the NMFS West Coast Region cannot review the Status of the Steelhead Fishery report in any or all years, Applicants and other stakeholders may develop an alternative system for making adaptive management recommendations. Cal-Am will deliver the report in a cost effective and efficient manner, and will work with Applicants, stakeholders, and the preparer of the Status of the Steelhead Fishery Report to share resources, and to avoid duplication of effort to lower the cost of the report to the extent practicable. The Status of the Steelhead Fishery Report and any adaptive management recommendations shall be submitted to the State Water Board by Cal-Am each year with the corresponding joint annual report.

5. Additional Conservation Measures: Cal-Am has stated that it will implement an additional $2.5 million of projects to improve fish passage and habitat during the four years following adoption of this Order, as follows: improvements to the existing upstream fish passage ladder and trap at Los Padres Dam ($0.2 million); installation of a fish screen at the lower outlet pipe on Los Padres Dam ($0.8 million); a pit tagging program ($1.0 million); and a through-reservoir survival study for Los Padres Reservoir ($0.5 million). If the above projects are not implemented according to plans developed in coordination with the California Department of Fish and Wildlife and the National Oceanic and Atmospheric Administration, the State Water Board may revisit this Order to determine whether to make further adjustments to protect public trust resources in the Carmel River.

6. Carmel River Volitional Fish Passage: Cal-Am has substantially completed downstream fish passage facilities at Los Padres Dam. If Cal-Am fails to remove the Old Carmel River Dam and the Sleepy Hollow Ford before September 30, 2017, the State Water Board may reopen this order to determine whether to make further adjustments to improve fish passage in the Carmel River or otherwise restore public trust resources.

7. On June 1 of each year, Cal-Am shall submit an operating plan to the Deputy Director for Water Rights specifying the quantity of water it will supply from the ASR Project for its customers after May 31 of each year. This plan shall provide for use of the water between June 1 and September 30 of the water year the water was pumped from the Carmel River, unless otherwise authorized by the fishery agencies. Cal-Am shall reduce its illegal diversions from the Carmel River at the same rate ASR water is recovered from the groundwater basin. ASR diversions remain subject to State Water Board Order WR 2009-0060, ordering paragraph 3.c. This section supersedes ordering paragraph 4 of WRO 2009-0060.

8. In addition to the reporting required elsewhere in this order or required under WRO 2009-0060 ordering paragraph 6, except as specified, Cal-Am shall provide and post on its website the following information in quarterly reports:

a. Monthly summaries of the total quantity of water produced from the Carmel River, and other separate sources of water used by Cal-Am within the service area.
b. Monthly summaries of the total quantity of ASR project water diverted from the river under water right Permits 20808A and 20808C and stored in the Seaside Groundwater Basin, including the separate accounting of the amounts pumped in excess of 600 afa. The monthly reporting shall also state the quantity of ASR water recovered from aquifer storage and beneficially used, and the current balance of ASR water remaining in storage in the Seaside Groundwater basin. This paragraph supersedes WRO 2009-0060, ordering paragraph 6.(b).
c. Monthly summaries of the quantity of water being supplied by the Malpaso Water Company to Cal-Am and to Malpaso customers supplied using Cal-Am facilities. The reporting shall identify the amount of water used at Cal-Am's existing meter connections and within the Cal-Am service area, and the amounts used at new service connections served by Malpaso Water Company. The monthly reports shall specify the quantity of water used to reduce diversions from the river during the reporting period.
d. Monthly summaries of the quantity of water produced by the City of Pacific Grove, and the quantity of water used to reduce diversions from the river during the reporting period. Cal-Am shall not deliver water produced by the City of Pacific Grove unless such use is consistent with Resolution 2015-0070, paragraph 4.
e. For the final quarter of each water year, the report shall include the quantification and basis of any credits earned and of any amount being carried over for future years.
f. An accounting of the progress towards completion of the Water Supply Project MPWSP Desalination Plant and Pure Water Monterey Project that identifies all progressive steps completed during the previous 12 months and the upcoming 12 month's anticipated progress, and discussion of potential setbacks that may beyond the Applicant's control.

10. Each report submitted by Cal-Am shall be certified under penalty of perjury and shall include the following declaration: "I declare under penalty of perjury, under the laws of the State of California, that all statements contained in this report and any accompanying documents are true and correct, with full knowledge that all statements made in this report are subject to investigation and that any false or dishonest statement may be grounds for prosecution."

11. Cal-Am shall file quarterly reports of its diversions under Paragraph 5 (small project implementation) of State Water Board Order WR 2009-0060. This section corrects an error in State Water Board Order WR 2009-0060 ordering paragraph 7, which incorrectly identified the relevant paragraph as State Water Board Order WR 2009-0060 ordering paragraph 3.

12. The Deputy Director for Water Rights is authorized to modify the timing and the content of the reporting required by all of the provisions of this Order to more effectively carry out the intent of this Order.

13. Cal-Am shall comply with all requirements of State Water Board Order 95-10, except as provided in State Water Board Order WR 2009-0060, ordering paragraph 9, or except as inconsistent with this Order.

14. The Deputy Director for Water Rights is directed to closely monitor Cal-Am's compliance with State Water Board Order 95-10, State Water Board Order WR 2009-0060, and this Order. Appropriate action shall be taken to insure compliance with these Orders including the issuance of additional cease and desist orders under Water Code section 1831, the imposition of administrative civil liability under Water Code section 1055, and referral to the Attorney General under Water Code section 1845 for injunctive relief and for civil liability. If additional enforcement action becomes necessary, the Deputy Director is directed to consider including in such actions all Cal-Am's violations of Water Code section 1052 since the adoption of Order 95-10.

15. The conditions of this Order, State Water Board Order WR 2009-0060 and State Water Board Order 95-10 shall remain in effect until (a) Cal-Am certifies, with supporting documentation, that it has obtained a permanent supply of water that has been substituted for the water illegally diverted from the Carmel River and (b) the Deputy Director for Water Rights concurs, in writing, with the certification.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on July 19, 2016.

AYE:	Chair Felicia Marcus Vice Chair Frances Spivy-Weber Board Member Tam M. Doduc Board Member Steven Moore Board Member Dorene D'Adamo
NAY:	None
ABSENT:	None
ABSTAIN:	None

Jeanine Townsend
Clerk to the Board

G

Appendix G. Seaside Groundwater Basin Adjudication

FILED
MAR 27 2006
LISA M. GALDOS
CLERK OF THE SUPERIOR COURT
D. VALENCUELA DEPUTY

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF MONTEREY

CALIFORNIA AMERICAN WATER,

Plaintiff,

vs.

CITY OF SEASIDE; CITY OF MONTEREY; CITY OF SAND CITY; CITY OF DEL REY OAKS; SECURITY NATIONAL GUARANTY, INC.; GRANITE ROCK COMPANY, INC.; D.B.O. DEVELOPMENT COMPANY NO. 27, INC.; MURIEL E. CALABRESE 1987 TRUST; ALDERWOODS GROUP (CALIFORNIA), INC.; PASADERA COUNTRY CLUB, LLC; LAGUNA SECA RESORT, INC; BISHOP MC INTOSH & MC INTOSH, a general partnership; THE YORK SCHOOL, INC.; COUNTY OF MONTEREY; and DOES 1 through 1,000, Inclusive,

Defendants.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT,

Intervenor.

MONTEREY COUNTY WATER RESOURCES AGENCY,

Intervenor.

AND RELATED CROSS-ACTIONS

Case No. M66343

DECISION

Action Filed: August 14, 2003
Trial Date: December 13, 2005
Dept.: 21

(Assigned to Hon. Roger D. Randall, Ret.)

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I. INTRODUCTION

This Decision sets forth the adjudicated rights of the parties to this lawsuit (with certain exceptions noted in section I.D. below), including Plaintiff California American Water, and Defendants the City of Seaside, the City of Monterey, the City of Sand City, the City of Del Rey Oaks, Security National Guaranty, Inc., Granite Rock Company, D.B.O. Development Company No. 27, Muriel E. Calabrese 1987 Trust, Alderwoods Group (California), Inc., Pasadera Country Club, LLC, Laguna Seca Resort, Inc., Bishop, McIntosh & McIntosh, and The York School, Inc. (hereinafter "Water User Defendants") to use the water resources of the Seaside Groundwater Basin ("Seaside Basin" or "Basin") and provides for a physical solution for the perpetual management of the Basin, which long-term management will provide a means to augment the water supply for the Monterey Peninsula.

A. Seaside Groundwater Basin.

The Seaside Basin is located in Monterey County and underlies the Cities of Seaside, Sand City, Del Rey Oaks, Monterey, and portions of unincorporated county areas, including the southern portions of Fort Ord, and the Laguna Seca Area. The boundaries of the Basin are depicted in Exhibit B of this Decision. Generally, the Seaside Basin is bounded by the Pacific Ocean on the west, the Salinas Valley on the north, the Toro Park area on the east, and Highways 68 and 218 on the south. The Seaside Basin consists of subareas, including the Coastal subarea and the Laguna Seca subarea in which geologic features form partial hydrogeologic barriers between the subareas.

B. The Parties.

1. Plaintiff California American Water ("Plaintiff" or "California American") is an investor-owned public utility incorporated under the laws of the State of California. (*See* Pub. Utilities Code, §§ 1001 et seq. and 2701 et seq.) California American produces groundwater from the Seaside Basin and delivers it for use on land within its certificated service area that both overlies portions of the Seaside Basin, and is located outside of the Seaside Basin Area, all within the County of Monterey.

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2. Defendant City of Seaside ("Seaside") is a general law city situated in the County of Monterey. Seaside produces groundwater from the Seaside Basin (1) for use on two city-owned golf courses that overly the Basin, and (2) for municipal water service to its residents. (*See* Call. Const., Art. XI, § 9; Gov. Code, § 38730.)

3. Defendant City of Sand City ("Sand City") is a charter city situated in the County of Monterey. Sand City produces groundwater from the Seaside Basin and delivers it for use on private and publicly owned lands within its incorporated boundaries, all of which overlie the Seaside Basin. (*See* Cal. Const., Art. XI, § 9; Gov. Code, § 38730.)

4. Defendant City of Del Rey Oaks ("Del Rey Oaks") is a general law city situated in the County of Monterey. Land within Del Rey Oaks' incorporated boundaries overlies the Seaside Basin. The two wells Del Rey Oaks presently operates for irrigation of public lands are located outside the Seaside Basin area and are, therefore, excluded from this Stipulation. (*See* Cal. Const., Art. XI, § 9; Gov. Code, § 38730.)

5. Defendant City of Monterey ("Monterey") is a charter city situated in the County of Monterey. Monterey owns and controls land that overlies the Seaside Basin area.

6. Defendant Security National Guaranty, Inc. ("SNG") is a California corporation with its principal place of business in the City and County of San Francisco. SNG's primary business activity is real estate development. As part of its operation, SNG and/or its predecessors-in-interest have produced groundwater from the Seaside Basin. SNG also owns land overlying the Seaside Basin.

7. Defendant Granite Rock Company ("Granite") is a California corporation with its principal place of business in the County of Santa Cruz. Granite's primary business activity is the production and sale of concrete aggregate and building materials. As part of its Seaside concrete and building materials plant, Granite has produced groundwater from the Seaside Basin. Granite also owns land overlying the Seaside Basin.

8. Defendant D.B.O. Development No. 27 ("D.B.O."), erroneously sued herein as D.B.O. Development Company, is a California limited liability company with its principal place of business in the County of Monterey. D.B.O.'s primary business activity is the ownership and

development of real property for commercial, industrial, residential, and public uses. As part of their ownership and development of land overlying the Seaside Basin, D.B.O. and/or its predecessor in interest have produced groundwater from the Basin. D.B.O. also owns and controls land overlying the Seaside Basin.

9. Defendant Muriel E. Calabrese 1987 Trust ("Calabrese") is an irrevocable trust that holds property in the County of Monterey. Calabrese and/or its predecessor in interest have produced groundwater from the Seaside Basin in relation to the operation of its paving, grading and construction business and operation of a concrete batch plant in Sand City. Calabrese also owns and controls land overlying the Seaside Basin.

10. Defendant Alderwoods Group (California), Inc. ("Alderwoods Group"), DBA Mission Memorial Park ("Mission Memorial") is a California corporation with its principal place of business in the County of Monterey. Mission Memorial's primary business activity is the operation of a cemetery in the City of Seaside. As part of maintenance of the cemetery, Mission Memorial has produced groundwater from the Seaside Basin. Mission Memorial also owns land overlying the Seaside Basin.

11. Defendant Pasadera Country Club, LLC ("Pasadera") is a California limited liability company with its principal place of business in the County of Monterey. Pasadera's primary business activity is the operation of a private golf course. As part of its golf course operations, Pasadera has produced groundwater from the Seaside Basin. Pasadera also owns land overlying the Seaside Basin.

12. Defendant Bishop, McIntosh & McIntosh ("Bishop") is a general partnership, with its principal place of business in the County of Monterey. Bishop owns land overlying the Laguna Seca Subarea of the Seaside Basin. Defendant Laguna Seca Resort, Inc.("Laguna Seca") is a California corporation with its principal place of business in the County of Monterey. Laguna Seca's primary business activity is the operation of a public golf course on land owned in fee by Bishop. Laguna Seca operates the golf course pursuant to a lease with Bishop. As part of the golf course's operations, groundwater is produced from the Laguna Seca Subarea of the Seaside Basin for irrigation purposes. Laguna Seca filed a cross-complaint against California

American, and Bishop filed a cross-complaint against California American and all defendants other than Laguna Seca Defendants Laguna Seca Resort, Inc. and Bishop, McIntosh & McIntosh shall collectively be referred to as "Laguna Seca/Bishop." However, the pumping allocation established in Section III.B., below, is held only by Bishop, as the overlying property owner. Laguna Seca is a Water User Defendant now exercising Bishop's pumping allocation and operating the golf course facilities. The damages provided for in Section III.G. shall be based on the Average Gross Annual Income of the entity operating thee golf course facilities, which is now Laguna Seca (Bishop's lessee).

13. Defendant County of Monterey owns land on which is operates the Laguna Seca Park. County of Monterey has produced groundwater from the Seaside Basin for use at Laguna Seca Park. County of Monterey owns land overlying the Seaside Basin.

14. Intervenor Monterey Peninsula Water Management District ("MPWMD") is a district formed pursuant to Water Code Appendix sections 118-1 et seq. MPWMD intervened as a party defendant as against California American, cross-complained against the other parties as a plaintiff, and is a defendant in a cross-complaint filed by Seaside and joined in by City defendants.

15. Intervenor Monterey County Water Resources Agency ("MCWRA") is a duly constituted Water Resources Agency created pursuant to California Water Code Appendix section 52-3 et seq. MCWRA intervened inn this action as a plaintiff as against all parties.

16. Defendant The York School, Inc. ("York" or "York School"), is a nonprofit corporation, founded in 1959 as an independent day school providing college preparatory education. Its primary activity is the operation of a school. York leases approximately 31.4 acres of property from the United States, Department of the Army, on the former Fort Ord. This property is located immediately north of the main campus, across York Road, and is a portion of a larger parcel, approximately 107 acres in size, that is scheduled to be transferred as a public benefit conveyance to York from the federal government. This parcel overlies the Seaside Basin and is subject to this Decision. York has produced groundwater from the Seaside Basin. York is not an agent of the United States, nor can York bind the United States to this Decision.

C. The Complaint.

On or about August 14, 2003, Plaintiff filed a complaint against Defendants and Does 1 through 1,000 requesting a declaration of Plaintiff's and Defendants' individual and collective rights to groundwater and a mandatory and prohibitory injunction requiring the reasonable use and coordinated management of groundwater within the Seaside Basin pursuant to Article X, Section 2 of the California Constitution. The pleadings further allege that Plaintiff and Defendants collectively claim substantially all rights of groundwater use, replenishment and storage within the Seaside Basin area, that the Natural Safe Yield (as defined in Section III.A.) is being exceeded, and that absent a physical solution and coordinated groundwater management strategy, the Seaside Basin is in imminent risk of continued lowering of water levels, increased pump-lifts, diminution of water supply and quality, seawater intrusion, and possible land subsidence. Accordingly, Plaintiff requested: (1) a determination of the Seaside Basin's safe yield; (2) an operating plan for the management of the Basin; (3) a declaration of the rights of the parties named in this Complaint; (4) a declaration and quantification, as part of a physical solution, of the parties' respective rights to make use of the Seaside Basin's available storage space; and (5) the appointment of a Watermaster to administer the Court's Decision. Subsequently, Plaintiff has twice amended its complaint and the operative complaint is now the Second Amended Complaint, which sets forth the same general allegations as the original complaint.

D. Defendants' Responses.

Water User Defendants in this action have all responded to the Complaint pursuant to Answers. In addition, they have all joined in a motion seeking Court approval of a Stipulated Judgment. The Monterey Peninsula Water Management District and the County of Monterey, including the Monterey County Water Resources Agency, did not join in the Stipulation.

On or about September 24, 2003, Intervenor MPWMD filed a complaint in intervention against the defendants named in the Complaint. Defendants to that complaint responded to the cross-complaint pursuant to an Answer, containing a general denial and affirmative defenses.

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Seaside, on or about January 9, 2004, filed a cross-complaint against MPWMD. MPWMD responded to the cross-complaint by filing an Answer, containing a general denial and affirmative defenses.

Laguna Seca, on or about April 23, 2004, filed a cross-complaint against California American. California American responded to the cross-complaint pursuant to an Answer, containing a general denial and affirmative defenses.

Bishop, on or about September 23, 2004, filed a cross-complaint against California American and against all defendants other than Laguna Seca. California American, Granite, Sand city, Alderwoods Group, York School, D.B.O., Monterey, MPWMD, Seaside, and Pasadera responded to the cross-complaint pursuant to Answers containing general denials and affirmative defenses.

SNG, on or about July 26, 2005, filed a cross-complaint against MPWMD. MPWMD responded to the cross-complaint by filing an Answer, containing a general denial and affirmative defenses.

At the conclusion of argument on December 22, 2005, the various defendant cross-complainants agreed that the relief they had sought via their cross-complaints had been subsumed in the litigation of the complaint and complaints in intervention, the answers thereto, and the Settlement Agreement and General Mutual Release executed by all parties save the intervenors and the County of Monterey.

E. Joint Motion for Entry of Judgment.

Plaintiff and Water User Defendants filed a Motion for the Entry of Judgment along with a Stipulation for Entry of Judgment, which was opposed by both intervenors. The Motion for Entry of Judgment requested that the Court approve the Stipulation and enter the Judgment. The motion was heard by this Court on December 12, 2005. At the request of the moving parties, it deferred its ruling until it had taken evidence in the trial of this matter.

Having now received the evidence, and having considered written and oral argument from the various parties, the Court denies the Motion for Entry of Judgment. The Court accepts the stipulation of certain of the parties entitled "Settlement Agreement and General Mutual Release"

filed with the Court during trial insofar as the stipulation does not conflict with the ruling set forth herein.

F. Jurisdiction. This Court has jurisdiction to enter a Judgment declaring and adjudicating Plaintiff's and Water User Defendants' rights to the reasonable and beneficial use of groundwater in the Seaside Basin Area, including the imposition of a physical solution, pursuant to Article X, Section 2 of the California Constitution.

II. FINDINGS

A. Importance of Groundwater. Groundwater is an important water supply source for businesses, individuals and public agencies that overlie or Extract groundwater from the Seaside Basin. The overwhelming majority of the groundwater appropriated from the Seaside Basin has been and continues to be dedicated to a public use in accordance with the provisions of the California Constitution, Article X, Section 5. The Plaintiff and the Water User Defendants rely upon continued availability of groundwater to meet their demands. The intervenors, MPWMD and MCWRA, have a legislatively mandated interest in the preservation and enhancement of groundwater in the Basin.

B. Status of the Groundwater Basin.

1. Perennial Natural Safe Yield. The Perennial Natural Safe Yield (as defined in Section III.A. and hereinafter referred to as "Natural Safe Yield") of the Seaside Basin is solely the result of natural percolation from precipitation and surface water bodies overlying the Basin. The Court finds that the Natural Safe Yield of the Basin as a whole, assuming no action is taken to capture subsurface flow exiting the northern boundary of the Basin, is from 2,581 to 2,913 acre feet per year. The Natural Safe Yield for the Coastal Subarea is estimated from 1,973 to 2,305 acre feet peer year, and the Natural Safe Yield for the Laguna Seca Subarea is 608 acre feet per year.

2. Groundwater Production. Production records demonstrate that the cumulative annual groundwater production of the Parties from the Seaside Basin area in each of the five (5) years immediately preceding the filing of this action has been between approximately 5,100 and 6,100 acre feet. Therefore, the Court finds that groundwater production has exceeded the Natural

Safe Yield during the preceding five (5) years throughout the Seaside Basin and in each of its subareas. While no one can predict with precision when it will occur, all parties agree continued indefinite production of the Basin Groundwater in excess of the Natural Safe Yield will ultimately result in seawater intrusion, with deleterious effects on the Basin. The evidence demonstrates that the stage is set for such an occurrence in the foreseeable future.

C. Legal Claims.

1. Groundwater Rights. Certain Parties allege that they have produced groundwater openly, notoriously, continuously, and without interruption in excess of the Natural Safe Yield of the Basin for more than five (5) years. As a result, these Parties allege that they have accrued prescriptive rights as articulated by the California Supreme Court in *City of Pasadena v. City of Alhambra* (1948) 33 Cal.2d 908. In defense of these claims, other Parties deny that the elements of prescription have been satisfied, and further allege the affirmative defense of "self help" as recognized in *Pasadena, supra*, 33 Cal.2d at pp. 932-32. Those Parties responsible for public water service also raise Civil Code section 1007 as an affirmative defense against prescription.

The Court finds that there is merit to the claim that certain prescriptive rights have accrued, but also finds that there is merit to the aforementioned affirmative defenses. Accordingly, the Court finds that the Parties collectively possess a variety of rights based in prescription and other original rights (including overlying and appropriative rights). Each Party's right to produce naturally occurring groundwater from the Seaside Basin therefore reflects the amount of their historical production from the Basin, and respects the priority of allocations under California law. The physical solution set forth by this Decision is intended to ultimately reduce the drawdown of the aquifer to the level of the Natural Safe Yield; to maximize the potential beneficial use of the Basin; and to provide a means to augment the water supply for the Monterey Peninsula.

2. Storage Rights. The Court finds that the public interest is served by augmenting the total yield of the Seaside Basin through artificial groundwater recharge, storage, and recovery. It is well established that an entity which artificially recharges a groundwater basin with the intent to later recapture that water maintains an exclusive right to recapture that quantity of water by which said recharge augments the retrievable water supply of the groundwater basin, so long as

such recharge and recapture (i.e., storage) does not materially harm the groundwater basin or any other entity's prior rights associated with the groundwater basin. (*City of Los Angeles v. City of San Fernando* (1975) 14 Cal.3d 199, 264; *City of Los Angeles v. City of Glendale* (1943) 23 Cal.2d 68, 76-77; see also Water Code, § 7075.) The Court finds, therefore, that the right to store and recover water from the Seaside Basin shall be governed by the provisions of the Decision, and the rules and regulations promulgated by the Seaside Basin Watermaster, the basic provisions of which are described in Section III.H.

3. *De Minimis* Production. The Court finds that production of groundwater by any person or entity less than five (5) acre feet per year is not likely to significantly contribute to a Material Injury (as defined in Section III.A.) to the Seaside Basin or any interest related to the Seaside Basin. Accordingly, this Decision is not intended to govern the production of groundwater by any person or entity that produces a total quantity of groundwater that is less than five (5) acre feet peer year. However, to the extent the Court determines in the future that this exemption has contributed to or threatens to contribute to a Material Injury to the Seaside Basin or any interest related to the Seaside Basin, including any contribution caused by production subject to this exemption in combination with all other production from the Seaside Basin, the Court will modify or eliminate this exemption as it deems prudent pursuant to its reserved jurisdiction provided in Section III.O.

4. Transferability of Seaside Basin Rights. The Court finds that maximum beneficial use of the Seaside Basin's resources is encouraged by the ability to sell and lease production allocations. Such transferability will also provide necessary flexibility to satisfy future water supply needs. Accordingly, the Court finds that production allocations should be assignable, subject to the rules and regulations promulgated by the Watermaster, and subject to certain Parties' participation in the Alternative Production Allocation, described in Section III.B.3, which election will restrict their transfers of water.

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III. DECISION

IT IS HEREBY ORDERED, ADJUDGED AND DECREED:

A. Definitions.

1. "Administrative Year" is the twelve (12)month period from January 1 through December 31.

2. "Alternative Production Allocation" is the amount of Groundwater that a Producer participating in this allocation method may Produce from a Subarea of the Seaside Basin as provided in Section III.B.3.

3. "Artificial Replenishment" means the act of the Watermaster, directly or indirectly, engaging in or contracting for Non-Native Water to be added to the Groundwater supply of the Seaside Basin through Spreading or Direct Injection to offset the cumulative Over-Production from the Seaside Basin in any particular Administrative Year pursuant to Section III.L.3.j.iii. It shall also include programs in which Producers agree to refrain, in whole or in part, from exercising their right to produce their full Production Allocation where the intent is to cause the replenishment of the Seaside Basin through forbearance in lieu of the injection or spreading of Non-Native Water.

4. "Base Water Right" is the percentage figure or the fixed amount assigned to each Party as provided in Section III.B.2, which is used to determine various rights and obligations of the Parties as provided in Sections III.B.2, III.B.3, III.L.3.c, and III.L.3.j.iii.

5. "Brackish Water" means water containing greater than 1,000 parts of chlorides to 1,000,000 parts of Water.

6. "Carryover" means that portion of a Party's Production Allocation that is not Extracted from the Basin during a particular Administrative Year. Each acre-foot of Carryover establishes an acre-foot of Carryover Credit.

7. "Carryover Credit(s)" means the quantity of Water established through Carryover, that a Party is entitled to Produce from the Basin pursuant to Section III.F.

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8. "Coastal Subarea" means those portions of the Seaside Basin that are west of North-South Road, and further as shown on the Basin map attached as Exhibit B to this Decision.

9. "Direct Injection" means a method of Groundwater recharge whereby Water is pumped into the Basin through wells or other artificial channels.

10. "Extraction," "Extractions," "Extracting," "Extracted," and other variations of the same noun or verb, mean pumping, taking, diverting or withdrawing Groundwater by any manner or means whatsoever from the Seaside Basin.

11. "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

12. "Groundwater" means all Water beneath the ground surface in the Seaside Basin, including Water from Natural Replenishment, Artificial Replenishment, Carryover, and Stored Water.

13. "Laguna Seca Subarea," or "Laguna Seca Area," means those portions of the Basin that are east of the Southern Coastal Subarea and south of the Northern Inland Subarea, as shown on the Seaside Basin map attached as Exhibit B to this Decision.

14. "Landowner Group" means all Producers that own or lease land overlying the Seaside Basin and Produce Groundwater solely for use on said land, except California American, Seaside (Municipal), Monterey, Del Rey Oaks, and Sand City.

15. "Material Injury" means a substantial adverse physical impact to the Seaside Basin or any particular Producer(s), including but not limited to: seawater intrusion, land subsidence, excessive pump lifts, and water quality degradation. Pursuant to a request by any Producer, or on its own initiative, Watermaster shall determine whether a Material Injury has occurred, subject to review by the Court as provided for in Section III.N.

16. "Natural Replenishment" means all processes by which Water may become a part of the Groundwater supply of the Seaside Basin without the benefit of the Physical Solution and the coordinated management it provides. Groundwater that occurs in the Seaside Basin as a

result of the Physical Solution, which is not Natural Replenishment, includes, but is not limited to Storage, Carryover, and Artificial Replenishment.

17. "Natural Safe Yield" or "Perennial Natural Safe Yield" means the quantity of Groundwater existing in the Seaside Basin that occurs solely as a result of Natural Replenishment. The Natural Safe Yield of the Seaside Basin as a whole, assuming no action is taken to capture subsurface flow exiting the northern boundary of the Basin, is from 2,581 to 2,913 acre feet per year. The Natural Safe Yield for the Coastal Subareas is from 1,973 to 2,305 acre feet per year. The Natural Safe Yield for the Laguna Seca Subarea is 608 acre feet per year.

18. "Non-Native Water" means all Water that would not otherwise add to the Groundwater supply through natural means or from return flows from surface applications other than intentional Spreading.

19. "Overdraft" or "Overdrafted" refers to a condition within a Groundwater basin resulting from long-term depletions of the basin over a period of years.

20. "Operating Safe Yield" means the maximum amount of Groundwater resulting from Natural Replenishment that this Decision, based upon historical usage, allows to be produced from each Subarea for a finite period of years, unless such level of production is found to cause Material Injury. The Operating Safe Yield for the Seaside Basin, as a whole, is 5,600 acre feet. The Operating Yield is 4,611 acre feet for the Coastal Subarea and 989 acre feet for the Laguna Seca Subarea. The Operating Yield established here will be maintained for three (3) years from the date of this Decision or until a determination is made by the Watermaster, concurred in by this Court, that continued pumping at this established Operating Yield will cause Material Injury to the Seaside Basin or to the Subareas, or will cause Material Injury to a Producer due to unreasonable pump lifts. In either such event the Watermaster shall determine the modified Operating Yield in accordance with the Principles and Procedures attached hereto as Exhibit A, and through the application of criteria that it shall develop for this purpose.

21. "Over-Production" and other variations of the same term means (1) with regard to all Production from the Seaside Basin, that quantity of Production which exceeds an initially assumed Natural Safe Yield of 3,000 afy (or such adjusted calculation of Natural Safe Yield as

further study of the Basin by the Watermaster shall justify); or (2) with regard to each Producer, that quantity of Water Produced in any Administrative Year in excess of that Producer's Base Water Right, as applied to an initially assumed Natural Safe Yield of 3,000 afy (subject to adjustment as further study shall justify). For a Party producing under the Alternative Production Allocation, the calculation shall be based upon the Base Water Right assigned to them in Table 1, infra, only to the extent that Party has elected to convert all or part of an Alternative Production Allocation into a Standard Production Allocation, pursuant to Section III.B.3.e.

22. Operating Yield Over-Production means pumping of Native Water by Producers in excess of their Standard Production Allocation or Alternative Production Allocation, as discussed in Section III.L.3.j.iii.

23. "Person" or "Persons" includes individuals, partnerships, associations, governmental agencies and corporations, and any and all types of entities.

24. "Physical Solution" means the efficient and equitable management of Groundwater resources within the Seaside Basin, as prescribed by this Decision, to maximize the reasonable and beneficial use of Water resources in a manner that is consistent with Article X, Section 2 of the California Constitution, the public interest, and the basin rights of the Parties, while working to bring the Production of Native Water to Natural Safe Yield.

25. "Produce," "Produced," or "Production" means (1) the process of Extracting Water or (2) the gross amount of Water Extracted.

26. "Producer" means a Party possessing a Base Water Rights.

27. "Production Allocation" is the amount of Groundwater that a Producer may Produce from a Subarea of the Seaside Basin based on the Parties' election to proceed under either the Standard Production Allocation or the Alternative Production Allocation set forth in Sections III.B.2 and III.B.3, respectively.

28. "Replenishment Assessment" means an assessment levied by the Watermaster per each acre-foot of Over-Production against each party Over-Producing Groundwater in the previous Administrative Year. The amount of the assessment shall be sufficient to cover the cost of Artificial Replenishment in an amount necessary to off-set that Producer's Over-Production,

and levied as provide in Section III.L.3.j.iii. The assessment must of necessity be initially determined based upon the estimated cost of providing Non-Native water to replenish the Basin, as determined by the Watermaster.

29. "Seaside Basin" is the underground water basin or reservoir underlying the Seaside Basin Area, the exterior boundaries of which are the same as the exterior boundaries of the Seaside Basin Area.

30. "Seaside Basin Area" is the territory depicted in Exhibit B to this Decision.

31. "Spreading" means a method of introducing Non-Native Water into the Seaside Basin whereby Water is placed in permeable impoundments and allowed to percolate into the Seaside Basin.

32. "Standard Production Allocation" is the amount of Groundwater that a Producer participating in this allocation method may Produce from a Subarea of the Seaside Basin as provided in Section III.B.2, which is determined by multiplying the Base Water Right by the Operating Yield.

33. "Storage" means the existence of Stored Water in the Seaside Basin.

34. "Storage Allocation" means that quantity of Stored Water in acre feet that a Party is allowed to Store in the Coastal Subarea or the Laguna Seca Subarea at any particular time.

35. "Storage Allocation Percentage" means the percentage of Total Usable Storage Space allocated to each Producer proceeding under the Standard Production Allocation. Producers proceeding under the Alternative Production Allocation are not allocated Storage rights and, consequently, their share of the Total Usable Storage Space is apportioned to the Producers proceeding under the Standard Production Allocation. Pursuant to the terms of Section III.B.3, Parties proceeding under the Alternative Production Allocation enjoy a one-time right to change to the Standard Production Allocation. Due to the recalculation of the Storage Allocation Percentage necessitated when a Party changes to the Standard Production Allocation, the Watermaster will maintain the up-to-date Seaside Basin Storage Allocation Percentages.

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36. "Storage and Recovery Agreement" means an agreement between Watermaster and a Party for Storage pursuant to Section III.L.3.j.xx.

37. "Store" and other variations of the same verb refer to the activities establishing Stored Water in the Seaside Basin.

38. "Stored Water" means (1) Non-Native Water introduced into the Seaside Basin by a Party or any predecessors-in-interest by Spreading or Directly Injecting that Water into the Seaside Basin for Storage and subsequent Extraction by and for the benefit of that Party or their successors-in-interest; (2) Groundwater within the Seaside Basin that is accounted for as a Producer's Carryover; or (3) Non-Native water introduced into the Basin through purchases by the Watermaster, and used to reduce and ultimately reverse Over-Production.

39. "Stored Water Credit" means the quantity of Stored Water augmenting the Basin's Retrievable Groundwater Supply, which is attributable to a Party's Storage and further governed by this Decision and a Storage and Recovery Agreement.

40. "Subarea(s)" means either the Laguna Seca Subarea or the Coastal Subarea.

41. "Total Useable Storage Space" means the maximum amount of space available in the Seaside Basin that can prudently be used for Storage as shall be determined and modified by Watermaster pursuant to Section III.L.3.j.xix, less Storage space which may be reserved by the Watermaster for its use in recharging the Basin.

42. "Transfer" and other variations of the same verb refers to the temporary or permanent assignment, sale, or lease of all or part of any Producer's Production Allocation, Storage Allocation, Carryover Credits, or Stored Water Credits. Pursuant to Section III.B.3., Transfer does not include the use of Water on properties identified in Exhibit C for use under an Alternative Production Allocation.

43. "Water" includes all forms of Water.

44. "Watermaster" means the court-appointed Watermaster pursuant to Section III.L. of this Decision for the purpose of executing the powers, duties, and responsibilities assigned therein.

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45. "Watermaster Rules and Regulations" means those rules and regulations promulgated by the Watermaster consistent with the terms of this Decision.

B. Physical Solution.

1. Groundwater Rights. The Parties have Produced Groundwater from the Seaside Basin openly, notoriously, continuously, and without interruption, which Production has been determined to be in excess of the Natural Safe Yield of the Seaside Basin and each of its Subareas for more than five (5) years. Accordingly, Parties have accrued mutual prescriptive rights and/or have preserved their overlying, appropriative, and prescriptive rights against further prescription by self-help. These individual and competitive rights, whether mutually prescriptive, appropriative or overlying rights, can be most efficiently exercised and satisfied by the implementation of this Physical Solution and in the manner expressly set forth herein.

2. Standard Production Allocation. Each Producer is authorized to Produce its Production Allocation within the designated Subarea in each of the first three Administrative Years. Except for those certain Parties electing to proceed under the Alternative Production Allocation, as set forth in Section III.B.3., each Producer's Production Allocation for the first three Administrative Years shall be calculated by multiplying its Base Water Right, as set forth in Table 1 below, by that portion of the Operating Yield which is in excess of the sum of the Alternative Production Allocations. The Operating Yield for the Seaside Basin, as a whole, is set at 5,600 acre feet annually ("afa"). The Operating Yield for the Coastal Subarea is 4,611 afa, with 743 afa committed to Alternative Production Allocations and 3,868 afa committed to Standard Production Allocations. The Operating Yield for the Laguna Seca Subarea is 989 afa, with 644 afa committed to Alternative Production Allocations and 345 afa committed to Standard Production Allocations. The Operating Yield established here will be maintained for three (3) Administrative Years from the date Judgment is granted or until a determination is made by the Watermaster, concurred in by this Court, that continued pumping at this established Operating Yield will cause Material Injury to the Seaside Basin or to the Subareas or will cause Material Injury to a Producer due to unreasonable pump lifts. In the event of such Material Injury the Watermaster shall determine the modified Operating Yield in accordance with the Principles and

Procedures attached hereto as Exhibit A, and through the application of criteria that it shall develop for this purpose.[1]

Commencing with the fourth Administrative Year, and triennially thereafter the Operating Yield for both Subareas will be decreased by ten percent (10%) until the Operating Yield is the equivalent of the Natural Safe Yield unless:

a. The Watermaster has secured and is adding an equivalent amount of Non-Native water to the Basin on an annual basis; or

b. The Watermaster has secured reclaimed water in an equivalent amount and has contracted with one or more of the Producers to utilize said water in lieu of their Production Allocation, with the Producer agreeing to forego their right to claim a Stored Water Credit for such forbearance; or

c. Any combination of a and b which results in the decrease in Production of Native Water required by this decision; or

d. The Watermaster has determined that Groundwater levels within the Santa Margarita and Paso Robles aquifers are at sufficient levels to ensure a positive offshore gradient to prevent seawater intrusion.

TABLE 1[2]

Standard Production Allocations

Party:	Percentage of Operating Yield Coastal Subarea
California American Water	77.55%
City of Seaside (Municipal)	6.36%
City of Seaside (Golf Courses)	10.47%
City of Sand City	0.17%

[1] If the Operating Yield changes, Standard Production Allocations will be calculated by multiplying the portion of the changed Operating Yield committed to Standard Production Allocations by the Standard Producers' Base Water Rights. This calculation will result in a remaining quantity of water already committed to Standard Production Allocations (due to the Base Water Right percentages assigned to Alternative Producers but which are not used to calculate the Standard Production Allocations), which will be further allocated to the Standard Producers in proportion to their Base Water Rights until no quantity remains unallocated.

[2] Certain Parties including Seaside (Golf Courses), Sand City, SNG, Calabrese, Mission Memorial, Pasadera, Bishop and York School hold an Alternative Production Allocation in the fixed amount shown in Table 2. If any of these Parties subsequently elects to convert to the Standard Production Allocation, then the Base Water Right shown in Table 1 for such converting Party will be used to determine that Party's Standard Production Allocation consistent with the terms provided in Section III.B.3.e.

Granite Rock Company	0.60%
SNG	2.89%
D.B.O. Development No. 27	1.09%
Calabrese	0.27%
Mission Memorial Park	0.60%

Producer:	Percentage of Operating Yield for Laguna Seca Sec area
California American Water Company	45.13%
Pasadera Country Club	22.65%
Bishop	28.88%
York School	2.89 %
Laguna Seca County Park	0.45%*

* Because the County of Monterey has not joined in the Settlement Agreement and General Mutual Release, its right to Produce water will be governed by the provisions made for those Producers selecting Alternative Production Allocations.

3. Alternative Production Allocation. The following Parties, which all assert overlying Groundwater rights, have chosen to participate in an Alternative Production Allocation: Seaside with regard to the Groundwater that it Produces for irrigation of its golf courses; Sand City, SNG, Calabrese, Mission Memorial, Pasadera, Bishop, York School, and Laguna Seca.

The Alternative Production Allocation provides the aforementioned Parties with a prior and paramount right over those Parties Producing under the Standard Production Allocation to Produce the amount set forth in Table 2 in perpetuity, and said Alternative Production shall not be subject to any reductions under Section III.B.2 or at such times as the Watermaster determines to reduce the Operating Yield in accordance with Section III.L.3.j.ii., subject to the following terms:

a. The Alternative Production Allocation may not be transferred for use on any other property, but shall be limited to use on the respective properties (including subdivisions thereof) identified in Exhibit C;

b. The Party electing the Alternative Production Allocation may not establish Carryover Credits or Storage rights;

c. The Party electing the Alternative Production Allocation is obligated to adopt all reasonably Feasible Water conservation methods, including methods consistent with generally accepted irrigation practices;

d. In the event a Party electing the Alternative Production Allocation is required to utilize reclaimed Water for irrigation purposes, pursuant to the terms of sections 13550 and 13551 of the California Water Code, that Party shall have the first opportunity to obtain and substitute reclaimed Water for its irrigation demands. Should that Party not pursue such substitution with due diligence, any other Party may provide reclaimed Water for the irrigation purpose pursuant to the terms of sections 13550 and 13551 of the California Water Code. Under either circumstance, the Party providing the reclaimed Water for substitution shall obtain a credit to Produce an amount of Groundwater equal to the amount of substituted reclaimed Water in that particular year, provided that such credit shall be reduced proportionately to all reductions in the Operating Yield in accordance with Section III.L.3.j.ii. The Alternative Production Allocation of the Party utilizing the reclaimed Water shall be debited in an amount equal to the reclaimed Water being substituted.

e. In the event that this Court, the Watermaster, or other competent governmental entity requires a reduction in the Extraction of Groundwater from the Seaside Basin or either of its Subareas, then Parties exercising a Standard Production Allocation in the affected subarea shall reduce their Groundwater Extractions *pro rata* to accommodate the required reduction. Only after such Parties exercising a Standard Production Allocation reduce their Extractions to zero, may Parties exercising an Alternative Production Allocation in the affected subarea be required to reduce their Groundwater Extractions. In such case, those Parties exercising an Alternative Production Allocation shall reduce their pumping in an amount correlative to each other in accordance with the California law pertaining to allocation of rights to Overdrafted Groundwater basins between overlying landowners.

TABLE 2

Alternative Production Allocations

Party:	Coastal Subarea
Seaside (Golf Courses)	540 afa
SNG	149 afa
Calabrese	14 afa
Mission Memorial	31 afa
Sand City	9 afa

Producer:	Alternative Production Allocation
Pasadera	251 afa
Bishop	320 afa
York School	32 afa
Laguna Seca County Park	41 afa*

* The County of Monterey possesses certain water rights based upon its use of water from the aquifer for maintenance of Laguna Seca Park. Its historic Production of Groundwater has averaged 41 afy. It has not joined in the stipulation of the other Producers, but is entitled to draw up to 41 afy from the Laguna Seca Subarea as if it were a party to the Alternative Production Allocations.

At any time prior to the expiration of the initial three-year operating period of this Decision, as designated in Section III.B.2, any of the aforementioned Parties, except the County of Monterey, may choose to change all or a portion of their Alternative Production Allocation to the Standard Production Allocation method set forth in Section III.B.2 and shall be entitled to all of the privileges associated with said Production Allocation as set forth herein (e.g., transferability, Storage rights, and Carryover rights). A Party choosing to change to the Standard Production Allocation shall do so by filing a declaration with the Court, and serving said declaration on all other parties. Once a Party chooses to change to the Standard Production Allocation method set forth in Section III.B.2, that Party shall not be allowed to thereafter again choose to participate in the Alternative Production Allocation. The Parties under the Standard Production Allocation shall not be allowed at any time to change from the Standard Production Allocation to the Alternative Production Allocation.

C. Production of Brackish Water. Sand City shall have the right to Produce Brackish Water from the brackish Groundwater aquifer portion of the Coastal Subarea of the Seaside Basin for the purpose of operating its proposed desalinization plant, said Production being limited to the Aromas Sands Formation, so long as such Production does not cause a Material Injury. Upon receiving a complaint supported by evidence from any Party to this Decision that the Production of Brackish Water by Sand City is causing a Material Injury to the Seaside Basin or to the rights of any Party to this Decision as set forth herein, the Watermaster shall hold a noticed hearing. The burden of proof at such hearing shall be on the Party making the complaint to show, based on substantial evidence, that the Production of Brackish Water by Sand City is causing a Material

Injury. If the Watermaster determines, based on substantial evidence, that the Production of Brackish Water by Sand City is causing a Material Injury to the Seaside Basin or to the rights of any Party to this Decision as set forth herein, the Watermaster may impose conditions on such Production of Brackish Water that are reasonably necessary to prevent such Material Injury.

D. Injunction of Unauthorized Production. Each Producer is prohibited and enjoined from Producing Groundwater from the Seaside Basin except pursuant to a right authorized by this Decision, including Production Allocation, Carryover, Stored Water Credits, or Over-Production subject to the Replenishment Assessment. Further, all Producers are enjoined from any Over-Production beyond the Operating Yield in any Administrative Year in which Watermaster has declared that Artificial Replenishment is not available or possible.

E. No Abandonment. It is in the interest of reasonable beneficial use of the Seaside Basin and its Water supply, that no Producer be encouraged to take and use more Water in any Administrative Year than is actually required, Therefore, failure to Produce all of the Water to which a Producer is entitled hereunder for any amount of time shall, in and of itself, not be deemed to be, or constitute an abandonment of such Producer's Base Water Right or Production Allocation, in whole or in part. The Water unused by any Party (either as Production or Carryover) will otherwise contribute to the ongoing efficient administration of the Decision and the Physical Solution.

F. Right to Carryover Unused Production Allocation; Carryover Credits. Except for those certain Parties electing to proceed under the Alternative Production Allocation, as set forth in Section III.B.3., for the first three Administrative Years each Producer who, during a particular Administrative Year, does not Extract from the Basin a total quantity equal to such Producer's Standard Production Allocation for the particular Administrative Year may establish Carryover Credits, up to the total amount of that Producer's Storage Allocation; provided, however, in no circumstance may the sum of a Producer's Storage Credits and Carryover Credits exceed that Producer's available Storage Allocation. Use (Extraction) of Carryover Credits shall be governed as otherwise provided in this Decision and the Watermaster Rules and Regulations. In

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consideration of the Seaside Basin's hydrogeologic characteristics, the Watermaster may discount the quantity of Water that may be Extracted pursuant to a Carryover Credit.

G. Damages and Prohibition on Enjoining Municipal Pumping. The Parties recognize that California American's pumping is for municipal purposes, including drinking Water supplies for most of the Monterey Peninsula, including within all of the Defendant Cities and to all of the Defendant landowners. In this context, if California American's Groundwater pumping causes an "Intrusion" upon a Water User Defendant's Production Allocation, then it shall compensate the Water User Defendant for damages caused by this Intrusion. An "Intrusion" occurs when a Water User Defendant exercising an Alternative Production Allocation is directed by the Watermaster, this Court or any other competent governmental entity to reduce its Groundwater pumping to a level below that Water User Defendant's Alternative Production Allocation, while California American continues pumping Groundwater from the same subarea. This damages provision does not alter the priority of the Alternative Production Allocation over the Standard Production Allocation pursuant to Section III.B.3, and is intended to address potential exigent circumstances that might arise regarding California American's municipal water service.

1. Damages from an Intrusion shall be calculated based upon the losses incurred by the Water User Defendant that are caused by the Intrusion. These losses may include the loss of crop yield and associated income, measured against the average achieved over the preceding five (5) years from the date of the loss. Where an Intrusion occurs with respect to a Water User Defendant's exercise of an Alternative Production Allocation for golf course irrigation (i.e., an Intrusion to a "Golf Course Water User"), the Intrusion may cause discoloration, thinning and damage to the golf course turf and may require replacement of golf course turf and other golf course landscaping. Such conditions may, in turn, cause the loss of income from reduced golf course facilities usage and loss of good will. It may be difficult to quantify such damages to a sum certain. Accordingly, where a Golf Course Water User demonstrates that an Intrusion caused discoloration, thinning or loss of golf course turf, the following criteria shall be utilized to determine damages for an Intrusion to a Golf Course Water User.

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a. Lost Income.

i. The Golf Course Water User's "Average Gross Annual Income" shall be determined by summing its gross annual income from each of the five (5) years preceding the year of the Intrusion and dividing that sum by five, except where a Golf Course Water User (Pasadera) has not been in operation for seven (7) years at the time of the Intrusion, the Average Gross Annual Income shall be determined by summing the gross annual income from each of the three years preceding the year of the Intrusion and dividing that sum by three;

ii. The Golf Course Water User's gross annual income during the year of an Intrusion shall be subtracted from its Average Gross Annual Income, with the resulting difference constituting the amount of lost income damages for that year of Intrusion; and

iii. If an Intrusion occurs in two or more years within a five-year period, damages shall be calculated using an Average Gross Annual Income based on the last consecutive five-year period preceding the first year of Intrusion, or if a Golf Course Water User (i.e., Pasadera) has not been in operation for a full seven (7) years at the time of the Intrusion, damages shall be calculated using an Average Gross Annual Income based on the last consecutive three-year period proceeding the first year of Intrusion. Gross Annual Income shall not be calculated based upon a year in which an Intrusion occurred.

iv. Water User Defendants shall make Feasible efforts to mitigate damages caused by an Intrusion (e.g., including use of evapotranspiration rates to schedule turf grass irrigation).

b. Property Damage/Out-of-Pocket Repair Costs.

i. Actual costs of repairing and/or replacing golf course turf and/or other golf course landscaping and associated labor costs shall be added to the lost income damages calculated as set forth in subparagraph (1), above.

ii. The Golf Course Water User shall make Feasible efforts to mitigate damages by employing the best irrigation practices, including use of evapotranspiration rates to schedule turf grass irrigation.

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2. A damages Claim with all substantiating gross annual income data shall be provided to California American within 120 days after December 31 of the year in which the Intrusion occurred. California American shall accept or reject the Claim within 30 days thereafter. If within 35 days after receipt of a Claim, California American fails to notify the claimant of California American's acceptance or rejection of that Claim, such Claim is deemed accepted. If the Claim is affirmatively accepted, payment will be made at the time of Claim acceptance. If the Claim is deemed accepted by California American's failure to timely accept or reject the Claim, payment will be made within 30 days after the date the Claim is deemed accepted. If the Claim is rejected, all or in part, the Water User Defendant may proceed to a hearing before the Court to determine the appropriate damages, considering the above referenced criteria. The hearing shall be by motion with all supporting documentation and contest thereto submitted and supported by declaration.

H. Allowed Storage.

1. Public Resource. Underground Storage within the Seaside Basin is and shall remain a public resource. Subject to this paramount public right, the Parties hereto shall be permitted to utilize available Storage space for bona fide Groundwater Storage projects. This use shall be subject to the supervision of the Watermaster and this Court and shall be governed by the following more specific provisions.

2. In General. Except for those certain Parties electing to proceed under the Alternative Production Allocation as set forth in Section III.B.3., each Producer is entitled to Store Water in the Basin as provided for in this Decision and Watermaster's Rules and Regulations up to the amount of their Storage Allocation. Each Producer's Allowed Storage Allocation in each Subarea shall be calculated by multiplying its Storage Allocation Percentage by the Total Useable Storage Space, less space reserved by the Watermaster as herein below set forth. The initial Storage Allocation Percentages are equal to the Base Water Rights, Table 1, less Storage reserved for the Watermaster and certain public agencies. Parties with an Alternative Production Allocation are entitled to their Storage Production Allocation when they elect to change to Standard Production Allocation

3. California American Storage Allocation. All Storage Allocation held by California American shall be held in trust by California American: (i) first for the benefit of California American's retail Water service customers within its service territory on the Monterey Peninsula and the County of Monterey and cities within its service territory which it serves; and (ii) then for other purposes as California American deems appropriate. In the event of a reduction in service from the Seaside Basin, California American will allocate service, including that which is associated with its Storage Allocation, in a manner that is consistent with and proportionate to its historic deliveries to all then current customers. Further, to the extent that California American has excess Storage Allocation available after meeting its responsibilities to its retail Water service customers within its service territory on the Monterey Peninsula and the cities which it serves, upon request by the County of Monterey, Monterey, Seaside, Sand City, or Del Rey Oaks, California American shall make available portions of its Storage Allocation within the Coastal Subarea for use by the requesting city in the Coastal Subarea as provided herein. Specifically, the city's request shall be made in writing and generally describe the public purpose and proposed use of the Storage Allocation by the requesting city. California American shall not deny the request unless making the requested portion of the Storage Allocation available to the city would unreasonably interfere with California American's ability to operate its system or to otherwise provide service to its customers. Should California American not be able to accommodate all requests by all cities without unreasonably interfering with its operations and service responsibilities, first priority to excess Storage Allocation shall be given to each respective city requesting the use of a portion of the Storage Allocation up to an amount equal to the percentage that the total quantity of Water delivered by California American for retail service to the requesting city bears to the total quantity of Water delivered to all cities at the date the Decision is entered. Notwithstanding the paramount rights of each city described in this section, 5 percent of any Storage Allocation held in trust by California American will be reserved for *de minimis* Storage opportunities and made available for the benefit of any requesting city on the basis of first in time, first in right. Additionally, provision of Storage Allocation by California American to a requesting city shall not be construed as a waiver of California American's rights under

section 1501 et seq. of the California Public Utilities Code or consent to duplication of its retail Water service. Moreover, California American shall not charge any fee for use of its Storage Allocation by Monterey, Seaside, Sand City, or Del Rey Oaks. However, the capital or other value of California American's Storage Allocation shall belong to California American. Finally, no city may request use of California American's Storage Allocation unless it has first used all of its own Storage Allocation as provided herein.

4. Determination of Total Useable Storage Space. Watermaster shall determine and declare the Total Useable Storage Space in the Basin, and may annually adjust the Total Useable Storage Space pursuant to Section III.L.3.j.xix of this Decision. If and when Watermaster adjusts the Total Useable Storage Space in the Basin, each Producer's Storage Allocation shall be adjusted accordingly.

Each Storage Allocation is of the same legal force and effect, and each is without priority with reference to any other Producer's Storage Allocation. Watermaster shall, however, consider each proposal to Store Water independently pursuant to Section III.L.3.j.xx.

5. Carryover. Each Producer operating under the Standard Production Allocation shall have the right to use their respective Storage Allocation to Store any Carryover Water subject to the provisions of this Decision. Unused (not Extracted) Stored Water Credits and Carryover Credits shall be carried over from year to year for the first three Administrative Years. Thereafter Carryover Water withdrawal is subject to a percentage decrease consistent with percentage decreases in the Operating Yield, according to the terms of this Decision. Due to the hydrogeologic characteristics of the Seaside Basin, naturally occurring losses of stored Water may require Watermaster to discount the percentage of Stored Water that may be Extracted. Watermaster shall study the efficiencies of Storage in the Seaside Basin and set a uniform percentage for withdrawals of Stored Water.

6. Injection and/or Spreading. Each Producer operating under the Standard Production Allocation, and the Watermaster, and certain public agencies, shall have the right to Store Water by Direct Injection, Spreading, or other artificial means so long as such Storage does not cause Material Injury to any other Party. Except as provided in Section III.H.5., no Producer

herein granted a Storage Allocation may Store Water in the Seaside Basin without first executing a Storage and Recovery Agreement with Watermaster, pursuant to Section III.L.3.j.xx. Each Storage and Recovery Agreement shall further define the terms and conditions by which a Producer may exercise its Storage Allocation and associated Stored Water Credits.

I. Injunction Against Unauthorized Storage. Each Producer is enjoined and restrained from Carrying Over or Storing any quantity of Water in the Seaside Basin greater than that Producer's Storage Allocation. Further, each Producer is enjoined from Storing any Water in the Seaside Basin except as provided in Section III.H.5. (establishment of Carryover Credits) or as authorized by a Storage and Recovery Agreement issued by Watermaster pursuant to Section III.L.3.j.xx.

J. Measurement of Extractions and Storage. All Producers shall install, maintain, and use adequate measuring devices on all Groundwater Production facilities as directed by Watermaster and report accurate measurements of all Groundwater Produced from the Seaside Basin in the manner required by Watermaster's Rules and Regulations. Such measuring devices shall not conflict with any monitoring devices required by MPWMD. All Producers shall comply with the provisions for measurement of any Storage of Water in the Seaside Basin, as provided in Watermaster's Rules and Regulations, and as may be further provided for in a Storage and Recovery Agreement issued by Watermaster for such Storage.

K. Order of Accounting for the Production of Groundwater. Unless otherwise requested by a Producer in writing to Watermaster, Watermaster shall account for all Production of Water form the Seaside Basin by a Producer in any Administrative Year as follows: Production shall first be deemed Production of that Producer's Production Allocation up to that Producer's total Production Allocation, and thereafter shall be deemed Production of that Producer's Carryover Credits, if any, and thereafter shall be deemed Production of that Producer's Stored Water Credits, if any. So long as consistent with this section, Watermaster may prescribe administrative rules within its Rules and Regulations concerning the method and manner of accounting for the Production of Groundwater.

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L. Appointment of Watermaster; Watermaster Administrative Provisions.

1. Establishment of Watermaster. A Watermaster shall be established for the purposes of administering and enforcing the provisions of this Decision and any subsequent instructions or orders of the Court. The Watermaster shall consist of thirteen (13) voting positions held among nine (9) representatives. California American, Seaside, Sand City, Monterey, and Del Rey Oaks shall each appoint one (1) representative to Watermaster for each two-year term of Watermaster. The Landowner Group shall appoint two (2) representatives to Watermaster for each two-year term of Watermaster. The MPWMD shall have one (1) representative and the MCWRA shall have one (1) representative. The representatives elected to represent the Landowner Group shall include one (1) representative from the Coastal Subarea and one (1) representative from the Laguna Seca Subarea. The California American representative shall possess three (3) voting positions; the Seaside, MPWMD, and MCWRA representatives shall each possess two (2) voting positions; and every other representatives shall posses one (1) voting position. Each representative from the Landowner Group shall carry one-half of the Landowner Representative vote. Each representative under the Landowner Group may also act as an alternate for the other.

The right to assign a representative to Watermaster and the representative's respective voting power shall only transfer upon permanent sale of 51 percent or more of the Party's Base Water Right, but not upon the lease of any portion of the member's Base Water Right.

2. Quorum and Agency Action. A minimum of six (6) representatives shall be required to constitute a quorum for the transaction of Watermaster affairs. Unless otherwise provided herein, the affirmative vote of seven (7) voting positions shall be required to constitute action by Watermaster.

3. Qualification, Nomination, Election, and Administrative Procedures.

a. Qualification. Any duly authorized agent of the entities or groups provided for in Section III.L.1. is qualified to serve as a representative on the Watermaster board.

b. Term of Office. Each new Watermaster board shall assume office at the first regular meeting in January of every second year. Each Watermaster board member shall

serve for a two-year term, subject to the retained jurisdiction of the Court. Should a vacancy arise on the Watermaster board for any reason, the respective entity or group from which that vacancy arises shall appoint a replacement representative in the manner prescribed by Watermaster Rules and Regulations. Such replacement shall complete the remainder of the term of the vacated office. Within 30 days of the appointment of any new Watermaster board member, any Party may file a motion with the Court challenging the appointment The Court, acting *sua sponte*, may reject any Watermaster board appointment within the 30-day period. Challenges shall be based on allegations that the appointed board member does not possess the requisite skills necessary to effectively serve as a member of the Watermaster board.

c. Nomination and Election of Landowner Representative. The nomination and election of the Landowner Group representatives shall occur in November of every second year in the manner designated by Watermaster Rules and Regulations. The nomination and election of the Landowner Group representatives shall be by cumulative voting with each member of the Landowner Group entitled to one (1) vote for each acre-foot of annual entitlement under the member's Alternative Production Allocation. Voting rights may only be transferred upon permanent sale of 51 percent or more of the Landowner Party's Base Water Right.

d. Organization. At he first meeting of each newly comprised Watermaster board, the Watermaster shall elect a chairman and a vice-chairman from its membership. It shall also select a secretary, a treasurer and such assistant secretaries and assistant treasurers as may be appropriate, any of whom may, but need not, be representatives appointed to Watermaster.

e. Minutes. Minutes of all Watermaster meetings shall be kept and shall reflect a summary of all actions taken by the Watermaster. Copies thereof shall be furnished to all Parties and interested Persons as provided for inn Section III.P.2. Copies of minutes shall constitute notice of any Watermaster action therein reported.

f. Regular Meetings. The Watermaster shall hold regular meetings at places and times to be specified in the Watermaster Rules and Regulations. Its first meeting must be held within 15 days from the date Judgment is granted in this case. Notice of the scheduled or

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regular meetings of the Watermaster and of any changes in the time or place thereof shall be mailed to all Parties and interested Persons as provided for in Section III.P.2.

g. Special Meetings. Special meetings of the Watermaster may be called at any time by the chairman or vice chairman or by any three (3) representatives appointed to Watermaster by written notice delivered personally or mailed to all Parties and interested Persons as provided for in Section III.P.2., at least twenty-four (24) hours on a business day before the time of each such meeting in the case of personal delivery, and five (5) days' notice prior to such meeting in the case of mail if the special meeting is being called under urgent circumstances. If a special meeting is called and no urgent circumstance exists, then at least ten (10) days' notice must be provided to all Parties. The notice shall specify the time and place of the special meeting and the business to be transacted at such meeting.. No other business shall be considered at such meeting.

h. Meeting Procedures. Watermaster shall designate the procedure for conducting meetings within its Rules and Regulations. Rules and regulations for conducting meetings shall conform to the procedures established for meetings of public agencies pursuant to the California Open Meetings Law ("Brown Act"), California Government Code section 54950 et seq., as it may be amended from time to time.

i. Appointment of the Initial Watermaster Board. The initial Watermaster board, which shall take office immediately from the date Judgment is granted, shall be composed of the duly authorized representatives of California American, Seaside, Sand City, Del Rey Oaks, Monterey, MCWRA, MPWMD, and two individuals to be designated by the landowners as the initial representatives of the Landowner Group for the Coastal and Laguna Seca Subareas, respectively.

j. Duties, Powers and Responsibilities of the Watermaster. To assist the Court in the administration and enforcement of the provisions of this Decision, the Watermaster shall have and is limited to the following duties, powers, and responsibilities:

i. Preparation of Monitoring and Management Plan. Within sixty (60) days from the date Judgment is granted, Watermaster will prepare a comprehensive

monitoring and management plan for the Seaside Basin ("Monitoring and Management Plan"). The Monitoring and Management Plan must be consistent with the criteria set forth in Exhibit A.

ii. Declaration of Operating Yield. Based upon the evidence at trial concerning historic Production in the Basin, the Court sets the Operating Yield for the Seaside Basin, as a whole, as 5,600 acre feet. The Operating Yield for the Coastal Subarea is 4,611 acre feet and 9889 acre feet for the Laguna Seca Subarea. The Operating Yield established here will be maintained for three (3) years from the date Judgment is granted, or until a determination is made by the Watermaster, concurred in by this Court, that continued pumping at this established Operating Yield will cause Material Injury to the Seaside Basin or to the Subareas or will cause Material Injury to a Producer due to unreasonable pump lifts. In that event, the Watermaster shall determine the modified Operating Yield in accordance with the Principles and Procedures attached hereto as Exhibit A, and through the application of criteria that it shall develop for this purpose.

iii. Artificial Replenishment and Replenishment Assessments. Each Administrative Year, the Watermaster will determine a Replenishment Assessment for Artificial Replenishment of the Seaside Basin necessary to offset the cumulative Basin Over-Production (as defined in Section III.A.21.), and levy a Replenishment Assessment. Said Replenishment Assessment does not apply to Production under an Alternative Production Allocation so long as such Production is within the fixed amount established for that Producer in Table 2 of Section III.B.3. Funds so generated may be accumulated for multiple Administrative Years, if necessary, and shall be utilized solely for replenishment of the Basin Groundwater supply with Non-Native water.

An additional Watermaster Replenishment Assessment shall be levied after the close of each Administrative Year against all Producers that incurred Operating Yield Over-Production during the Administrative Year. Said assessment shall be in addition to the Replenishment Assessment addressed in Section III.A.21. The Replenishment Assessment based upon Operating Yield Over-Production shall be levied against the Parties participating in the Alternative Production Allocation for only such Production that exceeds the Parties' respective fixed

Alternative Production Allocation identified on Table 2. In the event Watermaster cannot procure Artificial Replenishment Water to offset Operating Yield Over-Production during the ensuing Administrative Year, the Watermaster shall so declare in December and no Operating Yield Over-Production then in effect may occur during the ensuing Administrative Year. Funds generated by the Operating Yield Over-Production Assessment shall be utilized by the Watermaster to engage in or contract for Replenishment of the Operating Yield Over-Production occurring in the Preceding Administrative Year as expeditiously as possible.

Replenishment Assessments based on Over-Production and on Operating Yield Over-Production shall be assessed on a per acre-foot basis on each acre-foot, or portion of an acre-foot, of Over-Production. The per acre-foot amount of the Replenishment Assessments shall be determined and declared by Watermaster in January of each Administrative Year in order to provide Parties with advance knowledge of the cost of Over-Production in that Administrative Year.

Payment of the Replenishment Assessment shall be made by each Producer incurring a Replenishment Assessment within 40 days after the mailing of a statement for the Replenishment Assessment by Watermaster. If payment by any Producer is not made on or before said date, the Watermaster shall add a penalty of 5 percent thereof to such Producer's statement. Payment required of any Producer hereunder may be enforced by execution issued outside of this Court, by order of this Court, or by other proceedings by the Watermaster or by any Producer on the Watermaster's behalf. All proceeds of Replenishment Assessments shall be used to procure Non-Native water, including, if appropriate, substitute reclaimed water.

iv. Budget Assessments. The Watermaster budget for each Administrative Year, and for the initial funding of the Monitoring and Management Plan, shall be funded by Budget Assessments. The Watermaster budget will be composed of three separate budgets. The first budget is solely for the funding of the Monitoring and Management Plan. The initial, one-time funding for the Monitoring and Management Plan shall not be in excess of $1,000,000. The annual budget for the Monitoring and Management Plan shall not be in excess of $200,000 for the first Administrative Year, and thereafter as determined by the Watermaster.

The Budget Assessment for the Monitoring and Management budget shall be assessed against each Producer (except those in the Landowner Group) by multiplying the amount of the Monitoring and Management Plan budget for the ensuing Administrative Year by the following percentages:

(1)	California American	91%
(2)	City of Seaside	7%
(3)	Granite Rock Company	1%
(4)	D.B.O. Development No. 27	1%

At such times as a Party within the Coastal Subarea chooses to change its Alternative Production to a Standard Production Allocation that Party will be assessed a proportionate share of the Budget Assessment for the Monitoring and Management Plan Budget based upon a modification of the percentages to include any new Standard Production.

The administrative budget shall be fixed at $100,000 annually for the first Administrative Year, and thereafter as determined by the Watermaster. The Budget Assessment for the administrative budget shall be assessed against each Producer (except those inn the Landowner Group) by multiplying the amount of the budget for the ensuing Administrative Year by the following percentages:

(1)	California American	83%
(2)	City of Seaside	14.4%
(3)	City of Sand City	2.6%

The Replenishment Budget shall be calculated based upon the anticipated cost of obtaining replenishment water, and shall be assessed as set forth in Section III.A.21, and in Section III.L.3.j.iii.

Except for the initial Budget Assessment which shall be due 30 days from the date Judgment is granted, payment of the Budget Assessment, subject to any adjustment by the Court as provided in Section III.N., shall be made by each Producer prior to the beginning of the Administrative Year to which the Budget Assessment relates, or within 40 days after the mailing of the tentative budget, whichever is later. If such payment by any Producer is not made on or

before said date, the Watermaster shall add a penalty of 5 percent thereof to such Producer's statement. Payment required of any Producer hereunder may be enforced by execution issued outside of this Court, by order of this Court, or by other proceedings by the Watermaster or by any Producer on the Watermaster's behalf.

v. Reports, Information, and Records. The Watermaster will require Parties to furnish such reports, information, and records as may be reasonably necessary to determine compliance or lack of compliance by any Party with the provisions of this Decision.

vi. Requirement of Measuring Devices. The Watermaster will require all Parties owning or operating any Groundwater Extraction and/or Storage facilities to install appropriate Water measuring devices, and to maintain said Water measuring devices at all times in good working order at such Party's own expense. Such devices shall not interfere with any measuring gauges required by MPWMD.

vii. Inspections by the Watermaster. The Watermaster will make inspections of Water Production facilities and measuring devices at such times and as often as may be reasonable under the circumstances, and to calibrate or test such devices.

viii. Collection of Arrears. The Watermaster will undertake any and all actions necessary to collect the arrears of any Party with regard to any and all components of the Budget Assessment and/or the Replenishment Assessment.

ix. Hearing Objections; Review and Approvals. The Watermaster will hear all objections and/or review and determine approval or denial of the action(s) of any Party as provided for by any other provision of this Decision.

x. Annual Report. The Watermaster will prepare, file with the Court and mail to each of the Parties on or before the 15th day of February, an annual report for the preceding Administrative Year, the scope of which shall include but not be limited to the following:

- Groundwater Extractions;
- Groundwater Storage;
- Amount of Artificial Replenishment, if any, performed by Watermaster;

- Leases or sales of Production Allocation;
- Use of imported, reclaimed, or desalinated Water as a source of Water for Storage or as a Water supply for lands overlying the Seaside Basin;
- Violations of the Decision and any corrective actions taken;
- Watermaster administration costs;
- Replenishment Assessments;
- All components of the Watermaster budget; and
- Recommendations.

xi. Annual Budget and Appeal Procedure in Relation Thereto. The Watermaster will annually adopt a tentative budget for each Administrative Year stating the anticipated expense for administering the provisions of this Decision, including reasonable reserve funds. The adoption of each Administrative Year's tentative budget shall require the affirmative vote of seven (7) voting positions. The Watermaster shall mail a copy of said tentative budget to each of the Producers hereto at least 60 days before the beginning of each Administrative Year. The Landowner Group representative shall not participate in any vote concerning the approval of the Watermaster budget. If any Producer hereto has any objection to said tentative budget, it shall present the same in writing to the Watermaster within 15 days after the date of mailing of said tentative budget by the Watermaster. If no objections are received within said period, the tentative budget shall become the Final budget. If objections are received, the Watermaster shall, within 10 days thereafter, consider such objections, prepare a Final budget, and mail a copy thereof to each Producer, together with a statement of the amount assessed to each Producer (Administrative Assessment). Any Producer may apply to the Court within 15 days after the mailing of such Final budget for a revision thereof based on specific objections thereto in the manner provided in Section III.N. The Producer challenging the budget shall make the payments otherwise required of them to the Watermaster, despite the filing of the request for revision with the Court. Upon any revision by the Court, the Watermaster shall either remit to the Producers their pro rata portions of any reduction in the budget, or credit their accounts with respect to their Administrative Assessment for the next ensuing Administrative Year, as the Court

shall direct. The amount of each Producer's Budget Assessment shall be determined as provided in Section III.L.3.j.iv.

Any money in Watermaster's budget not expended at the end of any Administrative Year shall be applied to the budget of the succeeding Administrative Year.

xii. Rules and Regulations. The Watermaster will adopt and amend from time to time such Rules and Regulations as may be reasonably necessary to carry out its duties, powers and responsibilities under the provisions of this Decision. The Rules and Regulations and any amendments thereto, shall be effective on such date after the mailing thereof to the Parties as is specified by the Watermaster, but not sooner than thirty (30) days after such mailing. The Watermaster shall adopt initial Watermaster Rules and Regulations within ninety (90) days from the date Judgment is granted.

xiii. Acquisition of Facilities. The Watermaster may purchase, lease, acquire and hold all necessary property and equipment as necessary to perform the duties, powers, and responsibilities provided to Watermaster by this Decision; provided, however, that Watermaster shall not acquire any interest in real property in excess of year-to-year tenancy for necessary quarters and facilities.

xiv. Employment of Staff and Consultants. The Watermaster may employ such administrative, engineering, geologic, accounting, legal, or other specialized personnel or consultants as may be deemed appropriate to the carrying out of its duties, powers, and responsibilities and to require appropriate bonds from all officers and employees handling the Watermaster funds.

xv. Investment of Funds. The Watermaster may hold and invest any and all funds that the Watermaster may possess in investments authorized from time to time for public agencies in the State of California.

xvi. Borrowing. The Watermaster may borrow in anticipation of receipt of assessment proceeds an amount not to exceed the annual amount of assessments levied but uncollected.

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xvii. Contracts. The Watermaster may enter into contracts for the performance of any administrative power herein granted.

xviii. Cooperation with Public and Private Entities. The Watermaster may act jointly or cooperate with any public or private entity to the end that the purposes of the Physical Solution may be fully and economically carried out. Where it is more economical to do so, Watermaster is directed to use such facilities of a public or private entity as are available to it to execute the duties, powers, and responsibilities provided to Watermaster under this Decision.

xix. Declaration of Total Usable Storage Space. The Watermaster will declare the Total Useable Storage Space and periodically issue adjustments to the same.

xx. Review of Storage Applications; Regulation of Storage; Issuance of Storage and Recovery Agreements. The Watermaster will review applications for Storage in the Seaside Basin, regulate the Storage of Non-Native Water in the Seaside Basin, and issue Storage and Recovery Agreements, all as provided below. All applications for Storage in the Seaside Basin shall be considered and voted on before a noticed meeting of the Watermaster. However, all such applications shall be approved absent the issuance of findings that a Material Injury to the Seaside Basin or Producers will or is likely to occur as a result of the proposed Storage program and no reasonable conditions could be imposed to eliminate such risk. If a Storage application is approved, the Watermaster shall issue a Storage and Recovery Agreement. The Storage and Recovery Agreement may include, among other possible elements and/or provisions, the following conditions to avoid Material Injury: (1) the quantity of Water authorized to be Spread or Directly Injected into the Seaside Basin, (2) the location of the authorized Spreading or Direct Injection, (3) the location(s) where the Water may be recaptured, (4) the particular Water quality characteristics that are required pursuant to the Storage and Recovery Agreement, (5) the amount of Water that may be recaptured pursuant to the Stored Water Credits calculated by Watermaster, (6) any other terms and conditions deemed necessary to protect the Seaside Basin and those areas affected by the Seaside Basin. Such Storage and Recovery Agreements may provide for different locations for introduction and Extraction of Stored Water if deemed appropriate by the Watermaster.

xxi. Monitoring and Study of the Seaside Basin and All Seaside Basin Activities. The Watermaster will monitor and perform or obtain engineering, hydrogeologic, and scientific studies concerning all characteristics and workings of the Seaside Basin, and all natural and human-induced influences on the Seaside Basin, as they may affect the quantity and quality of Water available for Extraction, that are reasonably required for the purposes of achieving prudent management of the Seaside Basin in accord with the provisions of this Decision.

xxii. Relocation of Authorized Production Locations. The Watermaster will order relocation of the authorized quantity of Production pursuant to any Producer's Production Allocation from a specific location or from a specific aquifer within the same Subarea of the Seaside Basin, provided that it allows equivalent Production from any other location/aquifer in the Seaside Basin within the same Subarea that would not also create a reasonable potential for Material Injury. Watermaster may only order relocation of Production after issuing findings that a Material Injury has occurred or is likely to occur as a result of the then-authorized quantity and geographic distribution of Production. Watermaster may not order the relocation of Production by any Producer that is a member of the Landowner Group.

xxiii. Water Quality. The Watermaster will take any action within the Seaside Basin, including, but not limited to, capital expenditures and legal actions, which in the discretion of Watermaster is necessary or desirable to accomplish any of the following:

- Prevent contaminants from entering the Groundwater supplies of the Seaside Basin, which present a significant threat to the Groundwater quality of the Seaside Basin, whether or not the threat is immediate;
- Remove contaminants from the Groundwater supplies of the Seaside Basin presenting a significant threat to the Groundwater quality of the Seaside Basin;
- Determine the existence, extend, and location of contaminants in, or which may enter, the Groundwater supplies of the Seaside Basin;
- Determine Persons responsible for those contaminants; and
- Perform or obtain engineering, hydrologic, and scientific studies as may be reasonably required for any of the foregoing purposes.

xxiv. Other Specified Powers Pursuant to Decision Terms. The Watermaster will undertake any other powers, duties, or responsibilities provided through any other provision of this Decision.

xxv. No Power to Alter Allocation or Rights. Watermaster has no power to adjust any Producer's Base Water Right or the formula for determining Production Allocation, except to accommodate the intervention of a new Party pursuant to Section III.O.1.b. However, should an adjustment of Base Water Right and/or Production Allocation within a Subarea be required to accommodate the intervention of a new Party, no adjustment shall be made to the Base Water Right or Production Allocations possessed by any Party operating under the Alternative Production Allocation within the Landowner Group until the Production Allocations for that Subarea possessed by Parties operating under the Standard Production Allocation have been reduced to zero.

xxvi. Effect of Non-Compliance by Watermaster With Time Provisions. Failure of the Watermaster to perform any duty, power or responsibility set forth in this Decision within the time limitation herein set forth shall not deprive the Watermaster of authority to subsequently discharge such duty, power, or responsibility, except to the extent that any such failure by the Watermaster may have rendered some otherwise required act by a Party impossible.

xxvii. Public Records. Watermaster shall conform to the procedures established under the California Public Records Act, California Government Code section 54950 et seq., as it may be amended from time to time.

M. Additional Provisions of Physical Solution.

In order to provide flexibility to the injunctive provisions set forth in Section III.D of this Decision, and to assist in a Physical Solution to meet Water requirements in the Basin, the determination of rights and responsibilities, and the injunctive provisions so set forth are subject to the following provisions:

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1. California American Obligation to Augment Water Supply

a. Long-Term Supplemental Water Supplies. California American shall undertake all reasonable best efforts to promptly and diligently pursue, and if necessary collaborate with other entities, to obtain and develop sufficient long-term supplemental Water supplies to augment the Water supply available for its service territory within Monterey County.

b. Interim Supplemental Water Supplies. During the interim period, until long-term supplemental Water supplies are available, California American shall undertake all reasonable best efforts to ensure that it has sufficient Water supplies to meet all present Water supply needs, including the Water credits allocated to the various political subdivisions pursuant to the MPWMD's Water Allocation Program, in such quantities as set forth in Exhibit D, and the Water credits issued to various properties pursuant to the MPWMD's Water Allocation Program.

c. Regulatory Authorization. California American's duties under Sections III.M.1.a and III.M.1.b above will be measured and construed in the context that there are various regulatory approvals that must be obtained for California American to successfully implement the measures reasonably contemplated to secure supplemental Water. For example, it is acknowledged and understood that California American's ability to complete a supplemental Water supply project will require approvals and authorizations from the State Water Resources Control Board ("SWRCB") and the California Public Utilities Commission ("CPUC"). Accordingly, California American will not be considered in default under this Section III.M.1 if it uses reasonable best efforts to obtain the required approvals and authorizations.

d. Credit Toward Replenishment Assessment. California American's expenditures for water supply augmentation may also provide replenishment water for the Basin. Accordingly, on an annual basis, California American will provide the Watermaster with an accounting of all expenditures it has made for water supply augmentation that it ~~believes have~~ Cal Am has or will ~~also~~ result in replenishment of the Basin. The Watermaster shall review

these expenditures and reduce California American's Replenishment Assessment obligation, for that year, by an amount equal to the amount claimed by California American. To the extent that the Watermaster ~~disputes~~ any of the claimed amounts, it shall provide California American with an explanation ~~of its contest~~ and allow California American an opportunity to meet and confer on the disputed amount. In the event that the Watermaster and California American cannot ~~resolve their dispute~~, the matter ~~will~~ be referred to the Court through a request filed by ~~the Watermaster~~.

2. Assignment and Transfer of Production Allocation. Subject to other provisions of this Decision, and any applicable Watermaster Rules and Regulations, the Parties may assign and transfer any portion of their respective Production Allocation either on an annual Administrative Year basis or in perpetuity to any Person for use within the Basin.

The Parties may also assign and transfer the right to Extract any quantity of Water associated with an existing Stored Water Credit or Carryover Credit, subject to other provisions of this Decision, and any applicable Watermaster Rules and Regulations.

3. Export of Groundwater Outside of Subarea or Seaside Basin.

a. Exports Authorized from the Coastal Subarea. Producers may export Water Produced from the Coastal Subarea for reasonable and beneficial uses within another Subarea of the Seaside Basin. Only California American may export water outside the Basin, and then only to provide water to its current customers. This means that, in any Administrative Year, any Producer may export from the Coastal Subarea up to, but not in excess of, a quantity equal to the sum of that Producer's Production Allocation, plus Stored Water Credits, plus Carryover Credits. Export of Groundwater in excess of a Producer's total rights (Production Allocation, plus Stored Water Credits, plus Carryover Credits), however, is prohibited.

b. Exports of Natural Replenishment Water Prohibited from the Laguna Seca Subarea. Exports from the Laguna Seca Subarea of Natural Replenishment Water and Carryover Credits not caused by Artificial Replenishment are prohibited.

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c. Portability Authorized Within Subareas; Portability Prohibited Between Subareas. Any Producer may change the location of its Production facilities within its respective Subarea or join other Production facilities within its Subarea, so long as such relocation does not cause a Material Injury or threat of Material Injury to the Basin or interfere with the Production by any pre-existing Production facilities operated by another Producer(s). No Party may Produce Groundwater from the Coastal Subareas pursuant to any right recognized by this Decision in the Laguna Seca Subarea, and *vice versa.*

N. Watermaster Decision Review Procedures. Any action, decision, rule or procedure of the Watermaster pursuant to this Decision shall be subject to review by the Court on its own motion or on timely motion by any Party, as follows:

1. Effective Date of the Watermaster Action. Any order, decision or action of the Watermaster pursuant to this Decision on noticed specific agenda items shall be deemed to have occurred on the date of the order, decision or action.

2. Notice of Motion. Any Party may, by a regularly noticed motion, petition the Court for review of the Watermaster's action or decision pursuant to this Decision. The motion shall be deemed to be filed when a copy, conformed as filed with the Court, has been delivered to the Watermaster together with the service fee established by the Watermaster sufficient to cover the cost to photocopy and mail the motion to each Party. The Watermaster shall prepare copies and mail a copy of the motion to each Party or its designee according to the official service list which shall be maintained by the Watermaster according to Section III.P.2. A Party's obligation to serve notice of a motion upon the Parties is deemed to be satisfied by filing the motion as provided herein. Unless ordered by the Court, any such petition shall not operate to stay the effect of any Watermaster action or decision that is challenged.

3. Time for Motion. A motion to review any Watermaster action or decision will be filed within thirty (30) days after such Watermaster action or decision, except that motions to review Budget Assessments and Replenishment Assessments hereunder shall be filed within fifteen (15) days of mailing of notice of the Assessment.

4. De Novo Nature of Proceedings. Upon filing of a petition to review a Watermaster action, the Watermaster shall notify the Parties of a date when the Court will take evidence and hear argument. The Court's review shall be de novo and the Watermaster decision or action shall have no evidentiary weight in such proceeding.

O. Reserved Jurisdiction and Other Remedies.

1. Continuing Jurisdiction.

a. Jurisdiction Reserved. Full jurisdiction, power and authority are retained by and reserved by the Court upon the application of any Party or by the Watermaster, by a noticed motion to all Parties, to make such further or supplemental orders or directions as may be necessary or appropriate for interpretation, enforcement, or implementation of this Decision. The Court may also modify, amend or amplify any of the provisions of this Decision upon noticed motion to all the Parties. The Court, through its reserved and retained jurisdiction, however, shall not have the authority to adjust any Producer's Base Water Right or Production Allocation, except to accommodate the intervention of a new Party pursuant to Section III.O.1.b. However, should an adjustment of Base Water Right and/or Production Allocation within a Subarea be required to accommodate the intervention of a new Party, no adjustment shall be made to the Base Water Right or Production Allocations possessed by any Party operating under the Alternative Production Allocation within the Landowner Group until the Production Allocations within that Subarea possessed by Parties operating under the Standard Production Allocation have been reduced to zero.

b. Intervention After Decision. Any non-party who is Producing or proposes to Produce Groundwater from the Seaside Basin in an amount equal to or greater than five (5) acre feet per year, may seek to become a Party to this Decision through (1) a stipulation for intervention entered into with the Watermaster or (2) any Party or the Watermaster filing a complaint against the non-party requesting that the non-party be joined in and bound by this Decision. The Watermaster may execute said stipulation on behalf of the other Parties herein, but such stipulation shall not preclude a Party from opposing such

intervention at the time of the Court hearing thereon. A stipulation for intervention must be filed with the Court, and the Court will then consider an order confirming said intervention following thirty (30) days' notice to the Parties. Thereafter, if approved by the Court, such intervenor shall be a Party bound by this Decision and entitled to the rights and privileges accorded under the Physical Solution herein.

2. Reservation of Other Remedies.

a. Claims By and Against Non-Parties. Nothing in this Decision shall expand or restrict the rights, remedies or defenses available to any Party in raising or defending against claims made by any non-party. Any Party shall have the right to initiate an action against any non-party to enforce or compel compliance with the provisions of this Decision.

b. Claims Between Parties on Matters Unrelated to the Decision. Nothing in this Decision shall either expand or restrict the rights or remedies of the Parties concerning any subject matter that is unrelated to the use of the Seaside Basin for Extraction and/or Storage of Water as allocated and equitably managed pursuant to this Decision.

P. General Provisions.

1. Decision Constitutes Inter Se Adjudication. This Decision constitutes an inter se adjudication of the respective rights of all Parties.

2. Service Upon and Delivery to Parties and Interested Persons of Various Papers. This Decision and all future notices, determinations, requests, demands, objections, reports and other papers and processes Produced from this Court shall be served on all Parties by first class mail, postage prepaid, addressed to the designee and at the address designated for that purpose in the list attached as Exhibit E to this Decision, or in any substitute designation filed with the Court.

Each Party who has not heretofore made such a designation, within thirty (30) days from the date Judgment is granted, shall file with the Court, with proof of service of a copy upon the Watermaster, a written designation of the Person to whom, and the address at which, all future notices, determinations, requests, demands, objections, reports and other papers and

processes to be served upon that Party or delivered to that Party are to be so served or delivered.

A later substitute designation filed and served in the same manner by any Party shall be effective from the date of the filing as to the then future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon or delivered to that Party.

Watermaster shall maintain at all times a current list of Parties to whom notices are to be sent and their address for purposes of service. Copies of such lists shall be available to any Person. If no designation is made, a Party's designee shall be deemed to be, in order of priority: (a) the Party's attorney of record; (b) if the Party does not have an attorney of record, the Party itself at the address on the Watermaster list.

Watermaster shall also maintain a list of interested Persons that shall include all Persons whom, by written request to Watermaster, request to be added to Watermaster's list of interested Persons. All notices, determinations, requests, demands, objections, reports and other papers and processes required to be delivered to interested Persons shall be delivered to all Parties and all Persons on Watermaster's list of interested Persons.

Delivery to or service upon any Party or interested Person by Watermaster, by any other Party, or by the Court, of any document required to be served upon or delivered to a Party under or pursuant to this Decision shall be deemed made if made by deposit thereof (or by copy thereof) in the mail, first class postage prepaid, addressed to the designee of the Party and at the address shown in the latest designation filed by that Party.

Any Party desiring to be relieved of receiving deliveries from Watermaster may file a waiver of notice on a form to be provided by Watermaster.

3. Decision Binding on Successors. All provisions contained in this Decision are applicable to and binding upon and inure to the benefit of not only the Parties to this action, but also to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys in fact of any such Persons.

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Q. The Complaints in Intervention

The Complaint in Intervention of MPWMD seeks declaratory relief regarding its statutory right to manage and control pumping in the Basin, to store water in and Extract water from the Basin, to store and use reclaimed water, to manage all water distribution facilities within the Basin, and "the quantification and prioritization of its water and storage rights". It also sought a Physical Solution for the management of the Basin's water resources, with MPWMD being appointed as Watermaster to administer the Court's judgment. It also sought parallel injunctive relief against the parties to the lawsuit.

The Complaint in Intervention of MCWRA sought declaratory and injunctive relief regarding its right to manage and control water resources including, inter alia, those within the boundaries of the Seaside Basin, and a permanent injunction prohibiting any party to the lawsuit from exercising control "in any fashion" of the Basin in contravention of its water management authority.

On December 12, 2005, the Court asked the parties to brief the issue of whether MPWMD should be designated as Watermaster. Briefs were submitted by MPWMD , Plaintiff, Cal Am, and the City of Seaside. The court had previously received an Amicus brief from the Sierra Club which dealt with the issue of the powers of MPWMD land the effect on those powers if the court were to appoint a Watermaster other than MPWMD. The Court has read and considered each submitted brief. It has also read the Act which created MPWMD (Water Code Appendix, Chapter 118), and has had the benefit of the arguments of the parties concerning the subject. Being so informed it has concluded that the appointment of a collaborative Watermaster does not interfere with the powers of the District.

The District has argued that appointment of a Watermaster other than itself would violate the Separation of Powers doctrine. It urges that the legislature has vested it with the power to regulate pumping, and therefore only it is qualified to serve as Watermaster. On the other hand, the District has asked the Court to adopt a Physical Solution for the Basin. In so arguing, it necessarily concedes that this Court possesses power to regulate use of the Basin beyond any power the District currently possesses. Furthermore, the undisputed evidence in this case has

shown that, although the District is empowered to adopt a Groundwater management plan it has never done so. The language of Water Code Section 10753 is instructive regarding the issue of the Separation of Powers:

> "(a) Any local agency, whose service area includes a groundwater basin...that is not subject to groundwater management pursuant to...a court order, judgment, or decree, may...adopt and implement a groundwater management plan."
>
> (Emphasis added.)

Pursuant to the quoted provisions of the foregoing section, the District will not be able in the future to adopt a Groundwater management plan for the Seaside Basin. Clearly the legislature contemplated that courts had the power to develop management plans for aquifer management even if a water management district already existed in a geographical area.

The District further argues that if the Court appoints a Watermaster other than itself, the authority of the Watermaster must not conflict with the MPWMD's authority. It is certainly true that the District possesses certain authority, which it is free to exercise according to the legislative mandate which created it. However, it is apparent the legislature did not intend that all of the powers it granted to the District be held exclusively by the District, else it would not at a later time have created the Monterey County Water Resources Agency and endowed it with many of the powers granted to the MPWMD. Rather, in creating the MCWRA, the legislature mandated that the two agencies cooperate with one another (Water Code Appendix Section 52-85). Similarly, the judgment contemplated in this Decision requires the Watermaster to "...act jointly or cooperate with any public...entity to the end that the purposes of the Physical Solution may be fully...carried out." (Section III.L.3.j.xviii)

On pages 15-16 of its brief, the District lists 9 powers and asserts those powers would "encompass the duties of any appointed watermaster." The Court has compared those 9 asserted powers and has concluded that those powers, to the extent that they exist or are currently being utilized by the District, do not encompass all the duties of a Watermaster appointed by the judgment. Furthermore, to the extent the Watermaster may be given powers akin to those of the District, this Court retains jurisdiction to determine any conflict which may arise in the future.

For example, the Decision directs that any metering of Production wells by the Watermaster shall be done in a way which does not conflict with the MPWMD gauging already in place on all producing wells. The MPWMD is still able to develop water resources within its boundaries and can store water for the benefit of the District in the Basin, although it has not to date done either of those things with regard to the Seaside Basin.

One asserted power deserves more precise attention: the asserted "...power and duty to manage and regulate the transferability of the water among users- (Water Code Appendix) Section 328(g)." The plain reading of the referenced section does not encompass the right asserted. Furthermore, to the extent those that section purports to grant the District the power to "...declare rights in the natural flow of any subterranean supply of water..." it is apparent that the legislature did not intent to interfere with the ultimate right of the courts to determine the water rights of parties claiming such rights. To read the section otherwise would be to create a true Separation of Powers issue.

In fairness to the District, it had, of necessity, to confine its analysis of the duties of the proposed Watermaster to those set forth in the Proposed Stipulated Judgment. The Decision, while obviously relying on the structure and format of the Stipulated Judgment, does not track all provisions of said Judgment. For example, many of the concerns of the District revolve around its statutory right to store water in subterranean reservoirs. The Decision preserves that right. Similarly, while the Decision allows the assignment of Production rights (which the District is not empowered to affect by its referenced legislation, Water Code Section 328(g)), it does not provide for the transferability of Storage rights, a matter which might be of concern to the District under certain circumstances.

The District argues that the proposed powers of the Watermaster regarding maintenance and modification of the Operating Safe Yield would conflict with the District's authority. Much of its argument is addressed to language in the Proposed Stipulated Judgment which does not appear in the Decision. The Decision grants certain rights of control to the Watermaster for the purpose of maintaining the viability of the aquifer. However, it does not purport to forbid any regulation of the Basin which may be required by a public agency possessing the power to

impose such regulation. In this regard it should be noted that the complaint in this case first raised the issue of the Overdraft status of the Basin, and the initial pleadings of the District stated that it did not know if that were true or not. The Decision does not conflict with any procedure or plan currently in place by the District to establish an Operating Yield for the Basin.

Of concern to the District is the fact that the Watermaster will be empowered to augment the underground water supply. While Water Code Section 118-343 gives the District the power to levy a Groundwater charge for the purpose of augmenting underground water supplies, in fact from the time of its creation in 1977 to the present the District has established no such charge, and has not augmented the underground water supply of the Basin. The fact that the Watermaster is authorized in the contemplated judgment to assess charges for replenishment of the Basin does not prevent the District in the future from undertaking such augmentation, if it determines it is appropriate to do so.

Based upon the evidence adduced at trial, which demonstrated that a collaborative Watermaster will likely provide more tangible results than any single individual or entity Watermaster, the Court has decided to appoint a collaborative board as Watermaster.

The prayer of MPWMD for injunctive relief is denied, except insofar as the court will issue injunctive relief as set forth in the Decision at the request of all parties. The prayer that the Court adopt a Physical Solution for the Seaside Basin is granted. The request for declaratory relief is granted to the extent that the court finds that the statutory rights of MPWMD are not in conflict with the Physical Solution and the appointment of a Watermaster in this proceeding.

The Complaint in Intervention of MCWRA also seeks declaratory and injunctive relief, but does not urge the appointment of itself or any other entity as Watermaster. The request for injunctive relief is denied as moot, since the lawsuit does not challenge the statutory authority of the Agency. The request for declaratory relief is granted to the extent that the Court finds that the statutory rights of MCWRA are not in conflict with the Physical Solution adopted by the Court in this proceeding.

A statement of decision, if requested by any party, will be prepared by Plaintiff. If no party within ten days of the filing of this Decision specifies controverted issues or makes

proposals not covered in the Decision this Decision shall become the Statement of Decision, and Plaintiff shall prepare a judgment thereon.

Dated: ~~February~~ March 22, 2006

By _____

Honorable _____
Roger D. Randall

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF MONTEREY

CALIFORNIA AMERICAN WATER,

Plaintiff,

vs.

CITY OF SEASIDE; CITY OF MONTEREY; CITY OF SAND CITY; CITY OF DEL REY OAKS; SECURITY NATIONAL GUARANTY, INC.; GRANITE ROCK COMPANY, INC.; D.B.O. DEVELOPMENT COMPANY NO. 27, INC.; MURIEL E. CALABRESE 1987 TRUST; ALDERWOODS GROUP (CALIFORNIA), INC.; PASADERA COUNTRY CLUB, LLC; LAGUNA SECA RESORT, INC; BISHOP MC INTOSH & MC INTOSH, a general partnership; THE YORK SCHOOL, INC.; COUNTY OF MONTEREY; and DOES 1 through 1,000, Inclusive,

Defendants.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT,

Intervenor.

MONTEREY COUNTY WATER RESOURCES AGENCY,

Intervenor.

AND RELATED CROSS-ACTIONS

Case No. M66343

AMENDED DECISION

Action Filed: August 14, 2003
Trial Date: December 13, 2005
Dept.: 21

I. INTRODUCTION

This Decision sets forth the adjudicated rights of the parties to this lawsuit (with certain exceptions noted in section I.D. below), including Plaintiff California American Water, and Defendants the City of Seaside, the City of Monterey, the City of Sand City, the City of Del Rey Oaks, Security National Guaranty, Inc., Granite Rock Company, D.B.O. Development Company No. 27, Muriel E. Calabrese 1987 Trust, Alderwoods Group (California), Inc., Pasadera Country Club, LLC, Laguna Seca Resort, Inc., Bishop, McIntosh & McIntosh, and The York School, Inc. (hereinafter "Water User Defendants") to use the water resources of the Seaside Groundwater Basin ("Seaside Basin" or "Basin") and provides for a physical solution for the perpetual management of the Basin, which long-term management will provide a means to augment the water supply for the Monterey Peninsula.

A. Seaside Groundwater Basin.

The Seaside Basin is located in Monterey County and underlies the Cities of Seaside, Sand City, Del Rey Oaks, Monterey, and portions of unincorporated county areas, including the southern portions of Fort Ord, and the Laguna Seca Area. The boundaries of the Basin are depicted in Exhibit B of this Decision. Generally, the Seaside Basin is bounded by the Pacific Ocean on the west, the Salinas Valley on the north, the Toro Park area on the east, and Highways 68 and 218 on the south. The Seaside Basin consists of subareas, including the Coastal subarea and the Laguna Seca subarea in which geologic features form partial hydrogeologic barriers between the subareas.

B. The Parties.

1. Plaintiff California American Water ("Plaintiff" or "California American") is an investor-owned public utility incorporated under the laws of the State of California. *(See* Pub. Utilities Code, §§ 1001 et seq. and 2701 et seq.) California American produces groundwater from the Seaside Basin and delivers it for use on land within its certificated service area that both overlies portions of the Seaside Basin, and is located outside of the Seaside Basin Area, all within the County of Monterey.

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2. Defendant City of Seaside ("Seaside") is a general law city situated in the County of Monterey. Seaside produces groundwater from the Seaside Basin (1) for use on two city-owned golf courses that overly the Basin, and (2) for municipal water service to its residents. *(See* Call. Const., Art. XI, § 9; Gov. Code, § 38730.)

3. Defendant City of Sand City ("Sand City") is a charter city situated in the County of Monterey. Sand City produces groundwater from the Seaside Basin and delivers it for use on private and publicly owned lands within its incorporated boundaries, all of which overlie the Seaside Basin. *(See* Cal. Const., Art. XI, § 9; Gov. Code, § 38730.)

4. Defendant City of Del Rey Oaks ("Del Rey Oaks") is a general law city situated in the County of Monterey. Land within Del Rey Oaks' incorporated boundaries overlies the Seaside Basin. The two wells Del Rey Oaks presently operates for irrigation of public lands are located outside the Seaside Basin area and are, therefore, excluded from this Stipulation. *(See* Cal. Const., Art. XI, § 9; Gov. Code, § 38730.)

5. Defendant City of Monterey ("Monterey") is a charter city situated in the County of Monterey. Monterey owns and controls land that overlies the Seaside Basin area.

6. Defendant Security National Guaranty, Inc. ("SNG") is a California corporation with its principal place of business in the City and County of San Francisco. SNG's primary business activity is real estate development. As part of its operation, SNG and/or its predecessors-in-interest have produced groundwater from the Seaside Basin. SNG also owns land overlying the Seaside Basin.

7. Defendant Granite Rock Company ("Granite") is a California corporation with its principal place of business in the County of Santa Cruz. Granite's primary business activity is the production and sale of concrete aggregate and building materials. As part of its Seaside concrete and building materials plant, Granite has produced groundwater from the Seaside Basin. Granite also owns land overlying the Seaside Basin.

8. Defendant D.B.O. Development No. 27 ("D.B.O."), erroneously sued herein as D.B.O. Development Company, is a California limited liability company with its principal place of business in the County of Monterey. D.B.O.'s primary business activity is the ownership and

development of real property for commercial, industrial, residential, and public uses. As part of their ownership and development of land overlying the Seaside Basin, D.B.O. and/or its predecessor in interest have produced groundwater from the Basin. D.B.O. also owns and controls land overlying the Seaside Basin.

9. Defendant Muriel E. Calabrese 1987 Trust ("Calabrese") is an irrevocable trust that holds property in the County of Monterey. Calabrese and/or its predecessor in interest have produced groundwater from the Seaside Basin in relation to the operation of its paving, grading and construction business and operation of a concrete batch plant in Sand City. Calabrese also owns and controls land overlying the Seaside Basin.

10. Defendant Alderwoods Group (California), Inc. ("Alderwoods Group"), DBA Mission Memorial Park ("Mission Memorial") is a California corporation with its principal place of business in the County of Monterey. Mission Memorial's primary business activity is the operation of a cemetery in the City of Seaside. As part of maintenance of the cemetery, Mission Memorial has produced groundwater from the Seaside Basin. Mission Memorial also owns land overlying the Seaside Basin.

11. Defendant Pasadera Country Club, LLC ("Pasadera") is a California limited liability company with its principal place of business in the County of Monterey. Pasadera's primary business activity is the operation of a private golf course. As part of its golf course operations, Pasadera has produced groundwater from the Seaside Basin. Pasadera also owns land overlying the Seaside Basin.

12. Defendant Bishop, McIntosh & McIntosh ("Bishop") is a general partnership, with its principal place of business in the County of Monterey. Bishop owns land overlying the Laguna Seca Subarea of the Seaside Basin. Defendant Laguna Seca Resort, Inc.("Laguna Seca") is a California corporation with its principal place of business in the County of Monterey. Laguna Seca's primary business activity is the operation of a public golf course on land owned in fee by Bishop. Laguna Seca operates the golf course pursuant to a lease with Bishop. As part of the golf course's operations, groundwater is produced from the Laguna Seca Subarea of the Seaside Basin for irrigation purposes. Laguna Seca filed a cross-complaint against California

American, and Bishop filed a cross-complaint against California American and all defendants other than Laguna Seca Defendants Laguna Seca Resort, Inc. and Bishop, McIntosh & McIntosh shall collectively be referred to as "Laguna Seca/Bishop." However, the pumping allocation established in Section III.B., below, is held only by Bishop, as the overlying property owner. Laguna Seca is a Water User Defendant now exercising Bishop's pumping allocation and operating the golf course facilities. The damages provided for in Section III.G. shall be based on the Average Gross Annual Income of the entity operating thee golf course facilities, which is now Laguna Seca (Bishop's lessee).

13. Defendant County of Monterey owns land on which is operates the Laguna Seca Park. County of Monterey has produced groundwater from the Seaside Basin for use at Laguna Seca Park. County of Monterey owns land overlying the Seaside Basin.

14. Intervenor Monterey Peninsula Water Management District ("MPWMD") is a district formed pursuant to Water Code Appendix sections 118-1 et seq. MPWMD intervened as a party defendant as against California American, cross-complained against the other parties as a plaintiff, and is a defendant in a cross-complaint filed by Seaside and joined in by City defendants.

15. Intervenor Monterey County Water Resources Agency ("MCWRA") is a duly constituted Water Resources Agency created pursuant to California Water Code Appendix section 52-3 et seq. MCWRA intervened inn this action as a plaintiff as against all parties.

16. Defendant The York School, Inc. ("York" or "York School"), is a nonprofit corporation, founded in 1959 as an independent day school providing college preparatory education. Its primary activity is the operation of a school. York leases approximately 31.4 acres of property from the United States, Department of the Army, on the former Fort Ord. This property is located immediately north of the main campus, across York Road, and is a portion of a larger parcel, approximately 107 acres in size, that is scheduled to be transferred as a public benefit conveyance to York from the federal government. This parcel overlies the Seaside Basin and is subject to this Decision. York has produced groundwater from the Seaside Basin. York is not an agent of the United States, nor can York bind the United States to this Decision.

C. The Complaint.

On or about August 14, 2003, Plaintiff filed a complaint against Defendants and Does 1 through 1,000 requesting a declaration of Plaintiff's and Defendants' individual and collective rights to groundwater and a mandatory and prohibitory injunction requiring the reasonable use and coordinated management of groundwater within the Seaside Basin pursuant to Article X, Section 2 of the California Constitution. The pleadings further allege that Plaintiff and Defendants collectively claim substantially all rights of groundwater use, replenishment and storage within the Seaside Basin area, that the Natural Safe Yield (as defined in Section III.A.) is being exceeded, and that absent a physical solution and coordinated groundwater management strategy, the Seaside Basin is in imminent risk of continued lowering of water levels, increased pump-lifts, diminution of water supply and quality, seawater intrusion, and possible land subsidence. Accordingly, Plaintiff requested: (1) a determination of the Seaside Basin's safe yield; (2) an operating plan for the management of the Basin; (3) a declaration of the rights of the parties named in this Complaint; (4) a declaration and quantification, as part of a physical solution, of the parties' respective rights to make use of the Seaside Basin's available storage space; and (5) the appointment of a Watermaster to administer the Court's Decision. Subsequently, Plaintiff has twice amended its complaint and the operative complaint is now the Second Amended Complaint, which sets forth the same general allegations as the original complaint.

D. Defendants' Responses.

Water User Defendants in this action have all responded to the Complaint pursuant to Answers. In addition, they have all joined in a motion seeking Court approval of a Stipulated Judgment. The Monterey Peninsula Water Management District and the County of Monterey, including the Monterey County Water Resources Agency, did not join in the Stipulation.

On or about September 24, 2003, Intervenor MPWMD filed a complaint in intervention against the defendants named in the Complaint. Defendants to that complaint responded to the cross-complaint pursuant to an Answer, containing a general denial and affirmative defenses.

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Seaside, on or about January 9, 2004, filed a cross-complaint against MPWMD. MPWMD responded to the cross-complaint by filing an Answer, containing a general denial and affirmative defenses.

Laguna Seca, on or about April 23, 2004, filed a cross-complaint against California American. California American responded to the cross-complaint pursuant to an Answer, containing a general denial and affirmative defenses.

Bishop, on or about September 23, 2004, filed a cross-complaint against California American and against all defendants other than Laguna Seca. California American, Granite, Sand city, Alderwoods Group, York School, D.B.O., Monterey, MPWMD, Seaside, and Pasadera responded to the cross-complaint pursuant to Answers containing general denials and affirmative defenses.

SNG, on or about July 26, 2005, filed a cross-complaint against MPWMD. MPWMD responded to the cross-complaint by filing an Answer, containing a general denial and affirmative defenses.

At the conclusion of argument on December 22, 2005, the various defendant cross-complainants agreed that the relief they had sought via their cross-complaints had been subsumed in the litigation of the complaint and complaints in intervention, the answers thereto, and the Settlement Agreement and General Mutual Release executed by all parties save the intervenors and the County of Monterey.

E. Joint Motion for Entry of Judgment.

Plaintiff and Water User Defendants filed a Motion for the Entry of Judgment along with a Stipulation for Entry of Judgment, which was opposed by both intervenors. The Motion for Entry of Judgment requested that the Court approve the Stipulation and enter the Judgment. The motion was heard by this Court on December 12, 2005. At the request of the moving parties, it deferred its ruling until it had taken evidence in the trial of this matter.

Having now received the evidence, and having considered written and oral argument from the various parties, the Court denies the Motion for Entry of Judgment. The Court accepts the stipulation of certain of the parties entitled "Settlement Agreement and General Mutual Release"

filed with the Court during trial insofar as the stipulation does not conflict with the ruling set forth herein.

F. Jurisdiction. This Court has jurisdiction to enter a Judgment declaring and adjudicating Plaintiff's and Water User Defendants' rights to the reasonable and beneficial use of groundwater in the Seaside Basin Area, including the imposition of a physical solution, pursuant to Article X, Section 2 of the California Constitution.

II. FINDINGS

A. Importance of Groundwater. Groundwater is an important water supply source for businesses, individuals and public agencies that overlie or Extract groundwater from the Seaside Basin. The overwhelming majority of the groundwater appropriated from the Seaside Basin has been and continues to be dedicated to a public use in accordance with the provisions of the California Constitution, Article X, Section 5. The Plaintiff and the Water User Defendants rely upon continued availability of groundwater to meet their demands. The intervenors, MPWMD and MCWRA, have a legislatively mandated interest in the preservation and enhancement of groundwater in the Basin.

B. Status of the Groundwater Basin.

1. Perennial Natural Safe Yield. The Perennial Natural Safe Yield (as defined in Section III.A. and hereinafter referred to as "Natural Safe Yield") of the Seaside Basin is solely the result of natural percolation from precipitation and surface water bodies overlying the Basin. The Court finds that the Natural Safe Yield of the Basin as a whole, assuming no action is taken to capture subsurface flow exiting the northern boundary of the Basin, is from 2,581 to 2,913 acre feet per year. The Natural Safe Yield for the Coastal Subarea is estimated from 1,973 to 2,305 acre feet per year, and the Natural Safe Yield for the Laguna Seca Subarea is 608 acre feet per year.

2. Groundwater Production. Production records demonstrate that the cumulative annual groundwater production of the Parties from the Seaside Basin area in each of the five (5) years immediately preceding the filing of this action has been between approximately 5,100 and 6,100 acre feet. Therefore, the Court finds that groundwater production has exceeded the Natural

Safe Yield during the preceding five (5) years throughout the Seaside Basin and in each of its subareas. While no one can predict with precision when it will occur, all parties agree continued indefinite production of the Basin Groundwater in excess of the Natural Safe Yield will ultimately result in seawater intrusion, with deleterious effects on the Basin. The evidence demonstrates that the stage is set for such an occurrence in the foreseeable future.

C. Legal Claims.

1. Groundwater Rights. Certain Parties allege that they have produced groundwater openly, notoriously, continuously, and without interruption in excess of the Natural Safe Yield of the Basin for more than five (5) years. As a result, these Parties allege that they have accrued prescriptive rights as articulated by the California Supreme Court in *City of Pasadena v. City of Alhambra* (1948) 33 Cal.2d 908. In defense of these claims, other Parties deny that the elements of prescription have been satisfied, and further allege the affirmative defense of "self help" as recognized in *Pasadena, supra,* 33 Cal.2d at pp. 932-32. Those Parties responsible for public water service also raise Civil Code section 1007 as an affirmative defense against prescription.

The Court finds that there is merit to the claim that certain prescriptive rights have accrued, but also finds that there is merit to the aforementioned affirmative defenses. Accordingly, the Court finds that the Parties collectively possess a variety of rights based in prescription and other original rights (including overlying and appropriative rights). Each Party's right to produce naturally occurring groundwater from the Seaside Basin therefore reflects the amount of their historical production from the Basin, and respects the priority of allocations under California law. The physical solution set forth by this Decision is intended to ultimately reduce the drawdown of the aquifer to the level of the Natural Safe Yield; to maximize the potential beneficial use of the Basin; and to provide a means to augment the water supply for the Monterey Peninsula.

2. Storage Rights. The Court finds that the public interest is served by augmenting the total yield of the Seaside Basin through artificial groundwater recharge, storage, and recovery. It is well established that an entity which artificially recharges a groundwater basin with the intent to later recapture that water maintains an exclusive right to recapture that quantity of water by which said recharge augments the retrievable water supply of the groundwater basin, so long as

such recharge and recapture (i.e., storage) does not materially harm the groundwater basin or any other entity's prior rights associated with the groundwater basin. *(City of Los Angeles v. City of San Fernando* (1975) 14 Ca1.3d 199, 264; *City of Los Angeles v. City of Glendale* (1943) 23 Cal.2d 68, 76-77; see also Water Code, § 7075.) The Court finds, therefore, that the right to store and recover water from the Seaside Basin shall be governed by the provisions of the Decision, and the rules and regulations promulgated by the Seaside Basin Watermaster, the basic provisions of which are described in Section III.H.

3. *De Minimis* Production. The Court finds that production of groundwater by any person or entity less than five (5) acre feet per year is not likely to significantly contribute to a Material Injury (as defined in Section III.A.) to the Seaside Basin or any interest related to the Seaside Basin. Accordingly, this Decision is not intended to govern the production of groundwater by any person or entity that produces a total quantity of groundwater that is less than five (5) acre feet peer year. However, to the extent the Court determines in the future that this exemption has contributed to or threatens to contribute to a Material Injury to the Seaside Basin or any interest related to the Seaside Basin, including any contribution caused by production subject to this exemption in combination with all other production from the Seaside Basin, the Court will modify or eliminate this exemption as it deems prudent pursuant to its reserved jurisdiction provided in Section M.O.

4. Transferability of Seaside Basin Rights. The Court finds that maximum beneficial use of the Seaside Basin's resources is encouraged by the ability to sell and lease production allocations. Such transferability will also provide necessary flexibility to satisfy future water supply needs. Accordingly, the Court finds that production allocations should be assignable, subject to the rules and regulations promulgated by the Watermaster, and subject to certain Parties' participation in the Alternative Production Allocation, described in Section III.B.3, which election will restrict their transfers of water.

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III. DECISION

IT IS HEREBY ORDERED, ADJUDGED AND DECREED:

A. Definitions.

1. "Alternative Production Allocation" is the amount of Groundwater that a Producer participating in this allocation method may Produce from a Subarea of the Seaside Basin as provided in Section III.B.3.

2. "Artificial Replenishment" means the act of the Watermaster, directly or indirectly, engaging in or contracting for Non-Native Water to be added to the Groundwater supply of the Seaside Basin through Spreading or Direct Injection to offset the cumulative Over-Production from the Seaside Basin in any particular Water Year pursuant to Section III.L.3.j.iii. It shall also include programs in which Producers agree to refrain, in whole or in part, from exercising their right to produce their full Production Allocation where the intent is to cause the replenishment of the Seaside Basin through forbearance in lieu of the injection or spreading of Non-Native Water.

3. "Base Water Right" is the percentage figure or the fixed amount assigned to each Party as provided in Section III.B.2, which is used to determine various rights and obligations of the Parties as provided in Sections III.B.2, III.B.3, III.L.3.c, and III.L.3.j.iii.

4. "Brackish Water" means water containing greater than 1,000 parts of chlorides to 1,000,000 parts of Water.

5. "Carryover" means that portion of a Party's Production Allocation that is not Extracted from the Basin during a particular Water Year. Each acre-foot of Carryover establishes an acre-foot of Carryover Credit.

6. "Carryover Credit(s)" means the quantity of Water established through Carryover, that a Party is entitled to Produce from the Basin pursuant to Section III.F.

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7. "Coastal Subarea" means those portions of the Seaside Basin that are west of North-South Road, and further as shown on the Basin map attached as Exhibit B to this Decision.

8. "Direct Injection" means a method of Groundwater recharge whereby Water is pumped into the Basin through wells or other artificial channels.

9. "Extraction," "Extractions," "Extracting," "Extracted," and other variations of the same noun or verb, mean pumping, taking, diverting or withdrawing Groundwater by any manner or means whatsoever from the Seaside Basin.

10. "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

11. "Fiscal Year" means the twelve (12) month period from January 1 through December 31.

12. "Groundwater" means all Water beneath the ground surface in the Seaside Basin, including Water from Natural Replenishment, Artificial Replenishment, Carryover, and Stored Water.

13. "Laguna Seca Subarea," or "Laguna Seca Area," means those portions of the Basin that are east of the Southern Coastal Subarea and south of the Northern Inland Subarea, as shown on the Seaside Basin map attached as Exhibit B to this Decision.

14. "Landowner Group" means all Producers that own or lease land overlying the Seaside Basin and Produce Groundwater solely for use on said land, except California American, Seaside (Municipal), Monterey, Del Rey Oaks, and Sand City.

15. "Material Injury" means a substantial adverse physical impact to the Seaside Basin or any particular Producer(s), including but not limited to: seawater intrusion, land subsidence, excessive pump lifts, and water quality degradation. Pursuant to a request by any Producer, or on its own initiative, Watermaster shall determine whether a Material Injury has occurred, subject to review by the Court as provided for in Section M.N.

16. "Natural Replenishment" means all processes by which Water may become a part of the Groundwater supply of the Seaside Basin without the benefit of the Physical Solution and the coordinated management it provides. Groundwater that occurs in the Seaside Basin as a result of the Physical Solution, which is not Natural Replenishment, includes, but is not limited to Storage, Carryover, and Artificial Replenishment.

17. "Natural Safe Yield" or "Perennial Natural Safe Yield" means the quantity of Groundwater existing in the Seaside Basin that occurs solely as a result of Natural Replenishment. The Natural Safe Yield of the Seaside Basin as a whole, assuming no action is taken to capture subsurface flow exiting the northern boundary of the Basin, is from 2,581 to 2,913 acre feet per year. The Natural Safe Yield for the Coastal Subareas is from 1,973 to 2,305 acre feet per year. The Natural Safe Yield for the Laguna Seca Subarea is 608 acre feet per year.

18. "Non-Native Water" means all Water that would not otherwise add to the Groundwater supply through natural means or from return flows from surface applications other than intentional Spreading.

19. "Overdraft" or "Overdrafted" refers to a condition within a Groundwater basin resulting from long-term depletions of the basin over a period of years.

20. "Operating Safe Yield" means the maximum amount of Groundwater resulting from Natural Replenishment that this Decision, based upon historical usage, allows to be produced from each Subarea for a finite period of years, unless such level of production is found to cause Material Injury. The Operating Safe Yield for the Seaside Basin, as a whole, is 5,600 acre feet. The Operating Yield is 4,611 acre feet for the Coastal Subarea and 989 acre feet for the Laguna Seca Subarea. The Operating Yield established here will be maintained for three (3) years from the date of this Decision or until a determination is made by the Watermaster, concurred in by this Court, that continued pumping at this established Operating Yield will cause Material Injury to the Seaside Basin or to the Subareas, or will cause Material Injury to a Producer due to unreasonable pump lifts. In either such event the Watermaster shall determine the modified Operating Yield in accordance with the Principles and Procedures attached hereto as Exhibit A, and through the application of criteria that it shall develop for this purpose.

21. "Over-Production" and other variations of the same term means (1) with regard to all Production from the Seaside Basin, that quantity of Production which exceeds an initially assumed Natural Safe Yield of 3,000 afy (or such adjusted calculation of Natural Safe Yield as further study of the Basin by the Watermaster shall justify); or (2) with regard to each Producer, that quantity of Water Produced in any Water Year in excess of that Producer's Base Water Right, as applied to an initially assumed Natural Safe Yield of 3,000 afy (subject to adjustment as further study shall justify). For a Party producing under the Alternative Production Allocation, the calculation shall be based upon the Base Water Right assigned to them in Table 1, infra, only to the extent that Party has elected to convert all or part of an Alternative Production Allocation into a Standard Production Allocation, pursuant to Section III.B.3.e.

22. Operating Yield Over-Production means pumping of Native Water by Producers in excess of their Standard Production Allocation or Alternative Production Allocation, as discussed in Section III.L.3.j.iii.

23. "Person" or "Persons" includes individuals, partnerships, associations, governmental agencies and corporations, and any and all types of entities.

24. "Physical Solution" means the efficient and equitable management of Groundwater resources within the Seaside Basin, as prescribed by this Decision, to maximize the reasonable and beneficial use of Water resources in a manner that is consistent with Article X, Section 2 of the California Constitution, the public interest, and the basin rights of the Parties, while working to bring the Production of Native Water to Natural Safe Yield.

25. "Produce," "Produced," or "Production" means (1) the process of Extracting Water or (2) the gross amount of Water Extracted.

26. "Producer" means a Party possessing a Base Water Rights.

27. "Production Allocation" is the amount of Groundwater that a Producer may Produce from a Subarea of the Seaside Basin based on the Parties' election to proceed under either the Standard Production Allocation or the Alternative Production Allocation set forth in Sections III.B.2 and III.B.3, respectively.

28. "Replenishment Assessment" means an assessment levied by the Watermaster per each acre-foot of Over-Production against each party Over-Producing Groundwater in the previous Water Year. The amount of the assessment shall be sufficient to cover the cost of Artificial Replenishment in an amount necessary to off-set that Producer's Over-Production, and levied as provide in Section III.L.3.j.iii. The assessment must of necessity be initially determined based upon the estimated cost of providing Non-Native water to replenish the Basin, as determined by the Watermaster.

29. "Seaside Basin" is the underground water basin or reservoir underlying the Seaside Basin Area, the exterior boundaries of which are the same as the exterior boundaries of the Seaside Basin Area.

30. "Seaside Basin Area" is the territory depicted in Exhibit B to this Decision.

31. "Spreading" means a method of introducing Non-Native Water into the Seaside Basin whereby Water is placed in permeable impoundments and allowed to percolate into the Seaside Basin.

32. "Standard Production Allocation" is the amount of Groundwater that a Producer participating in this allocation method may Produce from a Subarea of the Seaside Basin as provided in Section III.B.2, which is determined by multiplying the Base Water Right by the Operating Yield.

33. "Storage" means the existence of Stored Water in the Seaside Basin.

34. "Storage Allocation" means that quantity of Stored Water in acre feet that a Party is allowed to Store in the Coastal Subarea or the Laguna Seca Subarea at any particular time.

35. "Storage Allocation Percentage" means the percentage of Total Usable Storage Space allocated to each Producer proceeding under the Standard Production Allocation. Producers proceeding under the Alternative Production Allocation are not allocated Storage rights and, consequently, their share of the Total Usable Storage Space is apportioned to the Producers proceeding under the Standard Production Allocation. Pursuant to the terms of Section III.B.3, Parties proceeding under the Alternative Production Allocation enjoy a one-time right to change

to the Standard Production Allocation. Due to the recalculation of the Storage Allocation Percentage necessitated when a Party changes to the Standard Production Allocation, the Watermaster will maintain the up-to-date Seaside Basin Storage Allocation Percentages.

36. "Storage and Recovery Agreement" means an agreement between Watermaster and a Party for Storage pursuant to Section III.L.3.j.xx.

37. "Store" and other variations of the same verb refer to the activities establishing Stored Water in the Seaside Basin.

38. "Stored Water" means (1) Non-Native Water introduced into the Seaside Basin by a Party or any predecessors-in-interest by Spreading or Directly Injecting that Water into the Seaside Basin for Storage and subsequent Extraction by and for the benefit of that Party or their successors-in-interest; (2) Groundwater within the Seaside Basin that is accounted for as a Producer's Carryover; or (3) Non-Native water introduced into the Basin through purchases by the Watermaster, and used to reduce and ultimately reverse Over-Production.

39. "Stored Water Credit" means the quantity of Stored Water augmenting the Basin's Retrievable Groundwater Supply, which is attributable to a Party's Storage and further governed by this Decision and a Storage and Recovery Agreement.

40. "Subarea(s)" means either the Laguna Seca Subarea or the Coastal Subarea.

41. "Total Useable Storage Space" means the maximum amount of space available in the Seaside Basin that can prudently be used for Storage as shall be determined and modified by Watermaster pursuant to Section III.L.3.j.xix, less Storage space which may be reserved by the Watermaster for its use in recharging the Basin.

42. "Transfer" and other variations of the same verb refers to the temporary or permanent assignment, sale, or lease of all or part of any Producer's Production Allocation, Storage Allocation, Carryover Credits, or Stored Water Credits. Pursuant to Section III.B.3., Transfer does not include the use of Water on properties identified in Exhibit C for use under an Alternative Production Allocation.

43. "Water" includes all forms of Water.

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44. "Watermaster" means the court-appointed Watermaster pursuant to Section III.L. of this Decision for the purpose of executing the powers, duties, and responsibilities assigned therein.

45. "Watermaster Rules and Regulations" means those rules and regulations promulgated by the Watermaster consistent with the terms of this Decision.

46. "Water Year" means the twelve (12) month period from October P^{t} through September 30th.

B. Physical Solution.

1. Groundwater Rights. The Parties have Produced Groundwater from the Seaside Basin openly, notoriously, continuously, and without interruption, which Production has been determined to be in excess of the Natural Safe Yield of the Seaside Basin and each of its Subareas for more than five (5) years. Accordingly, Parties have accrued mutual prescriptive rights and/or have preserved their overlying, appropriative, and prescriptive rights against further prescription by self-help. These individual and competitive rights, whether mutually prescriptive, appropriative or overlying rights, can be most efficiently exercised and satisfied by the implementation of this Physical Solution and in the manner expressly set forth herein.

2. Standard Production Allocation. Each Producer is authorized to Produce its Production Allocation within the designated Subarea in each of the first three Water Years. Except for those certain Parties electing to proceed under the Alternative Production Allocation, as set forth in Section III.B.3., each Producer's Production Allocation for the first three Water Years shall be calculated by multiplying its Base Water Right, as set forth in Table 1 below, by that portion of the Operating Yield which is in excess of the sum of the Alternative Production Allocations. The Operating Yield for the Seaside Basin, as a whole, is set at 5,600 acre feet annually (afa). The Operating Yield for the Coastal Subarea is 4,611 afa, with 743 afa committed to Alternative Production Allocations and 3,868 afa committed to Standard Production Allocations. The Operating Yield for the Laguna Seca Subarea is 989 afa, with 644 afa committed to Alternative Production Allocations and 345 afa committed to Standard Production Allocations. The Operating Yield established here will be maintained for three (3) Water Years

from the date Judgment is granted or until a determination is made by the Watermaster, concurred in by this Court, that continued pumping at this established Operating Yield will cause Material Injury to the Seaside Basin or to the Subareas or will cause Material Injury to a Producer due to unreasonable pump lifts. In the event of such Material Injury the Watermaster shall determine the modified Operating Yield in accordance with the Principles and Procedures attached hereto as Exhibit A, and through the application of criteria that it shall develop for this purpose.' Commencing with the fourth Water Year[2], and triennially thereafter the Operating Yield for both Subareas will be decreased by ten percent (10%) until the Operating Yield is the equivalent of the Natural Safe Yield unless:

a. The Watermaster has secured and is adding an equivalent amount of Non-Native water to the Basin on an annual basis; or

b. The Watermaster has secured reclaimed water in an equivalent amount and has contracted with one or more of the Producers to utilize said water in lieu of their Production Allocation, with the Producer agreeing to forego their right to claim a Stored Water Credit for such forbearance; or

a. Any combination of a and b which results in the decrease in Production of Native Water required by this decision; or

b. The Watermaster has determined that Groundwater levels within the Santa Margarita and Paso Robles aquifers are at sufficient levels to ensure a positive offshore gradient to prevent seawater intrusion.

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[1] If the Operating Yield changes, Standard Production Allocations will be calculated by multiplying the portion of the changed Operating Yield committed to Standard Production Allocations by the Standard Producers' Base Water Rights. This calculation will result in a remaining quantity of water already committed to Standard Production Allocations (due to the Base Water Right percentages assigned to Alternative Producers but which are not used to calculate the Standard Production Allocations), which will be further allocated to the Standard Producers in proportion to their Base Water Rights until no quantity remains unallocated.

[2] As ordered by the Court at the January 12, 2007 hearing, the initial potential 10% reduction in Operating Yield will occur, if at all, on January 1, 2009. The 10% reduction would apply to 75% of the Operating Yield, because 25% of the Water Year would have already elapsed. Assuming the current Operating Yield of 5600 acre-feet, the Basin-wide Operating Yield would be reduced to 3,780 acre-feet for the remainder of the Water Year. Subsequent potential Operating Yield reductions would occur on the Water Year schedule set forth in the MMP.

TABLE 1[3]

Standard Production Allocations

Party:	Percentage of Operating Yield Coastal Subarea
California American Water	77.55%
City of Seaside (Municipal)	6.36%
City of Seaside (Golf Courses)	10.47%
City of Sand City	0.17%
Granite Rock Company	0.60%
SNG	2.89%
D.B.O. Development No. 27	1.09%
Calabrese	0.27%
Mission Memorial Park	0.60%

Producer:	Percentage of Operating Yield for Laguna Seca Sec area
California American Water Company	45.13%
Pasadera Country Club	22.65%
Bishop	28.88%
York School	2.89 %
Laguna Seca County Park	0.45%*

* Because the County of Monterey has not joined in the Settlement Agreement and General Mutual Release, its right to Produce water will be governed by the provisions made for those Producers selecting Alternative Production Allocations.

3. Alternative Production Allocation. The following Parties, which all assert overlying Groundwater rights, have chosen to participate in an Alternative Production Allocation: Seaside with regard to the Groundwater that it Produces for irrigation of its golf courses; Sand City, SNG, Calabrese, Mission Memorial, Pasadera, Bishop, York School, and Laguna Seca.

The Alternative Production Allocation provides the aforementioned Parties with a prior and paramount right over those Parties Producing under the Standard Production Allocation to Produce the amount set forth in Table 2 in perpetuity, and said Alternative Production shall not be

[3] Certain Parties including Seaside (Golf Courses), Sand City, SNG, Calabrese, Mission Memorial, Pasadera, Bishop and York School hold an Alternative Production Allocation in the fixed amount shown in Table 2. If any of these Parties subsequently elects to convert to the Standard Production Allocation, then the Base Water Right shown in Table 1 for such converting Party will be used to determine that Party's Standard Production Allocation consistent with the terms provided in Section III.B.3.e.

subject to any reductions under Section III.B.2 or at such times as the Watermaster determines to reduce the Operating Yield in accordance with Section III.L.3.j.ii., subject to the following terms:

a. The Alternative Production Allocation may not be transferred for use on any other property, but shall be limited to use on the respective properties (including subdivisions thereof) identified in Exhibit C;

b. The Party electing the Alternative Production Allocation may not establish Carryover Credits or Storage rights;

c. The Party electing the Alternative Production Allocation is obligated to adopt all reasonably Feasible Water conservation methods, including methods consistent with generally accepted irrigation practices;

d. In the event a Party electing the Alternative Production Allocation is required to utilize reclaimed Water for irrigation purposes, pursuant to the terms of sections 13550 and 13551 of the California Water Code, that Party shall have the first opportunity to obtain and substitute reclaimed Water for its irrigation demands. Should that Party not pursue such substitution with due diligence, any other Party may provide reclaimed Water for the irrigation purpose pursuant to the terms of sections 13550 and 13551 of the California Water Code. Under either circumstance, the Party providing the reclaimed Water for substitution shall obtain a credit to Produce an amount of Groundwater equal to the amount of substituted reclaimed Water in that particular Water Year, provided that such credit shall be reduced proportionately to all reductions in the Operating Yield in accordance with Section III.L.3.j.ii. The Alternative Production Allocation of the Party utilizing the reclaimed Water shall be debited in an amount equal to the reclaimed Water being substituted.

e. In the event that this Court, the Watermaster, or other competent governmental entity requires a reduction in the Extraction of Groundwater from the Seaside Basin or either of its Subareas, then Parties exercising a Standard Production Allocation in the affected subarea shall reduce their Groundwater Extractions *pro rata* to accommodate the required reduction. Only after such Parties exercising a Standard Production Allocation reduce their Extractions to zero, may Parties exercising an Alternative Production Allocation in the affected

subarea be required to reduce their Groundwater Extractions. In such case, those Parties exercising an Alternative Production Allocation shall reduce their pumping in an amount correlative to each other in accordance with the California law pertaining to allocation of rights to Overdrafted Groundwater basins between overlying landowners.

TABLE 2

Alternative Production Allocations

Party:	**Coastal Subarea**
Seaside (Golf Courses)	540 afa
S NG	149 afa
Calabrese	14 afa
Mission Memorial	31 afa
Sand City	9 afa

Producer:	**Alternative Production Allocation**
Pasadera	251 afa
Bishop	320 afa
York School	32 afa
Laguna Seca County Park	41 afa*

* The County of Monterey possesses certain water rights based upon its use of water from the aquifer for maintenance of Laguna Seca Park. Its historic Production of Groundwater has averaged 41 afy. It has not joined in the stipulation of the other Producers, but is entitled to draw up to 41 afy from the Laguna Seca Subarea as if it were a party to the Alternative Production Allocations.

At any time prior to the expiration of the initial three-year operating period of this Decision, as designated in Section III.B.2, any of the aforementioned Parties, except the County of Monterey, may choose to change all or a portion of their Alternative Production Allocation to the Standard Production Allocation method set forth in Section III.B.2 and shall be entitled to all of the privileges associated with said Production Allocation as set forth herein (e.g., transferability, Storage rights, and Carryover rights). A Party choosing to change to the Standard Production Allocation shall do so by filing a declaration with the Court, and serving said declaration on all other parties. Once a Party chooses to change to the Standard Production Allocation method set forth in Section III.B.2, that Party shall not be allowed to thereafter again choose to participate in the Alternative Production Allocation. The Parties under the Standard

Production Allocation shall not be allowed at any time to change from the Standard Production Allocation to the Alternative Production Allocation.

C. Production of Brackish Water. Sand City shall have the right to Produce Brackish Water from the brackish Groundwater aquifer portion of the Coastal Subarea of the Seaside Basin for the purpose of operating its proposed desalinization plant, said Production being limited to the Aromas Sands Formation, so long as such Production does not cause a Material Injury. Upon receiving a complaint supported by evidence from any Party to this Decision that the Production of Brackish Water by Sand City is causing a Material Injury to the Seaside Basin or to the rights of any Party to this Decision as set forth herein, the Watermaster shall hold a noticed hearing. The burden of proof at such hearing shall be on the Party making the complaint to show, based on substantial evidence, that the Production of Brackish Water by Sand City is causing a Material Injury. If the Watermaster determines, based on substantial evidence, that the Production of Brackish Water by Sand City is causing a Material Injury to the Seaside Basin or to the rights of any Party to this Decision as set forth herein, the Watermaster may impose conditions on such Production of Brackish Water that are reasonably necessary to prevent such Material Injury.

D. Injunction of Unauthorized Production. Each Producer is prohibited and enjoined from Producing Groundwater from the Seaside Basin except pursuant to a right authorized by this Decision, including Production Allocation, Carryover, Stored Water Credits, or Over-Production subject to the Replenishment Assessment. Further, all Producers are enjoined from any Over-Production beyond the Operating Yield in any Water Year in which Watermaster has declared that Artificial Replenishment is not available or possible.

E. No Abandonment. It is in the interest of reasonable beneficial use of the Seaside Basin and its Water supply, that no Producer be encouraged to take and use more Water in any Water Year than is actually required, Therefore, failure to Produce all of the Water to which a Producer is entitled hereunder for any amount of time shall, in and of itself, not be deemed to be, or constitute an abandonment of such Producer's Base Water Right or Production Allocation, in whole or in part. The Water unused by any Party (either as Production or Carryover) will

otherwise contribute to the ongoing efficient administration of the Decision and the Physical Solution.

F. Right to Carryover Unused Production Allocation; Carryover Credits. Except for those certain Parties electing to proceed under the Alternative Production Allocation, as set forth in Section III.B.3., for the first three Water Years each Producer who, during a particular Water Year, does not Extract from the Basin a total quantity equal to such Producer's Standard Production Allocation for the particular Water Year may establish Carryover Credits, up to the total amount of that Producer's Storage Allocation; provided, however, in no circumstance may the sum of a Producer's Storage Credits and Carryover Credits exceed that Producer's available Storage Allocation. Use (Extraction) of Carryover Credits shall be governed as otherwise provided in this Decision and the Watermaster Rules and Regulations. In consideration of the Seaside Basin's hydrogeologic characteristics, the Watermaster may discount the quantity of Water that may be Extracted pursuant to a Carryover Credit.

G. Damages and Prohibition on Enjoining Municipal Pumping. The Parties recognize that California American's pumping is for municipal purposes, including drinking Water supplies for most of the Monterey Peninsula, including within all of the Defendant Cities and to all of the Defendant landowners. In this context, if California American's Groundwater pumping causes an "Intrusion" upon a Water User Defendant's Production Allocation, then it shall compensate the Water User Defendant for damages caused by this Intrusion. An "Intrusion" occurs when a Water User Defendant exercising an Alternative Production Allocation is directed by the Watermaster, this Court or any other competent governmental entity to reduce its Groundwater pumping to a level below that Water User Defendant's Alternative Production Allocation, while California American continues pumping Groundwater from the same subarea. This damages provision does not alter the priority of the Alternative Production Allocation over the Standard Production Allocation pursuant to Section III.B.3, and is intended to address potential exigent circumstances that might arise regarding California American's municipal water service.

1. Damages from an Intrusion shall be calculated based upon the losses incurred by the Water User Defendant that are caused by the Intrusion. These losses may include the loss of

crop yield and associated income, measured against the average achieved over the preceding five (5) years from the date of the loss. Where an Intrusion occurs with respect to a Water User Defendant's exercise of an Alternative Production Allocation for golf course irrigation (i.e., an Intrusion to a "Golf Course Water User"), the Intrusion may cause discoloration, thinning and damage to the golf course turf and may require replacement of golf course turf and other golf course landscaping. Such conditions may, in turn, cause the loss of income from reduced golf course facilities usage and loss of good will. It may be difficult to quantify such damages to a sum certain. Accordingly, where a Golf Course Water User demonstrates that an Intrusion caused discoloration, thinning or loss of golf course turf, the following criteria shall be utilized to determine damages for an Intrusion to a Golf Course Water User.

a Lost Income.

i. The Golf Course Water User's "Average Gross Annual Income" shall be determined by summing its gross annual income from each of the five (5) years preceding the year of the Intrusion and dividing that sum by five, except where a Golf Course Water User (Pasadera) has not been in operation for seven (7) years at the time of the Intrusion, the Average Gross Annual Income shall be determined by summing the gross annual income from each of the three years preceding the year of the Intrusion and dividing that sum by three;

ii. The Golf Course Water User's gross annual income during the year of an Intrusion shall be subtracted from its Average Gross Annual Income, with the resulting difference constituting the amount of lost income damages for that year of Intrusion; and

iii. If an Intrusion occurs in two or more years within a five-year period, damages shall be calculated using an Average Gross Annual Income based on the last consecutive five-year period preceding the first year of Intrusion, or if a Golf Course Water User (i.e., Pasadera) has not been in operation for a full seven (7) years at the time of the Intrusion, damages shall be calculated using an Average Gross Annual Income based on the last consecutive three-year period proceeding the first year of Intrusion. Gross Annual Income shall not be calculated based upon a year in which an Intrusion occurred.

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Seaside Groundwater Basin Adjudication Allocations: Water Years 2006 - 2026

Water Years	Coastal Subareas				Laguna Seca Subarea				Basin
	Operating Yield (afy)	Alternative Production Allocation (afy)	Standard Production Allocation (afy)	CAW Share (afy)	Operating Yield (afy)	Alternative Production Allocation (afy)	Standard Production Allocation (afy)	CAW Share (afy)	Operating Yield (afy)
2006-2008	4,611	743	3,868	3,504	989	644	345	345	5,600
2009	4,265	743	3,522	3,191	915	644	271	271	5,180
2010-2011	4,150	743	3,407	3,087	890	644	246	246	5,040
2012-2014	3,689	743	2,946	2,669	791	644	147	147	4,480
2015-2017	3,228	743	2,485	2,251	692	644	48	48	3,920
2018-2020	2,752	743	2,009	1,820	608	608	0	0	3,360
2021-2023	2,392	743	1,649	1,494	608	608	0	0	3,000
2024-2026	2,392	743	1,649	1,494	608	608	0	0	3,000

Source: *California American Water v. City of Seaside, et al.* (Case No. M66343, California Superior Court, Monterey County, March 27, 2006, as amended February 9, 2007)

Notes:

1. Values are based on the Court's decision at the January 12, 2007 hearing to switch to a Water Year-based accounting period (October 1 through September 30), the first "Administrative" Year began on October 1, 2006. However, consistent with the original decision, the first reduction in the Operating Yield will occur on January 1, 2009. Each reduction after January 1, 2009, will occur at the beginning of each triennial period, i.e., October 1, 2012, October 1, 2015, and so forth.
3. CAW's share of the Standard Production Allocation for the Coastal Subareas is calculated as 90.60% of the total Standard Production Allocation. For the first triennial period, i.e., Water Years 2006 through 2008, CAW's share is 3,504 afy. This calculation is consistent with the procedure described in the adjudication decision (pages 17 through 19) and Cal-Am's arguments in the J*oint Post-Judgment Motion to Request Clarification of the Court's Final Decision Relating to the Calculation of the Over-Production Replenishment Assessment* dated November 28, 2006 (pages 8 through 10).
4. For computation purposes, it is assumed that the 10% reduction in the Operating Yield is based on the initial Operating Yield specified by the Court, i.e., 5,600 afy. For example, at the beginning of Water Year 2010, the 10% reduction equals 560 afy (5,600 x 0.10 = 560). Similarly, at the beginning of Water Year 2012, the 10% reduction also equals 560 afy (5,600 x 0.10 = 560).
5. For computation purposes, it is assumed that the Natural Safe Yield for the basin is and remains at 3,000 afy, with 608 afy assigned to the Laguna Seca Subarea and the remainder, 2,392 afy, assigned to the Coastal Subareas within the basin.

H

Appendix H. Pure Water Monterey and Expansion Reliability Analysis TMs

California American Water
Peer Review of Supply and Demand for Water on the Monterey Peninsula

Prepared By: Kevin Alexander, P.E.
Reviewed By: Cindy L. Miller, P.E.; Jack Kiefer, PhD, Greg Gates, P.E., Luke Wang, P.E.
Hazen and Sawyer - August 11, 2020

This memorandum is in response to the following:

- Monterey Peninsula Water Management District (MPWMD), Exhibit 4-A Supply and Demand for Water on the Monterey Peninsula dated March 13, 2020 prepared by David J. Stoldt, General Manager;
- Exhibit 4-B Marina Coast Water District Demand (MCWD) Study by WaterDM dated April 21, 2020;
- Final Supplemental EIR for the PWM Expansion dated April 2020; and
- WaterDM Supplemental Study dated June 24, 2020.

California American Water Company (CalAm) is responsible for ensuring the Monterey Peninsula's available water supply is adequate to meet demand not just under ideal circumstances, but particularly under any number of adverse conditions that have some probability of occurrence.

There is no dispute that the Monterey Peninsula Water Supply Project (MPWSP) will provide a supply required to meet the demand of the Monterey Peninsula. The MPWSP is the only solution that meets the stated goals of Governor Newsom's 2020 Water Resilience Portfolio of: diverse water supplies, protect and enhance natural ecosystems, build connections and be prepared[1].



PHOTOS: USGS (TOP), HAZEN AND SAWYER (ABOVE)



MPWMD's General Manager is asking CalAm to utilize recycled water with sources that are vulnerable to drought, climate change, and water quality challenges. CalAm is asking for consideration of the MPWSP as a means to address those concerns and to address vulnerable supply issues for the entire region.

Considering the Ocean as a safe, secure, reliable, and resilient source as part of the Monterey Peninsula water supply portfolio is critical to solving the region's water supply.

- Since 2001, 13 dry years and 4 critically dry years have affected the Peninsula's water supplies.
- Agricultural flows are diminished by a third when compared to past years.[2]
- Water demands are down and that is reducing municipal wastewater flows available for water recycling.[3]

The Pure Water Monterey(PWM) Expansion project as proposed by Monterey One Water (M1W) is intended to provide additional water supply, but fails to provide the reliability, resiliency and supply diversity needed to meet demand on the Monterey Peninsula under multiple probable adverse scenarios including demand variability, wastewater flow variability, and surface water supply limitations as discussed further in this memorandum.

In contrast, the resiliency and certainty of the MPWSP facility provides the ability to meet uncertain demands across multiple probable adverse scenarios, flexibility to manage supply to protect the environment, and enough water to support stated goals of safe, secure, reliable and resilient water for the Peninsula at all times.

Phase One of the Pure Water Monterey Groundwater Replenishment Project (PWM Phase One) is intended to provide up to 3,500 acre-feet per year of recycled water as a valuable part of the Peninsula's supply portfolio, but expanding the facility with the PWM Expansion means more reliance on an uncertain water source and creates an imbalance in the Peninsula's supply portfolio. Such heavy reliance on one source means more scrutiny must be placed on assessing the risks of the supply.

> **Only the Monterey Peninsula Water Supply Project provides a source that can meet the objectives of a reliable and adequate potable water supply for the Monterey Peninsula.**

Water Resource Management

CalAm is responsible for assessing the ability of water supplies to meet the demands of the community and the environment in Monterey. With that responsibility comes a need to identify potential risks to its customers' water supplies and the need to develop plans and supplies resilient to those risks. CalAm has developed the MPWSP to accomplish these objectives, ensuring the ability to protect public health and the environment on the Peninsula for the foreseeable future.

CalAm Considers Water Supplies Through Supply Reliability, Diversification, Data, and Dry Year Resiliency.

Supply Reliability – Water agencies throughout the world consider water supply reliability when developing water supply plans to account for known and unknown risks. California Water Code 10635(a) requires water suppliers to assess the reliability of supplies. Of the proposed supply projects for the Peninsula, only the MPWSP fully accounts for water supply reliability to protect the Peninsula from adverse supply conditions.

Diversification – Diversification is a foundational strategy for minimizing the risks to any kind of water supply portfolio. Even California Water Code section 10608(c) declares that diverse supply portfolios will increase supply reliability. Governor Newsom's 2020 Water Resilience Portfolio includes diversification as the first approach to address climate change in the state's water supply systems and explains that diversification "will strengthen water security and reduce pressure on river systems across the state." (Portfolio, at p. 5.) The Governor explains that local and regional entities "must reduce reliance on any one source and diversify supplies to enable flexibility as conditions change." (Portfolio, p. 17.) The MPWSP increases the diversity of the Peninsula's water portfolio by introducing a new source of raw water and reduces risk, as opposed to the PWM Phase One and the PWM Expansion, which rely on the availability of effluent treated at a centralized recycling facility to generate 51% of total supply available to CalAm's Customers.

Data – Analysis of proposed water sources and demands over the same time period is important to account for impacts such as financial downturns, drought, water restrictions, tiered rates, regulatory changes and population considerations. The MPWMD Supply and Demand Report fails to fully account for historical data and thus fails to tell a complete story by using only the past 3 or 5 years of demand data, while simultaneously using a different time range (2009-2013) for other sources. Informed decisions based on a complete picture of supply and demand and concrete data from the historic and available record can and should be made together and in the best Interest of the Peninsula.

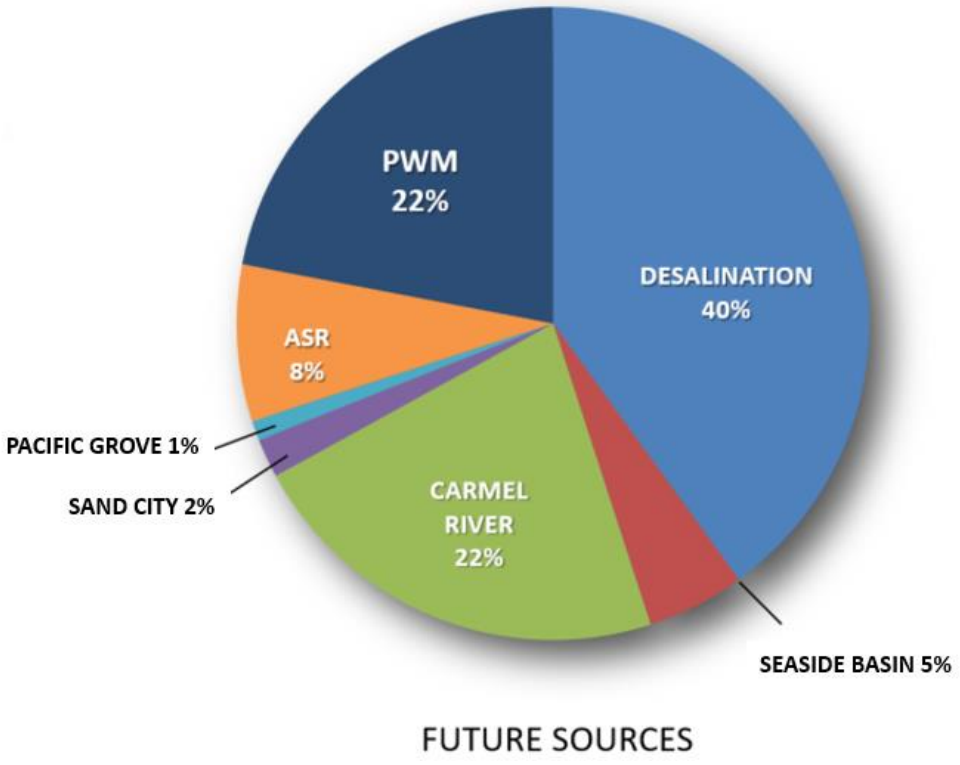
Dry Year Resiliency – Throughout an increasing percentage of the world, the western United States, and certainly California, planning for a very dry year (and a succession of dry years) is a key element to water supply planning as required by the California Water Code. The source water for the MPWSP, the Pacific Ocean, is not vulnerable to drought – and the regulatory conservation that often accompanies it – unlike the source water for PWM Phase One and the PWM Expansion. Governor Newsom's 2020 Water Resilience Portfolio specifically notes that water suppliers need to plan for deeper droughts and "develop strategies to protect communities and fish and wildlife in the event of a drought lasting at least six years. (p. 25) Only the MPWSP provides for such dry year resiliency. (Portfolio, pp. 25-26.)

Water Supply to Meet Demand

CalAm is responsible for meeting the requirements of the California Water Code for Urban Water Management Planning, which requires the assessment of the reliability of water service under multiple scenarios (normal, dry, and multiple dry years, including a repeat of the 5 consecutive historic driest years) and consideration of the reliability of water service given the combination of supplies available to it. (See Water Code §10635.) If PWM Phase One and the PWM Expansion are considered key sources of supply for the Peninsula, then the Peninsula is required to rely on production from PWM Phase One and PWM Expansion and ASR at all times to barely achieve normal year demands. Accepting the PWM Expansion as a key supply does not line up with informed and thorough engineering practices for water supply planning required by the California Water Code. (Water Code §§ 10610 *et seq.*) Figure 1 below illustrates why a diverse and balanced portfolio of water supplies is required for the Peninsula to meet the range of water demands including low optimistic demand values to the higher and more conservative demand values.

The only solution that addresses the water supply issue in a way that provides appropriate supply reliability on the Peninsula is the MPWSP. As depicted in Figure 1 below, coupled with the existing PWM Phase One and other existing sources, the MPWSP provides a robust and diversified portfolio of water supplies to address known and probable challenges such as prolonged drought conditions, limited wastewater flows, limited PWM Phase One injection, limited agricultural drain flows, flows from the Sand City Desal and possible limited flows from Aquifer Storage and Recovery (ASR).

Figure 1: Monterey Peninsula Water Supply Portfolio Diversification



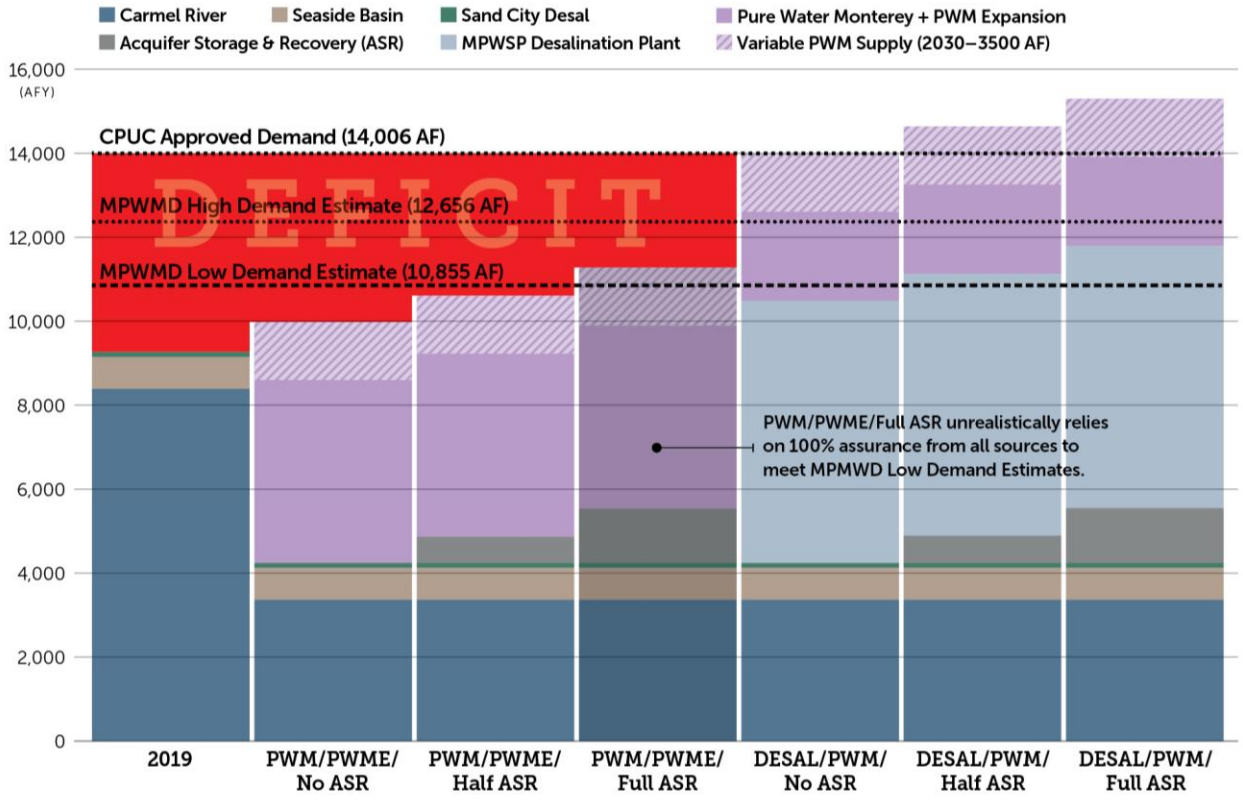
ASR build-up in particular has not been successfully demonstrated throughout the development and use of the ASR system over a 15-year period. As shown in Figure 6, included in the Appendix hereto, only once in the past 15 years has ASR achieved 1,300 AFY. As explained in Hazen's prior memo, ASR water availability is reduced to 63% in a single dry year, and even further reduced to 4% following three dry years. Therefore, ASR does not meet Water Code reliability standards (5 consecutive historic driest years) or Governor Newsom's 2020 Water Resilience Portfolio that requires consideration of a drought lasting six years.

Further, over the past 15 years, the average availability of ASR is approximately 138 AFY, far less than the 1,300 AFY assumed by MPWMD General Manager David Stoldt and WaterDM as available to meet water demand on the Peninsula. Even over the last five years, the average availability of ASR is 352 AFY, which again is far less than the 1,300 AFY assumed available by Stoldt and WaterDM. Analysis offered by Stoldt in September 2019 to the Coastal Commission and WaterDM relied on the full availability of ASR in order for the PWM Expansion to meet existing demand on the Peninsula, however, such analysis is based on the unrealistic assumption that no drought will take place between now and 2034. Such an assumption is contradicted by plain history—there has been a multi-year drought in California in virtually every decade since 1917—and as discussed above is inconsistent with applicable water planning regulations and guidance.

In addition, counting on ASR storage at 100% with limited knowledge of losses to the ocean and other basins imparts uncertainty in that supply as a continuous resource and drought mitigation strategy. In Figure 2 below, ASR volume is shown under three distinct scenarios to account for the limited volume stored over the past 15 years and these other uncertainties—No ASR, Half ASR and Full ASR. Notably, even the Half ASR scenario requires 650 AFY, which is almost double the average ASR availability over the past five years, and over five times the 15-year ASR average. When the variability of ASR is considered, the PWM Phase One and PWM Expansion do not meet the Peninsula's minimum water demands. This is one of the reasons that the California Public Utilities Commission concluded that "only in conjunction with construction of a desalination plant of some size within five to fifteen years" would the PWM Expansion be capable of providing a "sufficient and reliable water supply" for the Peninsula. (See CPUC Decision D.18-09-017, Appx. C, p. C-71.)

Figure 2: Monterey Peninsula Water Supplies to Meet Demands
Comparison of PWM Expansion and MPWSP with Variable ASR

MPWSP opponents claim that the MPWSP is not currently needed to meet existing demand projections. However, meeting even the lowest demand projections without the MPWSP requires full capacity operation of two other supplies that have yet to prove reliable and are vulnerable to high-probability risks.



Wastewater as a Source for PWM Phase One and PWM Expansion

Stoldt's characterization of the PWM Expansion as a project that can replace CalAm's existing water supplies and meet the long-term needs of the Peninsula also does not accurately and transparently account for the risks of having wastewater as a primary water supply that varies with demand and drought.[4,5] As discussed below, publicly available evidence demonstrates that wastewater cannot be relied upon as a primary water source for the PWM Expansion, and additional reliable supplies would be needed to ensure that the PWM Phase One and PWM Expansion can supply water in the amounts those projects have promised/projected.

The MPMWD Supply and Demand Report and the Supplemental EIR for the PWM Expansion focus on demands being low and use the last 3, 5 and 10 years as the basis for revised demand assumptions in CalAm's service territory. (See MPWMD Supply and Demand Report page 8, Table 3 .) MPMWD had WaterDM evaluate demands with recent data in an attempt to explain the differences in demands between estimates by CalAm and what has been observed on the Peninsula in the past 5 years.[6]

In contrast to MPMWD's and WaterDM's attempt to focus only on the most recent years to support their positions, Appendix I to the Supplemental EIR for the PWM Expansion asserts that the average wastewater treatment plant (WWTP) flows should be based on the period from 2009 to 2013 where WWTP flows were 21,764 AF, or a worse case flow of 20,090 AF based on the 2013 drought year.[7] By failing to account for the most recent years since 2013, Appendix I substantially overstates the available wastewater flows that could potentially be used as source water for recycled water projects on the Peninsula.

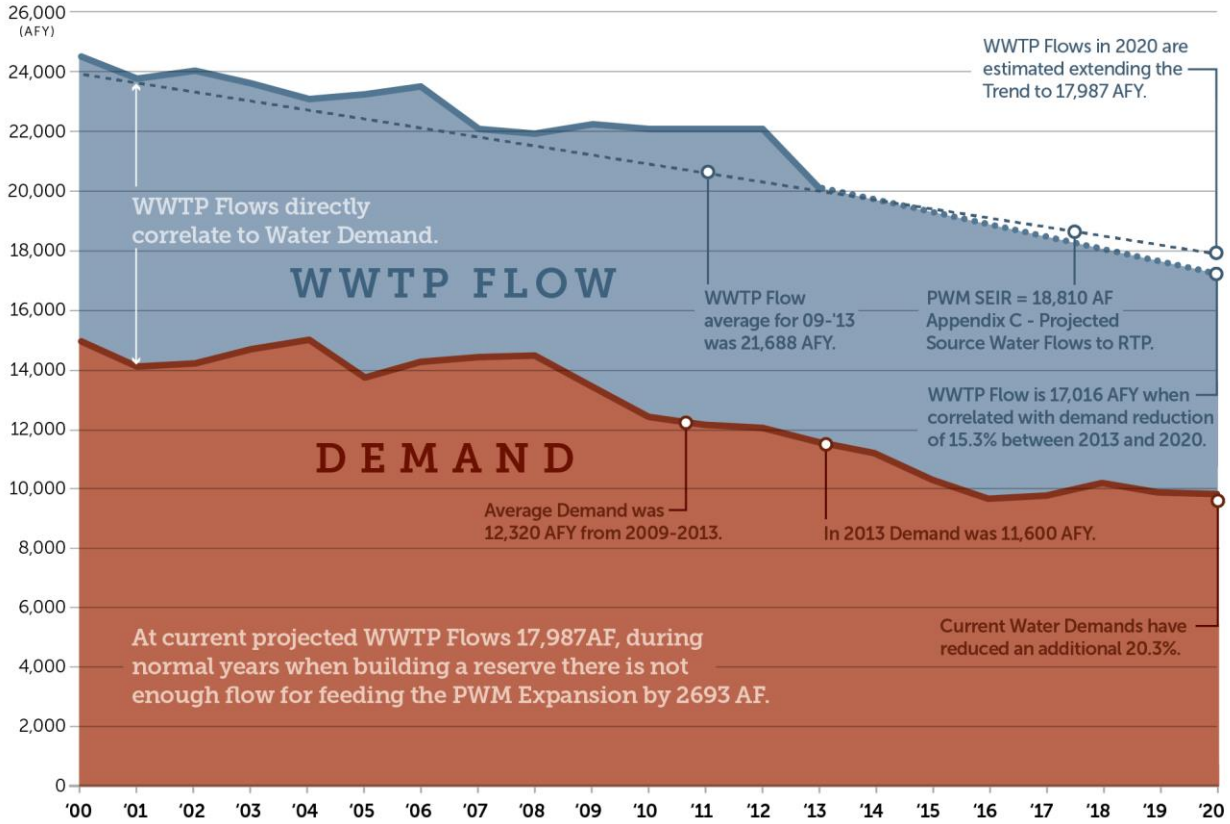
The approach taken in Appendix I ignores that WWTP flows correlate to water demand/use, which has continued to decrease on the Peninsula due to conservation and other factors. Based on available data, Figure 3 below depicts an overall downward trend in WWTP flows that is consistent with the observed decline in water demand on the Peninsula. The EIR from 2016 for PWM Phase One shows WWTP flows trending downward from approximately 25,000 AF in 2000 to approximately 20,000 AF in 2013.[8] A separate appendix to the Supplemental EIR (Appendix E) shows further reduced WWTP flows to 18,810 AF (16.79 MGD) .[9] However, this number was not utilized in the Supplemental EIR to calculate available WWTP flows as source water for either PWM Phase One or PWM Expansion, which is a significant error.

Moreover, additional data collected by M1W and presented to its Ad-Hoc JPA Revision Committee on July 20, 2020, indicates that since the beginning of 2020 WWTP flows are yet again further reduced to 17,980 AF or 16.05 mgd, as specified in Exhibit 5.[10]

Figure 3 shows that the WWTP Flows correlate with demand reductions on the Peninsula. For example, as shown in Figure 3, since 2013 demand has declined 20.3% when compared to the average demand from 2009 to 2013. Additionally, 2013 drought year demand compared to current demand, represents a 15.3% reduction.[11] Calculating the WWTP flows over these same time periods using these respective reduction percentages (20.3% and 15.3%), a conservative estimate of current average WWTP flows is 17,296 AF to as low as 17,016 AF, respectively. An alternative method of determining todays WWTP flows based on a linear trend of the existing flow data indicates that current flows are 17,987 AF, as shown in Figure 3. All of these WWTP flow estimates, which are based on a more complete picture of recent data, are much lower than those used in the SEIR Appendix I -Tables 8 to 11. As result the SEIR substantially overstates the availability of WWTP flows available as source water available to PWM Phase One and the PWM Expansion.

Figure 3: Reduced Demand = Reduced WWTP Flow (=Reduced Recycled Water Supply)

Monterey Wastewater Flows shown in the SEIR Appendix I-Table 8,9,10 (Normal Yr) and Table 11(Dry Yr) use data from 2009-2013 which does not represent the current WWTP Flows. The graph below estimates current WWTP flows in 2020 based on demand correlation from MPWMD Supply and Demand Report-Fig 1.



SEIR Appendix I -Tables 8 to 11 have been updated in Table 1 below to reflect more realistic estimates of WWTP flows, along with minor reductions to Reclamation Ditch flows in the Surface Waters category based on the analysis provided in the next section of this memorandum demonstrating these flows also are expected to be reduced compared to amounts claimed in the SEIR. When realistic estimates of WWTP flows are utilized, it becomes clear, the MPMWD Supply and Demand Study and the SEIR failed to assess how reduced WWTP flows would adversely affect production of the PWM Phase One or the PWM Expansion. The following Table 1 provides a comparison of Supply and Demand from SEIR Appendix I - Tables 8 to 11 with updated WWTP flows and Reclamation Ditch flows to show the impact of these expected reductions on the water available to use for the CSIP, PWM Phase One, PWM Expansion, and the Regional Urban Water Augmentation Project (RUWAP). In all conditions there is a supply deficit.

TABLE 1 – IMPACTS OF REDUCED WWTP FLOW ON TABLES 8 – 11 FROM SEIR APPX. I

	Original SEIR Appx. I Data				Updated Appx. I Data			
Supply and Demand *in Acre-Ft*	**Table 8**	**Table 9**	**Table10**	**Table11**	**Table 8** Updated	**Table 9** Updated	**Table10** Updated	**Table11** Updated
SUPPLY								
WWTP Flow[a]	21764	21764	21764	20090	17987	17987	17987	17016
Domestic Flows	82	82	82	82	82	82	82	82
New Sources[b]	2579	2579	2579	2430	2579	2579	2579	2430
Surface Water[c]	3721	2052	2041	2840	3641	1972	1961	2304
TOTAL	**28146**	**26477**	**26466**	**25442**	**24289**	**22620**	**22609**	**21832**
DEMAND								
CSIP and CSIP Well	17227	17227	17227	22619	17227	17227	17227	22619
PWM	4320	4320	4320	2963	4320	4320	4320	2963
PWM drought	248	248	0	0	248	248	0	0
PWM Expansion	2778	2778	2778	2778	2778	2778	2778	2778
RUWAP	741	741	741	741	741	741	741	741
TOTAL	**25314**	**25314**	**25066**	**29101**	**25314**	**25314**	**25066**	**29102**
Annual Supply Excess[d]	**2833**	**1164**	**1400**	**-3659**	**-1025**	**-2693**	**-2457**	**-7270**

Notes:

a Updated WWTP Flows based on Figure 2 Trends and calculated Dry Year from Demand Correlation

B New sources from Table 8-11

c Surface water updated by reducing Reclamation Ditch Values from USGS 10yr average.

d Annual supply excess calculated from Supply minus Demand. A negative value means a supply deficit.

Table 2 represents a flow balance to compare SEIR Appendix I Tables 8 to 11 compared to updated Table 8 to 11 with updated WWTP flow and Reclamation Ditch waters from Figure 3. Based on the flow balance for the updated Normal/Wet Year when building a reserve "Table 9 Updated column" would allow for 84 Acre-Ft to be fed to the PWM Expansion. The available supply for the Dry Year, as shown in the "Table 11 Updated" column, demonstrates that there is no flow available for PWM Phase One and PWM Expansion during a dry year, and flow for RUWAP would have to be taken as a water right to serve those flows. All scenarios analyzed demonstrate that there is little to no WWTP flow available to PWM Expansion. As a result, PWM Expansion would not have sufficient source water to produce the promised supply of 2,250 AFY.

TABLE 2 – IMPACTS OF REDUCED WWTP FLOW ON SUPPLY FLOW BALANCE

Flow Balance – *in Acre-Ft*	**Table 8**	**Table 9**	**Table 10**	**Table 11**	**Table 8** Update	**Table 9** Update	**Table 10** Update	**Table 11** Update
Flow to CSIP + CSIP Well Pumping	17227	17227	17227	22619	17227	17227	17227	21091[e]
Flow to PWM[f]	4320	4320	4320	2963	4320	4320	4320	0
Flow to PWM Drought	248	248	0	0	248	248	0	0
Flow to PWME[g]	2778	2778	2778	2778	1753	84	321	0
Flow to RUWAP	741	741	741	741	741	741	741	741
Actual Use Flows[h]	**25314**	**25314**	**25066**	**29101**	**24289**	**22620**	**22609**	**21832**
Flow to ASR[i]	5950	5950	5750	4650	5120	3768	3759	0
Concentrate Flow to Outfall[j]	1536	1536	1489	1232	1342	1025	1023	141
Deficit To ASR	**0**	**0**	**0**	**-1100**	**-830**	**-2182**	**-1991**	**-4651**

Notes:

e CSIP and CSIP Well Flows from Table 8-11 Demand. Reduced CSIP in "Table 11 Updated" by taking Water Right
f Revised flow to PWM down for Table 11 to match actual Use to supply
g Flow available to PWME is calculated based on maintaining flow to PWM and RUWAP and to Concentrate
h Actual Use is calculated to confirm balance with Supply
i ASR Flow is from the AWT product water flow without RUWAP
j Concentrate flow is 19% of Flow for PWM, PWM Drought, PWME, and RUWAP
k Deficit to ASR based on Flow to ASR minus the PWM AND PWME DEMAND from Table 1

The above analysis of the WWTP flows demonstrates the need for a very thorough and transparent analysis of the current WWTP flows and the impact to the reliability of PWM Phase One and PWM Expansion. At present, there appear to be significant limitations on the availability of source water from WWTP Flows for the PWM Expansion.

Surface Water Flow Analysis

As discussed above, another area that requires consideration is the flow available to the PWM Phase One and PWM Expansion from the proposed Surface Water supplies. The Reclamation Ditch flows were analyzed originally in the Schaaf & Wheeler Agricultural Ditch Yield Study, March 2015 based on 2006-2014 data, and were updated in the SEIR Appendix I Tables 8-11. A detailed analysis of the Reclamation Ditch flows using the most recent USGS data reveals that average flows are lower than indicated in Schaaf & Wheeler and the SEIR Appendix I. The following Table 3 below shows the average monthly flow according to USGS for the last 5 years, 10 years and 2013 as compared to the values in the SEIR Appendix I Tables 8 to 11.

Table 3: Reclamation Ditch Flows[12]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Normal Years (Ac-ft)												
USGS 5 yr Avg minus Instream	>360	>360	>360	340	123	74	83	77	35	108	>360	>360
USGS 10 yr Avg minus Instream	>360	>360	>360	356	59	93	98	96	45	129	>360	>360
Table 8	70	66	70	106	79	99	113	109	72	65	89	76
Table 9	0	0	0	106	79	99	113	109	72	11	0	0
Table 10	0	0	0	106	79	99	113	109	72	0	0	0
Dry Years (Ac-ft)												
USGS 2013(Same Jan/Feb as Tbl11)	0	0	42	4	0	28	53	57	23	16	43	0
Table 11	0	0	70	106	79	99	113	109	72	65	89	0

Note: >360 is when diversion flows above 6 cubic feet per second (CFS) after subtraction of the instream of 2 CFS.

Table 3 shows that for the months of May through September there is a reduction of average flow per month of 16% between the Table 8, 9 and 10 compared to the USGS flows for a 10 year comparison. Table 3 also shows that for the months of June through September there is a reduction of average flow per month of 16% between the Table 8, 9 and 10 compared to the USGS flows for a 5 year comparison. In addition, using the USGS flows for 2013 with similar assumptions for December-February, there is a 67% reduction

in flow as compared to the predicted dry year in SEIR Table 11. As a result, the SEIR overstates the availability of Reclamation Ditch flow potentially available as source water for PWM Phase One and the PWM Expansion. Again, in this case the available flow to the PWM Phase One and the PWM Expansion should be reconsidered and revised accordingly.

The Schaaf & Wheeler report for the Reclamation Ditch indicates that agricultural flows are continuing to drop, and have dropped 1/3 in recent years. This would likely mean there are reductions in the monthly flows from Blanco Drain as well as the Agricultural Wash Water below what is projected in the SEIR. The flows for these two proposed sources were not updated beyond what was provided in the original Draft EIR for the PWM Phase One in 2016 in Appendix B – Source Water Assumptions Memorandum dated March 26, 2015. Both of those data sources in the SEIR Appendix I Tables 8 through 11 are based on similar dated information from 2014. If the flows from the Blanco Drain and Agricultural Wash Water are considered to have similar percentage reductions during the April to October period as Reclamation Ditch flows, then there are likely conditions where the actual flows available may not be able to supply the PWM Phase One let alone the PMW Expansion.

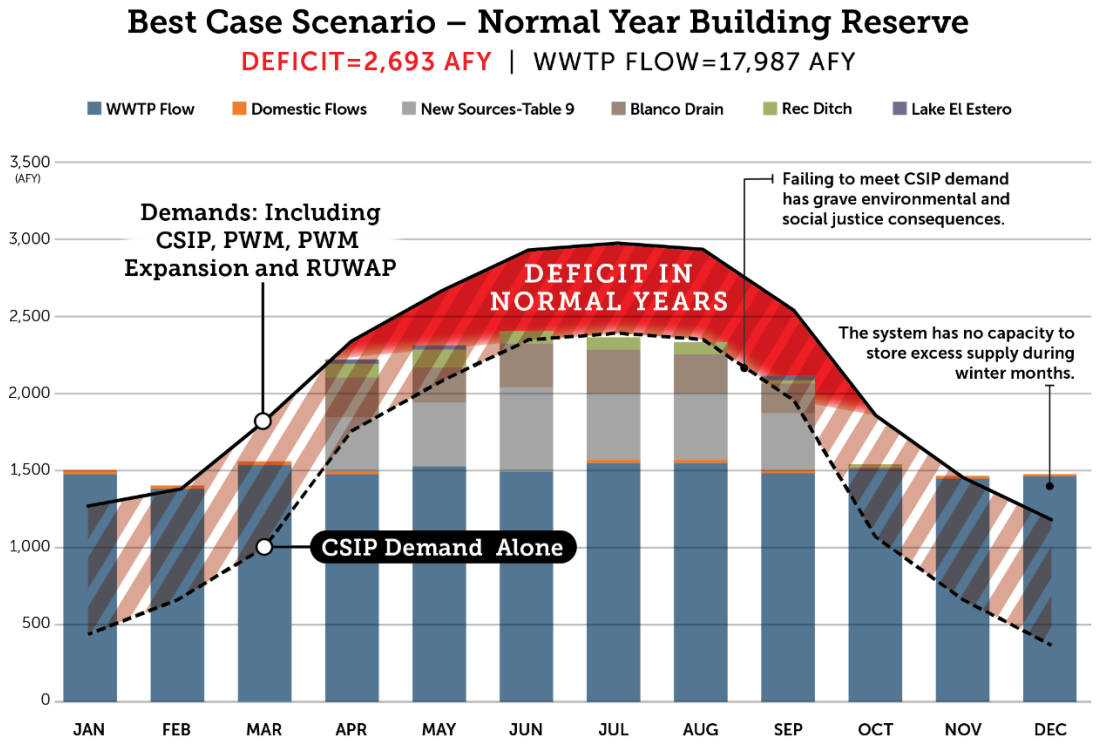
Supplies and Demands

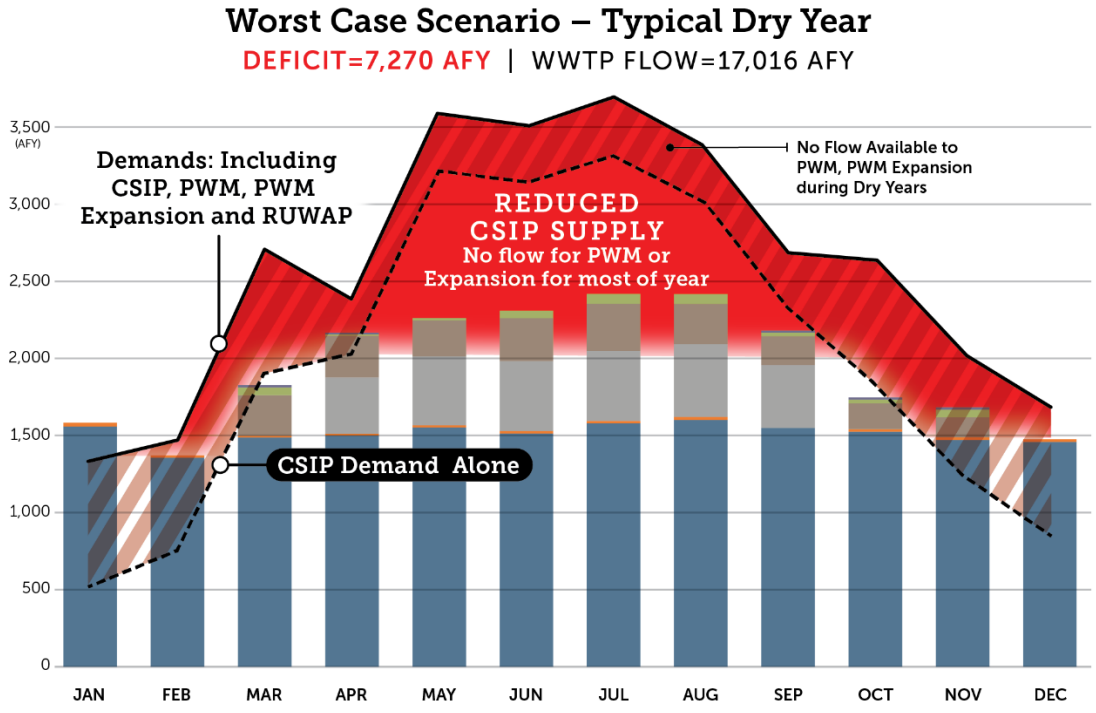
The combined analysis of supplies and demand illustrated in Figure 4 below (Normal/ Wet Year Building ASR) and (Dry Year) are based on monthly supply and demand from SEIR Appendix I-Tables 9 and 11 with data updated as noted in Table 1 above. Figure 4 shows that when lower WWTP Flow from Figure 3 and lower Reclamation Ditch flows from Table 3 and all other available sources are accounted for, that demand for those specific source waters far exceeds available supplies in Normal/Wet Years and in Dry Years.

Table 2 above shows that in Normal Years Building a Reserve (Table 9 Updated Column), there is potentially only 84 AF available from all of the available supplies for the PWM Expansion. Then in Dry Years, Table 2 shows there is actually no flow available from all of the supplies for the PWM Phase One or the PWM Expansion assuming water is still supplied to the CSIP with some flow taken from CSIP as a water right (as described in the Final Supplemental EIR-3.3 Master Response #3: Comments on Water Supply and Source Water Availability) to serve the Regional Urban Water Augmentation Project (RUWAP). Based on this analysis, PWM Phase One and PWM Expansion would not be able to provide their promised product water to the Peninsula during dry years, which are 3,500 AFY and 2,250 AFY, respectively.

Figure 4: Impacts of Demands Exceeding Limited Supplies

Best Case Scenario based upon SEIR Appendix I-Table 9 with revised WWTP Flows (Updated Table 9) shows a supply deficit such that 84 Acre-Ft is available to PWM Expansion. The Worst Case Scenario based upon SEIR Appendix I – Table 11 Dry Year with revised WWTP Flows (Updated Table 11) shows a deficit with Zero flow available to PWM, PWM Expansion and reduced flow to CSIP.





The demand assumptions in Figure 4 use the same values in SEIR Appendix I Tables 9 and 11 for CSIP, PWM Phase One, PWM Expansion and RUWAP which are the same values used in Table 1 above.

As shown in Figure 4 above there is a demonstrable water deficit. Monthly supply of water as compared to demand even when the additional proposed supplies of Agricultural Wash Water, Urban Runoff, Blanco Drain, and Reclamation Ditch are included does not satisfy the demand during a significant portion of the year – particularly during the summer months.

Water Supply Deficit for either PWM Expansion or CSIP

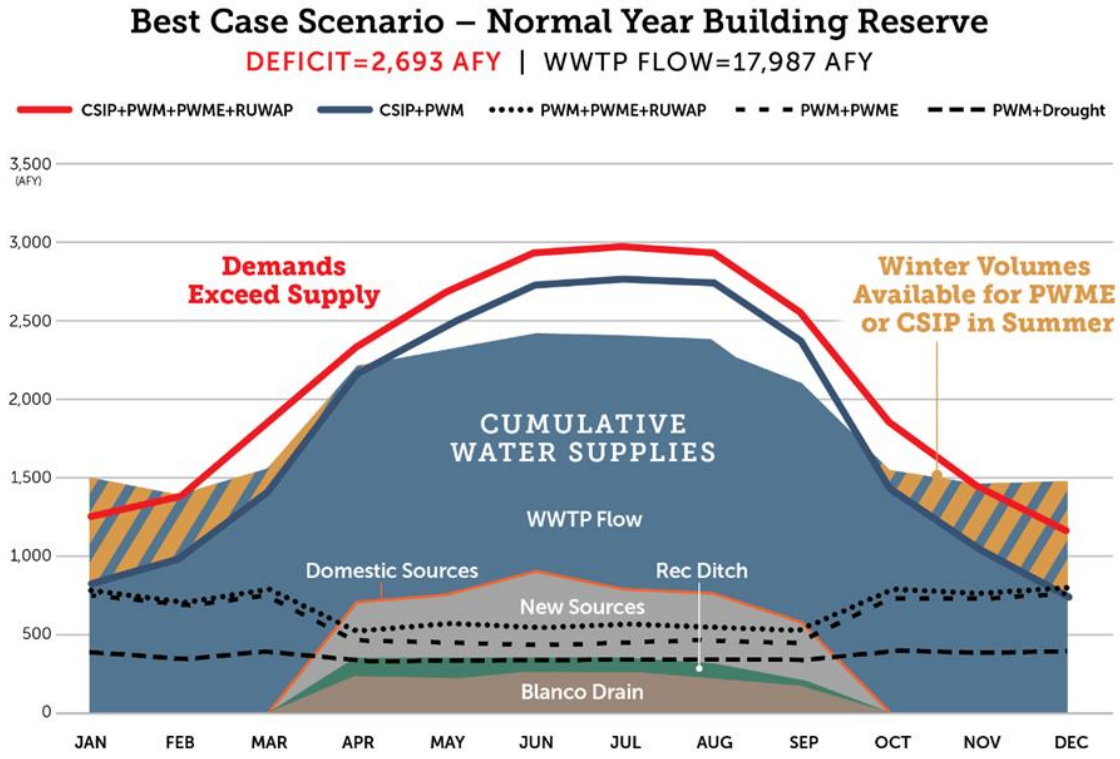
Without an adequate supply of source water, the Peninsula is placed in a difficult position of whether to supply water to the PWM Expansion or the CSIP system, which will impact the environment long term. Although there are water rights for the water that MWMWD proposes to use to supply the PWM Expansion, there are overstatements of the actual flows that need to be addressed. Protecting public health and the environment requires determining the true volumes available for the project and whether those flows can be counted on day in and day out for supply of water to the Peninsula.

Figure 5 closely correlates the cumulative water supplies to the respective cumulative demands. The water supplies are shown in the order of use with the PWM Phase One using Blanco Drain and Rec Ditch. Based on agreements, such as the Amended and Restated Water Recycling Agreement between the M1W and the Monterey County Water Resources Agency, those flows are unavailable to the PWM Expansion. Then New Sources are added to serve as the supplies for the PWM Expansion according to the priorities and water rights as defined in SEIR Appendix M. The supplies are cumulative by month. The graphs are based on SEIR Appendix I -Table 9 and 11 with the WWTP and Reclamation Ditch flows updated. These graphs include Lake El Estero and AWW, which are now not included in the water supply as noted in SEIR Appendix M as a best-case supply scenario (SEIR Appendix M-Page 5).

The demands in Figure 5 are each shown cumulatively for PWM, then PWM+PWME, then PWM+PWME+RUWAP, and ultimately PWM+PWM+RUWAP and CSIP. There is a separate blue line of PWM+CSIP to show a normal year today without the PWM Expansion. That line is necessary to determine available volume in the winter.

Figure 5: Supply Available for PWM Expansion or CSIP (Not Both)

Best Case Scenario based upon SEIR Appendix I-Table 9 with revised WWTP Flows (Updated Table 9) shows winter volume available for PWM Expansion or if injected could be used for CSIP in the summer. The Worst Case Scenario is based upon SEIR Appendix I – Table 11 Dry Year with revised WWTP Flows (Updated Table 11) shows there is near Zero flow available for the PWM Expansion in winter and significant reduced flow to CSIP.



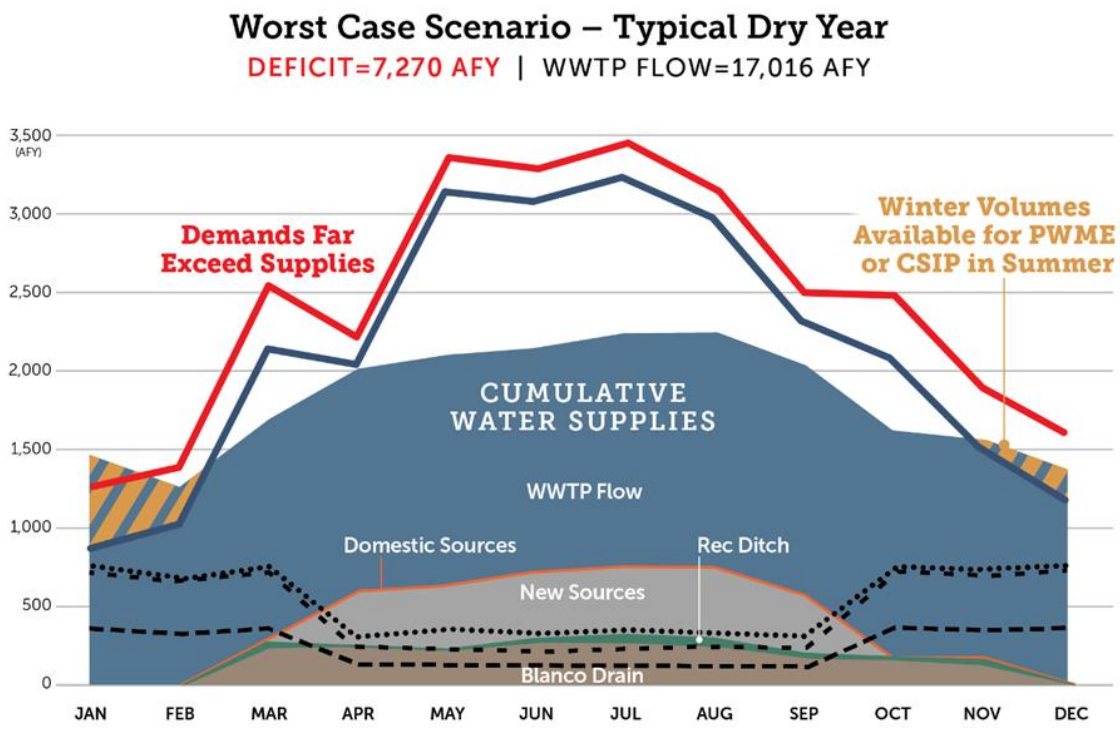


Figure 5 demonstrates that in normal years, excess winter effluent that would ultimately go to the Ocean can be used or it is otherwise wasted. However, with current CSIP demand the system will always be in a deficit. If CSIP could capture winter flow (such as the proposed but not implemented improvements to the Salinas Valley Reclamation Project (SVRP) (SEIR Master Response #3 p. 3-20, SEIR Appendix M- Page 5)) to run SVRP and CSIP at lower flows without using wells in conjunction with water storage or groundwater infiltration, then excess winter water could be available for use in the summer for CSIP. Implementing such a storage program would be a sizable new development project and would require a significant investment to secure and develop the necessary property where the storage program could be implemented (such as a reservoir). Further, for CSIP and CSIP well demands in SEIR Appendix I Tables 9-11 to be met, this would require all of the other New Water sources, Blanco Drain and Reclamation Ditch as well to meet the combined CSIP and CSIP well flows now and especially in dry years.

CSIP flows are shown in Figure 5 based on the SEIR Tables 8-11 including the CSIP well pumping. It should be noted that the improvements to SVRP have not been completed and therefore, the CSIP must rely on well pumping.

It should be highlighted that the flows shown in SEIR Appendix I for Tables 8-11 were not updated to match the assumptions in Final SEIR Appendix M. If the flows shown in Tables 8 to 11 were updated to account for the assumptions made in Final SEIR Appendix M, then the water supply deficit depicted in Figures 4 and 5 above would be even greater. For example, the Agricultural Wash Water and Lake El Estero were assumed to be unavailable in Final SEIR Appendix M. Moreover, Reclamation Ditch Flows were not reduced as noted in Table 3-B in the Final SEIR Master Response #3.

In addition, the SEIR Master Response #3 Table 3-A and SEIR Appendix M Table 2 both support the reduced flow of wastewater highlighted in Figure 3 above. One example is the use of 5,811 AFY as the Secondary Effluent available from the Outfall which is 3,000 AFY less than the estimated amount in Table 8, 9 and 10 of the SEIR Appendix I of 8,809 AFY. Assuming this is the updated Outfall flow, this would correlate to roughly 18,810 AFY of WWTP flow in 2018. Again, this was not highlighted in Source Water Availability, Use and Yield in SEIR Appendix I and as discussed earlier in this memorandum the regional wastewater flows have reduced since then. When these reductions are accounted for, the supply deficit will only increase. As a result, the technical analysis of the PWM Expansion has greatly overstated the reliability and availability of the source water. It is not feasible to achieve the PWM Expansion's projected water deliveries of 2,250 AFY based on the proposed water sources.

Responding to MPMWD and Water Demand Analysis

CalAm is responsible for assessing water demand on the Peninsula and continues to evaluate the impacts from climate change, regulatory drivers, growth in residential and commercial demands, impacts from water rates and restrictions imposed, and considers a future when the MPWSP is in place and how available water will shift demands. CalAm is contributing to conservation programs, participating in cutting edge research on leakage to apply the latest approaches to loss to their system.

All of this is done to ensure their customer demands are met, the environment is protected, and that water is not wasted. In performance of these duties, CalAm is continuing to assess the risks associated with meeting average demands, maximum day demand and peak hour demands. Hazen has participated in the studies with CalAm on system loss and is providing water resources planning services.

Hazen and Sawyer response to comments from MPMWD and WaterDM regarding prior memorandum:

Hazen and Sawyer is a national consulting engineering firm with a focus on all aspects of water supplies, planning, treatment and demands. We have local and national experts working on evaluation of water supplies and demands. It should be noted that WaterDM is a firm that collaborates with Hazen and Sawyer on large water supply projects and is currently a team partner for projects on the East Coast.

MPWMD and WaterDM reviewed Hazen's prior memorandum dated January 2020 and point to many areas that they consider deficient, in error or misleading. Hazen disagrees with this claim. The Hazen memorandum as written highlights the substantial concern with assuming lower water demands on the Peninsula with no discussion of range of uncertainty. We feel the higher demands are warranted to provide a buffer for uncertainty. WaterDM and MPMWD have been unwilling to address the risk of the potential demand increases on supply. For supply to the PWM Expansion, these entities have avoided updating the flow data with transparent information on the proposed supplies.

WaterDM does not address variability or uncertainty of supplies in their report to a level to assess the risk of the supplies to meeting the lowest projected demands that they developed.

Hazen asserts that supply and demand planning in an area like the Monterey Peninsula that is dependent on new sources of water must look at the risk and must apply an appropriate level of reliability and resiliency as good engineering principles. MPMWD has not addressed the current supply as required by the California CWC Section 10635 for normal, dry and multiple dry years to prove the resilience of that supply. Our analysis highlights the need for more analysis with recent data including consideration of historical impacts to supply. This also gets to the heart of our prior memorandum.

Current codes and regulations as well as their interpretation are important to establishing a reliable and resilient water supply across a range of likely supply and demand conditions. MPMWD focused on the interpretation of Maximum Day Demand and Peak Day Demand versus annual demand which is well understood, but avoided the topic of assessing the long-term historical data in determining future demands and not just picking data to fit a narrative.

In addition, interpreting the latest revisions to American Waterworks Association (AWWA) M50 Manual to say that MPWMD can use 3 or 5 years of data when there is over 20 years of data available is not in line with the intent and spirit of the latest version of that document which Hazen participated in developing.

Hazen and Sawyer had the MPMWD Supply and Demand Report reviewed independently by Hazen's nationally recognized demand expert, Dr. Jack Kiefer. He noted: "*There is not a standard or minimum amount of empirical rigor formally promulgated, which leads many to focus on simple averaging and story-telling instead of modeling cause and effect and then using official economic forecasts for evaluating and predicting growth. In addition, it is seldom when you see uncertainty explicitly accounted for or at least addressed which detracts from a higher-level objective of identifying, reducing and mitigating risks.*"

Hazen's intentions with our comments on MPWMD's analysis are consistent with that objective – a desire to see the Water Supply Solutions for the Monterey Peninsula truly evaluated and the risks of the water supply mitigated.

(Continued next page)

The demand analysis performed by WaterDM assumes that existing water conservation measures will result in increased conservation without implementing more stringent measures, such as use moratoriums and water rationing. CalAm has invested heavily in Conservation Programs as well as paying for research into water loss and loss detection and mitigation strategies in an assertive effort to minimize the impact to the area in the absence of a water supply solution meeting the basic requirements noted herein. WaterDM and MPMWD do not acknowledge that the MPWSP was designed to avoid the need for further implementation of stringent measures, like moratoriums and water rationing. Those types of measures may be necessary to achieve the demands that WaterDM and MPWMD are projecting.	**MPMWD's response** to the Hazen memorandum regarding ASR, states that there is "no immediate present-day demands" for the PWM Expansion flow. If the PWM Expansion is the backup project to satisfy the CDO, as noted in the SEIR (Final SEIR Page 1-1), to supply water if MPWSP is not available then the water demand today would require all of that flow and flow from ASR that is not available. **MPMWD references** multiple times the SEIR Appendix I-Tables 9 through 11 and states "the annual use of the new sources exceeds the annual AWPF demands." The SEIR documents however do not provide recent flow data as a basis for the claim that the multiple sources of water in the Appendix M of the SEIR actually available to the PWM Expansion. It highlights those flows are from assumptions and flow balance calculations. As noted herein, there is a need to assess the current water supplies with recent data from the water sources to fully validate that statement.	To assume that paper water is presently available without evaluating actual flow data is a significant error. **The WaterDM Supplemental Study maintains the same errors at the first WaterDM Study.** The water projections in the WaterDM Supplemental Study remain unreasonable, including an over estimation of the availability of ASR and PWM Phase One. Likewise, the WaterDM Supplemental Study understates demand on the Peninsula and overlooks M1W's July 20, 2020 report that indicates since the beginning of 2020 WWTP flows were reduced to 17,980 AF or 16.05 mgd. Nonetheless, meeting even the lowest demand projection in the Supplemental Study is unrealistic without the MPWSP and would require full capacity operation of the PWM Phase One and the PWM Expansion, supplies that have yet to prove reliable and are vulnerable to high-probability risks.

Recommendations and Conclusions

This memorandum is based on extensive analysis and a thorough review of the MPWMD Supply and Demand Report, the WaterDM Study, the Supplemental EIR for the PWM Expansion as well as other supporting documents. The following recommendations and conclusions are offered to the California Coastal Commission to consider as it evaluates the MPWSP and considers the feasibility of the PWM Expansion:

1. MPWMD Supply and Demand Report and SEIR for the PWM Expansion put the Peninsula in jeopardy of not having water available for meeting current demands with no recognition and accommodation for future uncertainty within the supplies proposed. (Refer to Figure 2).

2. MPWSP is the only currently proposed and feasible solution that provides safe secure reliable and resilient supply for a diversified portfolio for the Peninsula. (Refer to Figure 2).

3. The water supplies proposed for the PWM Expansion need further analysis with recent flow data to assess that water is actually available. Even if it is assumed that MPWMD has sufficient water rights to the source water for the PWM Expansion, which we understand it does not, holding adequate water rights will not actually secure water for the PWM Expansion if there is not actual water available to treat. (Refer to Figure 3).

4. The complex water supply management strategy to prioritize water supplies with limited historical flow information is a risk that must be considered in evaluating flows used for ensuring potable water supplies.

5. There is a deficit in water that will be available to the PWM Expansion when considering todays wastewater flows and Reclamation Ditch flows based on the most recent available data. Figure 4 highlights the deficit in supplies available to meet demands of PWM Phase One , CSIP, RUWAP and PWM Expansion.

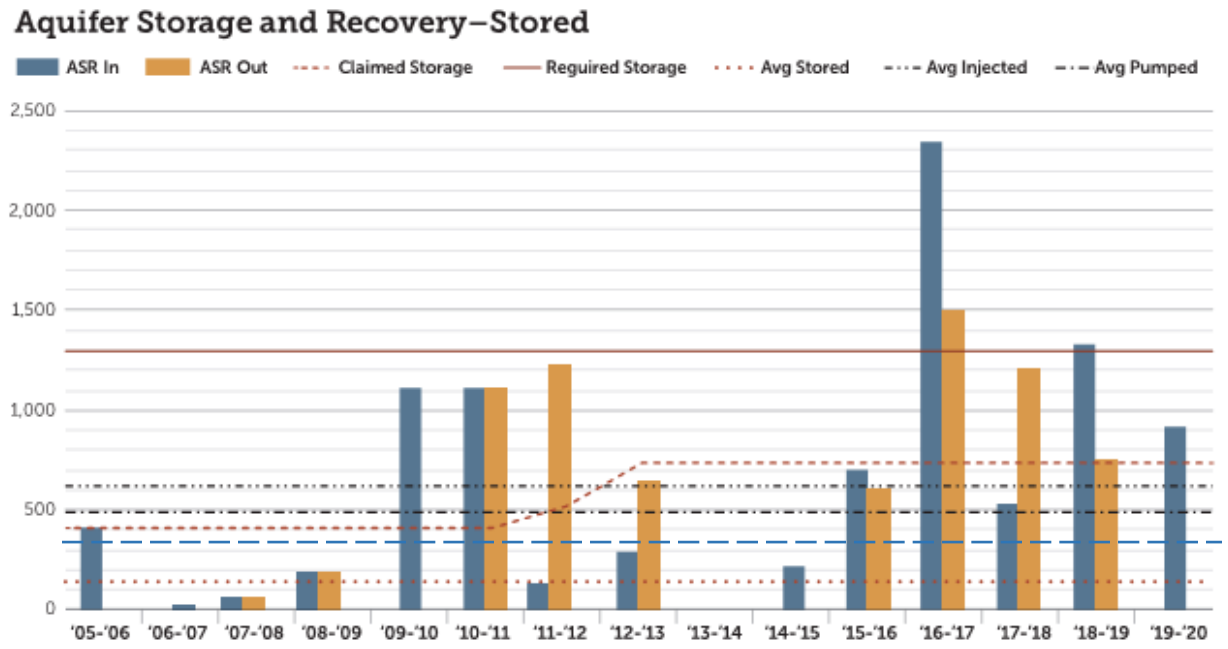
6. Assuming that there are adequate water rights for the water supplies that MPMWD proposes to supply the PWM Expansion, the SEIR and supporting studies overstate the actual flows available for the PWM Expansion. The true flow available to the PWM Expansion needs to be addressed to determine the true volumes available and to determine if those flows can be counted on day in and day out to supply the Peninsula. Based on the proposed supplies as studied to date, PWM Expansion appears infeasible.

7. The PWM Expansion should be reevaluated based on updated and accurate flow data and demands such as CSIP and PWM. Current flows even in best of water supply cases shows that CSIP will always be in a deficit. The impact of the CSIP deficit should be evaluated to avoid unintended environmental impacts if seawater intrusion is not mitigated by CSIP flows.

Appendix

Figure 6 represents the current Aquifer Storage and Recovery program over the past 15 years in operation. Figure 4 shows the average annual injected and annual average pumped volume. The average stored volume annually over 15 years is 138 acre-ft. Over 15 years there is only 700 acre-ft claimed as storage yet the MPMWD Supply and Demand Report indicates they can store 1,300 acre-ft per year. There are only two years the system has achieved more than 1,300 acre-ft into the aquifer. The limited average storage coupled with the injection limitations being experienced at PWM Phase One means these supplies are not yet reliable to be considered as a source that CalAm or any other public agency.

Figure 6: Aquifer Storage and Recovery



Figures 7 and 8 are provided as further information for Updated Tables 8 and 10 to highlight that in all conditions, there is a flow deficit with updated WWTP and Reclamation Ditch Flows. In the above document, Best Case and Worst Case were used to keep the discussion simple and direct. There is a flow deficit in all conditions and there is a need to update the relevant calculations with recent flow data to give an accurate assessment of supply and demand in a clear and transparent way.

Figure 7: Supply Deficit – SEIR Appendix I - Updated Table 8

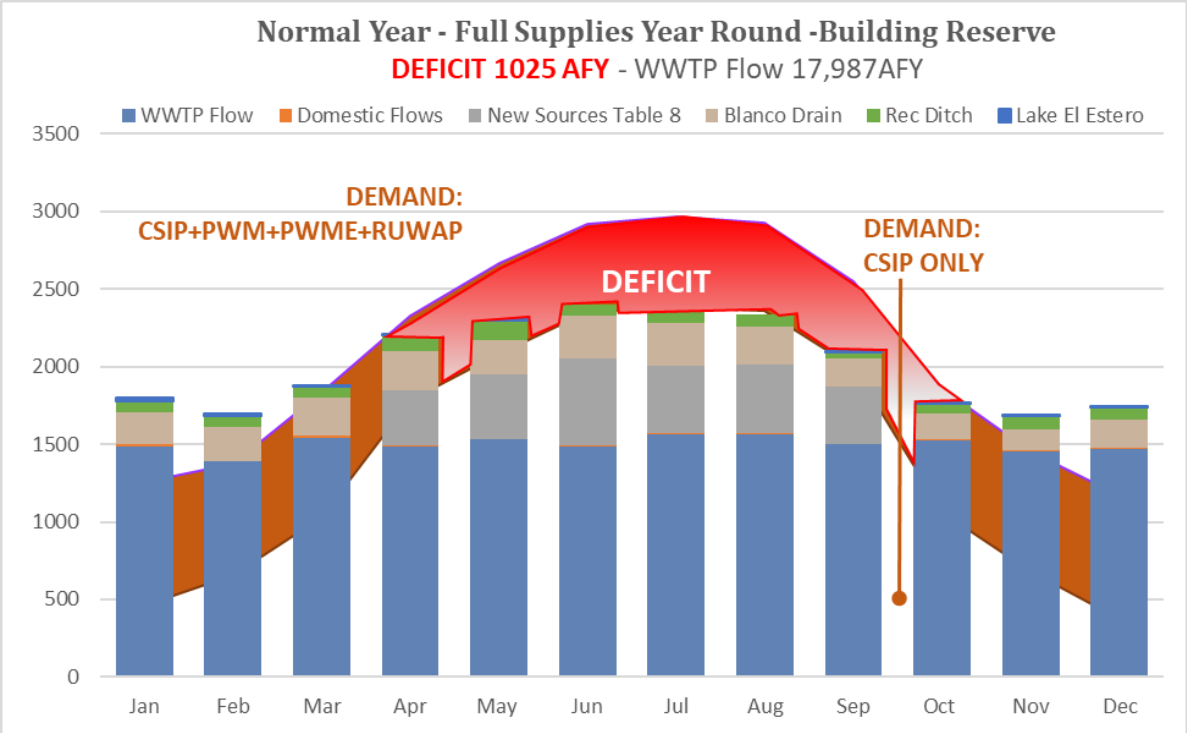
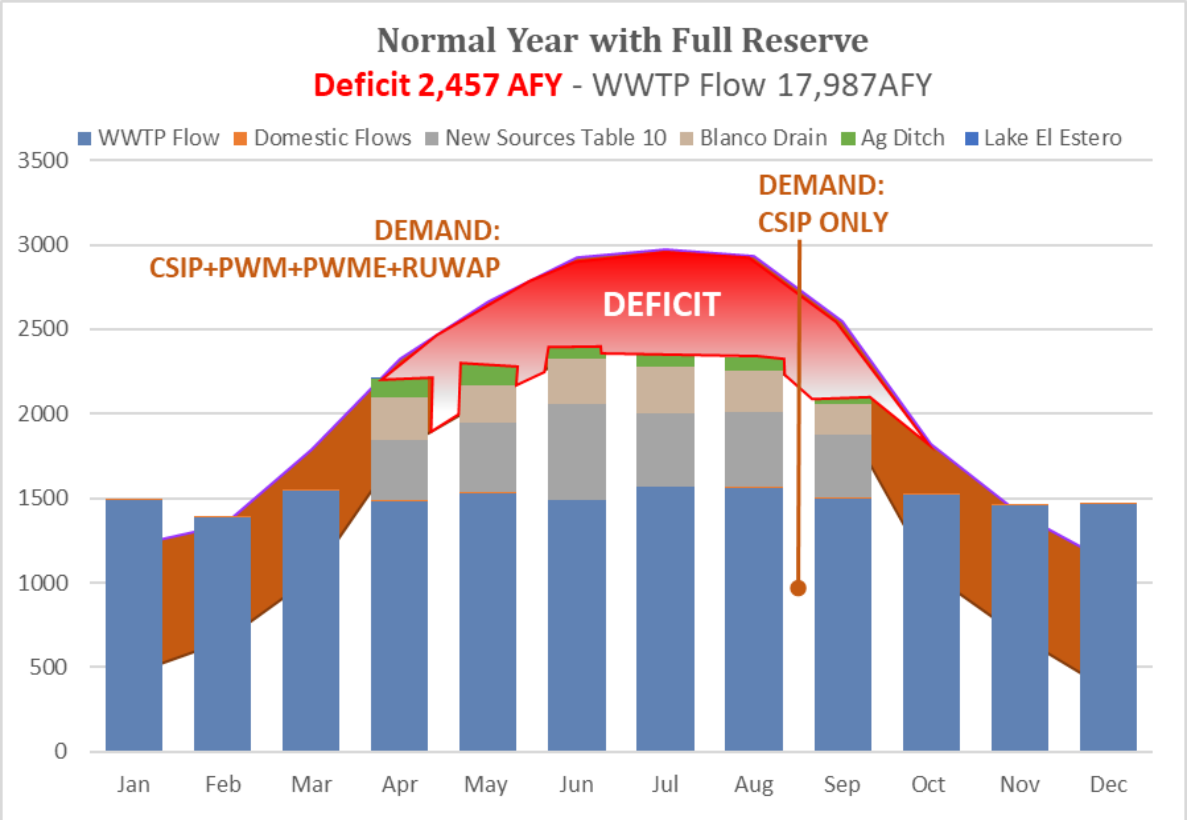


Figure 8: Supply Deficit – SEIR Appendix I – Updated Table 10



References

[1] Governor Gavin Newsome's 2020 Water Supply Portfolio – Executive Summary-Page 1

[2] PWM Phase One 2016 Draft EIR Appendix P-Reclamation Ditch Yield Study - Page 12

[3] PWM Expansion Supplemental EIR, April 2020 – Main Body, Page 3-1

[4] PWM Expansion Final Supplemental EIR, Appendix O, Supply and Demand for Water on the Monterey Peninsula, March 13, 2020. Page 20

[5] PWM Expansion Supplemental EIR, April 2020 – Main Body, Page S-1

[6] Exhibit 4-B Expert Report and Recommendations of Peter Mayer, P.E. Regarding Water Supply and Demand in the California American Water Company's Monterey Main System, prepared for The Marina Coast Water District, April 21, 2020 page 26

[7] PWM Expansion Supplemental EIR, April 2020, Appendix I – Source Water Availability, Yield, and Use Technical Memorandum, Tables 8-11.

[8] Final PWM Phase One 2016 EIR Consolidated – Jan 2016 - Volume I - Figure 2-9 Historic Regional Treatment Plant Flows

[9] Supplemental EIR, April 2020, Appendices to the M1W Draft Supplemental EIR 11-7-2019 -Appendix E - Water Quality and Statutory Compliance Report-Appendix C – Projected Monthly Flows of Source Waters to the Regional Treatment Plant Influent

[10] M1W Adhoc Committee Meeting, July 20, 2020 supporting documents.

[11] PWM Expansion Final Supplemental EIR, Appendix O, Supply and Demand for Water on the Monterey Peninsula, March 13, 2020, Page 7 [Figure 1 – Annual Water Production for Customer Service (Demand) Last 21 Years]

[12] USGS Website - https://waterdata.usgs.gov/nwis/uv?site_no=11152650

EXHIBIT 1

Jack Kiefer, PhD Resume

Hazen and Sawyer

Water Resources Expert



Jack C. Kiefer, PhD

Senior Associate

Dr. Kiefer is an economist and geographer specializing in multiple consulting areas of water resource economics and planning, econometrics, and integrated water demand and supply planning and management.

Prior to joining Hazen and Sawyer, Dr. Kiefer led CDM's Water Economics group and was a Lead Practitioner in the area of Water Resources. Before joining CDM, Dr. Kiefer directed Planning and Management Consultants, Ltd.'s Water Resources Research program and its five business service lines of Integrated Water Demand and Supply Planning, Resource Economics and Quantitative Analysis, Navigation Analysis, Military Resources Planning and Environmental Planning.

Dr. Kiefer is an expert in forecasting the demand for potable water. He has performed numerous analyses of water demand, including the development of long term water demand forecasts for some of the largest water utilities in the United States, including the Metropolitan Water District of Southern California, Tampa Bay Water, and San Diego County Water Authority. Dr. Kiefer is also an expert in conducting empirical evaluations of demand management programs. He has led water conservation studies for large utilities in the Southwest and demand management plans for Tampa Bay Water, the City of Phoenix, and New York City. He has also served as principal investigator on several Water Research Foundation (WaterRF), projects where he has led evaluations of urban water demands as part of WaterRF's Strategic Climate Change initiative and Water Demand Forecasting focus area.

Dr. Kiefer has more than 15 years of consulting experience with the U.S. Army Corps of Engineers (Corps) for whom he directed economic and water resources planning studies. He has addressed the Corps' major Civil Works program functions, including Water Supply, Hydropower, Navigation, Recreation, Ecosystem Restoration, and Flood Damage Reduction. Dr. Kiefer has considerable expertise in the areas of risk analysis, multipurpose planning, and multi-criteria decision support techniques.

In 1997, he received the Commander's Award for Public Service from the Department of the Army for outstanding performance in support of the U.S. Army Corps of Engineers Cost Savings Task Force, which helped to identify and automate cost savings measures and to facilitate the analysis of those same measures nationwide.

Education

PhD, Geography, Southern Illinois University

MA, Monetary and Development Economics, Southern Illinois University

BA, Economics, Southern Illinois University

Areas of Expertise

- Water Resources Planning
- Economic Analysis
- Econometrics
- Water Demand Forecasting
- Impact and Process Evaluation
- Risk and Uncertainty Analysis
- Water Supply Reliability Planning

Experience

- 30 total years
- 13 years with Hazen

Professional Activities

American Water Works Association

American Water Resources Association

Hazen

Technical Publications

Evaluation of Customer Information and Data Processing Needs for Water Demand Planning and Management. Kiefer, J. and L. Krentz. 2016. Denver, Colo.: Water Research Foundation.

"Differentiating the Impacts of the Economy, Efficiency, and Conservation on Water Demands." J. Kiefer. 2016. The Georgia Operator, Volume 53, No.3, Summer 2016.

Water Demand Forecasting in Uncertain Times: Isolating the Effects of the Great Recession. Kiefer, J., Johns, G., Snaith, S., and B. Dziegielewski. 2016. Denver, Colo.: Water Research Foundation.

Methodology for Evaluation Water Use in Commercial, Industrial, and Institutional Sectors. 2015. J. Kiefer, L. Krentz, and B. Dziegielewski. Water Research Foundation, Denver.

Analysis of Changes in Water Use under Regional Climate Change Scenarios. 2013. J. Kiefer, J. Clayton, B. Dziegielewski, and J. Henderson. Water Research Foundation, Denver.

U.S. Water Demand, Supply and Allocation: Trends and Outlook. 2007. B. Dziegielewski and J. Kiefer. IWR Report 2007-R-03, Institute for Water Resources, Alexandria, Virginia.

Literature Review of Computer-Aided Collaborative Decision Making. 2007. A. Imwiko and J. Kiefer. U.S. Army Corps of Engineers, Institute for Water Resources. Alexandria, Virginia.

"Prevailing Water Demand Forecasting Practices and Implications for Evaluating the Effects of Climate Change." 2006. J. Kiefer. Proceedings of American Water Works Association 2006 Water Sources Conference, Albuquerque, New Mexico.

Evaluation of Water Ratemaking Practices and Rate Structure Complexity in Illinois Water Systems. 2004. J. Kiefer. Doctoral dissertation. Copyright © 2004, Jack C. Kiefer.

"Water Supply Planning and Risk Management: Coping with the Costs of Uncertainty." 2004. J. Kiefer. Proceedings of North

Water Demand Planning and Management

Principal Investigator, Portfolio of Applied Research for the Water Research Foundation

- Uncertainty in Long Term Water Demand Forecasting (Project 4558)
- Water Use in the Multifamily Sector (Project 4554)
- Water Demand Forecasting in Uncertain Times: Isolating the Effects of the Great Recession (Project 4458)
- Methodology for Evaluating Water Use in Commercial, Institutional and Industrial Sectors (Project 4375) –
- Analysis of Changes in Water Use under Regional Climate Change Scenarios (Project 4263)
- Evaluation of Customer Information and Data Processing Needs for Water Demand Planning and Management (Project 4527)
- Principal Investigator, Water Research Foundation Project 4735, Methodology for Determining Baseline Commercial, Institutional and Industrial End Uses of Water

Long-Term Demand Forecasting System (LTDFS) Update, Tampa Bay Water, Tampa Bay, FL

Technical Director leading a team to redevelop all elements of LTDFS, including estimation of econometric and end use water efficiency models, focusing on exploratory data analysis of an expanded time-series and cross-sectional database of water demands in the Tampa Bay region.

Long-term Water Demand Forecasts, San Diego County Water Authority, San Diego, CA

Project Manager of development of five consecutive water demand forecasts and forecast updates for the San Diego County Water Authority, in support of the Agency's periodic development of its Urban Water Management Plan. Original efforts involved the development of econometric models of M&I water demands, which were followed by development of predictive models for agricultural demands. More recent support to the Authority has included the analysis of climate change impacts on water demand and the development and application of risk-based simulation procedures to support long-term supply reliability and capital improvement planning.

Modeler/Analyst, Water Research Foundation Project 4309, Residential End Uses of Water Update

Dr. Kiefer was responsible for developing models of key indoor and outdoor residential end uses of water, using end use logging data for a large sample of households across the US and Canada, relating end use water consumption to household demographic and economic characteristics, as well as the price for water and sewer services.

Carolina American Water Works Association/Water Environment Association 84th Annual Conference, November 14-17, 2004, Charlotte, NC.

"Development of Probabilistic Water Demand Forecast for the Tampa Bay Region: A Review of Methodological Features." 2003. J. Kiefer. Proceedings of American Water Works Association 2003 Annual Conference and Exposition, Anaheim, CA.

"Relating Demand and Supply Uncertainty to the Incremental Cost of Water Supply Reliability." 2003. J. Kiefer, D. Anderson, and A. Adams. Proceedings of Florida Section of American Water Works Association 2003 Annual Conference and Exposition.

"Risk-Based Water Demand Forecasting: Balancing Uncertainty and Sustainability in Water Supply Planning." 2003. J. Kiefer. Proceedings of American Institute of Hydrology 2003 Annual Conference, Atlanta, Georgia.

"Water Demand Forecasting in a Regulatory Environment." 2002. J. Kiefer and B. Dziegielewski. Proceedings of American Water Works Association 2002 Water Sources Conference. Denver, Colorado.

Commercial and Institutional End Uses of Water. 2000. B. Dzigielewski, J. Kiefer, E. M. Opitz, G. A. Porter, G. Lantz, P. Mayer, W. DeOreo and J. Nelson. American Water Works Association Research Foundation. Denver, Colorado.

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"The Search for Acceptable Water Rates: Research Needs and Possibilities." 1999, J. Kiefer. Journal of Contemporary Water Research and Education (formerly Water Resources Update), Vol. 114.

"Demand Uncertainty: Portraying and Quantifying the Risks for Planning." 1998. J. Kiefer. Proceedings of the American Water Works Association (AWWA) 1998 Annual Conference. AWWA. Denver, Colorado.

Technical Director, Water Conservation Planning Support, NYC-DEP, NY

Technical Director, of the development of NYC DEP's Water Demand Management Plan (WDMP) through a series of investigations involving pilot efficiency projects, water reuse at specific facilities, spatial demand profiling, and assessment of large users, drought management, and water pricing strategies. The objective of this project was to assist NYC DEP in the development of its WDMP through a series of investigations involving pilot efficiency projects, water reuse at specific facilities, spatial demand profiling, assessment of large users, drought management, and water pricing strategies.

Enhancements to New York City's Long-Term Water Demand Forecasting Model, NYCDEP, NY

Technical Director for this project. The objective was to make incremental improvements to NYCDEP's long-term water demand forecasting model to incorporate key future trends and uncertainties related to water efficiency and climate. The updated model included a water efficiency index, climatic variables, and residual variance factors at both annual and monthly time steps, which supports development of multiple forecast scenarios.

Other Relevant Experience

- Co-Principal Investigator, Water Reuse Research Foundation Project 09-04, The Value of Water Supply in the Commercial, Industrial, and Institutional (CII) Sector
- Principal Investigator, Water Conservation Metrics Study
- Water Demand Management Plan, Tampa Bay Water, FL
- Project Manager, Phoenix Water Demand Management Plan Support, AZ
- Technical Director, Long-Term Forecast Performance Monitoring, Tampa Bay Water, FL
- Principal Investigator, Long-Term Probabilistic Water Demand and Supply Reliability Forecast for Tampa Bay Water, FL
- Project Manager, Future Needs Analysis, Tampa Bay Water, FL
- Project Director, Development of Water Demand Forecasting Methodologies for the Delaware River Basin Commission, FL
- Principal Investigator, Phoenix Meter Accuracy Study, AZ
- Project Manager, Study of Institutional and Legal Environment of Texas Water Supply Allocation, TX
- Project Manager, Model Development and Long-Term Water Demand Forecasts for Metropolitan Water District of Southern California, CA

"Anticipating Nonresidential Flood Damages: A Report of Findings of a Survey of Businesses in the Wyoming Valley of Pennsylvania." 1998. J. Kiefer and S. Davis. Proceedings of the 22nd Annual Conference of the Association of State Floodplain Managers (ASFPM).

Incorporating Risk and Uncertainty into Forecasts of Waterborne Traffic Flows: A Reference Manual of Methodologies and Hypothetical Examples. 1997. J. Kiefer. U.S. Army Corps of Engineers, Institute for Water Resources. Alexandria, Virginia.

Analysis of Non-residential Content Value and Depth-Damage Data for Flood Damage Reduction Studies. 1996. J. Kiefer and S. Willett. U.S. Army Corps of Engineers, Institute for Water Resources. Alexandria, Virginia.

"Statistical Analyses of Water Conservation Issues: The Case of Phoenix, Arizona." 1996. J. Kiefer and J. DeWitt. Proceedings of CONSERV96. Conference hosted by the American Water Works Association in Orlando, Florida.

Guidebook for the Preparation and Use of Project Study Plans. 1996. J. Kiefer and J. Prather. U.S. Army Corps of Engineers, Institute for Water Resources. Alexandria, Virginia.

"Estimation of Single-Family Residential Irrigation Demands: A Model-Based Approach." In Water in the 21st Century: Conservation, Demand and Supply. J. Kiefer and J. DeWitt. April 23-26, 1995. Proceedings of AWRA Annual Spring Symposium. Salt Lake City, Utah.

"Isolating the Impact of a Change in Rate Structure." In Water in the 21st Century: Conservation, Demand and Supply. Proceedings of AWRA Annual Spring Symposium. April 23-26, 1995. J. Kiefer and J. DeWitt. Salt Lake City, Utah.

Urban Water Conservation Programs Volume I: Annotated Bibliography. 1994. Opitz, E.M., B. Dziegielewski, N.A. Hanna-Somers, J. Kocik, J.R.M. Steinbeck, H.P. Garbharran, J.C. Kiefer and K.L. O'Grady. U.S. Army Corps of Engineers, Institute for Water Resources; U.S. Geological Survey; Metropolitan Water District of Southern California; Southern Nevada Water Authority; California Urban Water Agencies; Phoenix Water Services Department and American Water Works Association.

- Project Manager, IWR-MAIN Water Demand Management Suite
- Project Manager/Principal Investigator, City of Albuquerque Water Conservation Program, NM
- Coauthor and Principal Modeler, AWWARF Residential End Uses of Water and Commercial & Institutional Uses of Water Studies
- Project Manager/Principal Investigator, Cost-Effectiveness Evaluations of Pilot Water Conservation Projects for the Cities of Lacey, Olympia and Tumwater (LOTT Wastewater Partnership)

Water Resources Planning and Economics

- Principal Investigator, Civil Works Program Strategy Papers. USACE Institute for Water Resources
- Principal Investigator, Review of Computer-Aided Decision-Making in Water Resources Planning and Management. USACE Institute for Water Resources
- Project Manager, Expert Independent Reviews of Corps of Engineers Economics and Planning Studies, USACE Institute for Water Resources
- Economics Team Leader, National Economic Analysis of Water Use for the Republic of Ireland
- Principal Investigator, USACE New Orleans District, Economic Impact Analysis of Louisiana Coastal 2050 Restoration Initiative, LA
- Project Manager/Principal Investigator, Evaluation of National U.S. Army Corps Capital Stock Investments and Programmatic Benefits
- Project Manager, National Dredging Needs Study of U.S. Ports and Harbors
- Principal Investigator, Plan Formulation Training Course for the Corps of Engineers
- Project Manager, America's Water Resources Challenges for the 21st Century
- Project Manager, USACE/BPA Hydroelectric Investment Guide
- Project Manager/Principal Investigator, USACE Flood Damage Reduction Studies

EXHIBIT 2

SEIR Appendix I – Source Water Availability, Yield and Use Technical Memorandum-

Tables 8, 9, 10 and 11

Table 8: Source Water Analysis for the Pure Water Monterey Groundwater Replenishment Project

Full Surface Water Yields, Normal Water Year, Building a Drought Reserve

All facilities built [1] - average water year conditions - all flows in acre-feet 10/14/2019

	SOURCES	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
	Existing RTP Inflows (Average 2009 to 2013)	**1,798**	**1,678**	**1,867**	**1,796**	**1,850**	**1,799**	**1,893**	**1,888**	**1,813**	**1,844**	**1,762**	**1,776**	**21,764**
	Existing domestic flows to RTP (wells at RTP and MRWMD)	**14**	**5**	**10**	**9**	**5**	**4**	**5**	**8**	**5**	**5**	**5**	**7**	**82**
	New Source Water													
	City of Salinas													
1	Salinas Agricultural Wash Water [2]	156	158	201	307	311	391	435	444	367	410	329	223	3,732
	Agricultural Wash Water (AWW) to Ponds [3]	*156*	*158*	*201*	*0*	*0*	*0*	*0*	*0*	*0*	*410*	*329*	*223*	*1,477*
	AWW directly to RTP	*0*	*0*	*0*	*307*	*311*	*391*	*435*	*444*	*367*	*0*	*0*	*0*	*2,255*
2	Salinas Urban Storm Water Runoff [4]	52	41	34	16	2	0	0	0	2	8	23	47	225
	Urban runoff to ponds	*52*	*41*	*34*	*0*	*0*	*0*	*0*	*0*	*0*	*8*	*23*	*47*	*205*
	Urban runoff to RTP	*0*	*0*	*0*	*16*	*2*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*20*
3	Rainfall (on SIWTF, 121 acre pond area) [5]	26	24	21	11	3	1	0	0	2	6	14	24	132
4	Evaporation (from SIWTF, 121 acre pond area) [6]	(12)	(16)	(29)	(41)	(46)	(52)				(28)	(15)	(12)	(251)
5	Percolation [7]	(143)	(129)	(143)	(138)	(143)	(138)				(143)	(138)	(143)	(1,257)
6	SIWTF pond storage balance [8]	684	763	847	647	362	0	0	0	0	253	466	605	
7	Recovery of flow from SIWTF storage ponds to RTP	0	0	0	32	100	172	0	0	0	0	0	0	304
8	AWW and Salinas Runoff to RTP	0	0	0	355	413	563	435	444	369	0	0	0	2,579
	Water Rights Applications to SWRCB													
9	Blanco Drain [9]	209	223	246	252	225	274	277	244	184	168	133	185	2,620
10	Reclamation Ditch at Davis Road [10]	70	66	70	106	79	99	113	109	72	65	89	76	1,014
11	Tembladero Slough at Castroville [11]	0	0	0	0	0	0	0	0	0	0	0	0	0
12	City of Monterey - Diversion at Lake El Estero	24	15	14	5	1	0	0	0	1	4	10	13	87
13	**Subtotal New Waters Available**	**303**	**304**	**330**	**718**	**718**	**936**	**825**	**797**	**626**	**237**	**232**	**274**	**6,299**
	Total Projected Water Supply	**2,115**	**1,987**	**2,207**	**2,523**	**2,574**	**2,739**	**2,723**	**2,692**	**2,443**	**2,085**	**1,999**	**2,057**	**28,145**

	DEMANDS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
	Average SVRP deliveries to CSIP (2009-2013)	13	459	726	1,376	1,763	1,750	1,866	1,854	1,698	984	448	18	12,955
14	FIVE YEAR AVERAGE CSIP AREA WELL WATER USE (2009-2013)	448	195	304	412	324	606	519	504	300	75	233	352	4,272
	TOTAL CSIP Demand (excludes SRDF use)	**461**	**654**	**1,030**	**1,788**	**2,087**	**2,356**	**2,385**	**2,358**	**1,998**	**1,059**	**681**	**370**	**17,227**
15	FEEDWATER AMOUNT AT RTP TO PWM BASE PROJECT AWPF	367	331	367	355	367	355	367	367	355	367	355	367	4,320
16	FEEDWATER TO ESTABLISH CSIP AREA DROUGHT RESERVE (200 AFY AWTF PRODUCT WATER) [14]	42	38	42							42	41	42	248
	FEEDWATER FOR 2250 AFY EXPANSION	362	333	357	114	106	101	105	111	109	340	357	382	2,778
17	FEEDWATER TO AWPF FOR MCWD RUWAP [18]	28	19	33	70	108	110	113	94	85	51	21	9	741
18	**TOTAL TO GWR ADVANCED WATER TREATMENT FACILITY**	**799**	**721**	**800**	**539**	**581**	**566**	**585**	**572**	**549**	**800**	**773**	**800**	**8,087**
	Total Projected Water Demand	**1,260**	**1,376**	**1,829**	**2,328**	**2,668**	**2,922**	**2,971**	**2,929**	**2,547**	**1,860**	**1,455**	**1,169**	**25,314**

	Use of Source Water	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
19	Secondary effluent to SVRP for CSIP [12]	461	654	1,030	1,735	1,747	1,693	1,785	1,802	1,733	1,059	681	370	14,750
20	New sources available to CSIP [13]	0	0	0	249	245	480	353	319	162	0	0	0	1,808
21	**Total Supply to CSIP**	**461**	**654**	**1,030**	**1,984**	**1,993**	**2,173**	**2,138**	**2,121**	**1,894**	**1,059**	**681**	**370**	**16,558**
	Net CSIP Increase													**3,603**
22	Surface waters at RTP to AWPF	303	304	330	114	106	101	105	111	109	237	232	274	2,325
23	Secondary effluent to AWPF	468	398	437	0	0	0	0	0	0	513	520	517	2,854
24	AWW and Salinas urban runoff to AWPF	0	0	0	355	367	355	367	367	355	0	0	0	2,166
25	Secondary effluent to AWPF for MCWD RUWAP	28	19	33	70	108	110	113	94	85	51	21	9	741
26	**Feedwater to AWPF**	**799**	**721**	**800**	**539**	**581**	**566**	**585**	**572**	**549**	**800**	**773**	**800**	**8,086**
	Subtotal- all waters (including secondary effluent)	**1,260**	**1,376**	**1,829**	**2,523**	**2,574**	**2,739**	**2,723**	**2,692**	**2,443**	**1,860**	**1,455**	**1,169**	**24,644**
27	FIVE YEAR AVERAGE WASTE WATER EFFLUENT TO OCEAN OUTFALL (2009-2013) [15]	1,785	1,219	1,141	420	88	49	27	34	114	859	1,314	1,759	8,809
28	WASTE WATER EFFLUENT TO OCEAN OUTFALL WITH PROPOSED DIVERSIONS TO CSIP/AWT/RUWAP [16]	854	611	377	0	0	0	0	0	0	226	545	887	3,501
29	NEW SUPPLIES IN EXCESS OF AWT DEMANDS FOR GWR [17]	(468)	(398)	(437)	249	245	480	353	319	162	(513)	(520)	(517)	(1,046)
30	AWT BRINE TO OCEAN OUTFALL	152	137	152	102	110	108	111	109	104	152	147	152	1,536

Notes

1 Presumes all facilities associated with diversions are completed, including SVRP modifications.

2 Table 2-1, p. 5, Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler Consulting Engineers, August 2015.

3 Volume of effluent from City of Salinas agricultural wash water to be directed into ponds 1,2,3, and the aeration pond for storage.

4 Average monthly flow from Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler, August 2015.

5 Rainfall from Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler, August 2015. Pond area presumed to be Ponds 1,2, 3 + Aeration lagoon. No rainfall/evaporation or storage assigned to drying beds.

6 Table 3, Todd Groundwater, Memorandum, Pure Water Monterey Groundwater Replenishment Project: Impacts of Changes in Percolation at the Salinas Industrial Wastewater Treatment Facility on Groundwater and the Salinas River, February 11, 2015.

7 Table 4, Ibid.

8 Ponds 1,2,3 and aeration basin hold up to 1,065 acre-feet (one foot of freeboard). If flow to ponds would exceed the maximum volume, it is presumed that excess flow can be diverted to the RIBs or drying beds or flow can be diverted to the RTP. Presume that pond storage goes to zero sometime during the year (shown here starting in July).

9 Water right application 32263A. Max diversion = 6 cfs diversion. If SRDF is not operating (drought year), 2 cfs is bypassed to the Salians River. See final water right permit 21376

10 Water right applciation 32263B. Max. diversion = 6 cfs. See final water right permit 21377. Assumes 2 cfs instream bypass requirement Dec-May, 1 cfs bypass in June and 0.7 cfs instream bypass requirement for July-Nov. Also assumes diversion stopped when flows reach 30 cfs (migration window) and restart when flow declines to 20 cfs. See final water right permit 21377

11 Water right application 32263C. Max. diversion = 3 cfs. Removed from project portfolio during water rights process. See RECLAMATION DITCH YIELD STUDY, Schaaf and Wheeler, March 2015.

12 Includes secondary effluent wastewater currently used to produce recycled water at the Salinas Valley Reclamation Project (SVRP), and additional amounts which may be used during periods of low demand (<5 mgd) with the proposed improvements to the SVRP.

13 New source waters not used by AWPF will be available to SVRP for CSIP.

14 A drought reserve of up to 1,000 AF would be created over five years by producing 200 AFY additional product water from the GWR Project AWTF during winter months and storing the water in the Seaside Basin. This would establish a "water bank" that the CSIP can draw on in droughts. The drought reserve would allow flow at the RTP for the GWR Project to be temporarily reduced during critically dry periods, thus freeing up more of the newly available inflows to the RTP to be sent to the CSIP area. Extraction from the Seaside Basin would continue at the average rate to supply the Monterey Peninsula.

15 Average monthly RTP discharge, 2009-2013 (reported by M1W).

16 Secondary treated municipal effluent not used for SVRP or the AWPF.

17 Excess is calculated as Line 13 minus Lines 15 & 16

18 RUWAP supply comes from existing RTP inflows of municipal wastewater. Demands reflect existing urban irrigation customers along trunk main.

Table 9: Source Water Analysis for the Pure Water Monterey Groundwater Replenishment Project

Diversion Pattern for a Normal Water Year, Building a Drought Reserve

All facilities built [1] - average water year conditions - all flows in acre-feet **10/14/2019**

	SOURCES	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
	Existing RTP Inflows (Average 2009 to 2013)	**1,798**	**1,678**	**1,867**	**1,796**	**1,850**	**1,799**	**1,893**	**1,888**	**1,813**	**1,844**	**1,762**	**1,776**	**21,764**
	Existing domestic flows to RTP (wells at RTP and MRWMD)	**14**	**5**	**10**	**9**	**5**	**4**	**5**	**8**	**5**	**5**	**5**	**7**	**82**
	New Source Water													
	City of Salinas													
1	Salinas Agricultural Wash Water [2]	156	158	201	307	311	391	435	444	367	410	329	223	3,732
	Agricultural Wash Water (AWW) to Ponds [3]	*156*	*158*	*201*	*0*	*0*	*0*	*0*	*0*	*0*	*410*	*329*	*223*	*1,477*
	AWW directly to RTP	*0*	*0*	*0*	*307*	*311*	*391*	*435*	*444*	*367*	*0*	*0*	*0*	*2,255*
2	Salinas Urban Storm Water Runoff [4]	52	41	34	16	2	0	0	0	2	8	23	47	225
	Urban runoff to ponds	*52*	*41*	*34*	*0*	*0*	*0*	*0*	*0*	*0*	*8*	*23*	*47*	*205*
	Urban runoff to RTP	*0*	*0*	*0*	*16*	*2*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*20*
3	Rainfall (on SIWTF, 121 acre pond area) [5]	26	24	21	11	3	1	0	0	2	6	14	24	132
4	Evaporation (from SIWTF, 121 acre pond area) [6]	(12)	(16)	(29)	(41)	(46)	(52)				(28)	(15)	(12)	(251)
5	Percolation [7]	(143)	(129)	(143)	(138)	(143)	(138)				(143)	(138)	(143)	(1,257)
6	SIWTF pond storage balance [8]	684	763	847	647	362	0	0	0	0	253	466	605	
7	Recovery of flow from SIWTF storage ponds to RTP	0	0	0	32	100	172	0	0	0	0	0	0	304
8	AWW and Salinas Runoff to RTP	0	0	0	355	413	563	435	444	369	0	0	0	2,579
	Water Rights Applications to SWRCB													
9	Blanco Drain [9]	0	0	0	252	225	274	277	244	184	0	0	0	1,456
10	Reclamation Ditch at Davis Road [10]	0	0	0	106	79	99	113	109	72	11	0	0	589
11	Tembladero Slough at Castroville [11]	0	0	0	0	0	0	0	0	0	0	0	0	0
12	City of Monterey - Diversion at Lake El Estero	0	0	0	5	1	0	0	0	1	0	0	0	7
13	**Subtotal New Waters Available**	**0**	**0**	**0**	**718**	**718**	**936**	**825**	**797**	**626**	**11**	**0**	**0**	**4,631**
	Total Projected Water Supply	**1,812**	**1,683**	**1,877**	**2,523**	**2,574**	**2,739**	**2,723**	**2,692**	**2,443**	**1,860**	**1,767**	**1,783**	**26,477**

	DEMANDS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
	Average SVRP deliveries to CSIP (2009-2013)	13	459	726	1,376	1,763	1,750	1,866	1,854	1,698	984	448	18	12,955
14	FIVE YEAR AVERAGE CSIP AREA WELL WATER USE (2009-2013)	448	195	304	412	324	606	519	504	300	75	233	352	4,272
	TOTAL CSIP Demand (excludes SRDF use)	**461**	**654**	**1,030**	**1,788**	**2,087**	**2,356**	**2,385**	**2,358**	**1,998**	**1,059**	**681**	**370**	**17,227**
15	FEEDWATER AMOUNT AT RTP TO PWM BASE PROJECT AWPF	367	331	367	355	367	355	367	367	355	367	355	367	4,320
16	FEEDWATER TO ESTABLISH CSIP AREA DROUGHT RESERVE (200 AFY AWTF PRODUCT WATER) [14]	42	38	42							42	41	42	248
	FEEDWATER FOR 2250 AFY EXPANSION	362	333	357	114	106	101	105	111	109	340	357	382	2,778
17	FEEDWATER TO AWPF FOR MCWD RUWAP [18]	28	19	33	70	108	110	113	94	85	51	21	9	741
18	**TOTAL TO GWR ADVANCED WATER TREATMENT FACILITY**	**799**	**721**	**800**	**539**	**581**	**566**	**585**	**572**	**549**	**800**	**773**	**800**	**8,087**
	Total Projected Water Demand	**1,260**	**1,376**	**1,829**	**2,328**	**2,668**	**2,922**	**2,971**	**2,929**	**2,547**	**1,860**	**1,455**	**1,169**	**25,314**

	Use of Source Water	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
19	Secondary effluent to SVRP for CSIP [12]	461	654	1,030	1,735	1,747	1,693	1,785	1,802	1,733	1,059	681	370	14,750
20	New sources available to CSIP [13]	0	0	0	249	245	480	353	319	162	0	0	0	1,808
21	**Total Supply to CSIP**	**461**	**654**	**1,030**	**1,984**	**1,993**	**2,173**	**2,138**	**2,121**	**1,894**	**1,059**	**681**	**370**	**16,558**
	Net CSIP Increase													**3,603**
22	Surface waters at RTP to AWPF	0	0	0	114	106	101	105	111	109	11	0	0	657
23	Secondary effluent to AWPF	771	702	767	0	0	0	0	0	0	738	752	791	4,522
24	AWW and Salinas urban runoff to AWPF	0	0	0	355	367	355	367	367	355	0	0	0	2,166
25	Secondary effluent to AWPF for MCWD RUWAP	28	19	33	70	108	110	113	94	85	51	21	9	741
26	**Feedwater to AWPF**	**799**	**721**	**800**	**539**	**581**	**566**	**585**	**572**	**549**	**800**	**773**	**800**	**8,086**
	Subtotal- all waters (including secondary effluent)	**1,260**	**1,376**	**1,829**	**2,523**	**2,574**	**2,739**	**2,723**	**2,692**	**2,443**	**1,860**	**1,455**	**1,169**	**24,644**
27	FIVE YEAR AVERAGE WASTE WATER EFFLUENT TO OCEAN OUTFALL (2009-2013) [15]	1,785	1,219	1,141	420	88	49	27	34	114	859	1,314	1,759	8,809
28	WASTE WATER EFFLUENT TO OCEAN OUTFALL WITH PROPOSED DIVERSIONS TO CSIP/AWT/RUWAP [16]	552	308	47	0	0	0	0	0	0	0	313	614	1,833
29	NEW SUPPLIES IN EXCESS OF AWT DEMANDS FOR GWR [17]	(771)	(702)	(767)	249	245	480	353	319	162	(738)	(752)	(791)	(2,714)
30	AWT BRINE TO OCEAN OUTFALL	152	137	152	102	110	108	111	109	104	152	147	152	1,536

Notes

1 Presumes all facilities associated with diversions are completed, including SVRP modifications.

2 Table 2-1, p. 5, Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler Consulting Engineers, August 2015.

3 Volume of effluent from City of Salinas agricultural wash water to be directed into ponds 1,2,3, and the aeration pond for storage.

4 Average monthly flow from Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler, August 2015.

5 Rainfall from Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler, August 2015. Pond area presumed to be Ponds 1,2, 3 + Aeration lagoon. No rainfall/evaporation or storage assigned to drying beds.

6 Table 3, Todd Groundwater, Memorandum, Pure Water Monterey Groundwater Replenishment Project: Impacts of Changes in Percolation at the Salinas Industrial Wastewater Treatment Facility on Groundwater and the Salinas River, February 11, 2015.

7 Table 4, Ibid.

8 Ponds 1,2,3 and aeration basin hold up to 1,065 acre-feet (one foot of freeboard). If flow to ponds would exceed the maximum volume, it is presumed that excess flow can be diverted to the RIBs or drying beds or flow can be diverted to the RTP. Presume that pond storage goes to zero sometime during the year (shown here starting in July).

9 Water right application 32263A. Max diversion = 6 cfs diversion. If SRDF is not operating (drought year), 2 cfs is bypassed to the Salians River. See final water right permit 21376

10 Water right applciation 32263B. Max. diversion = 6 cfs. See final water right permit 21377. Assumes 2 cfs instream bypass requirement Dec-May, 1 cfs bypass in June and 0.7 cfs instream bypass requirement for July-Nov. Also assumes diversion stopped when flows reach 30 cfs (migration window) and restart when flow declines to 20 cfs. See final water right permit 21377

11 Water right application 32263C. Max. diversion = 3 cfs. Removed from project portfolio during water rights process. See RECLAMATION DITCH YIELD STUDY, Schaaf and Wheeler, March 2015.

12 Includes secondary effluent wastewater currently used to produce recycled water at the Salinas Valley Reclamation Project (SVRP), and additional amounts which may be used during periods of low demand (<5 mgd) with the proposed improvements to the SVRP.

13 New source waters not used by AWPF will be available to SVRP for CSIP.

14 A drought reserve of up to 1,000 AF would be created over five years by producing 200 AFY additional product water from the GWR Project AWTF during winter months and storing the water in the Seaside Basin. This would establish a "water bank" that the CSIP can draw on in droughts. The drought reserve would allow flow at the RTP for the GWR Project to be temporarily reduced during critically dry periods, thus freeing up more of the newly available inflows to the RTP to be sent to the CSIP area. Extraction from the Seaside Basin would continue at the average rate to supply the Monterey Peninsula.

15 Average monthly RTP discharge, 2009-2013 (reported by M1W).

16 Secondary treated municipal effluent not used for SVRP or the AWPF.

17 Excess is calculated as Line 13 minus Lines 15 & 16

18 RUWAP supply comes from existing RTP inflows of municipal wastewater. Demands reflect existing urban irrigation customers along trunk main.

Table 10: Source Water Analysis for the Pure Water Monterey Groundwater Replenishment Project

Diversion Pattern for a Normal Water Year with a Full Reserve

All facilities built [1] - average water year conditions - all flows in acre-feet **10/14/2019**

	SOURCES	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
	Existing RTP Inflows (Average 2009 to 2013)	**1,798**	**1,678**	**1,867**	**1,796**	**1,850**	**1,799**	**1,893**	**1,888**	**1,813**	**1,844**	**1,762**	**1,776**	**21,764**
	Existing domestic flows to RTP (wells at RTP and MRWMD)	**14**	**5**	**10**	**9**	**5**	**4**	**5**	**8**	**5**	**5**	**5**	**7**	**82**
	New Source Water													
	City of Salinas													
1	Salinas Agricultural Wash Water [2]	156	158	201	307	311	391	435	444	367	410	329	223	3,732
	Agricultural Wash Water (AWW) to Ponds [3]	*156*	*158*	*201*	*0*	*0*	*0*	*0*	*0*	*0*	*410*	*329*	*223*	*1,477*
	AWW directly to RTP	*0*	*0*	*0*	*307*	*311*	*391*	*435*	*444*	*367*	*0*	*0*	*0*	*2,255*
2	Salinas Urban Storm Water Runoff [4]	52	41	34	16	2	0	0	0	2	8	23	47	225
	Urban runoff to ponds	*52*	*41*	*34*	*0*	*0*	*0*	*0*	*0*	*0*	*8*	*23*	*47*	*205*
	Urban runoff to RTP	*0*	*0*	*0*	*16*	*2*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*20*
3	Rainfall (on SIWTF, 121 acre pond area) [5]	26	24	21	11	3	1	0	0	2	6	14	24	132
4	Evaporation (from SIWTF, 121 acre pond area) [6]	(12)	(16)	(29)	(41)	(46)	(52)				(28)	(15)	(12)	(251)
5	Percolation [7]	(143)	(129)	(143)	(138)	(143)	(138)				(143)	(138)	(143)	(1,257)
6	SIWTF pond storage balance [8]	684	763	847	647	362	0	0	0	0	253	466	605	
7	Recovery of flow from SIWTF storage ponds to RTP	0	0	0	32	100	172	0	0	0	0	0	0	304
8	AWW and Salinas Runoff to RTP	0	0	0	355	413	563	435	444	369	0	0	0	2,579
	Water Rights Applications to SWRCB													
9	Blanco Drain [9]	0	0	0	252	225	274	277	244	184	0	0	0	1,456
10	Reclamation Ditch at Davis Road [10]	0	0	0	106	79	99	113	109	72	0	0	0	578
11	Tembladero Slough at Castroville [11]	0	0	0	0	0	0	0	0	0	0	0	0	0
12	City of Monterey - Diversion at Lake El Estero	0	0	0	5	1	0	0	0	1	0	0	0	7
13	**Subtotal New Waters Available**	**0**	**0**	**0**	**718**	**718**	**936**	**825**	**797**	**626**	**0**	**0**	**0**	**4,620**
	Total Projected Water Supply	**1,812**	**1,683**	**1,877**	**2,523**	**2,574**	**2,739**	**2,723**	**2,692**	**2,443**	**1,849**	**1,767**	**1,783**	**26,466**

	DEMANDS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
	Average SVRP deliveries to CSIP (2009-2013)	13	459	726	1,376	1,763	1,750	1,866	1,854	1,698	984	448	18	12,955
14	FIVE YEAR AVERAGE CSIP AREA WELL WATER USE (2009-2013)	448	195	304	412	324	606	519	504	300	75	233	352	4,272
	TOTAL CSIP Demand (excludes SRDF use)	**461**	**654**	**1,030**	**1,788**	**2,087**	**2,356**	**2,385**	**2,358**	**1,998**	**1,059**	**681**	**370**	**17,227**
15	FEEDWATER AMOUNT AT RTP TO PWM BASE PROJECT AWPF	367	331	367	355	367	355	367	367	355	367	355	367	4,320
16	FEEDWATER TO ESTABLISH CSIP AREA DROUGHT RESERVE (200 AFY AWTF PRODUCT WATER) [14]	0	0	0							0	0	0	0
	FEEDWATER FOR 2250 AFY EXPANSION	362	333	357	114	106	101	105	111	109	340	357	382	2,778
17	FEEDWATER TO AWPF FOR MCWD RUWAP[18]	28	19	33	70	108	110	113	94	85	51	21	9	741
18	**TOTAL TO GWR ADVANCED WATER TREATMENT FACILITY**	**757**	**683**	**757**	**539**	**581**	**566**	**585**	**572**	**549**	**758**	**733**	**758**	**7,839**
	Total Projected Water Demand	**1,218**	**1,338**	**1,787**	**2,328**	**2,668**	**2,922**	**2,971**	**2,929**	**2,547**	**1,818**	**1,414**	**1,127**	**25,066**

	Use of Source Water	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
19	Secondary effluent to SVRP for CSIP [12]	461	654	1,030	1,735	1,747	1,693	1,785	1,802	1,733	1,059	681	370	14,750
20	New sources available to CSIP [13]	0	0	0	249	245	480	353	319	162	0	0	0	1,808
21	**Total Supply to CSIP**	**461**	**654**	**1,030**	**1,984**	**1,993**	**2,173**	**2,138**	**2,121**	**1,894**	**1,059**	**681**	**370**	**16,558**
	Net CSIP Increase													**3,603**
22	Surface waters at RTP to AWPF	0	0	0	114	106	101	105	111	109	0	0	0	646
23	Secondary effluent to AWPF	729	664	724	0	0	0	0	0	0	707	712	749	4,285
24	AWW and Salinas urban runoff to AWPF	0	0	0	355	367	355	367	367	355	0	0	0	2,166
25	Secondary effluent to AWPF for MCWD RUWAP	28	19	33	70	108	110	113	94	85	51	21	9	741
26	**Feedwater to AWPF**	**757**	**683**	**757**	**539**	**581**	**566**	**585**	**572**	**549**	**758**	**733**	**758**	**7,839**
	Subtotal- all waters (including secondary effluent)	**1,218**	**1,338**	**1,787**	**2,523**	**2,574**	**2,739**	**2,723**	**2,692**	**2,443**	**1,818**	**1,414**	**1,127**	**24,397**
27	FIVE YEAR AVERAGE WASTE WATER EFFLUENT TO OCEAN OUTFALL (2009-2013)[15]	1,785	1,219	1,141	420	88	49	27	34	114	859	1,314	1,759	8,809
28	WASTE WATER EFFLUENT TO OCEAN OUTFALL WITH PROPOSED DIVERSIONS TO CSIP/AWT/RUWAP [16]	594	346	90	0	0	0	0	0	0	31	354	656	2,070
29	NEW SUPPLIES IN EXCESS OF AWT DEMANDS FOR GWR [17]	(729)	(664)	(724)	249	245	480	353	319	162	(707)	(712)	(749)	(2,477)
30	AWT BRINE TO OCEAN OUTFALL	144	130	144	102	110	108	111	109	104	144	139	144	1,489

Notes

1 Presumes all facilities associated with diversions are completed, including SVRP modifications.

2 Table 2-1, p. 5, Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler Consulting Engineers, August 2015.

3 Volume of effluent from City of Salinas agricultural wash water to be directed into ponds 1,2,3, and the aeration pond for storage.

4 Average monthly flow from Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler, August 2015.

5 Rainfall from Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler, August 2015. Pond area presumed to be Ponds 1,2, 3 + Aeration lagoon. No rainfall/evaporation or storage assigned to drying beds.

6 Table 3, Todd Groundwater, Memorandum, Pure Water Monterey Groundwater Replenishment Project: Impacts of Changes in Percolation at the Salinas Industrial Wastewater Treatment Facility on Groundwater and the Salinas River, February 11, 2015.

7 Table 4, Ibid.

8 Ponds 1,2,3 and aeration basin hold up to 1,065 acre-feet (one foot of freeboard). If flow to ponds would exceed the maximum volume, it is presumed that excess flow can be diverted to the RIBs or drying beds or flow can be diverted to the RTP. Presume that pond storage goes to zero sometime during the year (shown here starting in July).

9 Water right application 32263A. Max diversion = 6 cfs diversion. If SRDF is not operating (drought year), 2 cfs is bypassed to the Salians River. See final water right permit 21376

10 Water right applciation 32263B. Max. diversion = 6 cfs. See final water right permit 21377. Assumes 2 cfs instream bypass requirement Dec-May, 1 cfs bypass in June and 0.7 cfs instream bypass requirement for July-Nov. Also assumes diversion stopped when flows reach 30 cfs (migration window) and restart when flow declines to 20 cfs. See final water right permit 21377

11 Water right application 32263C. Max. diversion = 3 cfs. Removed from project portfolio during water rights process. See RECLAMATION DITCH YIELD STUDY, Schaaf and Wheeler, March 2015.

12 Includes secondary effluent wastewater currently used to produce recycled water at the Salinas Valley Reclamation Project (SVRP), and additional amounts which may be used during periods of low demand (<5 mgd) with the proposed improvements to the SVRP.

13 New source waters not used by AWPF will be available to SVRP for CSIP.

14 A drought reserve of up to 1,000 AF would be created over five years by producing 200 AFY additional product water from the GWR Project AWTF during winter months and storing the water in the Seaside Basin. This would establish a "water bank" that the CSIP can draw on in droughts. The drought reserve would allow flow at the RTP for the GWR Project to be temporarily reduced during critically dry periods, thus freeing up more of the newly available inflows to the RTP to be sent to the CSIP area. Extraction from the Seaside Basin would continue at the average rate to supply the Monterey Peninsula.

15 Average monthly RTP discharge, 2009-2013 (reported by M1W).

16 Secondary treated municipal effluent not used for SVRP or the AWPF.

17 Excess is calculated as Line 13 minus Lines 15 & 16

18 RUWAP supply comes from existing RTP inflows of municipal wastewater. Demands reflect existing urban irrigation customers along trunk main.

Table 11: Source Water Analysis for the Pure Water Monterey Groundwater Replenishment Project

Diversion Pattern for a Drought Year, Starting with a Full Reserve

All facilities built [1] - average water year conditions - all flows in acre-feet **10/14/2019**

	SOURCES	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
	Minimum Year RTP Inflows (2013)	***1,725***	***1,494***	***1,645***	***1,657***	***1,722***	***1,675***	***1,748***	***1,773***	***1,715***	***1,690***	***1,634***	***1,612***	**20,090**
	Existing domestic flows to RTP (wells at RTP and MRWMD)	**14**	**5**	**10**	**9**	**5**	**4**	**5**	**8**	**5**	**5**	**5**	**7**	**82**
	New Source Water													
	City of Salinas													
1	Salinas Agricultural Wash Water [2]	156	158	201	307	311	391	435	444	367	410	329	223	3,732
	Agricultural Wash Water (AWW) to Ponds [3]	*156*	*158*	*201*	*0*	*0*	*0*	*0*	*0*	*0*	*410*	*329*	*223*	*1,477*
	AWW directly to RTP	*0*	*0*	*0*	*307*	*311*	*391*	*435*	*444*	*367*	*0*	*0*	*0*	*2,255*
2	Salinas Urban Storm Water Runoff [4]	17	14	11	5	1	0	0	0	1	3	8	16	76
	Urban runoff to ponds	*17*	*14*	*11*	*0*	*0*	*0*	*0*	*0*	*0*	*3*	*8*	*16*	*69*
	Urban runoff to RTP	*0*	*0*	*0*	*5*	*1*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*7*
3	Rainfall (on SIWTF, 121 acre pond area) [5]	26	24	21	11	3	1	0	0	2	6	14	24	132
4	Evaporation (from SIWTF, 121 acre pond area) [6]	(12)	(16)	(29)	(41)	(46)	(52)				(28)	(15)	(12)	(251)
5	Percolation [7]	(143)	(129)	(143)	(138)	(143)	(138)				(143)	(138)	(143)	(1,257)
6	SIWTF pond storage balance [8]	598	650	711	511	226	0	0	0	0	248	446	554	
7	Recovery of flow from SIWTF storage ponds to RTP	0	0	0	32	100	36	0	0	0	0	0	0	168
8	AWW and Salinas Runoff to RTP	0	0	0	344	412	427	435	444	368	0	0	0	2,430
	Water Rights Applications to SWRCB													
9	Blanco Drain [9]	0	0	246	252	225	274	277	244	184	168	133	0	2,003
10	Reclamation Ditch at Davis Road [10]	0	0	70	106	79	99	113	109	72	65	89	0	802
11	Tembladero Slough at Castroville [11]	0	0	0	0	0	0	0	0	0	0	0	0	0
12	City of Monterey - Diversion at Lake El Estero	0	0	14	5	1	0	0	0	1	4	10	0	35
13	**Subtotal New Waters Available**	**0**	**0**	**330**	**707**	**717**	**800**	**825**	**797**	**625**	**237**	**232**	**0**	**5,270**
	Total Projected Water Supply	**1,739**	**1,499**	**1,985**	**2,373**	**2,444**	**2,479**	**2,578**	**2,578**	**2,345**	**1,931**	**1,871**	**1,619**	**25,442**

	DEMANDS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
	Max Year SVRP deliveries to CSIP (2013)	*0*	*692*	*1,558*	*1,669*	*1,799*	*1,675*	*1,786*	*1,803*	*1,725*	*1,548*	*1,127*	*88*	15,469
14	PEAK CSIP AREA WELL WATER USE (10/2013-09/2014)	*509*	*9*	*221*	*242*	*1,197*	*1,261*	*1,303*	*1,025*	*453*	*165*	*35*	*730*	7,150
	TOTAL CSIP Demand (excludes SRDF use)	**509**	**701**	**1,779**	**1,911**	**2,996**	**2,936**	**3,089**	**2,828**	**2,178**	**1,713**	**1,162**	**818**	**22,619**
15	FEEDWATER AMOUNT AT RTP TO PWM BASE PROJECT AWPF	367	331	367	133	137	133	137	137	133	367	355	367	2,963
16	FEEDWATER TO ESTABLISH CSIP AREA DROUGHT RESERVE (200 AFY AWTF PRODUCT WATER) [14]	0	0	0							0	0	0	0
	FEEDWATER FOR 2250 AFY EXPANSION	362	333	357	114	106	101	105	111	109	340	357	382	2,778
17	FEEDWATER TO AWPF FOR MCWD RUWAP [18]	28	19	33	70	108	110	113	94	85	51	21	9	741
18	**TOTAL TO GWR ADVANCED WATER TREATMENT FACILITY**	**757**	**683**	**757**	**317**	**351**	**344**	**355**	**342**	**327**	**758**	**733**	**758**	**6,482**
	Total Projected Water Demand	**1,266**	**1,384**	**2,537**	**2,228**	**3,348**	**3,280**	**3,444**	**3,170**	**2,505**	**2,471**	**1,894**	**1,575**	**29,102**

	Use of Source Water	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
19	Secondary effluent to SVRP for CSIP [12]	509	701	1,227	1,596	1,619	1,569	1,640	1,687	1,635	1,173	1,138	818	15,312
20	New sources available to CSIP [13]	0	0	0	460	474	567	583	549	383	0	0	0	3,015
21	**Total Supply to CSIP**	**509**	**701**	**1,227**	**2,056**	**2,093**	**2,136**	**2,223**	**2,236**	**2,018**	**1,173**	**1,138**	**818**	**18,328**
	Net CSIP Increase													**2,858**
22	Surface waters at RTP to AWPF	0	0	330	114	106	101	105	111	109	237	232	0	1,445
23	Secondary effluent to AWPF	729	664	394	0	0	0	0	0	0	471	480	749	3,487
24	AWW and Salinas urban runoff to AWPF	0	0	0	133	137	133	137	137	133	0	0	0	809
25	Secondary effluent to AWPF for MCWD RUWAP	28	19	33	70	108	110	113	94	85	51	21	9	741
26	**Feedwater to AWPF**	**757**	**683**	**757**	**317**	**351**	**344**	**355**	**342**	**327**	**758**	**733**	**758**	**6,482**
	Subtotal- all waters (including secondary effluent)	**1,266**	**1,384**	**1,985**	**2,373**	**2,444**	**2,479**	**2,578**	**2,578**	**2,345**	**1,931**	**1,871**	**1,575**	**24,810**
27	*DRY YEAR WASTEWATER EFFLUENT TO OCEAN OUTFALL (2013)* [15]	*1,725*	*802*	*87*	*0*	*0*	*0*	*0*	*0*	*0*	*142*	*507*	*1,607*	4,870
28	WASTE WATER EFFLUENT TO OCEAN OUTFALL WITH PROPOSED DIVERSIONS TO CSIP/AWT/RUWAP [16]	473	115	0	0	0	0	0	0	0	0	0	43	632
29	NEW SUPPLIES IN EXCESS OF AWT DEMANDS FOR GWR [17]	(729)	(664)	(394)	460	474	567	583	549	383	(471)	(480)	(749)	(471)
30	AWT BRINE TO OCEAN OUTFALL	144	130	144	60	67	65	68	65	62	144	139	144	1,232

Notes

1 Presumes all facilities associated with diversions are completed, including SVRP modifications.

2 Table 2-1, p. 5, Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler Consulting Engineers, August 2015.

3 Volume of effluent from City of Salinas agricultural wash water to be directed into ponds 1,2,3, and the aeration pond for storage.

4 Average monthly flow from Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler, August 2015.

5 Rainfall from Groundwater Replenishment Project, Salinas River Inflow Impacts, Schaaf & Wheeler, August 2015. Pond area presumed to be Ponds 1,2, 3 + Aeration lagoon. No rainfall/evaporation or storage assigned to drying beds.

6 Table 3, Todd Groundwater, Memorandum, Pure Water Monterey Groundwater Replenishment Project: Impacts of Changes in Percolation at the Salinas Industrial Wastewater Treatment Facility on Groundwater and the Salinas River, February 11, 2015.

7 Table 4, Ibid.

8 Ponds 1,2,3 and aeration basin hold up to 1,065 acre-feet (one foot of freeboard). If flow to ponds would exceed the maximum volume, it is presumed that excess flow can be diverted to the RIBs or drying beds or flow can be diverted to the RTP. Presume that pond storage goes to zero sometime during the year (shown here starting in July).

9 Water right application 32263A. Max diversion = 6 cfs diversion. If SRDF is not operating (drought year), 2 cfs is bypassed to the Salians River. See final water right permit 21376

10 Water right applciation 32263B. Max. diversion = 6 cfs. See final water right permit 21377. Assumes 2 cfs instream bypass requirement Dec-May, 1 cfs bypass in June and 0.7 cfs instream bypass requirement for July-Nov. Also assumes diversion stopped when flows reach 30 cfs (migration window) and restart when flow declines to 20 cfs. See final water right permit 21377

11 Water right application 32263C. Max. diversion = 3 cfs. Removed from project portfolio during water rights process. See RECLAMATION DITCH YIELD STUDY, Schaaf and Wheeler, March 2015.

12 Includes secondary effluent wastewater currently used to produce recycled water at the Salinas Valley Reclamation Project (SVRP), and additional amounts which may be used during periods of low demand (<5 mgd) with the proposed improvements to the SVRP.

13 New source waters not used by AWPF will be available to SVRP for CSIP.

14 A drought reserve of up to 1,000 AF would be created over five years by producing 200 AFY additional product water from the GWR Project AWTF during winter months and storing the water in the Seaside Basin. This would establish a "water bank" that the CSIP can draw on in droughts. The drought reserve would allow flow at the RTP for the GWR Project to be temporarily reduced during critically dry periods, thus freeing up more of the newly available inflows to the RTP to be sent to the CSIP area. Extraction from the Seaside Basin would continue at the average rate to supply the Monterey Peninsula.

15 Average monthly RTP discharge, 2009-2013 (reported by M1W).

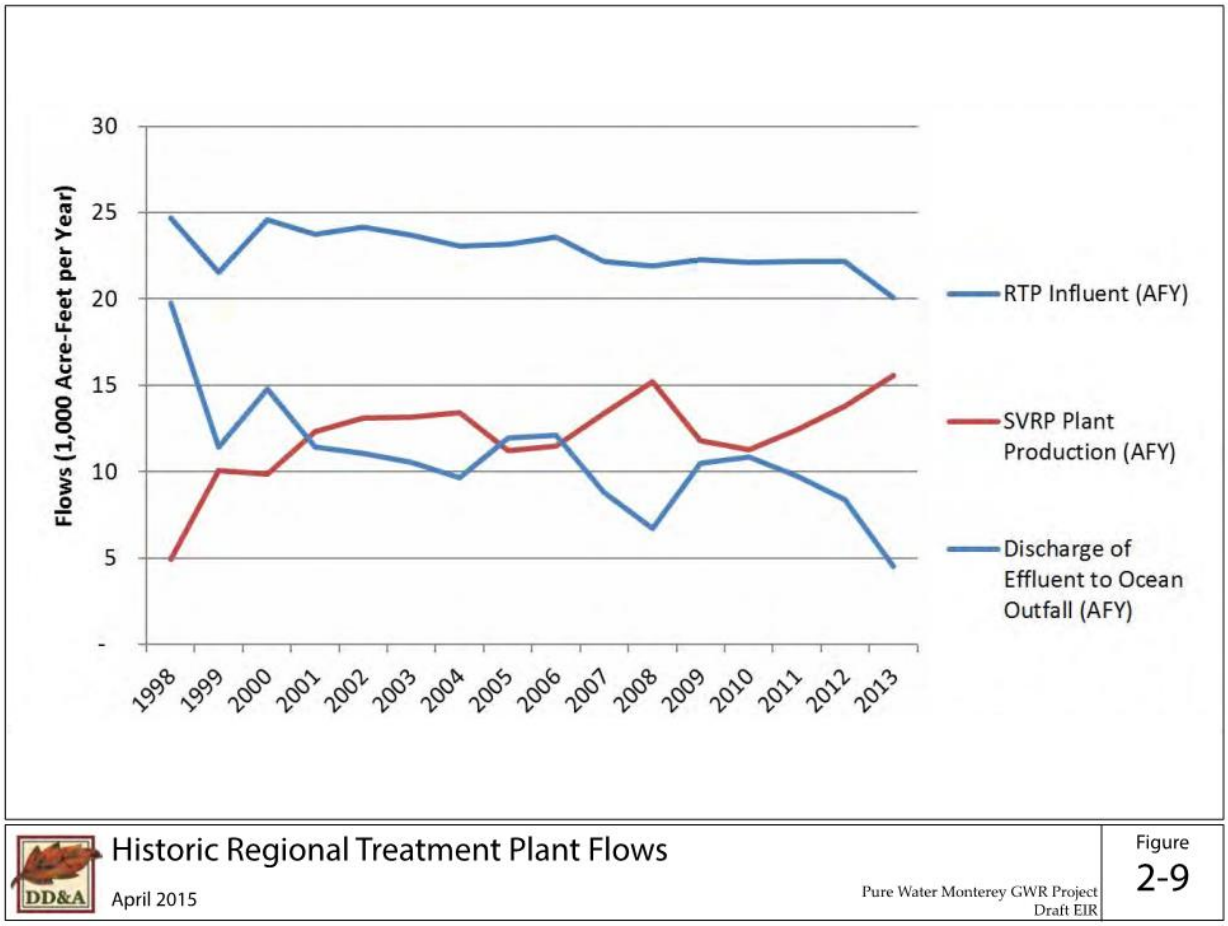
16 Secondary treated municipal effluent not used for SVRP or the AWPF.

17 Excess is calculated as Line 13 minus Lines 15 & 16

18 RUWAP supply comes from existing RTP inflows of municipal wastewater. Demands reflect existing urban irrigation customers along trunk main.

EXHIBIT 3

Volume I – Consolidated Final PWM EIR, January 2016 - Figure 2-9
Historic Regional Treatment Plant Flows



DD&A

Historic Regional Treatment Plant Flows

April 2015

Pure Water Monterey GWR Project
Draft EIR

Figure
2-9

EXHIBIT 4

SEIR Appendices to the M1WS Draft Supplemental EIR 11-7-2019

Appendix E - Water Quality and Statutory Compliance Report- Appendix C – Projected Monthly Flows of Source Waters to the Regional Treatment Plant Influent

	RTP Source Water Flow Blends by Scenario and Month (flows in ac-ft per month)													
	Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Maximum New Source Waters	Municipal WW	1,578	1,387	1,643	1,598	1,601	1,563	1,609	1,610	1,541	1,563	1,551	1,567	18810
	Agricultural Wash Water	0	0	0	309	407	477	318	319	307	0	0	0	2137
	Blanco Drain	209	223	246	252	225	274	277	244	184	168	133	185	2620
	El Estero	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tembladero Slough	0	0	0	0	0	0	0	0	0	0	0	0	0
	Reclamation Ditch	70	66	70	106	79	99	113	109	72	65	89	76	1014
Winter Peaking Operation	Municipal WW	1,578	1,387	1,643	1,598	1,601	1,563	1,609	1,610	1,541	1,563	1,551	1,567	18810
	Ag Wash	0	0	0	309	407	477	318	319	307	0	0	0	2137
	Blanco Drain	0	0	246	252	225	274	277	244	184	168	0	0	1870
	El Estero	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tembladero Slough	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rec Ditch	0	0	70	106	79	99	113	109	72	65	5	0	718

EXHIBIT 5

Monterey One Water

July 20, 2020 Special Meeting of the Ad-Hoc JPA Revision Committee

Attachment 3: Table 1 Member Entity Population Revenue and Account Data

Table 1 - Monterey One Water Member Entity Data

Member Entity	Population	Population Percentage	Avg. Dry Weather Flows (MGD)	Flow Percentage	Revenue Contribution			Revenue Percentage	Accounts			Accounts Percentage
					Residential (Monthly)	Commercial (Monthly)	Annual Total		Residential	Commercial	Total	
Boronda CSD	1,325	0.49%		#	$ 8,925.20	$ 2,527.65	$ 137,434.20	0.51%	424	65	489	0.48%
Castroville/Moss Landing	7,097	2.63%	0.64	3.99%	$ 50,625.25	$ 10,690.60	$ 735,790.20	2.73%	2,405	322	2,727	2.65%
County of Monterey*												
Del Rey Oaks	1,662	0.62%		+	$ 14,970.80	$ 1,310.70	$ 195,378.00	0.73%	712	59	771	0.75%
MCWD	28,233	10.48%	2.09	13.02%	$ 264,543.95	$ 29,920.27	$ 3,533,570.64	13.13%	12,569	737	13,306	12.93%
Monterey	28,170	10.45%	1.97	12.27%	$ 269,517.00	$ 103,043.34	$ 4,470,724.08	16.61%	12,828	2,973	15,801	15.36%
Pacific Grove	15,265	5.66%	1.15	7.17%	$ 168,139.50	$ 25,798.91	$ 2,327,260.92	8.65%	7,998	1,009	9,007	8.76%
Salinas	162,222	60.20%	8.39	52.27%	$ 906,380.10	$ 179,299.36	$ 13,028,153.52	48.41%	43,074	8,339	51,413	49.98%
Sand City	385	0.14%		+	$ 3,692.25	$ 4,227.85	$ 95,041.20	0.35%	177	242	419	0.41%
Seaside	33,537	12.45%	1.81	11.28%	$ 172,475.60	$ 26,357.76	$ 2,386,000.32	8.87%	8,200	736	8,936	8.69%
TOTALS	269,474		16.05		$ 1,859,269.65	$ 383,176.44	$ 26,909,353.08		88,387	14,482	102,869	

Notes - Residential totals include vacant residences
Population Numbers are per the department of Finance as of 1/1/20
Flows are averages for January through June 2020
* - Monterey County data needs to be confirmed prior to inclusion in this table
- Boranda flows accounted for in Salinas
+ - Del Rey Oaks and Sand City flows accounted for in Seaside

EXHIBIT 6 - Water Use Figure

SEIR Appendix O - Supply and Demand for Water on the Monterey Peninsula

FINAL

March 13, 2020, Page 7

Figure 1
Annual Water Production for Customer Service (Demand)
Last 21 Years
(Acre-Feet)

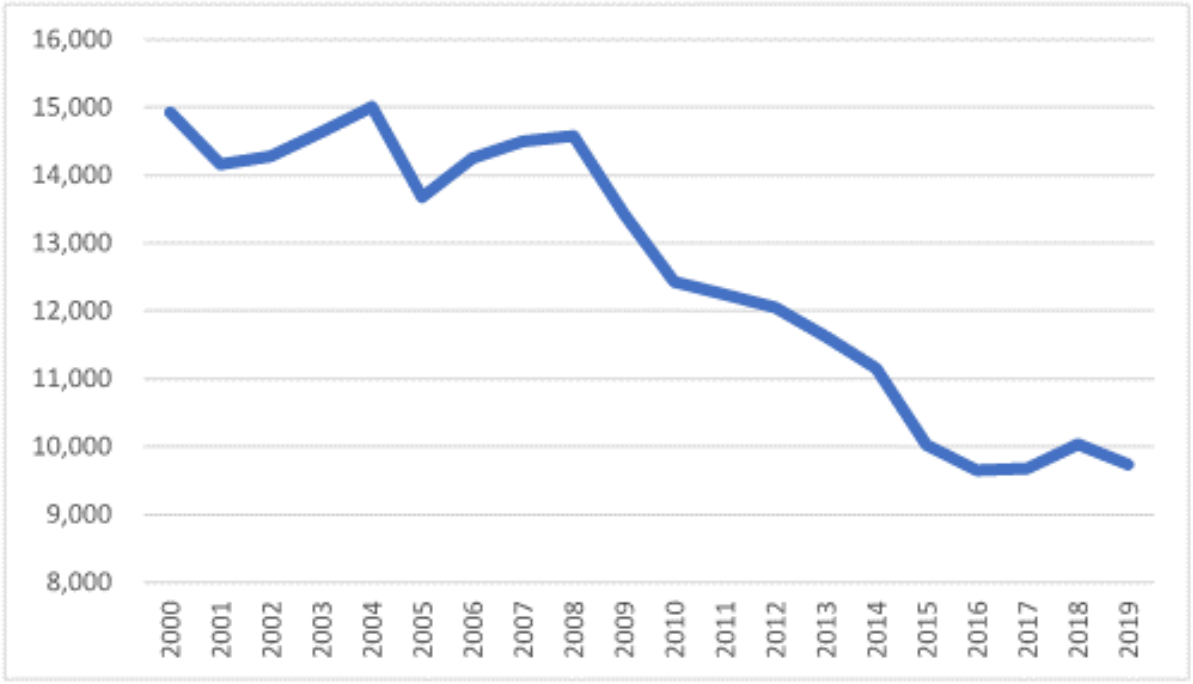


EXHIBIT 7 - Reclamation Ditch Flow

USGS 5 year Monthly Discharge Data from Reclamation Ditch Monitoring Station at Davis Road

USGS 11152650 RECLAMATION DITCH NR SALINAS CA

Available data for this site | Time-series: Monthly statistics | GO

Monterey County, California Hydrologic Unit Code 18060015 Latitude 36°42'18", Longitude 121°42'14" NAD27 Drainage area 53.2 square miles Gage datum 16 feet above NGVD29	**Output formats** HTML table of all data Tab-separated data Reselect output format

00060, Discharge, cubic feet per second,												
YEAR	Monthly mean in ft3/s (Calculation Period: 2015-01-01 -> 2020-03-31) Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	0.978	4.63	1.75	2.92	1.58	1.12	0.951	1.37	0.933	0.988	9.37	18.9
2016	69.3	8.66	72.1	4.42	2.78	2.07	2.15	1.86	1.48	7.69	7.44	16.8
2017	191.1	194.6	37.1	12.3	3.29	2.35	1.96	1.78	1.05	0.965	2.13	0.821
2018	10.6	1.83	17.5	15.2	2.23	2.32	2.28	2.04	1.23	1.59	15.3	15.4
2019	10.9	107.8	24.7	3.77	10.1	3.36	2.93	2.73	1.77	1.05	3.96	42.9
2020	7.8	1.78	16.4									
Mean of monthly Discharge	48	53	28	7.7	4	2.2	2.1	2	1.3	2.5	7.6	19

** No Incomplete data have been used for statistical calculation

USGS 10 year Monthly Discharge Data from Reclamation Ditch Monitoring Station at Davis Road

USGS 11152650 RECLAMATION DITCH NR SALINAS CA

Available data for this site Time-series: Monthly statistics GO

Monterey County, California Hydrologic Unit Code 18060015 Latitude 36°42'18", Longitude 121°42'14" NAD27 Drainage area 53.2 square miles Gage datum 16 feet above NGVD29	**Output formats** HTML table of all data Tab-separated data Reselect output format

00060, Discharge, cubic feet per second,												
YEAR	Monthly mean in ft3/s (Calculation Period: 2010-01-01 -> 2020-04-30) Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	36.7	29.1	43.3	29	5.6	3.93	3.93	3.21	2.11	2.89	12.2	23.8
2011	19.7	32.7	75.8	9.47	5.24	4.6	3.71	2.9	2.28	7.78	7.67	1.24
2012	10.3	3.39	17.9	17.1	2.38	3.11	2.33	3.6	1.44	1.57	9.77	45.8
2013	15.2	3.64	2.68	2.07	1.52	1.47	1.57	1.63	1.08	0.964	1.42	1.38
2014	1.4	13.3	10.6	4.59	1.23	1.23	1.33	1.54	1.39	2.45	7.12	74.5
2015	0.978	4.63	1.75	2.92	1.58	1.12	0.951	1.37	0.933	0.988	9.37	18.9
2016	69.3	8.66	72.1	4.42	2.78	2.07	2.15	1.86	1.48	7.69	7.44	16.8
2017	191.1	194.6	37.1	12.3	3.29	2.35	1.96	1.78	1.05	0.965	2.13	0.821
2018	10.6	1.83	17.5	15.2	2.23	2.32	2.28	2.04	1.23	1.59	15.3	15.4
2019	10.9	107.8	24.7	3.77	10.1	3.36	2.93	2.73	1.77	1.05	3.96	42.9
2020	7.8	1.78	16.4	13.6								
Mean of monthly Discharge	34	36	29	10	3.6	2.6	2.3	2.3	1.5	2.8	7.6	24

** No Incomplete data have been used for statistical calculation

California American Water
Peer Review of CCC Staff Report, Lon House Report and MCWD Media Statement

Prepared By: Kevin Alexander, P.E.
Hazen and Sawyer – September 10, 2020

This memorandum is in response to a review of the September 25, 2020 California Coastal Commission (CCC) Staff Report concerning California-American Water Company's (Cal-Am) proposal to construct and operate the Monterey Peninsula Water Supply Project (Project), the Energy and Water Consulting memorandum by Lon House, PhD. dated April 2020 that was provided to the CCC, and the Media Statement by Marina Coast Water District issued September 9, 2020.

I. RESPONSE TO STAFF REPORT

The following are Hazen's comments on the CCC Report:

- Hazen and Sawyer's August 11, 2020 and August 23, 2020 memoranda demonstrate that water supply and demand analysis provided to the CCC by Monterey One Water (M1W) and Monterey Peninsula Water Management District (MPWMD) relied on outdated wastewater flow data and that M1W and MPWMD were aware that wastewater flows were decreasing. Moreover, outdated and misleading assumptions of 2009 to 2013 wastewater flows were carried throughout the Draft and Final SEIR for the Pure Water Expansion, which indicates that the SEIR analysis of water supply and demand was inadequate. In response to Hazen and Sawyer's August 11 memorandum demonstrating these inadequacies, on August 20, 2020, M1W provided for the first time its purported wastewater flows from 2014 to 2019 (though without the underlying data). Hazen and Sawyer's August 23 memorandum reviewed the 2014 to 2019 flow information provided by M1W and confirmed that wastewater flows are insufficient to supply the Pure Water Expansion as previously concluded by Hazen.

  The Staff Report largely ignores Hazen's August 11, 2020 and August 23, 2020 memoranda and does not consider M1W's recent flow information. As a result, the Staff Report does not address the significance of Hazen's conclusion that the Pure Water Expansion project simply does not have an adequate source of water supplies for it to produce its promised 2,250 acre-feet per year (afy). It is clear that the CCC staff has not reviewed or relied upon the latest information provided by Hazen or by M1W. Page 7 of the Staff Report states: "However, based on staff's evaluation of technical information provided by Monterey One Water and others, staff believe there is sufficient source water, include at least one certain source – i.e., no less than about 8,000 acre-feet per year of treated wastewater – to provide the approximately 3,000 acre-feet per year the Pure Water Expansion will need to produce its expected 2,250 acre-feet per year and satisfy the service area's water demand."

- The Staff Report is incorrect in stating there is 8,000 acre-feet of wastewater flows available. Although the Draft SEIR indicated that there was approximately 8,000 afy of wastewater effluent available to the ocean outfall in a normal year, the Final SEIR updated this assumption and states that only 5,811 afy is assumed to be available. (Appendix M Table 2.)

- When average flows per year for the past 3 years of 18,555 afy are considered, the 5,811 afy of available wastewater is further reduced to 5,732 acre-feet. When considering the most current data for 2020, wastewater flows are 17,980 acre-feet, which will reduce the available wastewater flow to the ocean outfall to 5,554 acre-feet.

- The current Pure Water project requires 4,320 acre-feet of that wastewater to produce the 3,500 acre-feet of water for Cal-Am's customers, and 4,568 acre-feet of wastewater to produce 3,700 acre-feet when building a drought reserve.

- The Regional Urban Water Augmentation Project (RUWAP) must be supplied from wastewater effluent at 822 acre-feet; however, with backwash flows re-introduced, that flow is reduced to 741 acre-feet.

- Therefore, the remaining amount of wastewater available for the Pure Water Expansion is 5,732 minus 4,568 minus 741, which equals **432 acre-feet**. 432 afy is not sufficient source water for the Pure Water Expansion to produce 2,250 afy. Instead, at least 2,778 afy of source water would be required.

- In Dry Years as noted, the actual wastewater flows are estimated to be substantially less and therefore, no flow is available for the Pure Water Expansion.

- The quantity of source water to supply the Pure Water project and the Pure Water Expansion are evaluated in the Staff Report. However, as noted above, the Staff Report incorrectly relies on the availability of source water base on flawed analysis from M1W and MPWMD without consideration for whether the availability of a given source is documented and reliable year round or during drought. CCC Staff are directed to Appendix M of the SEIR Table 2 and Table 3 for available sources for the Pure Water Expansion. The Staff Report noted that M1W has agreements for more than enough water actually needed to supply the Pure Water Expansion. This conclusion is incorrect based on the methodology and assumptions and Table 2 and 3 of the SEIR Appendix M. Continuing the calculation from above:

    - When all available assumed and estimated flows, including the 432 acre-ft calculated above, according to the Source Water Priority Table 3 in Appendix M of the SEIR are available, there is only 2,297 acre-feet actually available for Pure Water Expansion. The maximum flow that could be produced at best case is 1,860 acre-feet. This assumes all flows from all of the sources "allowed" to feed the Pure Water Expansion are available 100 percent of the time. That flow is further reduced to 1,597 afy if the flows are reduced for the current wastewater

flow of 17,980 afy. The following Table 1 shows the flows from SEIR Appendix M Table 2 used in assessing the available water to the Pure Water Expansion:

TABLE 1

Source Water	**Quantity of Water Available to M1W in a Typical Year (Acre Feet Per Year)**
Secondary Effluent to Ocean Outfall	432 afy remaining from calculation above. (245 afy if WW flow to ocean outfall is 5,554 based on current year at 17,980 afy)
Reclamation Ditch	0 - (SEIR Appx M, Pg 9) "The new source waters conservatively are not assumed toe available for the Proposed Modification, regardless whether condition precedence are met."
Blanco Drain	0 - (SEIR Appx M, Pg 9) "The new source waters conservatively are not assumed toe available for the Proposed Modification, regardless whether condition precedence are met."
Agricultural Wash Water (AWW)	0 - (SEIR Appx M, Pg 9) "The new source waters conservatively are not assumed toe available for the Proposed Modification, regardless whether condition precedence are met."
Recycle Sump #1	41
Recycle Sump #2	104
Approved PWM Project and MCWD AWPF Backwashes	290
Proposed Modifications AWPF Backwashes (only available for Modifications)	152 at 2250 AFY (36 when producing 528 AFY with current WW flows at 17,980)
SVRP Backwash	515 in 2018 (492 when WW flow reduced from 18,810 to 17,980 in 2020)
Boranda	95
Farmworker Housing	18
M1W's ARWRA Summer Water (ARWRA Section IV 4.01 1(d))	650
SRDF Screening	0 - SEIR Appendix M -Table 2, "*** SRDF Screening and Salinas IWTF Pond System waters are assumed to not be available."
Salinas IWTF Pond System	0 - SEIR Appendix M -Table 2, "*** SRDF Screening and Salinas IWTF Pond System waters are assumed to not be available."
Total Available for feed to the M1W AWPF	2,297 (1,971 including current 17,980 WW flow)

- M1W stated in the SEIR Appendix M that its assumptions are conservative. Hazen does not agree, as it is clear there is not enough wastewater flow, since

M1W's own flow information from 2014 to 2019 shows that wastewater flow has declined significantly since 2013, the last year evaluated in the SEIR. Additionally, the other surface water flows proposed as source water for the Pure Water Expansion are based on unverified flows that were stated to be "assumed and estimated" in the SEIR. (SEIR Appendix M, pp. 7, 9 10 and 12.)

- The "Assumed Flows and Estimated Flows" in SEIR Appendix M do not have backup information that validates the reliability of these flows in recent years or over multiple years. Additionally, according to SEIR Appendix M, Methodology and Assumptions, the Blanco Drain, Reclamation Ditch and Agricultural Wash Water are not included as source water available to the PWM Expansion. These flows, although not part of the source water to the Pure Water Expansion, have not been updated with recent information and the validity, availability and reliability of flow from those supplies even to the existing Pure Water project are speculative.

- Staff Report page 110 states that the August 20, 2020 letter from M1W to the CCC addresses Cal-Am's contentions and clarifies that Cal-Am's concerns about inadequate wastewater were based on incorrect analysis. The Staff Report asserts that Cal-Am's concerns about source water quality are misplaced because the Pure Water Project has treated wastewater from agricultural operations.

  - M1W states that wastewater flows from the Peninsula make up a portion of the influent to the Wastewater Treatment Plant and asserts that because they are only a portion of the flows, the demand reductions are not proof that the wastewater flows are reducing. The data provide by M1W in the August 2020 memorandum clearly reveals otherwise and supports the deficit conclusions in the Hazen Memorandum from August 11, 2020.

  - In an area where demands are weighed down by moratoria, outdoor watering is limited by regulations, and tiered rates are used as a mechanism to drive down, excess use results in water use being closer to wastewater flow since indoor water ends up in the sewer. The contributing agencies to M1W all use such tools to control water demand meaning reductions in demand declines would be similar across the area. Hazen reaffirms its analysis that clearly shows wastewater flows are reduced to the levels predicted in Hazen's August 11, 2020 memorandum. Hazen's August 11 memorandum estimated 17,987 acre-feet of wastewater flow today using a demand corollary. Based on M1W's new flow information, flows are 17,980 acre-feet today.

  - Regarding Water Quality of the source waters, the Draft SEIR Appendix E -Water Quality and Statutory Compliance Report, at Appendix B-1 (2013-2014 test data) used testing procedures for perfluorooctanoic acid and perfluorooctanesulfonate (PFOA/PFOS) compounds that had a higher detection limit than current procedures. M1W was recently added to the list of agencies having to provide updated data for 31 PFOA/PFOS compounds in its effluent and RO concentrate

using updated testing methods that detect such compounds at much lower levels.[1] It should be noted that even with the older test data that the Lake El Estero has PFOA/PFOS compounds at detectible levels. With current regulations for drinking water supplies being much lower, it will be important to understand each source of supply and if the levels will be required to be removed. The RO Technology will remove the compound, however it will end up in the Bay as concentrate at much higher concentrations which could be another issue. This issue has not been evaluated by M1W or the CCC.

- The Staff Report fails to consider the limited availability of ASR. Throughout the 2020 and 2019 MPWMD reports and in the CCC Staff Report there are references to ASR being a proven approach. Hazen would agree with that statement that ASR when used appropriately can be a solution. However, what is not addressed by MPWMD or the SEIR (as noted in the Hazen Memorandum dated August 11, 2020 and August 23, 2020) is that *there must be water available to treat to be able to inject into the aquifer for storage and ultimate recovery*. ASR using excess Carmel River water in the past 15 years has not shown the ability to build adequate storage. In the context of the proposed Pure Water Expansion, there is not enough flow available to build the drought reserve over time let alone meet current demand.

- Regarding startup related issues, the CCC Staff Report references the Orange County Water District (OCWD) Groundwater Replenishment System (GWRS) and notes that the system did not start up at full capacity for various reasons. It should be noted that the reason the system did not produce at the full capacity in the first years of operation is that wastewater flows had dropped at Orange County Sanitation District (OCSD) Wastewater Treatment Plant No. 1 similar to the situation being faced by M1W. That reduction in wastewater flow ultimately forced OCWD to install very large 15 million gallon equalization tanks to capture excess flows during the day to allow the system to operate at nearly full flow at night. The Author of this memorandum was the lead process engineer for OCWD during development of the Phase 1, planning of the Phase 2 and ultimate build out of the GWRS projects for OCWD. Further, the Author is intimately familiar with that system and how it started and continues to operate.

- The Draft and Final SEIR have water supply projections that have not been updated to address lower wastewater flows. The environment will be impacted if MPMWD and M1W divert effluent by Water Right from the CSIP program to the Pure Water projects. No analysis has been provided with regard to how to prioritize CSIP and reducing seawater intrusion from continued groundwater pumping versus supplying the Pure Water project.

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[1] State Water Resources Control Board, Water Code Sections 13267 and 13383 Order for the Determination of The Presence of Per and Polyfluroralkyl Substances at Publicly Owned Treatment Works, ORDER WQ 2020-0015-DWQ, Attachment 2, available at https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2020/wqo2020_0015_dwq.pdf.

- Table 6 on page 121 of the Staff Report provides a comparison of Cal-Am's water supply portfolio with Cal-Am's desalination Project or with the Pure Water Expansion. What is not made clear is what the table looks like when actual available water supplies and updated SEIR Tables 9, 10, and 11 based on the most recent 3 years of wastewater flow data are accounted for. Appendix A below provides that updated accounting. Although Hazen and Sawyer used the same methodology and approaches used to calculate predictions of current and future demand by MPWMD and House, as shown in Appendix A, when ASR is accounted for at a realistic level, the Pure Water Expansion cannot meet MPWMD lowest demand estimate of 10,855 acre-feet per year. Likewise, when WWTP flows and Reclamation Ditch flows are accounted for based on current flow data, the Pure Water Expansion cannot meet 10,855 acre-feet per year demand. When the SEIR tables are updated to account for current WWTP flow and Reclamation Ditch Flow, it is apparent that MPWMD has overestimated supplies. In Appendix A, Updated SEIR Table 9 reveals there is enough flow to produce 528 acre-feet from the Pure Water Expansion. Appendix A, Updated Table 10 would likely never apply because there is not adequate flow to build a reserve. Appendix A, Updated Table 11 reveals that during drought years, there must be 5,311 acre-feet available from ASR that is not actually available because, as explained in the August 11, 2020 report from Hazen and Sawyer, between 1997 and 2019, annual ASR reinjection only reached the 1,300 acre-feet per year twice, averaging only 450 acre-feet per year over a 22 year period. During drought conditions, ASR is essentially unavailable. These are significant issues that MPMWD and M1W must address before the CCC can consider the Pure Water Expansion as a potential alternative to Cal-Am's Project. The future demand ranges presented in House Table 3 are similar to the demand ranges provided by MPWMD and for the same reasons that the Pure Water Expansion cannot meet MPWMD's lowest estimate of demand, it is speculative to assume that the demand levels presented by House are attainable.

II. RESPONSE TO LON HOUSE MEMORANDUM

The following response is based on a review of the Lon House Memorandum:

- The House Report asserts that MPWMD is an expert at water supply and demand determinations "and has no reason to defer to the CPUC or any other agency[.]" (House Report, p. 1.) Based on Hazen and Sawyer's peer review of MPWMD's supply and demand analysis, it is clear that their evaluation of these issues neglected to consider the complete and current picture of how the supplies and demands work together, which is especially important when supply is inextricably linked to demand as is the case with wastewater. In this case, MPMWD did not make available or evaluate key information on wastewater flows and the impacts of those flows on the availability of water supplies to the community. In the case of supply, MPWMD selectively used outdated data that supported its narrative that there is plenty of supply for the Pure Water Expansion. In the case of demand, the MPWMD elected to use up to the minute demand information and actually updated its report between September 2019 and December 2019 to better support MPWMD's narrative. In our judgement, an expert should not selectively choose a dataset to sway results to achieve an outcome.

- Page 2 of the House Report states: "Three more full years (2017-2019) of recorded water demand data is now available. This recent data makes the CPUC data set obsolete, reducing the existing customer 10-year average water demand available in the CPUC proceeding by 1,275 acre-feet per year (afy), a reduction of 10.7 percent."

    - The House Report overlooks the data that M1W presented to its Ad-Hoc JPA Revision Committee on July 20, 2020 that indicates since the beginning of 2020, wastewater treatment plant (WWTP) flows were reduced by 20.3.% since 2013 to 17,980 afy or 16.05 mgd.[2] If the CPUC data set is rendered "obsolete" because of new demand data, then so is the WWTP flow data in the SEIR and in the analysis by Stoldt that only relied on WWTP flow data from 2009 to 2013. 2013 to 2020 WWTP flow information demonstrates that WWTP flows are inadequate to supply the Expansion so that it could provide product water to meet the most restrictive demand projections by MPWMD (10,855 afy). Appendix A below and the Hazen memorandum from August 11, 2020 and August 23, 2020 show how the current wastewater flows translates directly to reduced capacity for supply.

- Page 3 of the House Report states: "The CPUC recognizes the importance of using the latest water demand data. In its decision in CalAm's last General Rate Case, the CPUC concluded "'Given the declining consumption pattern in the Monterey main district, the most recent data available is likely to be the most accurate.' What could substitution of a couple more years of recent water demand information make? It turns out – a lot."

    - Similar to the CPUC's consideration of the last 3 years of data for demand, the same could be said for the WWTP Flows. ***What could substitution of a couple more years of recent wastewater flow information make? It turns out – a lot.***

    - The Expansion SEIR relied on WWTP flow data from 2009 to 2013. Hazen and CalAm commented that the WWTP flow data did not reflect actual WWTP flow available to M1W. In Hazen's August 11 memo, Hazen identified publicly available data (including evidence of 2020 flows) indicating that WWTP flows have declined significantly since 2013. On August 20, 2020, M1W provided WWTP flow data from 2014 to 2019. So what difference does a few years make? "It turns out – a lot." Since 2009 to 2013, WWTP flows have decreased from 21,764 afy to 17,980 afy, a reduction of 3,209 afy. Using M1W's own updated numbers, it is evident that WWTP is not a sufficient or reliable source water for the Pure Water project or the Pure Water Expansion to produce its promised product water to CalAm's customers of 3,500 afy and 2,250 afy, respectively.

- Pages 3, 4 and 5. The House Report confuses various characterizations of demand by calling CPUCs Planning Level Demand of 12,350 the "current" demand. It is not the current demand but is the planning level that is used to identify what level of demand to use based on the 2021 CDO date for starting the future projections of demand to use in planning for future water supplies. Planning level demand makes various additions

[2] Attached as Exhibit 5 to Hazen's August 11, 2020 memorandum.

including tourism bounce back, Lots of Record, and Pebble Beach to the "current" demand to account for uncertainty in the demand when the pressures to suppress demand are lifted as supply constraints are mitigated.

- Similarly, House developed the table below as a comparison of Customer Existing Water Demand. None of the values in that table are Customer Existing Water Demand. These numbers are Planning Level Demand.

- In addition, it appears there is an error in the analysis between the 10-year average Demand and the 5-year average demand when compared to the 2020 Stoldt Memorandum at 10,863 and 9,825 afy, respectively. The Lon House Memorandum table below appears to use different values that are not explained in the memorandum for the same time period. With no transparency in how this was determined, these numbers form a speculative base to calculate future demand.

Table 1. Comparison of Estimates of CalAm Customer Existing Water Demand

CalAm Application	CPUC Adopted	10-year average (2010-2019)	5-year average (2015-2019)
13,290 afy	12,350 afy	10,619 afy	9,727 afy

- As noted above, House provides updated 10-year and 5-year average data that do not agree with the Stoldt updates from March 2020. House carries those numbers into the House Table 3 below estimating the Eventual Demand ranges.

Table 3. Comparison of Estimates of Eventual Monterey Peninsula Water Demand

	MPWSP Application	CPUC Adopted	10-yr Average Customer Demand plus MPWMD New Demands	5-yr Average Customer Demand plus MPWMD New Demands
Existing Customer Demand	13,290 afy	12,000 afy	10,619 afy	9,727 afy
New Water Demand	2,006 afy	2,000 afy	1,067-1,424 afy	1,067-1,424 afy
Total Eventual Demand	**15,296 afy**	**14,000 afy**	**11,686-12,043 afy**	**10,794-11,151 afy**

14 to 17% lower than CPUC adopted

20 to 23% lower than CPUC adopted

House again references Existing Customer Demand and adds New Water Demand and introduces the concept of Eventual Demand. Eventual Demand would appear to mean the demand to use in starting future planning and future demand projection efforts rather than relying on current water demand data that does not account for uncertainty. House

does not address uncertainty in the estimates of Existing Customer Demand that can be weighed down by measures such as the moratorium and the cost of purchasing allocations. Secondly, he does not address uncertainty in the estimates of the New Water Demands but continues to use the Range of Eventual Demands. Although the demand projections made by House appear to be uncertain and in error, the demand range presented by House is well within the range presented by MPWMD and others, which the Pure Water Expansion is unable to satisfy.

- House does not appear to analyze the water supply of 2,250 afy that can be produced from the PWM Expansion. The House memorandum does not evaluate available wastewater supply necessary to produce that 2,250 afy and therefore does not come to the conclusion that the PWM Expansion cannot meet "existing" and "eventual" demands. This is a mistake considering the updated wastewater flow information that calls further into question supply availability, reliability or sustainability. However, what is key is that House understands that another water supply is necessary and given the updated supply information would have only been able to state that the MPWSP is the only project that will add a new supply of water that is critical to meeting todays demands and future demands.

    - Due to lack of wastewater flows and other supplies, the PWM Expansion fails to meet even the lowest Eventual (future) demand projection of 10,855 from Stoldt and the 10,794 afy from House.

    - Refer to Updated Table 2 below from August 11, 2020 with the Flows updated with the latest WW Flows from M1W. The importance of the Updated Table 2 shown in the ERRATA below is that in Normal Years while building a reserve (Updated Table 9 column) there is only 652 afy available as feed to the PWM Expansion. ***The Pure Water Expansion will therefore only produce 528 afy.***

    - Refer to the Table 2, Updated Table 9 column, for actual water supplies available to meet current and future demands with the Pure Water Expansion. The demands above 9,772 afy cannot be met even with a speculative maximum ASR output of 1,300 afy.

- Page 7. House introduces a calculation for instantaneous and permanent water demand increase of 881 afy. The calculation is based on an increase from 2019 demand up to the 10 year average demand or a 9% change. We do not agree with this calculation which underestimates the demand that should be used for planning and does not account for uncertainty in demand.

- Page 9. House notes that MPMWD has clearly identified water supplies and demands. This is an incorrect statement. House does not look at the where the water is originating similar to the errors made by MPWMD and the SEIR. Paper water without actual flow is not an adequate source.

III. ERRATA TO AUGUST 23, 2020 UPDATED TABLE 2

Table 2 in the Hazen and Sawyer August 11 and August 23, 2020 memorandums highlight the impact of the reduced wastewater flow on the actual supply flow balance and ultimately in the amount of flow to ASR.

In Hazen's August 11, 2020 memorandum, wastewater flows were based on the 17,987 afy calculated from the correlation with demand. In Hazen's August 23, 2020 memorandum, wastewater flows were revised based on the 18,555 afy average of the last 3 years of wastewater flows provided by M1W.

The Flow to PWME in the Table 8-11 Updates are adjusted to reduce flow to allow the Actual Use Flows to match with the available Supplies in the Updated Table 1 from the August 23, 2020 memorandum. The ASR Deficit calculated for the Table 8-11 Updates are calculated by subtracting the planned ASR value from the amount of ASR calculated in the Table 8-11 Update. In all cases, there is and will be a deficit to ASR based on the reduced wastewater flows. Updated TABLE 2 from Hazen's August 23, 2020 memoranda is replaced with the Updated TABLE 2 below to correct a tabulation error highlighted herein. This revision does not impact or modify Hazen and Sawyer's conclusion that due to reduced wastewater flows, there is only enough supply flows available to send 652 afy feed to the Pure Water Expansion to produce 528 afy in the normal years.

UPDATED TABLE 2 – IMPACTS OF REDUCED WWTP FLOW ON SUPPLY FLOW BALANCE

Flow Balance in Acre-Ft	Table 8	Table 9	Table 10	Table 11	Table 8 Update	Table 9 Update	Table 10 Update	Table 11 Update
Flow to CSIP + CSIP Well Pumping	17227	17227	17227	22619	17227	17227	17227	21091[e]
Flow to PWM[f]	4320	4320	4320	2963	4320	4320	4320	0
Flow to PWM Drought	248	248	0	0	248	248	0	0
Flow to PWME[g]	2778	2778	2778	2778	2321 ~~1753~~	652 ~~84~~	889 ~~321~~	0
Flow to RUWAP	741	741	741	741	741	741	741	741
Actual Use Flows[h]	**25314**	**25314**	**25066**	**29101**	**24857** ~~**24289**~~	**23188** ~~**22620**~~	**23177** ~~**22609**~~	**21832**
Flow to ASR[i]	5950	5950	5750	4650	5580 ~~5120~~	4228 ~~3768~~	4219 ~~3759~~	0
Concentrate Flow to Outfall[j]	1536	1536	1489	1232	1450	1133	1130	141
Deficit To ASR	**0**	**0**	**0**	**-1100**	**-370**	**-1722**	**-1530**	**-4650**

Notes:

e CSIP and CSIP Well Flows from Table 8-11 Demand. Reduced CSIP in "Table 11 Updated" by taking Water Right

f Revised flow to PWM down for Table 11 to match actual Use to supply

g Flow available to PWME is calculated based on maintaining flow to PWM and RUWAP and to Concentrate

h Actual Use is calculated to confirm balance with Supply

i ASR Flow is from the AWT product water flow without RUWAP

j Concentrate flow is 19% of Flow for PWM, PWM Drought, PWME, and RUWAP

k Deficit to ASR based on Flow to ASR minus the PWM AND PWME DEMAND from Table 1

IV. REVIEW OF THE MCWD MEDIA STATEMENT ISSUED SEPTEMBER 9, 2020

The Marina Coast Water District issued a Media Statement on September 9, 2020 titled Contractual Agreements Guarantee Source Water To Monterey One Water For Pure Water Monterey Expansion. Hazen and Sawyer reviewed the Media Statement and provide the following comments:

- The Media Statement is continuing to mislead the community as to the volume of surface water and wastewater that are available as compared to "paper" water rights. Possession of certain water rights and agreements does not mean there is actually water available. This is similar to the Colorado River, where there are more water rights than available water. Recent wastewater flow information provided by Monterey One Water for years 2013 to 2020 prove that wastewater volumes available on an annual basis have dropped substantially compared to what was indicated and planned in the SEIR for the Pure Water Monterey Expansion.

- According to the SEIR, the newly identified sources proposed by MCWD for use by the Pure Water Expansion are not available to be used by that project. (SEIR Appendix M, pg. 9). Therefore, claiming the volume of water from these sources can be used does not demonstrate that these source are actually available and conflicts with the SEIR already circulated under CEQA.

- The Salinas Urban Runoff/Stormwater requires additional agreements as stated in the SEIR Appendix M, pg. 5. Therefore, the contractual agreements for this source are not in place and reliance on the availability of this source is speculative.

- The Reclamation Ditch and wastewater water volumes assumed available by MCWD and M1W in the SEIR have been shown to be much less than estimated. The Agricultural Wash Water flows and the Blanco Drain flows are both unverified and remain speculative. The agricultural waste water volumes have not been verified on an annual basis beyond 2013 and were only estimated according to the yield studies in the SEIR. The Blanco Drain flows beyond 2013 have not been provided and were estimated based on very limited data as stated in the Blanco Drain Yield Study, page. 7. Knowing that the Reclamation Ditch and wastewater flows have been shown to be much less than claimed in the SEIR, there is a need for verifiable data and values for these new sources identified by MCWD's media statement.

- The EIR for the Pure Water Monterey project included modifications to the Salinas Valley Reclamation Plant (SVRP) to allow for more treated wastewater to be sent to Castroville Seawater Intrusion Project (CSIP) during winter months. Although, the proposed modifications to the SVRP have not been completed, it will further reduce the wastewater available to the Pure Water Monterey Expansion. Additionally, MCWRA intends to take wells offline in the CSIP area to reduce the increasing seawater intrusion.

    - In conclusion, MCWD by its own Media Statement is continuing to mislead the community that water is available for the PWM Expansion.

- The “New Sources” referenced are not to be used for the Pure Water Monterey Expansion accordingly to its own SEIR.

- The volume of wastewater available has been shown to be much less than planned.

- Finally, MCWRA is planning to expand CSIP and is reducing the number of wells in the area of seawater intrusion thus needing more of the treated wastewater effluent.

- Having adequate, reliable, sustainable water supplies for the Peninsula are critical to the community. When there are competing interests for limited supplies of water, it is critical to know that water supplies will actually be available and not just the paper volume stated in a water rights document or agreement.

Appendix A: Identified Available Water Supplies In Acre-Feet Per Year

Source / Assumption Scenario	Proposed by Others			ASR Controlled*			Wastewater & Reclamation Ditch Controlled*		
	CPUC	MPWMD 2020	MPWMD 2019	No ASR	Half ASR (650 AFY)	Full ASR (1,300 AFY)	Updated Table 9 – Normal Year building Reserve	Updated Table 10 – Normal Yr after full Reserve	Updated Table 11 – Dry Year
1. Carmel River	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376
2. Seaside Groundwater Basin	774	774	774	774	774	774	774	774	774
3. Aquifer Storage and Recovery	1,300	1,300	1,300	0	650	1,300	1,300	1,300	1,300
4. Sand City Desalination Facility	94	94	94	94	94	94	94	94	94
5. Pure Water Project	3,500	3,500	3,500	3,500	3,500	3,500	3,700	3,500	0
6. Pure Water Expansion	-	2,250	2,250	2,250	2,250	2,250	528	719	0
7. Other Available Supplies	-	300	406	-	-	-	-	-	-
Total without desalination Project	9,044	11,594	11,700	9,994	10,644	11,294	9,772	9,763	5,544
Surplus/Deficit assuming 10,855 afy demand	**-1,811**	**739**	**845**	**-861**	**-211**	**439**	**-1083**	**-1,092**	**-5,311**

* Figure 2 from the August 11, 2020 Hazen and Sawyer report depicts these alternative scenarios. (August 11, 2020 Hazen Memo, p. 19.)

Technical Memorandum

Date: 6/8/2021

To: Candace Coleman
California American Water

Prepared by: Heather Freed, PE

Reviewed by: Jeroen Olthof, PE

Project: California American Water Monterey County District 2020 Urban Water Management Plan

SUBJECT: DRAFT - PURE WATER MONTEREY AND PURE WATER MONTEREY EXPANSION SUPPLY AVAILABILITY FOR THE 2020 UWMP

California American Water (CAW) Monterey Main Water System has a contractual agreement to 3,500 acre-feet per year (AFY) of water from the Pure Water Monterey (PWM) Project. The PWM Project is a joint project between the Monterey Peninsula Water Management District (MPWMD) and the Monterey One Water (M1W). The PWM Project provides indirect potable reuse for storage in the Seaside Groundwater Basin and subsequent potable use in the Monterey Main System, as well as purified recycled water for landscape irrigation, the Castroville Seawater Intrusion Project (CSIP) and the Regional Urban Water Augmentation Project (RUWAP). In April 2021, the MPWMD and M1W certified the Supplement Environmental Impact Report (SEIR) for the PWM Expansion Project, which is envisioned to provide an additional 2,250 AFY to the Seaside Basin and subsequent potable use for Monterey Main.

In 2020, CAW contracted Hazen and Sawyer to evaluate the source waters available for the PWM, PWM Expansion, CSIP, and RUWAP Projects (Hazen Analysis). The SEIR at that time was relying on wastewater flows from 2009 to 2013. The Hazen Analysis updated the tables in the Supplemental EIR using 2020 source water flowrates, and it found that the current flowrates cannot support all projects. Table 1 presents the original Supplemental EIR source water supply and demand balance and the updated tables using 2020 flowrates. The Tables 8 through 11 of the SEIR represent various hydrologic conditions. The Hazen analysis represents Table 9 as the normal year hydrologic conditions and Table 11 as the worst-case dry year hydrologic conditions.

DRAFT

Table 1. Hazen Analysis Updated PWM and PWM Expansion Supply and Demand Balance

	Original SEIR App. I (2009 – 2013 Flows)				Modified SEIR App I (2020 Flows)			
SUPPLY	**Table 8**	**Table 9**	**Table 10**	**Table 11**	**Table 8**	**Table 9**	**Table 10**	**Table 11**
WW Flows	21,764	21,764	21,764	20,090	17,987	17,987	17,987	17,016
Domestic Flow	82	82	82	82	82	82	82	82
New Sources	2,579	2,579	2,579	2,430	2,579	2,579	2,579	2,430
Surface Water	3,721	2,052	2,041	2,840	3,641	1,972	1,961	2,304
TOTAL WW Flow	**28,146**	**26,477**	**26,466**	**25,442**	**24,289**	**22,620**	**22,609**	**21,832**
DEMAND								
CSIP	17,227	17,227	17,227	22,619	17,227	17,227	17,227	22,619
PWM	4,320	4,320	4,320	2,963	4,320	4,320	4,320	2,963
PWM drought	248	248	0	0	248	248	0	0
PWME	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,778
RUWAP	741	741	741	741	741	741	741	741
TOTAL Demand	**25,314**	**25,314**	**25,066**	**29,101**	**25,314**	**25,314**	**25,066**	**29,101**
Supply Surplus/ Deficit	**2,832**	**1,163**	**1,400**	**-3,659**	**-1,025**	**-2,694**	**-2,457**	**-7,269**

As shown in the modified SEIR Appendix I tables, there is an anticipated supply deficit in all year types. The CSIP and RUWAP both need to be provided their total demand in all years, and reductions will apply to the PWM and the PWM Expansion projects first.

Future water use on the Monterey Peninsula is anticipated to increase when the new Monterey Peninsula Water Supply Project (MPWSP) Desalination Plant is online. As water use increases, the wastewater flows would also be expected to increase. This technical memorandum was prepared to support the CAW Monterey Main 2020 Urban Water Management Plan (UWMP) and updates the Hazen Analysis for conditions from 2025 through 2045 in five-year increments to estimate the reliably available supply from the PWM and PWM Expansion Project in normal and dry year types.

1 Demand and Wastewater Flow Projections

The only updates to the Hazen Analysis to support the 2020 UWMP are the estimated wastewater flows (Line 1 of the supplies presented in Table 1) based on the UWMP demand projections. The 2020 water demand is the actual water demand in Monterey Main in 2020, and wastewater flow values are based on the 2020 flows in the Hazen Analysis. The wastewater flows for future years were estimated using the 2020 ratio of demand to wastewater flows. For year 2025, the projected demands are anticipated to exceed the available supply, and CAW would need to enact its Water Shortage Contingency Plan (WSCP) to reduce demands. The reduced demand is based on the projected available supply. Water use and wastewater flows are not expected to increase until 2030 when the MPSWP Desalination Plant is online and provides a drought proof supply source for the region.

2 Projected PWM and PWM Expansion Supply Availability

Table 2 presents the modified SEIR Appendix I tables for future conditions. As shown, the PWM Project is expected to be 100 percent reliable in normal hydrologic years (Table 9 of the SEIR). By 2030, with the MPWSP Desalination Plant online, water use and wastewater flows are projected to have increased to levels such that the PWM Project will also be 100 percent reliable in the worst-case dry year scenario (Table 11 of the SEIR). Until the MPWSP is online, the PWM Project is not anticipated to have enough source water for dry years.

The PWM Expansion project is anticipated to be online by 2025. Without the MPWSP Desalination Plant providing additional supply, there is insufficient source water for the full 2,250 AFY design supply from the PWM Expansion project. In 2025 only 528 AFY of water will be available for the PWM Expansion project in normal years, and no water would be available in the worst-case dry year scenario. In 2030 when the MPWSP Desalination Plant comes online, the PWM Expansion Project is projected to be 100 percent reliable in a normal hydrologic year. During a dry year, the PWM Expansion is expected to become more reliable as wastewater flows increase over time.

Table 2. PWM and PWM Expansion Supply Availability 2020- 2045, AFY

	Modified SEIR App I (2020 Flows)				Modified SEIR App I (2025 Flows)				Modified SEIR App I (2030 Flows)			
SUPPLY	**Table 8**	**Table 9**	**Table 10**	**Table 11**	**Table 8**	**Table 9**	**Table 10**	**Table 11**	**Table 8**	**Table 9**	**Table 10**	**Table 11**
WW Flows	17,987	17,987	17,987	17,016	18,431	18,431	18,431	17,436	23,390	23,390	23,390	22,128
Domestic Flow	82	82	82	82	82	82	82	82	82	82	82	82
New Sources	2,579	2,579	2,579	2,430	2,579	2,579	2,579	2,430	2,579	2,579	2,579	2,430
Surface Water	3,641	1,972	1,961	2,304	3,641	1,972	1,961	2,304	3,641	1,972	1,961	2,304
TOTAL WW Flow	**24,289**	**22,620**	**22,609**	**21,832**	**24,733**	**23,064**	**23,053**	**22,252**	**29,692**	**28,023**	**28,012**	**26,944**
DEMAND												
CSIP	17,227	17,227	17,227	22,619	17,227	17,227	17,227	22,619	17,227	17,227	17,227	22,619
PWM	4,320	4,320	4,320	2,963	4,320	4,320	4,320	2,963	4,320	4,320	4,320	2,963
PWM drought	248	248	0	0	248	248	0	0	248	248	0	0
PWME	0	0	0	0	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,778
RUWAP	741	741	741	741	741	741	741	741	741	741	741	741
TOTAL Demand	**22,536**	**22,536**	**22,288**	**26,323**	25,314	25,314	25,066	29,101	**25,314**	**25,314**	**25,066**	**29,101**
Supply Surplus/ Deficit	**1,753**	**84**	**321**	**-4,491**	**-581**	**-2,250**	**-2,013**	**-6,849**	**4,378**	**2,709**	**2,946**	**-2,157**
Water Available for PWM + drought		**4,568 (100%)**		**0 (0%)**		**4,568 (100%)**		**0 (0%)**		**4,568 (100%)**		**2,963 (100%)**
Water Available for PWM Expansion		**N/A- not online**		**N/A- not online**		**528 (23%)**		**0 (0%)**		**2,778 (100%)**		**503 (22%)**

	Modified SEIR App I (2035 Flows)				Modified SEIR App I (2040 Flows)				Modified SEIR App I (2045 Flows)			
SUPPLY	**Table 8**	**Table 9**	**Table 10**	**Table 11**	**Table 8**	**Table 9**	**Table 10**	**Table 11**	**Table 8**	**Table 9**	**Table 10**	**Table 11**
WW Flows	24,546	24,546	24,546	23,221	25,717	25,717	25,717	24,329	26,880	26,880	26,880	25,429
Domestic Flow	82	82	82	82	82	82	82	82	82	82	82	82
New Sources	2,579	2,579	2,579	2,430	2,579	2,579	2,579	2,430	2,579	2,579	2,579	2,430
Surface Water	3,641	1,972	1,961	2,304	3,641	1,972	1,961	2,304	3,641	1,972	1,961	2,304
TOTAL WW Flow	**30,848**	**29,179**	**29,168**	**28,037**	**32,019**	**30,350**	**30,339**	**29,145**	**33,182**	**31,513**	**31,502**	**30,245**
DEMAND												
CSIP	17,227	17,227	17,227	22,619	17,227	17,227	17,227	22,619	17,227	17,227	17,227	22,619
PWM	4,320	4,320	4,320	2,963	4,320	4,320	4,320	2,963	4,320	4,320	4,320	2,963
PWM drought	248	248	0	0	248	248	0	0	248	248	0	0
PWME	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,778	2,778
RUWAP	741	741	741	741	741	741	741	741	741	741	741	741
TOTAL Demand	**25,314**	**25,314**	**25,066**	**29,101**	**25,314**	**25,314**	**25,066**	**29,101**	**25,314**	**25,314**	**25,066**	**29,101**
Supply Surplus/ Deficit	**5,534**	**3,865**	**4,102**	**-1,064**	**6,705**	**5,036**	**5,273**	**44**	**7,868**	**6,199**	**6,436**	**1,144**
Water Available for PWM + drought		**4,568 (100%)**		**2,963 (100%)**		**4,568 (100%)**		**2,963 (100%)**		**4,568 (100%)**		**2,963 (100%)**
Water Available for PWM Expansion		**2,778 (100%)**		**1,388 (62%)**		**2,778 (100%)**		**2,778 (100%)**		**2,778 (100%)**		**2,778 (100%)**

Appendix I. Water Shortage Contingency Plan

2021 Water Shortage Contingency Plan

Final

JUNE 2021

CALIFORNIA AMERICAN WATER CENTRAL DIVISION- MONTEREY COUNTY DISTRICT

CALIFORNIA AMERICAN WATER CENTRAL
DIVISION – MONTEREY COUNTY DISTRICT

2021 Water Shortage Contingency Plan

JUNE 2021

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1

CALIFORNIA AMERICAN WATER MONTEREY COUNTY DISTRICT

Water Shortage Contingency Plan

A water shortage occurs when the water supply is reduced to a level that cannot support typical demand at any given time. The WSCP is used to provide guidance to the California American Water (CAW) Central Division – Monterey County District's (Monterey Main), local government, staff, and the public by identifying response actions to allow for efficient management of any water shortage with predictability and accountability. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought or catastrophic supply interruptions. This WSCP addresses such potential water shortage conditions resulting from future droughts as well as other causes such as impacts to distribution system infrastructure, regulatory imposed shortage restrictions, catastrophic events, etc. The WSCP describes the following:

1. **Water Supply Reliability Analysis:** Summarizes Monterey Main's water supply analysis and reliability and identifies any key issues that may trigger a shortage condition.
2. **Annual Water Supply and Demand Assessment Procedures:** Describes the key data inputs, evaluation criteria, and methodology for assessing the system's reliability for the coming year and the steps to formally declare any water shortage levels and response actions.
3. **Six Standard Shortage Stages:** Establishes water shortage levels to clearly identify and prepare for shortages.
4. **Shortage Response Actions:** Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand as well as minimize social and economic impacts to the community.
5. **Compliance and Enforcement:** Defines compliance and enforcement actions available to administer demand reductions
6. **Legal Authority:** Lists the legal documents that grant CAW the authority to declare a water shortage and implement and enforce response actions.
7. **Financial Consequences of WSCP Implementation:** Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens.
8. **Monitoring and Reporting:** Summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation. Results are used to determine if additional shortage response actions should be activated or if efforts are successful and response actions should be reduced.
9. **WSCP Refinement Procedures:** Describes the factors that may trigger updates to the WSCP and outlines how to complete an update.
10. **Special Water Features Distinctions:** Identifies exemptions for ponds, lakes, fountains, pools, and spas, etc.
11. **Plan Adoption, Submittal, and Availability:** Describes the process for the WSCP adoption, submittal, and availability after each revision.

This WSCP was prepared in conjunction with the Monterey Main's 2020 UWMP and is a standalone document that can be modified as needed. The current authorized Water Shortage Contingency Plan is detailed in Rule and Schedule 14.1.1 (Attachment 1) which CAW might revise and adopt to the updated version that meets the requirements set forth by DWR. Each section within this chapter discusses the

planned changes the Monterey Main district intends to include in the revised Rule 14.1.1 in order to create a complete Water Shortage Contingency Plan.

This Plan (Rule 14.1.1) shall remain dormant until activated by Commission authorization via a Tier 2 advice letter. Once activated, CAW can implement Stages of the Plan by filing a Tier 2 advice letter to the Commission. This Plan will remain in effect until CAW files a Tier 1 advice letter to deactivate a specific stage of the Water Shortage Contingency Plan and such is authorized by the Commission.

This document is compliant with the California Water Code (CWC) Section 10632 and incorporated guidance from the State of California Department of Water Resources (DWR) UWMP Guidebook (Department of Water Resources, 2020) and the American Water Works Association (AWWA) Manual of Water Supply Practices (M60) Drought Preparedness and Response (American Water Works Association (AWWA), 2019). Water purveyor planning for possible water supply shortages has become an increasingly important subject considering the drought conditions over the last several years. The plan is intended to provide guidance, rather than absolute direction, for CAW action in response to water shortages and provide the Monterey Main district with options to responsibly manage water shortages.

1.1 Water Supply Reliability Analysis

Chapter 7 of the Monterey UWMP discusses the potential of future water supply shortages a normal year, single-dry year, and five-consecutive dry years. The supply from the Carmel River Aquifer, Seaside Groundwater Basin, Sand City Desalination Plant, and MPWSP Desalination Plant are all anticipated to be reliable and provide their contractual or design supply in all year types. Supplies from the PWM Expansion are expected to be limited by available source water (wastewater flows) until the MPWSP is online. Until the MPWSP is online, it is expected that demands will need to be constrained through the enaction of the Water Shortage Contingency Plan (WSCP).

1.2 Annual Water Supply and Demand Assessment

As established by CWC Section 10632.1, urban water suppliers must conduct annual water supply and demand assessments and submit an annual water shortage assessment report to DWR. The Annual Assessment is an evaluation of the short-term outlook for supplies and demands to determine whether the potential for a supply shortage exists and whether there is a need to trigger a WSCP shortage level and response actions in the current fiscal year to maintain supply reliability. Beginning by July 1, 2022, Monterey Main must prepare the annual water supply and demand assessment and submit an Annual Water Shortage Assessment Report to DWR. The preparation of this report will inform Monterey Main, the public, and state and other local agencies about the water supply conditions and the likelihood of water shortages. The annual report should report the approved anticipated shortage level, triggered shortage response actions, compliance and enforcement actions, and communication actions that will be implemented to mitigate the shortage identified in the Annual Assessment. The Annual Water Shortage Assessment Report will be due by July 1 of every year. Per CWC, the annual assessment must include:

- The written decision-making process that CAW will use each year to determine its water supply reliability.
- The key data inputs and assessment methodology used to evaluate the supplier's water supply reliability for the current year and one dry year, including:
  - Current year unconstrained demand.
  - Current year available supply in the current year and one dry year.
  - Existing infrastructure capabilities and plausible constraints.

- A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.
- A description and quantification of each source of water supply.

See Section 1.3 on how CAW's Monterey Main district determines water shortage levels.

1.3 Six Standard Water Shortage Levels

CAW filed the Water Shortage Contingency Plan, Rule 14.1.1 (Attachment 1), in response to the adoption of Regulation XV, Water Conservation and Rationing Plan by the Monterey Peninsula Water Management District ("MPWMD"), the regulatory agency of the Monterey Peninsula's water resources and as amended to comply with regulatory Orders as required by the Commission through Resolution W-5041 and referenced predecessors. The plan is intended to help ensure that all responsible measures are instituted to enable the Company's Monterey Main District to comply with the limitations on productions found in State Board's Cease and Desist Order (CDO), SWRCB Order No. WR 95-10, 2016-0016) and the Seaside Basin Decision, as well as other State mandated restrictions and requirements. This Rule applies to Monterey's Main System which is the Company's largest distribution system in its Monterey District that serves customers in the Cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Sand City, Seaside, and Pacific Grove, and portions of unincorporated Monterey County in the Carmel Valley, Del Monte Forest, and Carmel Highland areas. The Main System derives its source of supply from the Carmel River System and Coastal Subareas of the Seaside Basin. All other non Monterey Main areas follow the currently authorized 5 stage Rule and Schedule 14.1.

The Monterey Main Rule establishes a 4-stage system of increasing water conservation. Stage 1 is in effect at all times. Stages 2 and 3 are triggered when the Monterey Main exceeds its allocation from the Carmel River System and Seaside Basin or by a regulatory or emergency trigger. Stage 4 is enacted by a regulatory trigger, which includes any subsystem that relies on production or production offsets from the Main Monterey system, physical storage limitations, or as an emergency response to ensure public health, safety, or welfare. In the need to enact the WSCP and enter a shortage stage, CAW will notify California Public Utilities Commission (CPUC) through an advice letter and then MPWMD will implement the appropriate stage and enforce demand reduction methods. Below is a summary of the 4 water conservation stages of the Water Conservation Plan.

There are a number of criteria that will trigger the water shortage stages of the Water Conservation plan including, but not limited to: 1) physical storage trigger; 2) emergency trigger; and 3) regulatory trigger. Water shortage stages and a description of the corresponding water supply conditions are included in Table 1and described further in separate sections below the table. The menu of potential reduction measures for each stage are described in Section 1.4.1.

Table 1. DWR 8-1 Water Shortage Contingency Plan Levels

SHORTAGE LEVEL	PERCENT SHORTAGE RANGE	WATER SUPPLY CONDITION
1		In effect at all times during any supply condition
2	<5%	**Physical Shortage Trigger:** Stage 2 shall take effect on June 1, or such earlier date as may be determined by MPWMD, if the Total Storage Available in Table XV-4 in MPWMD's Rule 160 is below the Total Storage Required, but at least 95% of the Total Storage Required. The amount of voluntary reduction shall equal the percentage shortfall in Total Storage Required. **Regulatory Trigger – Production Targets:** Stage 2 shall take effect when the most recent 12month Company production from the Monterey Peninsula Water Resource System (MPWRS)[1] is greater than the then-current annual production target as determined in Table XV-1 of MPWMD Rule 160 but no greater than 105% of the annual production target. The amount of voluntary reduction shall equal the percentage overage of the annual production. **Regulatory Trigger – Regulatory Order:** Stage 2 shall take effect when that system is directed to reduce use by a governmental or regulatory agency. The amount of voluntary reduction shall equal the percentage directed by that governmental or regulatory agency relative to a base year determined by the governmental or regulatory agency. **Emergency Trigger:** Stage 2 shall take effect when the MPWMD or Company finds that a water supply emergency exists. Stage 2 shall take effect upon adoption of a Resolution of the MPWMD Board of Directors, or a declaration of a Water Supply Emergency by the Company or a State or County entity, due to a catastrophic event. In that Resolution or declaration, there shall be a finding of an immediate need to reduce production. The amount of voluntary reduction shall be determined by MPWMD, the Company, or the State or County entity. The Requirements of Stage 1 remain in effect
3	>5%	**Trigger: Stage 2 Deemed Unsuccessful :** Stage 3 shall take effect if Stage 2 has been implemented and has failed to sunset after a period of 6 months, except in the case of a government required targeted percentage implementation that has been met and continues to be met. **Physical Shortage Trigger:** Stage 3 shall take effect when production or production offsets from the Carmel River System or the Seaside Coastal Subareas, on June 1 or such earlier date as may be set by the MPWMD Board following MPWMD's May Board meeting if Total Storage Available in Table XV-4 of MPWMD's Rule 160 is below 95% of Total Storage Required. **Regulatory Trigger – Production Targets:** Stage 3 shall take effect when the most recent 12 month Company production from the MPWRS is greater than 105% of the then-current annual production target as determined in Table XV-1 of Rule 160 and Stage 2 has not been implemented **Regulatory Trigger – Regulatory Order:** Stage 3 shall take effect when requested by a governmental or regulatory agency to implement Stage 3, when Stage 2 has been deemed unsuccessful in meeting the governmental or other regulatory agency targets, or a governmental or other regulatory agency has increased the requested reduction to a level greater than that achieved in Stage 2. **Emergency Trigger:** Stage 3 shall take effect when the MPWMD Board or Company finds that a water supply emergency exists and upon adoption of a Resolution of the MPWMD Board or declaration of a catastrophic event by a governing body. In that Resolution or declaration of a catastrophic event, there shall be a finding of an immediate need to reduce production

		through the imposition of Stage 3 Conservation Rates. The Requirements of Stage 1 and 2 remain in effect
4	As Needed	**Trigger - Stage 3 Deemed Unsuccessful:** Stage 4 shall take effect if Stage 3 has been implemented and has failed to sunset after a period of 8 months. **Regulatory Trigger:** Stage 4 shall take effect when requested by a governmental or regulatory agency to implement Stage 4, when Stage 3 has been deemed unsuccessful in meeting the governmental or other regulatory agency targets, or a governmental or other regulatory agency has increased the requested reduction to a level greater than that which can be achieved in Stage 3. **Emergency Trigger**: Stage 4 shall take effect when the MPWMD Board finds that a water supply emergency exists and upon adoption of a Resolution of the MPWMD Board, or a declaration of a water supply emergency by the Company, or a State or County entity, due to a catastrophic event. In that Resolution or declaration of a catastrophic event, there shall be a finding of an immediate need to reduce production through the imposition of Stage 4 Water Rationing. The Requirements of Stage 1, 2 and 3 (if applicable) remain in effect

Notes: 1. **"**Monterey Peninsula Water Resource System" or "MPWRS" means the surface water in the Carmel River and its tributaries, groundwater in the Carmel Valley Alluvial Aquifer which underlies the Carmel River, and groundwater in the Seaside Groundwater Basin;

Each of the water shortage stages will be rescinded by resolution of the MPWMD when the usable storage in the Carmel River System and Seaside Coastal Subareas is greater than the physical storage trigger for that stage.

1.3.1 Shortage Level 1

As part of Stage 1 of the Water Shortage Contingency Plan, Monterey Main must maintain its Water Year production from the Carmel River System below amounts specified in the CDO, as amended, and must comply with the production limits imposed by the Seaside Watermaster.

Monterey Main's customers must comply with the water waste and non-essential water use prohibitions. A few examples of the water waste and non-essential water use prohibitions are listed below; a full list can be seen in MPWMD Regulation XV in Attachment 2.

- Operation of fountains, ponds, lakes, or other ornamental use of potable water without recycling.
- Using unmetered fire hydrant water by individuals for any reason other than fire suppression or utility system maintenance.
- Use of potable water for washing buildings, structures, driveways, patios, parking lots, tennis courts, or other hard surfaced areas, except in the cases where health and safety are at risk.
- Use of potable water to irrigate turf, lawns, gardens, or ornamental landscaping between 9:00 AM and 5:00 PM by means other than drip irrigation or hand-watering without quick acting positive action shut-off nozzles. Exceptions may be granted by MPWMD to professional gardeners where the only option is to water between 9:00 AM and 5:00 PM.
- Operation of commercial car washes without recycling at least 50% of the potable water used per cycle
- Use of potable water for street cleaning

1.3.2 Shortage Level 2

Stage 2 comes into effect when Monterey Main exceeds its year-to-date at month-end production as defined in Rule 14.1.1, by regulatory order or by an emergency trigger. When Stage 2 or higher of the Water Shortage Contingency Plan has been activated by Commission authorization, the water use restrictions of Stage 1 in the Water Shortage Contingency Plan in Section G.2 of Rule 14.1.1 become subject to fines imposed by the utility. When Monterey Main's year-to-date at month-end targets are met for two consecutive months in the subsequent water year, Monterey Main will revert back to Stage 1.

1.3.3 Shortage Level 3

Stage 3 of the water shortage contingency plan implements specific Conservation Rates. Level 1 Conservation Rates are comprised of a 25% surcharge on the then existing rates for a minimum of 3 months. The surcharges do not apply to Rate Tier 1 residential Customers. Level 2 Conservation Rates are comprised of a 40 percent surcharge implemented on the then existing rate (without the 25 percent Level 1 surcharge) if after the imposition of Level 1 Conservation Rates for 3 months the monthly production in the Company's system exceeds the monthly production target for the previous two (2) consecutive months. When Stage 3 comes into effect, all of the reduction measures identified in Stage 1 and 2 remain enacted.

1.3.4 Shortage Level 4

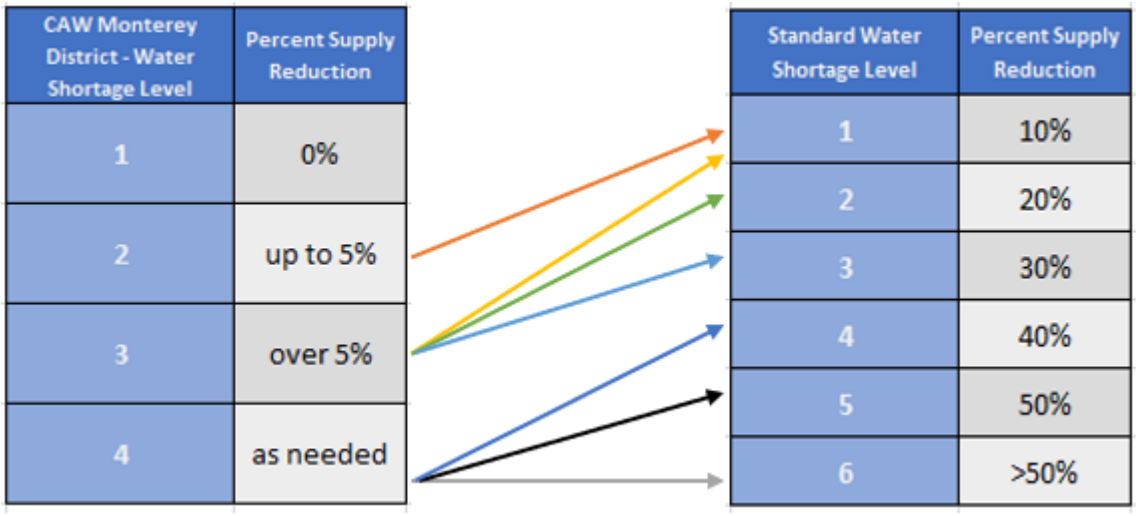
Water shortage Level 4 enforces water rationing. While CAW's Monterey Main district does not hold the authority to implement the water rationing stage, CAW will aid the MPWMD in implementing all water rationing measures. As part of the water rationing stages, CAW will send written notice of mandatory

water rationing upon the determination. For stage 4, CAW's Monterey Main district will send monthly reminders of the water rationing stage in the water bill and include the customer's water ration and the quantity of the water ration consumed by the customer. Water rations will be determined in accordance with MPWMD Rule 165 for each customer by dividing the reduced available production by the percentage of use for each Customer Category. However, water rationing care will be taken to ensure health, safety, and welfare. Under no circumstances will residential water rations be less than 35 gallons per person per day. In addition to the water rationing measures outlined below, all previously enacted measures through from Stage 1 will be enforced.

1.3.5 Standard Water Shortage Level Crosswalk

CWC Section 10632(a)(3)(A) includes six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. If the supplier's water shortage levels do not correspond with the six standard levels, then a crosswalk between the supplier's stages and the standard levels is required for compliance, shown in Figure 1.

Figure 1. Water Shortage Level Crosswalk



1.4 Shortage Response Actions

Water Code Section 10632 (a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels. MPWMD has defined specific shortage response actions that align with the defined shortage levels in Table 1. **Error! Reference source not found.**These shortage response actions were developed with consideration to the system infrastructure and operations changes, supply augmentation responses, customer-class or water use-specific demand reduction initiatives, and increasingly stringent water use prohibitions.

1.4.1 Demand Reduction

The demand reduction measures that would be implemented to address shortage levels are described in Table 2. This table indicates which actions align with specific defined shortage levels and estimates the extent to which that action will reduce the gap between supplies and demands to demonstrate that choose suite of shortage response actions can be expected to deliver the expected outcomes necessary to meet the requirements of a given shortage level. The table also identifies the enforcement action, if any, associated with each demand reduction measure.

Table 2. DWR 8-2 Demand Reduction Actions by Customer

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT?
STAGE 1 - MONTEREY MAIN				
RESTRICTIONS - DEMAND REDUCTION ACTIONS BY CUSTOMER				
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Prohibit allowing potable water to escape from breaks within the customer's plumbing system for more than seventy-two (72) hours after the customer is notified or discovers the break	YES
1	Other - Prohibit use of potable water for washing hard surfaces	0-1%	Including driveways, patios, parking lots, tennis courts, streets, or other hard surfaced areas	YES
1	Landscape - Limit landscape irrigation to specific times	0-1%	Irrigation is prohibited between 9am and 5pm on any day	YES
1	Landscape - Limit landscape irrigation to specific days	0-5%	Irrigation is prohibited on any day besides Wednesday and Saturdays, except irrigation by a professional gardener or landscaper on site limited to 2 watering days per week	YES
1	Other - Require automatic shut of hoses	0-1%	For landscape irrigation, washing private vehicles, and washing livestock	YES
1	Landscape - Other landscape restriction or prohibition	0-1%	Prohibiting irrigation during rainfall and for 48 hours after measurable precipitation	YES
1	Water Features - Restrict water use for decorative water features, such as fountains	0-1%	Fountains, ponds, lakes, and other ornamental water features must use recirculating water	YES
1	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	Vehicle-washing facilities must recycle and reuse at least 50% or 60% water depending on if constructed before or after January 1, 2014, respectively.	YES
1	Other	0-1%	When washing commercial aircraft, cars, buses, boats, trailers, or other commercial vehicles, use of potable water is prohibited, except at water efficient facilities	YES
1	CII - Restaurants may only serve water upon request	0-1%	No restaurant, hotel, café, cafeteria, or other public place where food is sold is served or offered for sale, shall serve drinking water to any customer unless expressly requested.	YES
1	CII - Lodging establishment must offer opt out of linen service	0-1%	Hotels/motels must provide guests with option to reuse towels and linens for more than one day	YES
1	Other - Prohibit use of potable water for construction and dust control	0-1%	Prohibit use of potable water for construction, compaction, dust control, street or parking lot sweeping, building wash down where non-potable or recycled water is sufficient.	YES

1	Other	0-1%	Delivery, receipt, and/or use of water from an unpermitted Mobile Water Distribution System	YES
1	Other	0-1%	Use of an unmetered fire hydrant by individuals other than for fire suppression or utility system maintenance	YES
DEMAND REDUCTION ACTIONS BY UTILITY				
1	Offer Water Use Surveys	0-1%	Use of water leak surveys to all community members	NO
1	Expand Public Information Campaign	0-1%	Community outreach that includes educational information and saving tips included in billing inserts	NO
STAGE 2 - WATER SHORTAGE				
RESTRICTIONS - DEMAND REDUCTION ACTIONS BY CUSTOMER				
All Restrictions of Stage 1 remain in place, additional restrictions below apply				
DEMAND REDUCTION ACTIONS BY UTILITY				
2	Other - Fines for Water Waste	0-2%	Increasing fines for violating Stage 1 water waste prohibitions	
STAGE 3 - WATER SHORTAGE				
RESTRICTIONS - DEMAND REDUCTION ACTIONS BY CUSTOMER				
All Restrictions of Stage 1 & 2 remain in place, additional restrictions below apply				
DEMAND REDUCTION ACTIONS BY UTILITY				
3	Implement or Modify Drought Rate Structure or Surcharge	5-15%	Will implement Commission-approved emergency conservation rates	YES
STAGE 4 - WATER SHORTAGE				
RESTRICTIONS - DEMAND REDUCTION ACTIONS BY CUSTOMER				
All Restrictions of Stage 1, 2 & 3 remain in place, additional restrictions below apply				
4	Other	varies	New Annexations to service area are prohibited	YES
4	Other water feature or swimming pool restriction	0-1%	Prohibit draining or refilling of swimming pools and spas except to prevent or correct structural damage or to comply with public health regulations	YES
4	Other	varies	Implement residential and non-residential water rations at the discretion of MPWMD. See MPWMD Regulation XV Rule 165 Section E and F for more detail.	YES
Demand Reduction Actions by Utility				
4	Moratorium or Net Zero Demand Increase on New Connections	0-2%	Temporarily limit or ban new water service connections within the service area	NO

Notes: Reduction in the shortage gap is estimated and can vary significantly.

1.4.2 Supply Augmentation

Although CAW has no immediate plan to augment supply, Monterey Main strives to build carryover storage during wet years in order to utilize full allotment of water volume during dry years to meet demands, as indicated in Table 3. Monterey Main injects excess Carmel River flows during the wet years into the Seaside Groundwater Basin as part of its Aquifer Storage and Recovery (ASR) Program to be pumped back out and used in the summer months or for dry years. This volume of additional extracted groundwater can vary significantly dependent on previous seasons injections and the current demand gap. These options are discretionary and quantifying their ability to reduce the shortage gap can vary significantly.

Table 3. DWR 8-3R Supply Augmentation & Other Actions

SHORTAGE LEVEL	SUPPLY AUGMENTATION METHODS AND OTHER ACTIONS BY WATER SUPPLIER	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OF REFERENCE
CAW Discretion	Stored Emergency Supply	As Needed	Additional pumping of stored groundwater

1.4.3 Operational Changes

California American Water will make operational changes such as decreasing lengths and frequency of line flushing in Stages 3 and higher among other water savings measures. The Monterey district will evaluate additional operational measures to further increase its system efficiency and minimize leaks by potentially expediting infrastructure repairs or altering maintenance cycles.

1.4.4 Emergency Response Plan

This section describes the response to emergency situations which interrupt water supply including earthquakes, regional power outages, system failures and other events specific to CAW's sources.

CAW has analyzed the nature and extent of likely catastrophes which could affect the ability to provide water supply for both consumptive and emergency use. Catastrophes are broadly classified as "naturally occurring" and "manmade". Natural catastrophes include such incidents as fire, flood, earthquake, and electrical supply failure. Manmade catastrophes include such incidents as chemical spill, vandalism, and sabotage, including terrorist attack, and mechanical failure. Manmade catastrophes can also have the same end result as those of natural disasters. As an example, a dam break regardless of the cause, could flood and damage or destroy facilities.

CAW has installed a broad range of systems, procedures, and facilities to reduce the potential of significant water supply interruptions regardless of cause. Some of these systems, procedures and facilities are summarized here:

- All production facilities are fenced and locked to prevent unauthorized entry.
- Emergency generators are located at critical facilities. The generators are equipped with automatic transfer switches which upon a power failure will automatically disconnect the facility from commercial power source, start the generator, and power up the facility. While some generators are stationary, most are trailer mounted thus allowing movement within the various service areas should that be required.
- System pressure, water production flow rate, and power status are monitored and reported at representative locations throughout the various water systems. Reports are sent to Monterey Main

office where they are displayed, monitored, and recorded. Additionally, approximately twenty representative water supply and production sites are equipped with “mission controllers”, a web-based monitoring system. The mission controllers alert both on-duty and on-call staff by cell phone when operational problems arise.

- CAW maintains on-call staff twenty-four hours a day for rapid response.
- CAW maintains a stockpile of service line repair parts and associated construction equipment for repair of small leaks and line breaks.
- CAW has blanket contracts with two local contractors to assist with larger emergency repairs caused by earthquake or other major events.
- CAW has completed an Emergency Operations Plan detailing procedures and contacts and outlining responses to several most probable catastrophic events and has filed it with the Department of Public Health.

An inherent strength in the CAW system is the fact that water is produced from multiple wells spread more or less uniformly throughout the various service areas. As a result, the system has a high degree of redundancy.

1.4.5 Seismic Risk Assessment and Mitigation Plan

A seismic risk assessment has been completed as part of the America’s Water Infrastructure Act of 2018 Risk and Resilience Assessment (RRA) requirements. The RRA includes detailed information about the water system’s assets and an assessment of seismic risk and potential mitigation measures. Additionally, the Monterey district maintains an emergency response plan that addresses seismic risk.

1.4.6 Shortage Response Action Effectiveness

In CAW’s Monterey district, all accounts are metered. During a water shortage, a comparison of delivery records would be carried out to determine if water is being conserved. All water sources, including all groundwater wells and the desalination plant, are metered and have continuous recording equipment. During a water shortage, a comparison of total water purchased would be carried out to determine if water is being conserved.

For each specific Shortage Level Response Action identified in the plan, the WSCP also estimates the extent to which that action will reduce the gap between supplies and demands identified in Table 2. To the extent feasible, Monterey Main has estimated percentage savings for the chosen suite of shortage response actions, which can be anticipated to deliver the expected outcomes necessary to meet the requirements of a given shortage level.

1.5 Communication Protocols

As discussed in Rule 14.1.1, Section G Water Conservation Plan triggers customers notifications through bill messaging or direct mail. Notifications must occur prior to rate changes or fines. Any change in stage level (up or down) shall be notified via press release and on the Company’s website and in emails sent to customers when provided. Notification occurs one week prior to fines, drought surcharge, or rate changes. CAW will maintain communications and updates on supply conditions. Updates on supply status and results of the customers conservation efforts included in every bill. The following Communications Matrix (Figure 2) summarizes the Company’s Communication Tactic for each Shortage stage:

Figure 2. WSCP Communications Matrix

2021 Water Shortage Contingency Plan Communications Matrix					
	Stage 1	*Stage 2*	*Stage 3*	*Stage 4*	
Communication Tactic					**Notes**
Regulatory Notice			x	x	CPUC requires customer notice when mandatory conservation stages are activated or changed
Public Hearing			x	x	CPUC may require formal public hearings when mandatory conservation stages are activated or changed
Press Release		x	x	x	CAW conducts media outreach when conservation levels are activated or changed
Social Media	x	x	x	x	CAW regularly communicates information about water conservation and efficiency via social media channels. Message frequency and information will be appropriate for each stage
Website	x	x	x	x	CAW maintains a website with information to local conservation programs and services. Appropriate information about stages will be added to website as appropriate.
Television/Radio				x	CAW occasionally purchases advertising on broadcast and digital platforms as appropriate.
Water Waste Reporting on Website	x	x	x	x	CAW maintans a water waste reporting portal on its website and reports are followed on by local staff
Community Outreach	x	x	x	x	CAW regularly holds community meetings, attends community events and local government meetings. Conservation and efficiency information is shared as appropriate.
Direct mail, email and Bill Onserts	x	x	x	x	CAW regularly provides conservation and efficiency information through bill onserts and messages. CAW may also utilitize direct mail and email as needed.
Reverse 911 Messages				x	CAW may utilitize its emergency communications system to provide critical information via phone, text and email as appropriate in the event of a severe water shortage.
Customer Service	x	x	x	x	CAW Customer service center and local employees are provided relevant information for customers who call or visit our offices.

1.6 Compliance and Enforcement

When a shortage stage of the WSCP has been activated by Commission authorization, the water use restrictions of Stage 1 in Section D of Rule 14.1.1 become subject to fines and penalties imposed by CAW. CAW will first work closely with local law enforcement and MPWMD with enforcing the mandatory water use restrictions. MPWMD has penalties for violation of the water waste restrictions that were mentioned above in Table 2. The fines are noted in Figure 3 and based on MPWMD Regulation XV, Rule 162, Table XV-5 Water Waste Fines.

Figure 3. Penalties for Water Wastage

Schedule No. MO -14.1.1.
WATER CONSERVATION PLAN
MONTEREY COUNTY DISTRICT

3. Applies to all Enforcement Stages of Water Shortage Contingency Plan.

	Violation 1	Violation 2 (of the same restriction)	Violation 3 (of the same restriction)	Violation 4 (of the same restriction)	Violation 5/6 [2] (of the same restriction)
Proof of violation	Employee or Customer reports, with no additional verification required	Verification with a written report by employee or contractor of CAW	Verification with a written report by employee or contractor of CAW	Verification with a written report by employee or contractor of CAW	Verification with a written report by employee or contractor of CAW
Letter/fine	Warning letter mailed to premise and billing address	Violation letter posted and mailed with $100 fine on next bill	Violation letter posted and mailed with $250 fine on next bill	Violation letter posted and mailed with $500 fine on next bill	Violation letter posted and mailed, shut off per Rule 11 and $500 fine on next bill
Fixing leaks All Stages	Customer has: 72 hours	Customer has: 72 hours	Customer has: 72 hour	Customer has: 72 hours	Customer has: 72 hours
Time to correct violation	5 days	5 days	5 days	5 days	5 days
Time Customer has to request variance of the alleged violation	14 days to contact CAW in writing	14 days to contact CAW in writing	10 days to file an appeal with CAW in writing	10 days to file an appeal with CAW in writing	10 days to file an appeal with CAW in writing
If the Customer does not agree with CAW's resolution [1] Reference Section K of Rule 14.1	Further reported violations of the same restricted use will not be counted in the determination of further action until one week after the variance request is resolved	If the Customer disagrees with CAW's resolution, they may file a formal complaint with the CPUC	If the Customer disagrees with CAW's resolution, they may file a formal complaint with the CPUC	If the Customer disagrees with CAW's resolution, they may file a formal complaint with the CPUC	If the Customer disagrees with CAW's resolution, they may file a formal complaint with the CPUC

[1] If a Customer has appealed the receipt of the fine, the fine will continue to be posted on the Customer's account, but will not result in further service action, until at least 14 days after the resolution of appeals. Once resolved, if in the Customer's favor, the fine will be immediately removed from the account. If not resolved in the Customers favor, then the fine will be due and payable as part of the next billing cycle and subject to all such further actions as with any other billed charge.

[2] For violation 6 instead of shut-off for 3 days and $500 fine, a flow restrictor will be installed for duration of enforcement.

1.7 Legal Authorities

CAW does not have authority to adopt resolutions or ordinances as a public utility company. However, CAW can support local jurisdictions in developing ordinances or resolutions within its Monterey District service areas that would be compatible with CAW's WSCP. For all intents and purposes of this UWMP, the Rule No. 14.1.1 (Attachment 1) serves as the WSCP resolution and anticipated course of action to achieve all necessary requirements of the WSCP if needed.

CAW as a public utility does not have the authority to declare a water shortage emergency, but will advise the CPUC of a water shortage emergency and then the MPWMD will implement the appropriate stage and enforcement. CAW will coordinate with the MPWMD for communication with adjacent cities and Monterey County for the possible proclamation of a local emergency.

1.8 Financial Consequences of WSCP

CAW develops a proposed rate structure on a three-year cycle and submits it to the CPUC for review and approval. To assist in revenue stabilization and provide an incentive to promote conservation, CAW requested a full decoupling Water Revenue Adjustment Mechanism (WRAM) in its General Rate Case. WRAM is the mechanism through which sales are decoupled from revenues, so that conservation is encouraged without having a negative financial impact. Currently, all of CAW's districts have received CPUC approval for a WRAM.

The WRAM tracks the differences between total quantity charge revenues authorized by CPUC ("Total Actual Quantity Revenues") and the total revenues actually recovered through the quantity charge based on actual sales ("Total Actual Quantity Revenues") during conservation rates, emergency rates or rationing rates. The revenue requirements are the same under conservation rates as they are under the current Commission "standard" rate structure. To recover any under collection or refund any over collection CAW implements a surcharge/ surcredit that considers the net balance of the WRAM balancing account. The WRAM will provide a cost accounting means to stabilize revenues and ensuring protection of revenue shortfalls.

In 2020, the CPUC ordered that regulated water utilities may not include the continuation of the WRAM and MCBA in their next general rate case filing but may propose the use of a Monterey-Style Revenue Adjustment Mechanism and Incremental Cost Balancing Account.

In the absence of a WRAM/MCBA, during a water shortage, California American Water will file for a Drought Memorandum Account, or similar, to track incremental shortage-related expenses to be reviewed by the CPUC for future recovery in rates. California American Water will also file for a Drought Lost Revenue Memorandum Account, or similar, to track reduced sales to be reviewed by the CPUC for future recovery in rates.

Both the Drought Memorandum Account and Drought Lost Revenue Memorandum Account are mechanisms that have been approved by the CPUC in previous droughts.

1.9 Monitoring and Reporting

As described in Section 1.2, CAW intends to track its supplies and project demands on an annual basis and, if supply conditions described in Table 1 are projected, CAW will enact the WSCP through an advice letter sent to CPUC, and work with MPWMD to aid in communicating to the water service area of any relevant restrictions of water use. Monitoring demands is essential to ensure the WSCP response actions are adequately meeting reductions and decreasing the supply/demand gap. This will help to analyze the effectiveness of the WSCP or identify the need to activate additional response actions.

The water savings from implementation of the WSCP will be determined based on monthly production reports which will be compared to the supply from prior months, the same period of the prior year, and/

or the allocation. At first, the cumulative consumption for the various sectors (e.g., residential, commercial, etc.) will be evaluated for reaching the target demand reduction level. Then if needed, individual accounts can be monitored. Weather and other possible influences may be accounted for in the evaluation.

1.10 WSCP Refinement Procedures

CAW intends to use this WSCP as an adaptive management plan to respond to foreseeable and unforeseeable water shortages. The WSCP is used to provide guidance to Monterey Main and its staff and the public by identifying response actions to allow for efficient management of any water shortage with predictability and accountability. To maintain a useful and efficient standard of practice in water shortage conditions, the requirements, criteria, and response actions need to be continually evaluated and improved upon to make sure it provides the tools to maintain reliable supplies and reduce the impacts of supply shortages.

1.11 Special Water Feature Distinction

Per Water Code Section 10632 (b), CAW has defined water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas. As listed in Table 2 there are separate demand reduction actions for decorative water features, including decorative fountains, lakes, or ponds, and for pools and spas. Non-pool or non-spa water features may use or be able to use recycled water, whereas pools and spas must use potable water for health and safety considerations. Limitations to pools and spas may require different considerations compared to non-pool or non-spa water features.

1.12 Plan Adoption, Submittal, and Availability

Per Water Code Section 10632 (a)(c), CAW sent letters of notification of preparation of the 2020 UWMP to all cities and counties within its Monterey Main service areas 60 days prior to the public hearing. CAW made the draft 2021 WSCP available for public review and held a public hearing on June 17, 2021. The notice of the public review hearing was distributed June 2, 2021.

Once the 2021 WSCP has been adopted, a copy of the WSCP will be submitted to the California State Library, DWR, and all cities and the County of Monterey within 30 days of adoption. Based on DWR's review of the WSCP, CAW will make any amendments in its adopted WSCP, as required, and directed by DWR. If CAW revises its WSCP after approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

Attachment 1: CPUC Water Shortage Contingency Plan, Rule 14.1.1

Rule No. 14.1.1.
WATER SHORTAGE CONTINGENCY PLAN
MONTEREY COUNTY DISTRICT

A. GENERAL INFORMATION

This Water Shortage Contingency Plan, filed in response to the adoption by the Monterey Peninsula Water Management District's ("MPWMD") Regulation XV, a Water Conservation and Rationing Plan[1], and as amended to comply with Regulatory Orders as required by the Commission through Resolution W-5041 and referenced predecessors, is intended to help insure that all responsible measures are instituted to enable the Company's Monterey District to comply with the limitations on productions found in SWRCB Order No. WR 95-10 and the Seaside Basin Decision, as well as other State mandated restrictions and requirements. (C)

The Commission shall authorize Tariff Schedule MO-14.1.1, which sets forth charges for the removal of flow restrictors, fines for violation of water use restrictions, and emergency conservation rates to indicate the need to further reduce water use. The Company will continue to make water conservation devices available to its Customers as required by its Rule 21 and to remind Customers of the availability of conservation devices and all rebate programs. (L)

(Continued)

[1] As amended by MPWMD through Ordinance No. 169, adopted on February 17, 2016. A full copy of the Regulation is appended to this Rule as Attachment 1.

Rule No. 14.1.1. (Continued)
WATER SHORTAGE CONTINGENCY PLAN
MONTEREY COUNTY DISTRICT

B. DEFINITIONS

1. "Bishop" shall mean the Company's Bishop Water Distribution subsystem as described in the purchase agreement between Bishop Water Company and the Company dated September 1, 1996; (C) (C)
2. "Carmel River System" means the surface water in the Carmel River and its tributaries, and groundwater in the underlying Alluvial Aquifer; (L)
3. "CCF" or "ccf"" means one hundred cubic feet, which equals 748 gallons or one unit;
4. "Commission" or "CPUC" means the California Public Utilities Commission;
5. "Company" means California-American Water Company;
6. "Customer" means any person who uses water supplied by the Company in its Monterey District;
7. "Dedicated Irrigation Meter" means a water meter exclusively used to measure outdoor water consumption;
8. "Final Production Orders" means any Cease and Desist Order, final order by the SWRCB or Seaside Watermaster or any other final court decision issued after December 10, 2008 that explicitly requires the Company, on a certain date, to reduce its production of water. For the purposes of this Rule, the effective date of any such order shall be the same date that the water production reduction limit is imposed;
9. "Flow Restrictor" means a device placed into the water distribution system by the Company that restricts the volume of flow to the Customer by 50%;
10. "Hidden Hills" means the Company's Hidden Hills subsystem as described in the purchase agreement between Carmel Valley Mutual Water Company and the Company recorded July 8, 1994, Document #49389, Reel 3125, Page 696; (L)
11. "Household" means all the people who occupy a housing unit. A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room occupied (or if vacant, intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live separately from any other people in the building and that have direct access from the outside of the building or through a common hall; (N) (N)
12. "Main System" means the Company's largest distribution system in its Monterey District that serves Customers in the Cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Sand City, Seaside, and Pacific Grove, and portions of unincorporated Monterey County in the Carmel Valley, Del Monte Forest, and Carmel Highland areas. The Main System derives its source of supply from the Carmel River System and Coastal Subareas of the Seaside Basin; (L) (L)
13. "Measurable Precipitation" means rainfall of 0.1 inch or more; (C)
14. "Mobile Water Distribution System" means any potable or sub-potable water delivery that originates at a location apart from the site of use and that is delivered via a truck or other movable container. This definition shall not apply to deliveries of water by commercial companies in volumes less than or equal to 55 gallons per container; (L)
15. "MPWMD" means the Monterey Peninsula Water Management District and its designated representatives acting on its behalf;
16. "MPWMD Board" or "Board" means the Board of Directors of the Monterey Peninsula Water Management District; (L)

(Continued)

Rule No. 14.1.1. (Continued)
WATER SHORTAGE CONTINGENCY PLAN
MONTEREY COUNTY DISTRICT

B. DEFINITIONS, Cont'd

17. "Monterey Peninsula Water Resource System" or "MPWRS" means the surface water in the Carmel River and its tributaries, groundwater in the Carmel Valley Alluvial Aquifer which underlies the Carmel River, and groundwater in the Seaside Groundwater Basin; (L) (L) (L)
18. “Non-Residential” means all Customers not falling within the definition of Residential, including commercial, industrial, public authority, golf course, and non-revenue metered Customers; (N)
19. "Plan" means this Water Shortage Contingency Plan; (N)
20. "Regulation XV" means MPWMD Regulation XV, The 2016 Monterey Peninsula Water Conservation and Rationing Plan; (L) (L) (L)
21. “Regulatory Order” means an order by the California State Water Resources Control Board, the Commission, or other governmental or regulatory agency; (N)
22. “Residential” means single-family residential or multi-family residential Customers;
23. "Rule" means this Rule 14.1.1;
24. "Ryan Ranch" means the Company's Ryan Ranch Water Distribution subsystem as described in the purchase agreement between Neuville Co. N.V. (a Delaware Corporation) and the Company dated April 30, 1990;
25. "Seaside Basin" means the water in Seaside Groundwater Basin as described in the Seaside Basin Decision;
26. "Seaside Basin Decision" means the California American Water v. City of Seaside, et. al, Case No.M66343, California Superior Court, Monterey County;
27. "Seaside Watermaster" means either (a) the court appointed Seaside Basin Watermaster Board pursuant to Section 111-L of the Decision rendered for Monterey County Superior Court Case No. M66343 (California American Water vs. City of Seaside, et. al,) dated March 22, 2006, as it may be amended from time to time or (b) the Superior Court, when issuing any order in California American Water vs. City of Seaside, et al.;
28. “SWRCB" means the California State Water Resources Control Board;
29. "SWRCB Order" means Order No. WR 95-10 issued by the SWRCB; (N)
30. "System Production Limit" means the Company's maximum annual production from the Carmel River System and the Seaside Basin as summarized in Table XV-1 of MPWMD Rule 160; (C) (C)
31. "Water" means water supplied by the Company; (L)
32. "Water Ration" means a specific amount of water available to each Customer during water rationing Stage 4. The Water Rations will be determined on a Household basis for Residential Customers and by percentage reductions by user category based on a prior year as necessary to achieve the required reductions to the allotments of all Non-Residential Customers. Variances for verifiable medical needs are available. In no circumstance shall the Residential Water Ration be lower than 90 gallons per Household per day; (C)
33. "Water Year" means the period from October 1 of any year to September 30 of the following year; (L)
34. "Water Year Allocation" means the annual regulatory production limit from the Carmel River System and Seaside Basin. (L)

Rule No. 14.1.1. (Continued)
WATER SHORTAGE CONTINGENCY PLAN
MONTEREY COUNTY DISTRICT

C. APPLICABILITY

This Rule applies to water Customers of the Monterey County District's Main System and Customers of the Ryan Ranch, Bishop and Hidden Hills systems all of which are served under rate schedule MO-1, MO-1MU, and MO-1C authorized by the Commission. This Rule applies to Customers supplied by water from the Carmel River System and Seaside Basin (including the Ryan Ranch, Hidden Hills and Bishop systems). It does not apply to Customers in Toro, Ambler Park, Ralph Lane, Garrapata and Chualar systems. (C)

D. TERRITORY (L)

The territory includes the incorporated Cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Del Rey Oaks, Sand City, a portion of Seaside, and unincorporated areas in the County of Monterey served by the Company, except for Toro, Ambler Park, Ralph Lane, Garrapata and Chualar.

E. WATER CONSERVATION INITIATION

This Plan shall commence immediately upon approval of the Commission. Trigger criteria for the various Stages are found in this Rule and MPWMD Regulation XV.

F. CUSTOMER NOTIFICATION

1. When a utility requests authorization of Schedule 14.1.1 – Water Shortage Contingency Plan tariff, via a Tier 2 advice letter, it shall provide notice of the Tier 2 advice letter and associated public meeting provided to Customers, per Resolution W-4976, and shall comply with all requirements of Sections 350-358 of the California Water Code (CWC), including but not limited to the following:
    a. In order to be in compliance with both the General Order (GO) and CWC, the utility shall provide notice via both newspaper and bill message/direct mailing.
    b. Utility shall file one notice for each advice letter filed, that includes both notice of the filing of the Tier 2 advice letter as well as the details of the public meeting (date, time, place, etc.).
    c. The public meeting shall be held after the utility files the Tier 2 advice letter, and before the Commission authorizes implementation of the tariff.
    d. Utility shall consult with DWA staff prior to filing advice letter, in order to determine details of public meeting.
2. In the event that the Company's Schedule 14.1.1- Water Shortage Contingency Plan is triggered, and the utility requests activation of an increased Stage, or an increased level of Emergency Conservation Rates in Stage 3, of the Water Shortage Contingency Plan through the filing of a Tier 2 advice letter, the utility shall notify its Customers and provide each Customer with a summary of Rule 14.1.1 and Schedule 14.1.1 Stage changes by means of bill message or direct mailing. Notification shall take place prior to imposing any fines or conservation rates associated with this Plan. (L)
3. The Company shall notify Customers via press release, messages on the Company website, and email where an email address is provided on a Customer's account before the effective date of any change in Stages either moving up Stages, e.g. from Stage 2 to Stage 3, or moving down Stages, e.g. from Stage 3 to Stage 1; or when moving up or down in the Stage 3 level of Emergency Conservation Rates. Notification will occur at least one week before any fines are levied or emergency conservation rates are enacted. In addition, the Company shall maintain communication with Customers regarding the ongoing water supply situation, and related conservation requirements. During the period that a stage of the Company's Schedule 14.1.1 is activated, the utility shall provide Customers with periodic updates regarding its water supply status and the results of Customers' conservation efforts. (C) (C)

(Continued)

Rule No. 14.1.1. (Continued)
WATER SHORTAGE CONTINGENCY PLAN
MONTEREY COUNTY DISTRICT

4. After Schedule 14.1.1 has been activated and it is determined that water supplies are again sufficient to meet demands, and staged reduction measures are no longer necessary, the utility shall seek Commission authority via a Tier 1 advice letter to de-activate the particular stage of reduction that was previously authorized. (C) (C)

G. WATER CONSERVATION

1. Company Responsibilities (L)
   a. Communicate conservation messages to Customers. At all times during Stages 2 through 4 the Company shall send monthly conservation reminders. (C) (C)
   b. Include conservation message on water bills. (L)
   c. Participate in a joint rebate program with the MPWMD. (L)
   d. Promote water conservation and undertake conservation programs in coordination with MPWMD. (L) (L)
   e. Cooperate with the MPWMD to establish and maintain a water conservation website that responds to local concerns. (C) (C)
   f. Provide conservation bill inserts. (L)
   g. Amend its Urban Water Management Plan and its Rule 14.1.1, Water Shortage Contingency Plan--Monterey District, to conform to MPWMD Regulation XV. A copy of Rule 14.1.1 shall be filed with the CPUC and the MPWMD within thirty (30) days of the effective date of any amendment to this Regulation. (N) (N) (N) (N) (N)
   h. Provide Residential and Non-Residential water audits upon request. (L)
   i. Make water-saving conservation devices available to all Customers and provide notices of availability.
   j. Provide MPWMD with all Customer data required by Regulation XV as authorized by Commission Decision 09-02-006 and in accordance with the terms and conditions of a nondisclosure agreement.
   k. Shall not provide portable water meters unless an MPWMD permit has been issued and in compliance with any tariff moratorium provisions. (L)

2. Customers' Responsibilities
   a. All Customers shall comply with Rule 14.1.1 and MPWMD Regulation XV (The 2016 Monterey Peninsula Water Conservation and Rationing Plan). (C)
   b. All Customers shall prioritize the conservation of water at all times. (L)
   c. All Customers are responsible for notifying the Company whenever there is a change of use from Residential to Non-Residential, or Non-Residential to Residential. (C) (C)

3. "Water Waste" shall mean the indiscriminate, unreasonable, or excessive running or dissipation of water. Water Waste shall include, but not be limited to, the following: (L) (L)
   a. Waste caused by correctable leaks, breaks or malfunctions. All leaks, breaks, or other malfunctions in a Customer's plumbing or distribution system must be repaired within 72 hours of notification that a leak exists. This loss of potable water may be cited for water waste after the time period established in Schedule 14.1.1 in which a leak or malfunction was to have been corrected. Exceptions may be granted by the General Manager for corrections, which are not feasible or practical. (C) (C)

(Continued)

Rule No. 14.1.1. (Continued)
WATER SHORTAGE CONTINGENCY PLAN
MONTEREY COUNTY DISTRICT

b. Indiscriminate or excessive water use which allows excess to run to waste. (L)
c. Washing driveways, patios, parking lots, tennis courts, or other hard surfaced areas with potable water, except in cases where health or safety are at risk and the surface is cleaned with a water broom or other water efficient device or method. Water should be used only when traditional brooms are not able to clean the surface in a satisfactory manner. (C)
d. Power or pressure washing buildings and structures with potable water, except when preparing surfaces for paint or other necessary treatments or when abating a health or safety hazard.
e. Hand watering by a hose, during permitted hours, without a quick acting positive action shut-off nozzle.
f. Irrigation between 9 a.m. and 5 p.m. on any day, and irrigation on any day other than Saturdays and Wednesdays, except for irrigation overseen by a professional gardener or landscaper who is available on site and that is not exceeding a maximum two watering days per week. This prohibition applies to hand watering with a hose, and irrigation systems whether spray, drip or managed by a smart controller. Limited hand watering of plants or bushes with a small container or bucket is permitted on any day at any time. Subsurface greywater irrigation systems may also be operated at any time. An exemption may be given to a Non-Residential establishment whose business requires water in the course of its business practice (e.g., golf courses, nurseries, recreational space, among others) with notification by the business owner to the MPWMD, and subject to the approval of the MPWMD General Manager.
g. Irrigating during rainfall and for 48 hours after Measurable Precipitation of at least 0.10 inches.
h. Use of water for irrigation or outdoor purposes in a manner inconsistent with California Code of Regulations, Title 23, Water, Division 2, Department of Water Resources, Chapter 2.7, Model Water Efficient Landscape Ordinance, where applicable, or in a manner inconsistent with local regulations.
i. Operation of fountains, ponds, lakes or other ornamental use of potable water without recycling, and except to the extent needed to sustain aquatic life, provided such animals are of significant value and have been actively managed.
j. Individual private washing of cars with a hose except with the use of a Positive Action Shut-Off Nozzle.
k. Washing commercial aircraft, cars, buses, boats, trailers or other commercial vehicles with potable water, except at water efficient commercial or fleet vehicle or boat washing facilities where equipment is properly maintained to avoid wasteful use.
l. In-bay or conveyor car washes permitted and constructed prior to January 1, 2014, that do not recycle and reuse at least 50 percent of the wash and rinse water. In-bay or conveyor car washes that were permitted and constructed after January 1, 2014, that do not either (1) use and maintain a water recycling system that recycles and reuses at least 60 percent of the wash and rinse water; or (2) use recycled water provided by a water supplier for at least 60 percent of its wash and rinse water. (C)
m. Charity car washes. (N)
n. Use of potable water for street cleaning. (L)
o. Failure to meet MPWMD Regulation XIV water efficiency standards for an existing Non-Residential use after having been given a reasonable amount of time to comply. (C)
p. Serving drinking water to any Customer unless expressly requested, by a restaurant, hotel, café, cafeteria or other pubic place where food is sold, served or offered for sale. (N)

(Continued)

Rule No. 14.1.1. (Continued)
WATER SHORTAGE CONTINGENCY PLAN
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q. Visitor-Serving Facilities that fail to adopt and promote towel and linen reuse programs and provide written notice in the rooms, whereby towels and linens are changed every three days or as requested by action of the guest. (N)
r. Washing of livestock with a hose except with the use of a Positive Action Shut-Off Nozzle. (N)
s. Transportation of water from the Monterey Peninsula Water Resource System without prior written authorization from the MPWMD. (C)
t. Delivery, receipt, and/or use of water from an unpermitted Mobile Water Distribution System. (C)
u. Unreasonable or excessive use of potable water for dust control or earth compaction without prior written approval of the MPWMD General Manager where non-potable water or other alternatives are available or satisfactory. (C)
v. Use of unmetered fire hydrant water by individuals other than for fire suppression or utility system maintenance purposes, except upon prior approval of the MPWMD General Manager. (N)
w. Water use in excess of a Water Ration.
x. Non-compliance with MPWMD Regulations XIV and XV. (N)

4. Non-Essential Water Use shall mean the uses of water that are acceptable during times of normal water availability, as long as proper procedures to maximize efficiency are followed. However, when water is in short supply, Non-Essential Water Uses must be curtailed to preserve limited water resources for essential uses. Non-Essential Water Uses do not have health and safety impacts, are not required by regulation, and are not required to meet the core functions of Non-Residential use. (C)

5. Prohibitions against Water Waste and Non-Essential Water Use shall be enforced by the MPWMD and its designated agents, unless indicated otherwise. (N)
   a. If the MPWMD does not enforce Water Waste and Non-Essential Water Use when Stage 2 or higher of this Rule is activated, then that responsibility will lie with either another governmental agency, or the Company.

6. Each occurrence of Water Waste or Non-Essential Water Use that continues after the Customer has had reasonable notice to cease and desist that type of water use shall constitute a Flagrant Violation, as defined in MPWMD's Rule 167.

7. Repeated occurrences of Water Waste or Non-Essential Water Use, which continue or occur after the Customer has had a reasonable notice to cease and desist that type of water use, or which continues or occurs after the Customer has had a reasonable opportunity to cure any defect causing that type of water use, shall provide cause for MPWMD to request the placement of a Flow Restrictor with a maximum flow rate of six (6) ccf/month within the water line or water meter. The Flow Restrictor installation and removal shall be made by the Company in accordance with Schedule No. MO-14.1.1. (N)

Rule No. 14.1.1. (Continued)
WATER SHORTAGE CONTINGENCY PLAN
MONTEREY COUNTY DISTRICT

H. STAGE 1 WATER CONSERVATION: Prohibition on Water Waste (C)

Stage 1 Water Conservation is the first stage of water conservation measures as defined in this Rule and MPWMD Regulation XV. (L)

1. Stage 1 shall be in effect at all times as long as this Rule is active. (L)
2. Schedule MO-14.1.1 shall not be activated during this Stage. (C)
3. The Company shall maintain its Water Year production from the Carmel River System below amounts specified in the CDO, as amended, and shall comply with the production limits imposed by the Seaside Watermaster. (L) (L)
4. Each Customer shall comply with the Water Waste and Non-Essential Water Use prohibitions as stated in this Rule. (L) (C) (C) (C)

I. STAGE 2 WATER CONSERVATION – Voluntary Reduction Use or Commission Ordered Compliance

Stage 2 Water Conservation is the second stage of water conservation as defined in this Rule and MPWMD Regulation XV. In addition to the requirements of Stage 1, the following shall apply in Stage 2 Water Conservation. (L) (L) (L)

1. Triggers (N)(D)
   a. Physical Shortage Trigger: Stage 2 shall take effect on June 1, or such earlier date as may be determined by MPWMD, if the Total Storage Available in Table XV-4 in MPWMD's Rule 160 is below the Total Storage Required, but at least 95% of the Total Storage Required. The amount of voluntary reduction shall equal the percentage shortfall in Total Storage Required.
   b. Regulatory Trigger – Production Targets: Stage 2 shall take effect when the most recent 12 month Company production from the MPWRS is greater than the then-current annual production target as determined in Table XV-1 of MPWMD Rule 160 but no greater than 105% of the annual production target. The amount of voluntary reduction shall equal the percentage overage of the annual production.
   c. Regulatory Trigger – Regulatory Order: Stage 2 shall take effect when that system is directed to reduce use by a governmental or regulatory agency. The amount of voluntary reduction shall equal the percentage directed by that governmental or regulatory agency relative to a base year determined by the governmental or regulatory agency.
   d. Emergency Trigger: Stage 2 shall take effect when the MPWMD or Company finds that a water supply emergency exists. Stage 2 shall take effect upon adoption of a Resolution of the MPWMD Board of Directors, or a declaration of a Water Supply Emergency by the Company or a State or County entity, due to a catastrophic event. In that Resolution or declaration, there shall be a finding of an immediate need to reduce production. The amount of voluntary reduction shall be determined by MPWMD, the Company, or the State or County entity. (N)(D)

(Continued)

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WATER SHORTAGE CONTINGENCY PLAN
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2. The Company shall notice Customers in compliance with the noticing requirements in Section F above and state the reduction necessary to comply with the need in the activation event. (C) (C)

3. Schedule 14.1.1 shall be activated at Stage 2 and remain in effect until Stage 2 sunsets. (N)

4. The requirements of Stage 1 shall remain in effect.

5. Sunset.
   a. Without further action, Stage 2, when implemented pursuant to Rule I-1-a, shall sunset and water use restrictions shall revert to Stage 1 when Total Storage Available computed consistent with Table XV-4 of MPWMD Rule 160 is greater than Total Storage Required for two (2) consecutive months.
   b. Without further action, Stage 2, when implemented pursuant to Rule I-1-b, shall sunset and water use restrictions shall revert to Stage 1 when the Company's 12 month total production has been less than or equal to its then-current annual production target for two (2) consecutive months.
   c. Without further action, Stage 2, when implemented pursuant to Rule I-1-c, shall sunset and water use restrictions shall revert to Stage 1 when the governmental or regulatory agency rescinds the request or MPWMD determines that the voluntary reduction has been met, and conditions I-5-a and I-5-b above have been met.
   d. Stage 2, when implemented pursuant to Rule I-1-d, shall sunset and water use restrictions shall revert to Stage 1 when the MPWMD Board finds that a water supply emergency no longer exists or other government agency declares the catastrophic event is over and service is no longer impaired. (N)

J. STAGE 3 WATER CONSERVATION: Conservation Rates (C)
Stage 3 is the third stage of water conservation as defined in this Rule and MPMWD Regulation XV. The (L)
requirements of Stage 1 and 2 Water Conservation shall remain in effect in Stage 3 Water Conservation. In (L)
addition, the following shall apply in Stage 3 Water Conservation: (L)

1. Trigger (D)(N)
   a. Stage 2 Deemed Unsuccessful: Stage 3 shall take effect if Stage 2 has been implemented and has failed to sunset after a period of 6 months, except in the case of a government required targeted percentage implementation that has been met and continues to be met.
   b. Physical Shortage Trigger: Stage 3 shall take effect when production or production offsets from the Carmel River System or the Seaside Coastal Subareas, on June 1 or such earlier date as may be set by the MPWMD Board following MPWMD's May Board meeting if Total Storage Available in Table XV-4 of MPWMD's Rule 160 is below 95% of Total Storage Required. (D)(N)

(Continued)

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WATER SHORTAGE CONTINGENCY PLAN
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c. Regulatory Trigger – Production Targets: Stage 3 shall take effect when the most recent 12 month Company production from the MPWRS is greater than 105% of the then-current annual production target as determined in Table XV-1 of Rule 160 and Stage 2 has not been implemented (N)

d. Regulatory Trigger – Regulatory Order: Stage 3 shall take effect when requested by a governmental or regulatory agency to implement Stage 3, when Stage 2 has been deemed unsuccessful in meeting the governmental or other regulatory agency targets, or a governmental or other regulatory agency has increased the requested reduction to a level greater than that achieved in Stage 2.

e. Emergency Trigger: Stage 3 shall take effect when the MPWMD Board or Company finds that a water supply emergency exists and upon adoption of a Resolution of the MPWMD Board or declaration of a catastrophic event by a governing body. In that Resolution or declaration of a catastrophic event, there shall be a finding of an immediate need to reduce production through the imposition of Stage 3 Conservation Rates. (N)

2. The requirements of Stage 1 and 2 shall be in effect. (D)(N)

3. The Company shall notice Customers in compliance with the noticing requirements in Section F above and state the necessary reduction.

4. Schedule 14.1.1 shall be effective in Stage 3 and remain in effect as long as in Stage 3. Customers will have at least 30 days prior notice as to the implementation of the required Level 1 Conservation Rates, or a change from Level 1 to Level 2 Conservation Rates prior to implementation.

   a. Level 1 Conservation Rates comprised of a 25 percent surcharge shall be implemented on the then existing rates for a minimum of 3 months. The surcharge shall not apply to Tier 1 Residential Customers.

   b. Level 2 Conservation Rates comprised of a 40 percent surcharge shall be implemented on the then existing rate (without the 25 percent Level 1 surcharge) if after the imposition of Level 1 Conservation Rates for 3 months the monthly production in the Company's system exceeds the monthly production target for the previous two (2) consecutive months. The surcharge shall not apply to Tier 1 Residential Customers.

5. Sunset

   a. Without further action, Stage 3, when implemented pursuant to Rule J-1-a or J-1-b, shall sunset and water use restrictions shall revert to Stage 1 when Total Storage Available computed consistent with Table XV-4 is greater than Total Storage Required for two (2) consecutive months. (D)(N)

(Continued)

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b. Without further action, Stage 3, when implemented pursuant to Rule J-1-a or J-1-c, shall sunset and water use restrictions shall revert to Stage 1 when 12 month total production has been less than or equal to the then-current annual production target for two (2) consecutive months. (N)
c. Without further action, Stage 3, when implemented pursuant to Rule J-1-d, shall sunset and water use restrictions shall revert to Stage 1 when the governmental or regulatory agency rescinds the request, and Rules J-1-b and J-1-c do not apply.
d. Stage 3, when implemented pursuant to Rule J-1-e, shall sunset and water use restrictions shall revert to Stage 1 when the MPWMD Board finds that a water supply emergency no longer exists or other government agency declares the catastrophic event is over and service is no longer impaired, and Rules J-1-b and J-1-c do not apply. (N)

(D)

K. STAGE 4 WATER RATIONING (N)

1. Trigger
   a. Stage 3 Deemed Unsuccessful: Stage 4 shall take effect if Stage 3 has been implemented and has failed to sunset after a period of 8 months.
   b. Regulatory Trigger: Stage 4 shall take effect when requested by a governmental or regulatory agency to implement Stage 4, when Stage 3 has been deemed unsuccessful in meeting the governmental or other regulatory agency targets, or a governmental or other regulatory agency has increased the requested reduction to a level greater than that which can be achieved in Stage 3.
   c. Emergency Trigger: Stage 4 shall take effect when the MPWMD Board finds that a water supply emergency exists and upon adoption of a Resolution of the MPWMD Board, or a declaration of a water supply emergency by the Company, or a State or County entity, due to a catastrophic event. In that Resolution or declaration of a catastrophic event, there shall be a finding of an immediate need to reduce production through the imposition of Stage 4 Water Rationing.
   d. Stage 4 shall not be triggered if it is determined upon credible evidence that the production targets associated with Final Production Orders are likely to be met by adhering to the requirements of a lesser Stage.
   e. Delay of Stage Implementation. A delay in implementation of Stage 4 Water Rationing to ensure adequate operation of the program shall not exceed sixty (60) days.

2. Amount of Reduction.
   a. The amount of mandatory reduction shall equal the shortfall in Total Storage Available as compared to the Total Storage Required; or
   b. The amount of mandatory reduction shall equal the overage of the last 12 months actual production as compared to the then-current annual production target; or
   c. The amount of mandatory reduction shall equal some other amount as reflected in a governmental or regulatory order.

(N)

(Continued)

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3. Stages 1, 2, and 3 (if applicable) shall remain in effect. (N)

4. Additional Prohibitions.
   a. Consideration should be given to prohibiting all or specific Non-Essential Water Uses. MPWMD or Commission may enact such prohibitions by Resolution.
   b. Moratorium. Upon implementation of Stage 4, the MPWMD Board shall declare a moratorium on all Water Permit applications other than those applications that rely upon a water credit, water use credit, or water use permit. The Board may amend the moratorium to include the use of water credits and/or water use credits if warranted.
   c. No New Potable Water Service: Upon declaration of Stage 4 Water Rationing, no new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to serve or provide potable water service (e.g. will-serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:
      i. The project is necessary to protect the public health, safety, and welfare;
      ii. The setting of meters in the Company's service area shall not be terminated or diminished by reason of any water emergency, water moratorium or other curtailment on the setting of meters for water use permits issued to entitlement holders; or
      iii. This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.
   d. No New Annexations: Upon the declaration of a Stage 4, the Company will suspend consideration of annexations to its Monterey Main System service area. This subsection does not apply to boundary corrections and annexations that will not result in any increased use of water from Main System sources of supply, or annexations required by a regulatory agency.
   e. Customers utilizing portable water meters or hydrant water meters or using hydrants to fill water tanks without the use of a water meter, shall be required to cease use of the water. Portable water meters shall be returned to the Company at least thirty (30) days before the implementation of Stage 4.
   f. Draining and refilling of swimming pools or spas except (a) to prevent or correct structural damage or to comply with public health regulations, or (b) upon prior approval of the MPWMD General Manager. (N)

(Continued)

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(D)
(N)

g. Restriction on Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is subject to restriction. This restriction does not apply to the following categories of use, or where it has been determined that recycled non-potable water is available and may be applied to the use:
   i. Businesses dependent on watering or irrigating in the course of business such as agriculture, nursery, and similar uses;
   ii. Maintenance of existing landscape necessary for fire protection;
   iii. Maintenance of existing landscape for soil erosion control;
   iv. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;
   v. Maintenance of landscape within active public parks and playing fields, day care centers, and school grounds, provided that such irrigation does not exceed one (1) day per week;
   vi. Actively irrigated environmental mitigation projects.

5. Residential Water Rations.
   a. Upon adoption of a Resolution by the MPWMD Board or a specific finding in response to a declaration or order by another government agency for a specific reduction in Residential water use, daily Household Water Rations shall be set at a level to achieve the necessary reduction. In no case shall daily Household Water Rations fall below 90 gallons per Household. Where two or more Households are served by a master meter, it shall be the responsibility of the Customers to divide the Water Rations among the Customers.
   b. Additional Rations for Large Households:

      i. Where four or more permanent residents occupy a single Household served by one water meter, the daily Water Ration may be increased by the amounts listed below:

	Household Gallons per Day
Fourth Permanent Resident	30
Fifth Permanent Resident	25
Sixth Permanent Resident	20
Seventh or More Permanent Resident	15

(N)

(Continued)

Rule No. 14.1.1. (Continued)
WATER SHORTAGE CONTINGENCY PLAN
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c. Procedure for Obtaining Additional Rations for Large Households: (N)

   i. The applicant shall complete a Residency Affidavit (obtained from MPWMD) that requests the name, age and verification of full time permanent residents for each resident in the Household for which the additional Ration is requested. The information on the application shall be presented under penalty of perjury. The additional Water Ration request shall be submitted to the MPWMD General Manager, who will approve or disapprove the request within 10 business days of submission of a completed application.

   ii. If the application is disapproved, the MPWMD General Manager will explain in writing the reason for the disapproval, and if the applicant is not satisfied with the decision, the applicant may appeal the decision to the MPWMD Board.

d. Procedure for Obtaining Additional Water Rations Where Two or More Households are Served by One Meter:

   i. The applicant must fill out the required form that lists the number of residences served by the single meter and submit a use permit issued by the jurisdiction for the multi-residential residences served by the meter. MPWMD shall retain the right to require Residency Affidavits to determine the appropriate Water Rations. The additional Water Ration request shall be submitted to the MPWMD General Manager, who will approve or disapprove the request within 10 business days of submission of a completed application. The application shall be submitted under penalty of perjury.

   ii. If the application is disapproved, the MPWMD General Manager will explain in writing the reason for the disapproval, and if the applicant is not satisfied with the decision, the applicant may appeal the decision to MPWMD's Board.

e. Additional Ration for Special Needs. Where more water than allowed in Sections 5-c or 5-d above is necessary to preserve the health or safety of a Household, the MPWMD General Manager may increase the Water Ration to the Household during the period of need according to the needs of the applicant. (N)

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(Continued)

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i. The applicant or his or her representative may file a request for an additional Water Ration and shall state in a letter to the MPWMD General Manager: (1) the amount of the requested additional Water Ration, and (2) a general statement in support of the need. Where appropriate, applicant shall provide a letter from a medical doctor stating the need for additional water usage and projected duration of that need, if possible, or other appropriate justification for the special need. (N)

ii. Additional Water Rations shall require the replacement of inefficient water fixtures to comply with MPWMD Rule 142-E, Residential and Non-Residential Change of Ownership, Change of Use, and Expansion of Use Water Efficiency Standards, which requires installation of, among other items, water efficient toilets, showerheads, faucets, and irrigation rain sensors.

iii. If the MPWMD General Manager does not approve an additional Water Ration, the applicant may appeal to the MPWMD Board. An appeal from the General Manager's decision must contain all of the following: (a) a copy of the original application; (b) a copy of the written explanation of the General Manager's decision; and (c) a written explanation of why the applicant believes the decision should be changed.

f. Misrepresentation. Any Customer intentionally over-reporting the number of permanent residents in a Household may be charged with a misdemeanor punishable as an infraction as provided by Section 256 of the Monterey Peninsula Water Management District Law, Statutes of 1981, Chapter 986, as well as fees and penalties set forth in Regulation XV. During this Stage 4, whenever there is a change in the number of permanent residents in a Household, the Customer shall notify the MPWMD.

6. Non-Residential Water Rations.

a. If Residential rationing does not achieve measurable results as expected after a period of six (6) months, upon adoption of a Resolution by the MPWMD Board for a specific reduction in Non-Residential water use, Non-Residential Water Rations shall be implemented at a level to achieve the necessary reduction in use.

i. Non-Residential Water Rations shall be determined by selection by MPWMD of a previous year for which Stages 2, 3, or 4 conservation or rationing was not in place and then reducing each month's water use by a percentage determined by the MPWMD to achieve the Non-Residential reduction in use.

ii. Exemptions: In the Resolution to implement a level of Non-Residential rationing, the MPWMD Board shall include an exemption for compliance with District Rule 143 and an exemption for a Non-Residential establishment whose business requires water in the course of its business practice (e.g. laundromats, nurseries, among others).

iii. The applicant or his or her representative may file a request for an additional Water Ration. The applicant shall state in a letter to the MPWMD General Manager: (1) the amount of the requested Water Ration, and (2) a general statement in support of the need.

iv. If the request is disapproved, the MPWMD General Manager will explain in writing the reason for the disapproval, and if the applicant is not satisfied with the decision, the applicant may appeal to the MPWMD Board for a hearing. (N)

(Continued)

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7. Irrigation required by the Mitigation Program adopted when the Water Allocation Program Environmental Impact Report was adopted in 1990, and as required by SWRCB Order No. WR 95- 10 shall not be subject to reductions in use. Required irrigation of the Riparian Corridor shall be identified and reported separately from other non-revenue metered uses.

8. Sunset.

   a. Stage 4 shall sunset and water use restrictions shall revert to Stage 1 when 12 month total production has been less than or equal to the then-current annual production target for two (2) consecutive months. (C)
   b. Stage 4 shall sunset and water use restrictions shall revert to Stage 1 when Total Storage Available computed consistent with Table XV-4 of MPWMD's Rule 160 is greater than remaining Total Storage Required for two (2) consecutive months.
   c. Stage 4, when implemented shall sunset and water use restrictions shall revert to Stage 1 when the governmental or regulatory agency rescinds the request and conditions 8-a. and 8-b, above, have been met.
   d. Stage 4, when implemented pursuant to K-1-c, shall sunset and water use restrictions shall revert to Stage 1 when the MPWMD Board finds that a water supply emergency no longer exists or other government agency declares the catastrophic event is over and service is no longer impaired.
   e. Restoration of Lower Stage. A MPWMD Resolution causing the sunset of one or more provisions of Stage 4 may also activate any lower Stage as may be warranted for good cause. (C)

Attachment 2: MPWMD Regulation XV

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

MPWMD REGULATION XV

2016 MONTEREY PENINSULA WATER CONSERVATION AND RATIONING PLAN

(MPWMD Rules 160-167)

Ordinance No. 169 - adopted February 17, 2016

5 Harris Court, Building G, Monterey, CA 93940 • P.O. Box 85, Monterey, CA 93942-0085
831-658-5601 • Fax 831-644-9558 • www.mpwmd.net • www.montereywaterinfo.org

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Regulatory Production Targets And Physical Storage Target (MPWMD Rule 160)

The monthly distribution of water production from sources within the Monterey Peninsula Water Resource System (MPWRS), as shown in Tables XV-1, XV-2, and XV-3 shall be approved by the Board of Directors as part of the Quarterly Water Supply Strategy and Budget process. The Board shall hold public hearings during the Board's regular meetings in September, December, March, and June, at which time the Board may modify Tables XV-1, XV-2, and XV-3 by Resolution.

The Physical Storage Target, as shown in Table XV-4 shall be approved as of May 1 each year by the Board of Directors. The Board shall hold a public hearing during the Board's regular meeting in May, at which time the Board may modify Table XV-4 by Resolution.

Table XV-1
Regulatory Water Production Targets
for California American Water Systems
Sources within the Monterey Peninsula Water Resource System
(All Values in Acre-Feet)
Approved by Resolution 2015-18 (9/21/2015)

Month	Monthly Target	Year-to-Date at Month-End Target
October	1,076	1,076
November	904	1,980
December	796	2,776
January	797	3,573
February	748	4,321
March	850	5,171
April	914	6,085
May	1,112	7,197
June	1,157	8,354
July	1,258	9,612
August	1,239	10,851
September	1,151	12,002
TOTAL	**12,002**	---

Notes:
Monthly and year-to-date at month-end production targets are based on the annual production limit specified for the California American Water (Cal-Am) systems for Water Year (WY) 2016 from Carmel River sources per State Water Resources Control Board Order WR 2009-0060 (9,703 acre-feet) and adjusted annual production limits specified for the Cal-Am satellite systems from its Coastal Subarea sources (2,251 acre-feet) and Laguna Seca Subarea sources (48 acre-feet) of the Seaside Groundwater Basin per the Seaside Basin Adjudication Decision. These values do not include consideration of any carryover credit in the Seaside Basin for WY 2016. This combined total (12,002 acre-feet) was distributed monthly based on Cal-Am's reported monthly average production for its main and satellite systems during the WY 2006 through 2013 period.

Table XV-2
Regulatory Water Production Targets
for California American Water Satellite Systems
Sources within the Monterey Peninsula Water Resource System
(All Values in Acre-Feet)
Approved by Resolution 2015-18 (9/21/2015)

Month	Monthly Target	Year-to-Date at Month-End Target
October	5	5
November	3	8
December	3	11
January	3	14
February	2	16
March	3	19
April	3	22
May	5	27
June	5	32
July	6	38
August	5	43
September	5	48
TOTAL	**48**	---

Notes:
Monthly and year-to-date at month-end production targets are based on the adjusted annual production limit specified for the California American Water (Cal-Am) satellite systems for Water Year 2016 from its sources in the Laguna Seca Subarea of the Seaside Groundwater Basin per the Seaside Basin Adjudication Decision. This Laguna Seca Subarea total (48 acre-feet) was distributed monthly based on Cal-Am's reported monthly average production for its satellite systems during the WY 2006 through 2013 period.

Table XV-3
Regulatory Water Production Targets
for California American Water Systems
Carmel River Sources within the Monterey Peninsula Water Resource System
(All Values in Acre-Feet)
Approved by Resolution 2015-18 (9/21/2015)

Month	Monthly Target	Year-to-Date at Month-End Target
October	869	869
November	730	1,599
December	644	2,244
January	645	2,889
February	605	3,494
March	687	4,181
April	740	4,920
May	899	5,820
June	934	6,754
July	1,017	7,771
August	1,002	8,773
September	930	9,703
TOTAL	**9,703**	---

Notes:
Monthly and year-to-date at month-end production targets are based on the annual production limit specified for California American Water (Cal-Am) for Water Year (WY) 2016 from its Carmel River system sources per State Water Resources Control Board Order WR 2009-0060 (9,703 acre-feet). This amount was distributed monthly based on Cal-Am's reported monthly average production for its main system sources during the WY 2006 through 2013 period. These values incorporate consideration of the triennial reductions specified for the Cal-Am systems in the Seaside Basin Adjudication Decision, in setting the monthly maximum production targets from each source as part of the MPWMD Quarterly Water Supply Budget Strategy.

Table XV-4
Physical Storage Target
for the Monterey Peninsula Water Resource System
for the Remainder of WY 2015 and all WY 2016

Producer	May-September Demand	Carryover Storage Needs for Next Year Demand	Total Storage Required on May 1
California American Water (Cal-Am)	7,071	12,123	19,194
Non Cal-Am	1,946	3,046	4,992
Total	9,017	15,169	24,186

Total Storage Available on May 1
30,990 [5]

Notes:

1. The May-September period refers to the remainder of the current Water Year.

2. Carryover Storage refers to the volume of usable surface and Groundwater that is in storage at the end of the current Water Year and is projected to be available for use at the beginning of the following Water Year.

3. Total Storage Required refers to the combination of demand remaining from May 1 to September 30 and Carryover Storage for the next Water Year that is required to avoid imposing various levels of water Rationing. The values in **bold type** represent the storage triggers that would be used for the system in Water Year 2015. The values are based on the production limits for California American Water (Cal-Am) from Carmel River sources (9,945 Acre-Feet in WY 2015 and 9,703 Acre-Feet in WY 2016) set by State Water Resources Control Board Order WR 2009-0060, the production limit for Cal-Am from the Seaside Groundwater Basin (2,299 Acre-Feet in WY 2015 and in WY 2016) set by the Court in its March 27, 2006 Seaside Basin Adjudication Decision, and the production limit specified for non-Cal-Am users from the Monterey Peninsula Water Resource System set in the District's Water Allocation Program (Ordinance No. 87)

4. The rationing triggers are based on physical water availability and do not account for legal or environmental constraints on diversions from the Carmel River system.

5. May 1, 2015 System Storage = 30,990 Acre-Feet (26,220 Acre-Feet Carmel Valley Alluvial Aquifer; 3,100 Acre-Feet Seaside Groundwater Basin; 1,670 Acre-Feet Los Padres Reservoir); this is 97 percent of average and 82 percent of System Capacity (37,505 AF).

Table XV-4 added by Resolution 2014-07 (5/19/2014); amended by Resolution 2014-15 (9/15/2014); Resolution 2015-08 (5/18/2015); Ordinance No. 169 (2/17/2016)

General Provisions (MPWMD Rule 161)

A. All Water Users within the Monterey Peninsula Water Management District shall comply with the District's Water Waste Prohibitions of Rule 162 and with the requirements of MPWMD Regulation XIV, Water Conservation.

B. California American Water shall amend its Urban Water Management Plan and its Rule 14.1.1 (Standard Practice U-40-W), Water Shortage Contingency Plan - Monterey County District, to conform to this Regulation. A copy of Rule 14.1.1 shall be filed with the California Public Utilities Commission (CPUC) and the District within thirty (30) days of the effective date of this Regulation and any amendment thereto.

C. Water Distribution Systems regulated by the CPUC shall amend their Rule 14.1 to conform to this Regulation. A copy of Rule 14.1 shall be filed with the California Public Utilities Commission (CPUC) and the District within thirty (30) days of the effective date of this Regulation and any amendment thereto.

D. At least ten (10) days prior to a first reading of amendments to Regulation XV, a copy of the proposed changes shall be provided to the CPUC Office of Ratepayer Advocates (ORA).

E. California American Water shall provide the District with monthly consumption reports by customer classification and Jurisdiction in a format approved by the District. A Water Year summary report shall be provided by December 1 of the next Water Year. Monthly reports shall be provided within fifteen (15) days of the close of the preceding month.

F. Each Water Distribution System Operator shall provide individual consumption data pertaining to any Water User of that Water Distribution System upon written request of the General Manager. Data shall be in the form and manner specified by the General Manager and may be subject to a non-disclosure agreement with the Water Distribution System Owner/Operator. Each failure to respond in full to such written request by the date specified therein shall result in a penalty to the Water Distribution System of five-hundred dollars ($500) per day for each day or portion thereof that the response is delayed.

G. The General Manager shall retain and use any data received under this provision for the sole purposes of testing, administering, evaluating or enforcing water Rationing, Water Waste, or other provisions of the Rules and Regulations.

H. California American Water shall maintain Non-Revenue Water in its Water Distribution Systems at or below seven (7) percent. Average losses of more than seven (7) percent during the most recent twelve-month period shall be considered Water Waste.

I. Each Water Distribution System Operator shall provide written notice of any adjustment to a Water Conservation or Rationing Stage to every customer via first class mail at least thirty (30) days before any change in Stage is imposed.

J. At all times during Stages 2 through 4 each affected Water Distribution System shall send monthly conservation reminders.

K. During a Water Supply Emergency, or at the direction of the Board of Directors, each Owner or Operator or Extractor of a private water Well, Water Distribution System, or other Water-Gathering Facility shall comply with the provisions of this Regulation, as they relate to such Well, Water Distribution System, or other Water-Gathering Facility.

Stage 1 Water Conservation: Prohibition on Water Waste (MPWMD Rule l62)

A. Trigger. Stage 1 shall remain in effect at all times and shall apply to all Water Users subject to modification by the Board.

B. Water Waste Prohibitions. Water Waste shall mean the indiscriminate, unreasonable, or excessive running or dissipation of water. Water Waste shall include, but not be limited, to the following:

1. Waste caused by correctable leaks, breaks or malfunctions. All leaks, breaks, or other malfunctions in a Water User's plumbing or distribution system must be repaired within 72 hours of notification that a leak exists. Exceptions may be granted by the General Manager for corrections which are not feasible or practical;

2. Indiscriminate or excessive water use which allows excess to run to waste;

3. Washing driveways, patios, parking lots, tennis courts, or other hard surfaced areas with Potable water, except in cases where health or safety are at risk and the surface is cleaned with a Water Broom or other water efficient device or method. Water should be used only when traditional brooms are not able to clean the surface in a satisfactory manner;

4. Power or pressure washing buildings and structures with Potable water, except when preparing surfaces for paint or other necessary treatments or when abating a health or safety hazard;

5. Irrigation between 9 a.m. and 5 p.m. on any day, and irrigation on any day other than Saturdays and Wednesdays, except for irrigation overseen by a professional gardener or landscaper who is available on Site and that is not exceeding a maximum two watering days per week. This prohibition applies to hand watering with a hose, and Irrigation Systems whether spray, drip, or managed by a Smart Controller. Limited hand watering of plants or bushes with a small container or a bucket is permitted on any day at any time. Subsurface Graywater Irrigation Systems may also be operated at any time. An exemption may be given to a Non-Residential establishment whose business requires water in the course of its business practice (e.g. golf courses, nurseries, recreational space, among others)

with notification by the business owner to the District, and subject to the approval of the General Manager;

6. Hand watering by a hose, during permitted hours, without a quick acting Positive Action Shut-Off Nozzle;

7. Irrigating during rainfall and for 48 hours after Measurable Precipitation;

8. Use of water for irrigation or outdoor purposes in a manner inconsistent with California's Model Water Efficient Landscape Ordinance (Code of Regulations, Title 23, Water, Division 2, Department of Water Resources, Chapter 2.7, and any successor regulations) where applicable, or in a manner inconsistent with local regulations;

9. Operation of fountains, ponds, lakes or other ornamental use of Potable water without recycling, and except to the extent needed to sustain aquatic life, provided such animals are of significant value and have been actively managed;

10. Individual private washing of cars with a hose except with the use of a Positive Action Shut-Off Nozzle;

11. Washing commercial aircraft, cars, buses, boats, trailers or other commercial vehicles with Potable water, except at water efficient commercial or fleet vehicle or boat washing facilities where equipment is properly maintained to avoid wasteful use;

12. In-Bay or Conveyor Car Washes permitted and constructed prior to January 1, 2014, that do not recycle and reuse at least 50 percent of the wash and rinse water. In-Bay or Conveyor Car Washes that were permitted and constructed after January 1, 2014, that do not either (1) use and maintain a water recycling system that recycles and reuses at least 60 percent of the wash and rinse water; or (2) use recycled water provided by a water supplier for at least 60 percent of its wash and rinse water;

13. Charity car washes;

14. Use of Potable water for street cleaning;

15. Failure to meet MPWMD Regulation XIV water efficiency standards for an existing Non-Residential User after having been given a reasonable amount of time to comply;

16. Serving drinking water to any customer unless expressly requested, by a restaurant, hotel, café, cafeteria or other pubic place where food is sold, served or offered for sale;

17. Visitor-Serving Facilities that fail to adopt and promote towel and linen reuse programs and provide written notice in the rooms, whereby towels and linens are changed every three days or as requested by action of the guest;

18. Washing of livestock with a hose except with the use of a Positive Action Shut-Off Nozzle;

19. Transportation of water from the Monterey Peninsula Water Resource System without prior written authorization from the MPWMD;

20. Delivery, receipt, and/or use of water from an unpermitted Mobile Water Distribution System;

21. Unreasonable or excessive use of Potable water for dust control or earth compaction without prior written approval of the General Manager where Sub-potable water or other alternatives are available or satisfactory;

22. Use of unmetered fire hydrant water by individuals other than for fire suppression or utility system maintenance purposes, except upon prior approval of the General Manager;

23. Water use in excess of a Water Ration;

24. Non-compliance with Regulations XIV and XV;

C. The following activities shall not be cited as Water Waste:

1. Flow resulting from firefighting or essential inspection of fire hydrants;

2. Water applied to abate spills of flammable or otherwise hazardous materials, where water application is the appropriate methodology;

3. Water applied to prevent or abate health, safety, or accident hazards when alternate methods are not available;

4. Storm run-off;

5. Flow from fire training activities during Stage 1 Water Conservation through Stage 3 Water Conservation;

6. Reasonable quantities of water applied as dust control as required by the Monterey Bay Unified Air Pollution Control District, except when prohibited;

7. When a Mobile Water Distribution System Permit is not obtained by a State licensed Potable water handler by reason of an emergency or health related situation, authorization for the Mobile Water Distribution System Permit shall be sought from the District by submittal of a complete application compliant with Rule 21, within five working days following commencement of the emergency or health related event.

D. Prohibitions against Water Waste and Non-Essential Water Use shall be enforced by the District and its designated agents, unless indicated otherwise. All notices and assessments of Water Waste and/or excess water use charges made by a Water Distribution System Operator shall be reported to the District within thirty (30) days.

E. Each occurrence of Water Waste or Non-Essential Water Use that continues after the Water User has had reasonable notice to cease and desist that type of water use shall constitute a Flagrant Violation.

F. Repeated occurrences of Water Waste or Non-Essential Water Use, which continue or occur after the Water User has had a reasonable notice to cease and desist that type of water use, or which continues or occurs after the Water User has had a reasonable opportunity to cure any defect causing that type of water use, shall provide cause for the placement of a Flow Restrictor with a maximum flow rate of six (6) CCF/month within the water line or Water Meter. Exemptions to the installation of a Flow Restrictor as a means to enforce the Water Ration shall occur when there are provable risks to the health, safety and/or welfare of the Water User. An exemption shall be made for Master Meters serving three or more Multi-Family Households or Master Meters serving both

Residential and Non-Residential Users by substituting an excess water use charge equivalent to the appropriate Water Meter size, Rationing stage, and 4th offense amount times the number of Dwelling Units located on the Water Meter during each month in which a violation of the Water Ration occurs. The Responsible Party shall be liable for payment of all excess water use charges.

G. Water Waste Fines shall be assessed as shown in Table XV-5. Table XV-5 may be amended by Resolution of the Board. Amendments to this table shall be concurrently made to the Fees and Charges Table found in Rule 60.

Table XV-5 Water Waste Fines	
First offense	No fee: Written notice and opportunity to correct the situation
Fine for first Flagrant Violation	$100*
Fine for second Flagrant Violation within two (2) months	$250*
Fine for third and subsequent Flagrant Violations within twelve (12) months	$500*
Fine for Administrative Compliance Order or Cease & Desist Order	Up to $2,500 per day* for each ongoing violation, except that the total administrative penalty shall not exceed one hundred thousand dollars ($100,000.00) exclusive of administrative costs, interest and restitution for compliance re-inspections, for any related series of violations
Late payment charges	Half of one percent of the amount owed per month
*Fines triple for customers using over 500,000 gallons/year	

H. In addition to Water Waste fines and fees described in this Rule 162, enforcement of all District Rules and Regulations is subject to District Regulation XI and may include an Administrative Compliance Order, a Cease & Desist Order, or other remedy available to the District under its Regulation XI.

Stage 2 Water Conservation: Voluntary Reduction in Use (MPWMD Rule 163)

A. Trigger.

1. Physical Shortage Trigger (California-American Water Company Distribution Systems): Stage 2 shall take effect for all California-American Water Company Water Distribution Systems that rely, in whole or in part, on production or production offsets from the Carmel River System or the Seaside Coastal Subareas, on June 1 or such earlier date as may be set by the Board following the District's May Board meeting if Total Storage Available in Table XV-4 is below the Total Storage Required, but at least 95 percent of Total Storage Required. The amount of voluntary reduction shall equal the percentage shortfall in Total Storage Required.

2. Physical Shortage Trigger (Non-California-American Water Company Distribution Systems): Stage 2 shall take effect for any Water Distribution System, other than California-American Water Company's Water Distribution Systems, that relies in whole or in part on production or production offsets from the Carmel River System or the Seaside Coastal Subareas on June 1 or such earlier date as may be set by the Board following the District's May Board meeting if Total Storage Available in Table XV-4 is below the Total Storage Required. The amount of voluntary reduction shall equal the percentage shortfall in Total Storage Required.

3. Regulatory Trigger – Production Targets: Stage 2 shall take effect on the California-American Water Company Water Distribution System when the most recent 12 month California American Water production from the MPWRS is greater than the then-current annual production target as determined in Table XV-1 but no greater than 105 percent of the annual production target. The amount of voluntary reduction shall equal the percentage overage of the annual production.

4. Regulatory Trigger – Regulatory Order: Stage 2 shall take effect in any Water Distribution System when that system is directed to reduce use by a governmental or regulatory agency. The amount of voluntary reduction shall equal the percentage directed by that governmental or regulatory agency relative to a base year determined by the governmental or regulatory agency.

5. Emergency Trigger: Stage 2 shall take effect for any Water Distribution System,

private Well, or Water User when the Board finds that a Water Supply Emergency exists for a Water Distribution System. Stage 2 shall take effect upon adoption of a Resolution of the District Board of Directors, or a declaration of a Water Supply Emergency by the Water Distribution System Operator or a State or County entity, due to a catastrophic event. In that Resolution or declaration, there shall be a finding of an immediate need to reduce production and shall name the Water Distribution System(s) affected. The amount of voluntary reduction shall be determined by the Board, the Water Distribution System Operator, or the State or County entity.

B. The Water Distribution System Owner or Operator shall provide notice of the amount of voluntary reduction requested to affected Water Users pursuant to Rule 161. Additional noticing and public outreach may be provided by the District at the direction of its Board of Directors.

C. The District and its agents shall increase enforcement activities related to Water Waste prohibitions.

D. Stage 1 shall remain in effect.

E. Sunset.

1. Without further action of the Board of Directors, Stage 2, when implemented pursuant to Rule 163-A-1 and Rule 163-A-2, shall sunset and water use restrictions shall revert to Stage 1 when remaining Total Storage Available computed consistent with Table XV-4 is greater than remaining Total Storage Required for two (2) consecutive months.

2. Without further action of the Board of Directors, Stage 2, when implemented pursuant to Rule 163-A-3, shall sunset for the California-American Water Company and water use restrictions shall revert to Stage 1 when that Water Distribution System's 12 month total production has been less than or equal to its then-current annual production target for two (2) consecutive months.

3. Without further action of the Board of Directors, Stage 2, when implemented pursuant to Rule 163-A-4, shall sunset for that Water Distribution System(s) and water use restrictions shall revert to Stage 1 when the governmental or regulatory agency rescinds the request.

4. Stage 2, when implemented pursuant to Rule 163-A-5, shall sunset and water use restrictions shall revert to Stage 1 when the Board finds that a Water Supply Emergency no longer exists.

Stage 3 Water Conservation: Conservation Rates (MPWMD Rule 164)

A. Trigger.

1. Stage 2 Deemed Unsuccessful: Stage 3 shall take effect for all California-American Water Company Water Distribution Systems if Stage 2 has been implemented pursuant to Rule 162-A-1 or Rule 162-A-3 and has failed to sunset after a period of six (6) months.

2. Physical Shortage Trigger: Stage 3 shall take effect for all California-American Water Company Water Distribution Systems, on June 1, or such earlier date as may be set by the Board following the District's May Board meeting, if Total Storage Available in Table XV-4 is below 95% of Total Storage Required.

3. Regulatory Trigger – Production Targets: Stage 3 shall take effect for all California-American Water Company Water Distribution Systems when the most recent 12 month California American Water production from the MPWRS is greater than 105 percent of the then-current annual production target as determined in Table XV-1 and Stage 2 has not been implemented.

4. Regulatory Trigger – Regulatory Order: Stage 3 shall take effect for all California-American Water Company Water Distribution Systems when directed by a governmental or regulatory agency to implement Stage 3.

5. Emergency Trigger: Stage 3 shall take affect for all California-American Water Company Water Distribution Systems when the Board finds that a Water Supply Emergency exists and upon adoption of a Resolution of the Board of Directors, or a declaration of a Water Supply Emergency by California American Water, or by a State or County entity due to a catastrophic event. In that Resolution or declaration, there shall be a finding of an immediate need to reduce production through the imposition of Stage 3 Conservation Rates.

B. Stages 1 and 2 shall remain in effect.

C. If Stage 2 has not already been implemented, Stage 2 shall be triggered simultaneously with Stage 3.

D. Thirty days prior to implementation of Stage 3, California American Water shall file to

implement Level 1 Conservation Rates within its Main California-American Water Company Water Distribution System, the Bishop Water Distribution System, Hidden Hills System, and Ryan Ranch Water Distribution System and shall provide notification to its customers that such rates shall be implemented after thirty (30) days. Prior to an increase to Level 2 Conservation Rates, California American Water shall provide notification to its customers that such rates shall be implemented after thirty (30) days.

1. Level 1 Conservation Rates comprised of a 25 percent surcharge shall be implemented on the then existing rates for a minimum of three (3) months. The surcharge shall not apply to Tier 1 Residential customers.

2. Level 2 Conservation Rates comprised of a 40 percent surcharge shall be implemented on the then existing rates (without the 25 percent Level 1 surcharge) if after the imposition of Level 1 Conservation Rates for three (3) months, the monthly production in the California American Water System exceeds the monthly production target for the previous two (2) consecutive months. The surcharge shall not apply to Tier 1 Residential customers.

E. Sunset.

1. Without further action of the Board of Directors, Stage 3, when implemented pursuant to Rule 164-A-2, shall sunset and water use restrictions shall revert to Stage 1 when remaining Total Storage Available computed consistent with Table XV-4 is greater than remaining Total Storage Required for two (2) consecutive months.

2. Without further action of the Board of Directors, Stage 3, when implemented pursuant to Rule 164-A-3, shall sunset and water use restrictions shall revert to Stage 1 when the 12 month total production has been less than or equal to its then-current annual production target for two (2) consecutive months.

3. Without further action of the Board of Directors, Stage 3, when implemented pursuant to Rule 164-A-4, shall sunset and water use restrictions shall revert to Stage 1 when the governmental or regulatory agency rescinds the request.

4. Stage 3, when implemented pursuant to Rule 164-A-5, shall sunset and water use restrictions shall revert to Stage 1 when the Board finds that a Water Supply Emergency no longer exists and Rules 164-A-2 and 164-A-3 do not apply.

Stage 4: Water Rationing (MPWMD Rule 165)

A. Trigger.

1. Stage 3 Deemed Unsuccessful (California-American Water Company Distribution Systems): Stage 4 shall take effect for all California-American Water Company Water Distribution Systems if Stage 3 has been implemented and has failed to sunset after a period of 8 months.

2. Physical Shortage Trigger. Stage 3 Deemed Unsuccessful for California-American Water Company Distribution Systems and Stage 2 Deemed Unsuccessful for Non-California American Water Systems: Stage 4 shall take effect for any Water Distribution System that relies, in whole or in part, on production or production offsets from the Carmel River System or the Seaside Coastal Subareas if Stage 2 (Non-California-American Water Company Water Distribution Systems, private Wells, or Water Users) and Stage 3 (California-American Water Company Distribution Systems) have been implemented and have failed to sunset after a period of eight (8) months.

3. Regulatory Trigger: Stage 4 shall take effect in any Water Distribution System when that system is directed by a governmental or regulatory agency to enact Stage 4.

4. Emergency Trigger: Stage 4 shall take effect for any Water Distribution System, private Well, or Water User when the Board finds that a Water Supply Emergency exists and upon adoption of a Resolution of the Board of Directors, or a declaration of a Water Supply Emergency by the California American Water, or a State or County entity, due to a catastrophic event. In that Resolution or declaration, there shall be a finding of an immediate need to reduce production through the imposition of Stage 4 Water Rationing.

5. Stage 4 shall not be triggered if the General Manager determines upon credible evidence that the production targets associated with a final Cease and Desist Order are likely to be met by adhering to the requirements of a lesser Stage. The General Manager shall record this determination and any amendment thereto, by memorandum which may be appealed to the Board in accord with Regulation VII, Appeals.

6. Delay of Stage Implementation. The Board may delay implementation of Stage 4 Water Rationing for any Water Distribution System to ensure adequate operation of the program. Delays authorized by the Board shall not exceed sixty (60) days.

B. Amount of Reduction.

1. The amount of mandatory reduction shall equal the shortfall in Total Storage Available as compared to the Total Storage Required; or

2. The amount of mandatory reduction shall equal the overage of the last 12 months actual production as compared to the then-current annual production target; or

3. The amount of mandatory reduction shall equal some other amount as reflected in a governmental or regulatory order.

C. Stages 1, 2, and 3 (if applicable) shall remain in effect.

D. Additional Prohibitions.

1. The Board shall consider prohibiting all or specific Non-Essential Water Uses. The Board may enact such prohibitions by Resolution.

2. California American Water shall maintain Non-Revenue Water at or below seven (7) percent.

3. Moratorium. Upon implementation of Stage 4, the Board shall declare a moratorium on accepting Water Permit applications within the affected Water Distribution System other than those applications that rely upon a Water Credit, Water Use Credit, or Water Use Permit. The Board may amend the moratorium to include the use of Water Credits and/or Water Use Credits if warranted. All pending Water Permits not issued within 120 days of declaration shall be suspended. Water Use Permits shall be exempt from any moratorium on Water Permits.

4. No New Potable Water Service: Upon declaration of Stage 4 Water Rationing, no new Potable water service will be provided, no new temporary Water Meters or permanent Water Meters will be provided, and no statements of immediate ability to serve or provide Potable water service (e.g. will-serve letters, certificates, or

letters of availability) will be issued by the Water Distribution System Operator, except under the following circumstances:

a. The project is necessary to protect the public health, safety, or welfare.

b. The setting of meters in the California-American Water Company Water Distribution System shall not be terminated or diminished by reason of any water emergency, water moratorium or other curtailment on the setting of meters for holders of Water Use Permits.

c. This provision does not preclude the resetting or turn-on of Water Meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.

5. No New Annexations: Upon the declaration of a Stage 4, California-American Water Company will suspend annexations to its Service Area. This subsection does not apply to boundary corrections and annexations that will not result in any increased use of water, or annexations required by a regulatory agency.

6. Customers utilizing portable Water Meters or hydrant Water Meters or using hydrants to fill water tanks without the use of a Water Meter, shall be required to cease use of the water, except upon prior approval of the General Manager. Portable Water Meters shall be returned to the Water Distribution System at least thirty (30) days before the implementation of Stage 4.

7. Draining and refilling of swimming pools or spas except (a) to prevent or correct structural damage or to comply with public health regulations, or (b) upon prior approval of the General Manager.

8. Restriction on Watering or Irrigating: Watering or irrigating of Lawn, landscape or other vegetated area with Potable water will be subject to restriction at the direction of the District. This restriction does not apply to the following categories of use, or where the District has determined that recycled Sub-potable Water is available and may be applied to the use:

a. Businesses dependent on watering or irrigating in the course of business such as agriculture, nursery, and similar uses;

b. Maintenance of existing Landscaping necessary for fire protection;

c. Maintenance of existing Landscaping for soil erosion control;

d. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

e. Maintenance of Landscaping within active Public parks and playing fields, Day Care Centers and school grounds, provided that such irrigation does not exceed one (1) day per week;

f. Actively irrigated environmental mitigation projects.

E. Residential Rations.

1. Upon adoption of a Resolution by the Board for a specific reduction in Residential water use, daily Household Water Rations shall be set at a level to achieve the necessary reduction. In no case shall daily Household Water Rations be less than 90 gallons per Household. This shall be known as the Minimum Daily Water Ration.

Where two or more Households are served by a Master Meter, it shall be the responsibility of the Water Users to divide the Water Rations among the Water Users.

2. Additional Water Rations for Large Households:

Where four or more Permanent Residents occupy a single Household served by one Water Meter, the Minimum Daily Water Ration may be increased by the amounts listed below:

Number of Permanent Residents	Residential Household Gallons per Day
Fourth Permanent Resident	30
Fifth Permanent Resident	25
Sixth Permanent Resident	20
Seven or More Permanent Residents (Per Additional Resident)	15

3. Procedure for Obtaining Additional Water Rations for Large Households:

   a. The Applicant shall complete a Residency Affidavit (obtained from the District) that requests the name, age and verification of full-time Permanent Residents for each resident in the Household for which the additional Water Ration is requested. The information on the application shall be presented under penalty of perjury. The additional Water Ration request shall be submitted to the General Manager, who will approve or disapprove the request within 10 business days of submission of a completed application.

   b. If the application is disapproved, the General Manager will explain in writing the reason for the disapproval, and if the Applicant is not satisfied with the decision of the General Manager, the Applicant may appeal the General Manager's decision to the Board of Directors.

4. Procedure for Obtaining Additional Water Rations Where Two or More Households are Served by a Master Meter:

   a. The Applicant must fill out the required form that lists the number of Residences served by the Master Meter and submit a use permit issued by the Jurisdiction for the Multi-Residential Dwelling Units served by the Master Meter. The District shall retain the right to require Residency Affidavits to determine the appropriate Water Rations. The additional Water Ration request shall be submitted to the General Manager, who will approve or disapprove the request within 10 business days of submission of a completed application. The Application shall be submitted under penalty of perjury.

b. If the application is disapproved, the General Manager will explain in writing the reason for the disapproval, and if the Applicant is not satisfied with the decision of the General Manager, the Applicant may appeal the General Manager's decision to the Board of Directors.

5. Additional Water Ration for Special Needs. Where more water than allowed in Sections 3 or 4 above is necessary to preserve the health or safety of a Household, the General Manager may increase the Water Ration during the period of need according to the needs of the Applicant.

a. The Applicant or his or her representative may file a request for an additional Water Ration and shall state to the General Manager: (1) the amount of the requested additional Water Ration, and (2) a general statement in support of the need. Where appropriate, Applicant shall provide a letter from a medical doctor stating the need for additional water usage and projected amount and duration of that need, if possible, or other appropriate justification for the special need.

b. Additional Water Rations shall require the replacement of inefficient water fixtures to comply with Rule 142-E, Residential and Non-Residential Change of Ownership, Change of Use, and Expansion of Use Water Efficiency Standards.

c. Additional Water Rations shall require the Connection have a working Pressure Regulating Device that maintains water pressure at a maximum of 60 psi.

d. If the General Manager does not approve an additional Water Ration, the Applicant may appeal to the Board. An appeal from the General Manager's decision must contain all of the following: (a) a copy of the original application; (b) a copy of the written explanation of the General Manager's decision; and (c) a written explanation of why the Applicant believes the decision should be changed.

6. Misrepresentation. Any Water User intentionally over-reporting the number of Permanent Residents in a Household may be charged with a misdemeanor punishable as an infraction as provided by Section 256 of the Monterey Peninsula Water Management District Law, Statutes of 1981, Chapter 986, as well as fines

and penalties set forth in this Regulation. During this Stage 4, whenever there is a change in the number of Permanent Residents, the Water User shall notify the District.

F. Non-Residential Water Rations.

1. If Residential Water Rationing does not achieve measurable results as expected after a period of six (6) months, upon adoption of a Resolution by the Board for a specific reduction in Non-Residential water use, Non-Residential Water Rations shall be implemented at a level to achieve the necessary reduction in use.

2. Non-Residential Water Rations shall be determined by selection by the District of a previous year for which Stages 2, 3, or 4 Conservation or Rationing was not in place and then reducing each month's water use by a percentage determined by the District to achieve the Non-Residential reduction in use. Where a previous year history is deemed to be unavailable or inappropriate by the District, a Non-Residential Water Ration shall be established by the District based on type of Non-Residential water use, building design, and water fixtures.

3. Exemptions: In the Resolution to implement a level of Non-Residential Rationing, the Board shall include an exemption for compliance with District Rule 143 and an exemption for a Non-Residential establishment whose business requires water in the course of its business practice (e.g. laundromats, nurseries, among others.)

4. An Applicant or his or her representative may file a request for an additional Water Ration. The Applicant shall state in a letter to the General Manager: (1) the amount of the requested additional Water Ration, and (2) a general statement in support of the need.

5. Additional Water Rations shall require the Connection have a working Pressure Regulating Device that maintains water pressure at a maximum of 60 psi.

6. If the request for additional Water Ration is disapproved, the General Manager will explain in writing the reason for the disapproval, and if the Applicant is not satisfied with the decision of the Board, the Applicant may appeal to the Board of Directors for a hearing.

G. Irrigation required by the Mitigation Program adopted when the Water Allocation Program Environmental Impact Report was adopted in 1990, and as required by SWRCB Order No. WR 95-10, shall not be subject to reductions in use. Required irrigation of the Riparian Corridor shall be identified and reported by California American Water separately from other Non-Revenue Water.

H. CAWD/PBCSD Wastewater Reclamation Project Recycled Water Users. Recycled Water Irrigation Areas receiving water from the CAWD/PBCSD Wastewater Reclamation Project shall be subject to Stage 4 for Potable water used during an Interruption or emergency, in accordance with contractual Agreements between the District and the respective Owners of the Recycled Water Irrigation Areas.

1. The Owners of the Recycled Water Irrigation Areas shall have the respective irrigation requirements thereof satisfied to the same degree as any non-Project Golf Course or open space which derives its Source of Supply from the California American Water system. The irrigation requirements of the Recycled Water Irrigation Areas will be determined based on the most-recent non-Rationed four-year average irrigation water demand, including both Recycled Water and Potable water, for each respective Recycled Water Irrigation Area.

2. Each Recycled Water Irrigation Area shall be entitled to receive the average irrigation requirement determined above, reduced by the percentage reduction required by the current stage of Water Rationing. If the quantity of Recycled Water that is available is less than the quantity of water that the Recycled Water Irrigation Area is entitled to, Potable water shall be provided to make up the difference and satisfy the irrigation requirements of the Recycled Water Irrigation Areas to the same degree that the irrigation requirements of non-Project Golf Course and open space Users are being satisfied. The preceding sentence shall not apply to the extent that the irrigation requirements of any Recycled Water Irrigation Area are met with water legally available to Buyer from any source other than the Carmel River System or the Seaside Groundwater Basin, including percolating Groundwater underlying Buyer's Property, to make up any such difference.

3. When Recycled Water (as defined in Rule 23.5) is available in sufficient quantities to satisfy the irrigation requirements of the Recycled Water Irrigation Areas, such irrigation shall not be subject to Stage 4, and neither Potable water nor any water described in the preceding sentence (whether or not it is Potable)

shall be used for irrigation of the Recycled Water Irrigation Areas except to the extent allowed in the circumstances described in the next two sentences.

4. If there is an Interruption in Recycled Water deliveries to any Recycled Water Irrigation Area (as the capitalized terms are defined in Rule 23.5), the temporary use of Potable water for irrigating each such Recycled Water Irrigation Area is authorized in the manner described in Rule 23.5, Subsection F.

5. If the District has adopted an ordinance in response to any emergency caused by drought, or other threatened or existing water shortage pursuant to section 332 of the Monterey Peninsula Water Management Law, said ordinance shall prevail over contrary provisions of this Rule. Notwithstanding the preceding sentence, Potable water shall be made available for irrigating tees and greens of the Recycled Water Irrigation Areas in sufficient quantities to maintain them in good health and condition during an Interruption, without any limitation on the duration.

6. The District shall have no obligation to furnish Potable water for irrigation of the Recycled Water Irrigation Areas except in the circumstances set forth above.

7. If (1) an emergency or major disaster is declared by the President of the United States, or (2) a "state of war emergency," "state of emergency," or "local emergency," as those terms are respectively defined in Government Code section 8558, has been duly proclaimed pursuant to the California Emergency Services Act, with respect to all or any portion of the territory of MPWMD, the provisions of this section shall yield as necessary to respond to the conditions giving rise to the declaration or proclamation.

I. Sunset.

1. Without further action of the Board of Directors, Stage 4, when implemented due to non-compliance with regulatory targets, shall sunset for all California-American Water Company Water Distribution Systems and water use restrictions shall revert to Stage 1 when the 12 month total production has been less than or equal to its then-current annual production target for two (2) consecutive months.

2. Physical Shortage Trigger: Without further action of the Board of Directors, Stage 4 shall sunset and water use restrictions shall revert to Stage 1 when remaining Total Storage Available computed consistent with Table XV-4 is

greater than remaining Total Storage Required for two (2) consecutive months.

3. Regulatory Trigger: Without further action of the Board of Directors, Stage 4 shall sunset for that Water Distribution System(s) and water use restrictions shall revert to Stage 1 when the governmental or regulatory agency rescinds the request.

4. Emergency Trigger: Stage 4 shall sunset and water use restrictions shall revert to Stage 1 when the Board finds that a Water Supply Emergency no longer exists.

5. Restoration of Lower Stage. A Resolution causing the sunset of one or more provisions of Stage 4 may also activate any lower Stage as may be warranted for good cause by circumstances affecting a particular Water Distribution System, private Well, or Water User.

Water Rationing Exemptions and Variances (MPWMD Rule 166)

A. Special Needs Exemptions. The following needs shall be given additional Rations:

1. Medical and/or sanitation needs certified by a doctor;

2. Hospital and/or health care facilities that have achieved all BMPs for those uses;

3. Riparian irrigation using water efficient irrigation technology when required as a condition of a River Works Permit issued by the District;

4. Non-Residential Users that can demonstrate compliance with all District regulations appropriate for the type of use and where there is minimal exterior water use on the Water Meter or water supply serving the use.

B. Hardship Variances. The following shall be given consideration of additional Rations to meet extraordinary needs:

1. Health and safety situations on a case-by-case basis;

2. Drinking water for large livestock;

3. Commercial laundromats with signs advising full loads only;

4. Business in a home on a case-by-case basis;

5. Emergency, extreme, or unusual situations on a case-by-case basis.

C. No Exemption or Variance. The following categories of water use shall not qualify for an additional Ration:

1. Short-Term Residential Housing as defined in Rule 11 (Definitions);

2. Guests and short-term visitors;

3. Irrigation, other than variances allowed for required riparian irrigation or safety;

4. Filling pools, spas, ponds, fountains, etc;

5. Leaks that are not repaired within 72 hours of notice.

D. Mandatory Conditions of Approval. Prior to approving any variance, the Site must be in compliance with all applicable District Rules and Regulations and the water conservation standards. Verification by District inspection may be conducted prior to granting a variance.

Definitions Used in the 2016 Monterey Peninsula Water Conservation and Rationing Plan (MPWMD Rule 167)

Acre-Foot – "Acre-Foot" shall mean an amount of water equal to 325,851 gallons.

Administrative Compliance Order – "Administrative Compliance Order" shall mean a written order issued by the General Manager directing any Person responsible for serious, continuing or recurring violations to take affirmative action to remedy consequences of those violations. Administrative Compliance Orders are in addition to all other legal remedies, criminal or civil, which may be pursued by the Water Management District. An Administrative Compliance Order may be issued in conjunction with a Cease & Desist Order.

Applicant – "Applicant" shall mean the Person or Persons responsible for completing the requirements of an application.

Best Management Practices (BMPs) – "Best Management Practices" shall mean a conservation measure or series of measures that is useful, proven, cost-effective, and generally accepted among conservation experts to reduce water consumption and protect water quality.

Bishop Water Distribution System – "Bishop Water Distribution System" or "Bishop" shall mean the California American Water subsystem as described in the purchase agreement between Bishop Water Company and California American Water dated September 1, 1996.

California-American Water Company Water Distribution System – "California-American Water Company Water Distribution System" shall mean all California-American Water Company Water Distribution Systems that rely, in whole or in part, on production or production offsets from the Carmel River System or the Seaside Coastal Subareas.

Carmel River System – "Carmel River System" shall mean water from the Carmel River and underlying alluvial aquifer.

CAWD/PBCSD Wastewater Reclamation Project Recycled Water Users – "CAWD/PBCSD Wastewater Reclamation Project Water Users" shall mean those Users of the wastewater reclamation project undertaken by the Carmel Area Wastewater District and the Pebble Beach Community Services District that supplies Reclaimed Water to the Golf Courses and certain open space areas within Pebble Beach.

Cease & Desist Order – "Cease & Desist Order" shall mean an order issued by the General Manager prohibiting a Person from continuing a particular course of conduct. Cease & Desist Orders are in addition to all other legal remedies, criminal or civil, which may be pursued by the Water Management District. A Cease & Desist Order may be issued in conjunction with an Administrative Compliance Order.

CCF– "CCF" (or one-hundred cubic feet) is equivalent to 748 gallons.

Conservation Rates – "Conservation Rates" shall mean the increase in the water rates for California American Water customers at levels of either 25 percent (Level 1 Conservation Rates) or 40 percent (Level 2 Conservation Rates). Conservation Rates do not apply to Residential Tier 1 water use.

Conveyor Car Wash – "Conveyor Car Wash" shall mean a commercial car wash where the vehicle moves on a conveyor belt during the wash and the driver of the vehicle can remain in, or wait outside of, the vehicle.

District – See Monterey Peninsula Water Management District.

Dwelling Unit – "Dwelling Unit" shall mean single or multiple residences suitable for single household occupancy but shall not refer to non-permanent student or transient housing, the occupancy of which is projected to average 24 months or less.

Extractor – "Extractor" shall means a user, or consumer of water delivered by a water Well or Water-Gathering Facility, which is not a part of any Water Distribution System.

Flagrant Violation – "Flagrant Violation" shall mean any willful or wanton disregard of the Rules and Regulations of the District which results in unreasonable waste, contamination, or pollution of District waters by any Extractor, User, or by the Owner or Operator of a Well, Water-Gathering Facility or Water Distribution System.

Flow Restrictor – "Flow Restrictor" shall mean a device placed into the Water Distribution System by the distribution system Operator, or put into the output of a private Well, that restricts the volume of flow to the User.

Graywater Irrigation System – "Graywater Irrigation System" shall mean an onsite wastewater treatment system designed to collect Graywater and transport it out of the structure for distribution in an Irrigation System.

Hidden Hills System – "Hidden Hills System" shall mean the California American Water subsystem as described in the purchase agreement between Carmel Valley Mutual Water Company and California American Water recorded July 8, 1994, Document #49389, Reel 3125, Page 696.

Household – "Household" shall mean all the people who occupy a housing unit. A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room occupied (or if vacant, intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live separately from any other people in the building and that have direct access from the outside of the building or through a common hall.

In-Bay Car Wash – "In-Bay Car Wash" shall mean a commercial car wash where the driver pulls into bay, parks the car, and the vehicle remains stationary while either a machine moves over the vehicle to clean it or one or more employees of the car wash clean the vehicle, instead of the vehicle moving through a tunnel.

Interruption – "Interruption" shall mean an interruption for longer than 12 hours in the supply of Recycled Water to a Recycled Water Irrigation Area.

Laguna Seca Subarea – "Laguna Seca Subarea" shall mean one of the subdivisions of the Southern Seaside Subbasin. Its boundary is shown on a map maintained at the offices of the Water Management District, as that map may be amended from time to time.

Landscaping – "Landscaping" shall mean the arrangement of plants and other materials that may result in outdoor water use.

Lawn – "Lawn" shall mean an area of land planted with live, healthy grass which is regularly maintained, irrigated and groomed at a low, even height.

Main California American Water System – "Main California American Water System" shall mean the California American Water's Water Distribution System that derives its Source of Supply from the Carmel River System and the Seaside Coastal Subareas of the Seaside Groundwater Basin.

Master Meter – "Master Meter" shall mean a single Water Meter that supplies water to more than one Water User.

Measurable Precipitation – "Measureable Precipitation" shall mean rainfall of 0.1 inch or more.

Minimum Daily Water Ration – "Minimum Daily Water Ration" shall mean a minimum Water Ration of 90 gallons per day per Household.

Mobile Water Distribution System – "Mobile Water Distribution System" shall mean any Potable or Sub-potable Water delivery that originates at a location apart from the Site of use and that is delivered via a truck or other movable container. This definition includes, but is not limited to, trucked water. This definition shall not apply to deliveries of water by commercial companies in volumes less than or equal to 55 gallons per container.

Model Water Efficient Landscape Ordinance – "Model Water Efficient Landscape Ordinance" shall mean the ordinance found at California Code of Regulations, Title 23. Waters, Division 2. Department of Water Resources, Chapter 2.7.

Monterey Peninsula Water Management District (District) – "Monterey Peninsula Water Management District" ("District") is a public agency created by the California State Legislature in 1977 and approved by the voters on June 6, 1978. The enabling legislation is found at West's California Water Code, Appendix Chapters 118-1 to 118-901.

Monterey Peninsula Water Resource System (MPWRS) – "Monterey Peninsula Water Resource System" ("MPWRS") shall mean the surface water in the Carmel River and its tributaries, Groundwater in the Carmel Valley Alluvial Aquifer which underlies the Carmel River, and Groundwater in the Seaside Groundwater Basin.

MPWMD– See Monterey Peninsula Water Management District.

Multi-Family Household – "Multi-Family Household" shall mean a Household where two or more Dwelling Units receive water from a Master Meter.

Non-Essential Water Use – "Non-Essential Water Use" shall mean uses of water that are acceptable during times of normal water availability, as long as proper procedures to maximize efficiency are followed. However, when water is in short supply, Non-Essential Water Uses must be curtailed to preserve limited water resources for essential

uses. Non-Essential Water Uses do not have health or safety impacts, are not required by regulation, and are not required to meet the core functions of a Non-Residential use.

Non-Residential – "Non-Residential" shall mean water uses not associated with Residential use. These uses include Commercial, Industrial, Public Authority, Golf Course, Other Use, Non-Revenue Metered Use, and Reclaimed Water.

Non-Revenue Water – "Non-Revenue Water" shall mean those components of system input volume that are not billed and produce no revenue; equal to unbilled authorized consumption, plus apparent losses, plus real losses.

Open Space – "Open Space" shall mean public land area left in an un-built state as defined in the California Government Code, Section 65560. Open Space includes plazas, parks, and cemeteries.

Owner or Operator – "Owner or Operator" shall mean the Person to whom a Water-Gathering Facility is assessed by the County Assessor, or, if not separately assessed, the Person who owns the land upon which a Water-Gathering Facility is located.

Permanent Resident – "Permanent Resident" shall mean a Person who resides continuously in a Dwelling Unit for more than 30 days or a resident that can submit such other evidence to clearly and convincingly demonstrate permanent residency.

Positive Action Shut-Off Nozzle – "Positive Action Shut-Off Nozzle" shall mean a device that completely shuts off the flow of water from a hose when released.

Potable – "Potable" shall mean water that is suitable for drinking.

Pressure Regulating Device – "Pressure Regulating Device" shall mean a water pressure reducing device installed in the water line after the Water Meter that automatically reduces the pressure from the water supply main to a lower pressure.

Production Limit – "Production Limit" shall mean the maximum production permitted for a Water Distribution System.

Reclaimed Water – "Reclaimed Water" shall mean wastewater that has been treated to the tertiary level, including disinfection. Reclaimed Water is a form of Recycled Water.

Recycled Water – "Recycled Water" shall mean water that originates from a Sub-potable Source of Supply such as wastewater treated to the tertiary level.

Recycled Water Irrigation Areas – "Recycled Water Irrigation Areas" shall mean the golf courses and other vegetated areas located within the Del Monte Forest that are being irrigated with Recycled Water.

Residency Affidavit – "Residency Affidavit" shall mean a document attesting to the number of Permanent Residents in a Household.

Residential – "Residential" shall mean water used for Household purposes, including water used on the premises for irrigating lawns, gardens and shrubbery, washing vehicles, and other similar and customary purposes pertaining to Single-Family and Multi-Family Dwellings.

Responsible Party – "Responsible Party" shall mean the Person or Persons who assume through the District Permit process legal responsibility for the proper performance of the requirements of a Permit holder as defined in the Rules and Regulations and/or in conditions attached to a Permit. "Responsible Party," when used in the context of the 2016 Monterey Peninsula Water Conservation and Rationing Plan, shall mean the Person who is responsible for paying the water bill. When a property is served by a private Well or a small Water Distribution System, the "Responsible Party" shall be the Water Users of the Well and the small distribution system Operator.

Riparian Corridor – "Riparian Corridor" shall mean all that area which comprises the Riverbed and riverbanks of the Carmel River which lies within the boundaries of the Carmel River Management Zone (Zone No. 3), and all those areas which lie within 25 lineal feet of the Riverbank Assessment Line, excepting however, all lands which lie outside of the Zone No. 3 boundary, and exempting Lawns, Landscaping and cultivated areas as shown on the spring 1983 aerial photographs taken by California American Water pursuant to the agreement with the District in accord with MPWMD Rule 123 A.

Ryan Ranch Water Distribution System – "Ryan Ranch Water Distribution System" or "Ryan Ranch" shall mean the California American Water subsystem as described in the purchase agreement between Neuville Co. N.V. (a Delaware Corporation) and California American Water dated April 30, 1990.

Seaside Basin Adjudication Decision – "Seaside Basin Adjudication Decision" or "Seaside Decision" shall mean the March 27, 2006 court adjudication, as amended, determining water rights in the Seaside Groundwater Basin that restrict California American Water production from the Coastal Subareas and Laguna Seca Subarea of the basin.

Seaside Groundwater Basin – "Seaside Groundwater Basin" shall mean the set of geologic formations that stores, transmits, and yields water in the Seaside area, comprising of the Northern Seaside Subbasin and the Southern Seaside Subbasin. The Seaside Groundwater Basin also includes those areas known as the Northern Coastal Subarea, the Northern Inland Subarea, the Southern Coastal Subarea and the Laguna Seca Subarea.

Short-Term Residential Housing – "Short-Term Residential Housing" shall mean one or more Residential Dwelling Units on a property that are occupied by Visitors, are operated as a business and for which a fee is charged to occupy the premises.

Single Residential Household – "Single Residential Household" shall mean a Household that receives its water supply through a Water Meter that is not shared with other Households.

Site – "Site" shall mean any unit of land which qualifies as a Parcel or lot under the Subdivision Map Act, and shall include all units of land: (1) which are contiguous to any other Parcel (or are separated only by a road or easement); and (2) which have identical owners; and (3) which have an identical present use. The term "Site" shall be given the same meaning as the term "Parcel."

Smart Controller – "Smart Controller" shall mean a weather-based device (typically a "timer") that automatically controls an outdoor Irrigation System. Smart Controllers use weather, site or soil moisture data as a basis for determining an appropriate watering schedule. Smart Controllers (commonly referred to as ET controllers, Weather Based Irrigation Controllers, smart sprinkler controllers, and water smart controllers) are a new generation of irrigation controllers that utilize prevailing weather conditions, current and historic Evapotranspiration, soil moisture levels, and other relevant factors to adapt water applications to meet the actual needs of the plants.

Source of Supply – "Source of Supply" shall mean the Groundwater, surface water, Reclaimed Water sources, or any other water resource where a Person, Owner or Operator gains access by a Water-Gathering Facility.

Sub-potable Water – "Sub-potable Water" shall mean water which is not fit for human consumption without treatment and shall include Reclaimed Water as that term is used in the Water Reclamation Law, and particularly in Section 13550 of the Water Code.

Total Storage Available – "Total Storage Available" shall mean the usable water as measured by the District on May 1 in any year that is contained in the Carmel Valley Alluvial

Aquifer plus usable water in the Seaside Groundwater Basin and the usable water in the Los Padres Reservoir.

Total Storage Required – "Total Storage Required" shall mean the combination of demand remaining from May 1 to September 30 and carryover storage for the next Water Year that is required to meet the following Water Year production limit for California American Water from Carmel River sources set by State Water Resources Control Board Order WR 2009-0060, plus the production limit for California American Water from the Seaside Groundwater Basin set by the Court in its March 27, 2006 Seaside Basin Adjudication Decision and the production limit specified for non-California American Water Users from the Monterey Peninsula Water Resource System set in the District's Water Allocation Program.

User – "User" shall mean a customer or consumer of water delivered by a Water Distribution System. User does not include any Owner or Operator of a Water Distribution System. Each residence, commercial enterprise, or industrial enterprise shall be deemed a separate and distinct User.

Visitor-Serving Facility – "Visitor-Serving Facility" shall include all hotels, motels, restaurants, convention/meeting facilities, and service stations within the Monterey Peninsula Water Management District. Other facilities may be designated as a Visitor- Serving Facility by the General Manager upon finding that such facility exists primarily for the use of tourists and the traveling public. Short term rentals of private property are not included under this definition.

Water Broom – "Water Broom" shall mean a water efficient broom-like cleaning device that uses a combination of water and air to clean hard surfaces with no runoff.

Water Credit – "Water Credit" shall mean a record allowing reuse of a specific quantity of water upon a specific Site. A Water Credit differs from a Water Use Credit in that it is not characterized by a Permanent Abandonment of Use, but may be the result of a temporary cessation of use.

Water Distribution System – "Water Distribution System" shall mean all works within the District used for the collection, storage, transmission or distribution of water from the Source of Supply to the Connection of a system providing water service to any Connection including all Water-Gathering Facilities and Water-Measuring Devices. In systems where there is a Water Meter at the point of Connection, the term "Water

Distribution System" shall not refer to the User's piping; in systems where there is no Water Meter at the point of Connection, the term "Water Distribution System" shall refer to the User's piping.

Water Distribution System Operator – "Water Distribution System Operator" shall mean the Person or Persons who assume through the District Permit process legal responsibility for the proper performance of the requirements of a Water Distribution System Permit holder as defined in the Rules and Regulations and/or in conditions attached to a Permit.

Water-Gathering Facility – "Water-Gathering Facility" shall mean any device or method, mechanical or otherwise, for the production of water from dams, Groundwater, surface water, water courses, Reclaimed Water sources, or any other Source of Supply within the Monterey Peninsula Water Management District or a zone thereof. Water-Gathering Facilities shall include any water-production facility as defined in the Monterey Peninsula Water Management District Law. This definition shall not apply to On-Site Cisterns that serve an existing single-Connection Residential situations where rainwater is captured for On-Site Landscape irrigation use.

Water Ration – "Water Ration" shall mean a specific amount of water available to each Water User during Stage 4 Water Rationing.

Water Supply Emergency – "Water Supply Emergency" shall mean a declaration pursuant to Regulation XV, The 2016 Monterey Peninsula Water Conservation and Rationing Plan, that a water shortage emergency condition prevails within one or more Water Distribution Systems.

Water Use Credit – "Water Use Credit" shall mean a limited entitlement by a Person to use a specific quantity of water upon a specific Site. Water Use Credits shall be limited by time, and by other conditions as set forth in the District's Rules and Regulations.

Water User – "Water User" shall mean Users of water for domestic or other uses from any Water Distribution System or private Well.

Water Waste – "Water Waste" shall mean the indiscriminate, unreasonable, or excessive running or dissipation of water as defined in Rule 162.

Water Year – "Water Year" shall mean the period from October 1 of one year to September 30 of the succeeding year.

Well – "Well" shall mean any device or method, mechanical or otherwise, for the production of water from Groundwater supplies within the District excluding seepage pits and natural springs.

Water Meter – "Water Meter" shall mean any measuring device intended to measure water usage. The term "Water Meter" shall have the same meaning as the term "Water Measuring Device."

Attachment 3: Resolution Approving the WSCP

CALIFORNIA AMERICAN WATER

July 1, 2021

Attention: Coordinator, Urban Water Management Plans
California Department of Water Resources
1416 9th Street
Sacramento, CA 95814

Subject: Adoption of California American Water's Monterey County District 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To Whom It May Concern:

This letter confirms that California American Water has formally adopted its 2020 Urban Water Management Plan and Water Shortage Contingency Plan for its Monterey County District as required by the California Water Code Section 10642. These plans will be submitted to the California Department of Water Resources for review.

Sincerely,



Ian C. Crooks
Vice President, Engineering
California American Water

J

Appendix J. Public Notices

Nina Miller

From: Nina Miller
Sent: Sunday, April 18, 2021 11:56 AM
To: Nina Miller
Cc: Ian C Crooks; Catherine A Stedman; Jeroen Olthof
Subject: California American Water Monterey Division 2020 Urban Water Management Plan
BCC mckeec@co.monterey.ca.us; crerig@ci.carmel.ca.us; citymanager@delreyoaks.org; uslar@monterey.org; bharvey@cityofpacificgrove.org; aaron@sandcityca.org; cmalin@ci.seaside.ca.us; Dave Stoldt

California American Water Monterey Division 2020 Urban Water Management Plan

California American Water is in the process of preparing its Monterey County District 2020 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2020 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

This letter serves as your official notice of preparation and intent to adopt the UWMP. A draft of the UWMP will be available for review in June 2021. Until that time, if you have any questions or comments regarding the Monterey County District UWMP, please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Jeroen Olthof, P.E.
Water Systems Consulting, Inc.
9815 Carroll Canyon Road, Suite 205
San Diego, CA 92131
(858) 397-2617 ext. 301
jolthof@wsc-inc.com

Sincerely,

Nina Miller
Manager, Capital Program and Asset Planning
California American Water

From:	Nina Miller
To:	mckeec@co.monterey.ca.us; crerig@ci.carmel.ca.us; citymanager@delreyoaks.org; uslar@monterey.org; bharvey@cityofpacificgrove.org; aaron@sandcityca.org; cmalin@ci.seaside.ca.us; Dave Stoldt
Cc:	Candace Coleman; Catherine A Stedman; Jeroen Olthof
Subject:	Notice of Public Hearing California American Water Monterey District - 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Date:	Thursday, June 10, 2021 10:50:23 AM

Notice of Public Hearing- California American Water Monterey District - 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Notice is hereby given that a public hearing will be held by California American Water on **June 17, 2021 at 1:00 P.M**., via webinar https://bit.ly/3bO0C7O or call in (audio only) +1 916-244-8157, Phone Conference ID: 187 057 3#

The public hearing will be held to receive public comments and consider adoption of the Draft 2020 Urban Water Management Plan (2020 UWMP) and Draft Water Shortage Contingency Plan (WSCP), which have been prepared in compliance with the Urban Water Management Planning Act. Following the public hearing, California American Water may adopt the Draft 2020 UWMP and Draft WSCP with recommended modifications as a result of public input.

The Draft 2020 UWMP is a long-range planning document that assesses current water demand, projects future demand over a minimum 20-year planning horizon and identifies water resources and conservation efforts to meet future demand. The Draft WSCP contains details on California American Water's water shortage contingency planning and shortage response actions.

A copy of the Draft 2020 UWMP, and Draft WSCP will be available for public review beginning on **June 10, 2021,** on the California American Water website https://www.amwater.com/caaw/Customer-Service-Billing/Water-Rates/GRC-Applications-and-Customer-Notifications Please contact California American Water if you require special accommodations.

If you'd like to provide comments on the Plans, you may submit written comments during the public hearing or via email at *2020UWMP_Monterey@amwater.com* no later than 1:00 P.M., June 18, 2021. If you have any questions regarding the 2020 UWMP, WSCP, or public hearing meeting, please contact Nina Miller at nina.miller@amwater.com or 831-884-3175.

Sincerely,

Nina Miller
Manager, Capital Program and Asset Planning
California American Water

MONTEREY HERALD
Serving Monterey County

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(831) 726.4382

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P.O. BOX 33368
SAN DIEGO, CA 92163

Legal No. 0006580196
2020 UWMP Notices Coastal Monterey

Ordered by:

PROOF OF PUBLICATION

STATE OF CALIFORNIA
County of Monterey

I am a citizen of the United States and a resident of the County aforesaid. I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of The Monterey Herald, a newspaper of general circulation, printed and published daily and Sunday in the City of Monterey, County of Monterey, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Monterey, State of California; that the notice, of which the annexed is a printed copy (set in type not smaller than 6 point), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

06/02/21, 06/09/21

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Executed on 06/09/2021 at Monterey, California.

Danielle Landaker

Signature

This space is reserved for the County Clerk's Filing Stamp

NOTICE OF PUBLIC HEARING
On California American Water's
Urban Water Management Plan

California American Water will hold a public hearing on Thursday, June 17, 2021, on the final draft of the 2020 Urban Water Management Plan and Water Shortage Contingency Plans for its Monterey County District service area. **This service area includes the cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Del Rey Oaks, Sand City, a portion of Seaside, Hidden Hills and Ryan Ranch subdivisions, Bishop subdivision including the area known as Laguna Seca Ranch Estates and vicinity, and certain unincorporated areas in the County of Monterey.** Copies of the plan will be available for public review, and public comment will be accepted. The hearing will be held online at 1:00 p.m., Thursday, June 17, 2021.
The link for this meeting is as follows:
https://bit.ly/3bO0C7O
Or call in (audio only) +1 916-244-8157
Phone Conference ID: 187 057 3#
Draft plans are available for review in the customer notifications section of
www.californiaamwater.com

Published June 2 & June 9, 2021

The Carmel Pine Cone
Carmel-by-the-Sea
County of Monterey, California

Declaration of Publication

I, the undersigned, **Irma Garcia** declare under penalty of perjury that the following is true and correct:

That during all the times herein mentioned I was, and now am, a citizen of the United States over the age of 18, and a resident of said city, county and state.

That during all of said times I have been and now am the Legal Clerk of THE CARMEL PINE CONE, a weekly newspaper of general circulation published and circulated in said city, and the official newspaper thereof, and that as such I am familiar with the advertising appearing in said newspaper.

That the **Public Notice,** of which the attached is a printed copy, was printed and published in said newspaper on **June** 4 **& June 11, 2021.** And that it was printed and published in each and every edition, issue and number of said newspaper printed, published and circulated on said date, and not in any supplement of said newspaper.

Executed **June 11, 2021**, at Pacific Grove, California.

Irma Garcia

The Carmel Pine Cone
Pacific Grove
County of Monterey, California

Declaration of Publication

NOTICE OF PUBLIC HEARING
On California American Water's Urban Water Management Plan

CALIFORNIA AMERICAN WATER
WE KEEP LIFE FLOWING

California American Water will hold a public hearing on Thursday, June 17, 2021, on the final draft of the 2020 Urban Water Management Plan and Water Shortage Contingency Plans for its Monterey County District service area. **This service area includes the cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Del Rey Oaks, Sand City, a portion of Seaside, Hidden Hills and Ryan Ranch subdivisions, Bishop subdivision including the area known as Laguna Seca Ranch Estates and vicinity, and certain unincorporated areas in the County of Monterey.** Copies of the plan will be available for public review, and public comment will be accepted. The hearing will be held online at 1:00 p.m., Thursday, June 17, 2021.

The link for this meeting is as follows:
https://bit.ly/3bO0C7O
Or call in (audio only)
+1 916-244-8157
Phone Conference ID: 187 057 3#

Publication dates:
June 4 & 11, 2021
(PC604)

MUSIC

From page 27A

varado St., (831) 649-8151.

Hyatt Regency Monterey Hotel — singer and guitarist **Jenna Vivre** (soul, folk and jazz, Friday at 6 p.m.). 1 Old Golf Course Road, (831) 372-1234.

Folktale Winery in Carmel Valley — **The Rough Jazz Combo** (Friday at 3 p.m.), singer-songwriter **Johan Sotelo** (Saturday at 3 p.m.), singer-songwriter **Alex Lucero** (Americana, Sunday at 11:30 a.m.), guitarist **John Sherry** (rock, folk and blues, Monday at 3 p.m.) and singer-songwriter **Adrea Castiano** (Thursday at 3 p.m.). 8940 Carmel Valley Road, (831) 293-7500.

Intercontinental Hotel in Monterey — guitarist **John Sherry** (rock, folk and blues, Friday and Saturday at 6 p.m.). 750 Cannery Row, (831) 375-4500.

Juice and Java in Pacific Grove — Open Mic Night (Friday at 6 p.m.). 599 Lighthouse Ave., (831) 373-8652.

Julia's Vegetarian Restaurant in Pacific Grove — singer-songwriter **Zack Freitas** (Monday at 7:30 p.m.), singer-songwriter **Rachel Williams** (Tuesday at 7:30 p.m.), singer-songwriter **Talmon Owens** (Wednesday at 7:30 p.m.) and singer and guitarist **Andrea Carter** (folk, Thursday at 7:30 p.m.). 1180 Forest, (831) 656-9533.

La Playa — **The David Morwood Band** (jazz, Sunday at 4 p.m.). Camino Real and Eighth, (800) 582-8900.

The Lodge at Pebble Beach — singer-songwriter **Taylor Rae** (Thursday at 6 p.m.) In the Terrace Lounge at 1700 17-Mile Drive, (831) 624-3811.

Midici Pizza in Monterey — **The Stu Reynolds Sextet** with guitarist **Adam Astrup** and bassist **Steve Uccello** (jazz, Sunday at 5 p.m.) and singer **Janice Perl** and guitarist **Bruce Forman** (jazz, Thursday at 6 p.m.). 467 Alvarado St., (831) 264-7013.

Mission Ranch — singer and pianist **Maddaline Edstrom** (jazz and pop, Friday through Sunday at 5 p.m.) and pianist **Gennady Loktionov** (jazz, Monday through Thursday at 5 p.m.). Due to Covid, the singalongs are on hold for now. 26270 Dolores St., (831) 625-9040.

Rio Grill — singer-songwriter **Luis Fer** (Friday at 4 p.m. and Saturday at 1 p.m.) and singer-songwriter **Adrea Castiano** (Sunday at 1 p.m.). Crossroads shopping center, (831) 625-5436.

Tarpy's in Monterey — singer-songwriter **Adrea Castiano** (Friday at 4 p.m.), singer and guitarist **Mark Creech** (acoustic classic rock, Saturday at 1 p.m.) and singer-songwriter **Johan Sotelo** (Sunday at 1 p.m.). 2999 Highway 68, (831) 647-1444.

Trailside Cafe in Carmel Valley — singer and guitarist **Scott Fenton** (Friday at 6 p.m.) and **Sweet Dreams Duo** (rock and r&b, Saturday at 6 p.m.). 3 Del Fino Place, (831) 298-7453.

The Whaling Station in Monterey — singer-songwriter **Matt Masih** (Friday at 6 p.m.), singer **David Marzetti**, accordionist **Mike Marotta** and violinist **David Dally** (world music, Saturday at 6 p.m.) and singer-songwriter and violinist **Razzvio** (rock, Thursday at 6:30 p.m.). 763 Wave St., (831) 373-3778.

ART

From page 33A

■ 'Emerging' artists get $$

Five artists will share $12,500 in grant money, thanks to the the Arts Council for Monterey County. The winners include visual artists **Efrain Jimenez**, **Jesus Nunez Navarroa** and **Natalia Corazza**, performing artist **Janice Rocke** and digital artist **Samantha Saldana**.

The money comes from the arts council's Local Emerging Artists Program. "This year, more than ever, we recognize how much the arts play in our social and emotional well-being to ease us through a crisis, executive director **Jacquie Atchison** said. "We are excited to see these artists expand their creativity with the support of these grants."



A painting by Hayley Armstrong of Carmel High, "Ellis of Monterey," will be displayed in Congressman Jimmy Panetta's office.

BEST House Cleaning '16, '17, '18

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CALENDAR

June 12 – Saturday Music Series at The Barnyard. Live music noon to 3 p.m. every Saturday at the Barnyard Shopping Village, 3663 The Barnyard, Carmel. Local musicians perform in the gardens. No cover charge. www.thebarnyard.com

June-July 2021 – Time to book your summertime event at Baum & Blume! Our charming, intimate patio is perfect for celebrations up to 24 ~ Maybe it's a birthday, graduation, wedding rehearsal or ANY festive occasion …let us customize an event for you! Baum & Blume ~ 4 El Caminito Road, Carmel Valley. (831) 659-0400

June 23 – Aspire Health Plan Presents "Jump into Sewing," a Virtual Community Connections Class, 10 to 11 a.m. Always wanted to learn to sew? Or to get back into sewing? This is the class for you. Review basic terminology, materials and equipment. Discussion will include: how to choose a project, quilting,clothes making, patterns, and more. Register for this free class so we can know how many people to expect. RSVP to (877) 663-7651, or www.aspirehealthplan.org/connections2021

June 28 – Aspire Health Plan Presents "Meet the Author – Alka Joshi," a Virtual Community Connections Class, 2-3 p.m. The New York Times bestselling author will participate in a discussion about her book. Joshi is a graduate of Stanford University and received her M.F.A. from the California College of the Arts. She was born in India and now lives on the Monterey Peninsula with her husband. Register for this free event. RSVP to (877) 663-7651, or www.aspirehealthplan.org/connections2021

June 29 – Aspire Health Plan Presents: Discussion - Jo Mora, artist and longtime Monterey County local, a Virtual Community Connections Class, 10 to 11:30 a.m. Join Aspire Health and Peter Hiller for a presentation and audience discussion about artist Jo Mora whose roots run deep in Monterey County. Event is free. Register so we can know how many people to expect. RSVP to (877) 663-7651, or www.aspirehealthplan.org/connections2021.

To advertise, email anne@carmelpinecone.com
$0.50 per word ($25 min. charge)
• Add a photo for your event for only $25 •

PUBLIC NOTICES

FICTITIOUS BUSINESS NAME STATEMENT
File No. 20211327
Filing type: ORIGINAL FILING.
The following person(s) is(are) doing business as: **ROSYS HOUSE CLEANING, 850 Munras Ave., Suite #6, Monterey, California 93940.**
Mailing address: 254 Grant St., Marina, California 93933.
County of Principal Place of Business: MONTEREY.
Registered Owner(s):
ROSALBA CARDENAS PEREZ, 254 Grant St., Marina, California 93933.
This business is conducted by an individual.
The registrant commenced to transact business under the fictitious business name or names listed above on May 28, 2021.
S/Rosalba Cardenas Perez
Date: May 28, 2021
BY SIGNING, I DECLARE THAT ALL INFORMATION IN THIS STATEMENT IS TRUE AND CORRECT. A registrant who declares as true any materiel matter pursuant to Section 17913 of the Business and Professions Code the registrant knows to be false is guilty of a misdemeanor punishable by a fine not to exceed one thousand dollars ($1,000). ***I am also aware that all Information on this statement becomes public record upon filing pursuant to the California Public Records Act (Government Code Sections 6250-6277).***
This statement was filed with the County Clerk of Monterey County on May 28, 2021.

NOTICE-In accordance with Subdivision (a) of Section 17920, a Fictitious Name Statement generally expires at the end of five years from the date on which it was filed in the office of the County Clerk, except, as provided in Subdivision (b) of Section 17920, where it expires 40 days after any change in the facts set forth in the statement pursuant to Section 17913 other than a change in the residence address of a registered owner. A new Fictitious Business Name Statement must be filed before the expiration. The filing of this statement does not of itself authorize the use in this state of a Fictitious Business Name in violation of the rights of another under Federal, State, or common law (See Section 14411 et seq., Business and Professions Code).
Publication dates: June 4, 11, 18, 25, 2021. (PC608)

FICTITIOUS BUSINESS NAME STATEMENT
File No. 20211333
Filing type: ORIGINAL FILING.
The following person(s) is(are) doing business as: **WINDMILL PRODUCE, 115 Monterey-Salinas Highway, Salinas, CA 93908.**
County of Principal Place of Business: MONTEREY.
Registered Owner(s):
JOSEPH OSCAR MURILLO.
RENATA BERNARDA MURILLO.
This business is conducted by a married couple.
The registrant commenced to transact business under the fictitious business name or names listed above on N/A.
S/Renata Bernarda Murillo
Date: May 28, 2021
BY SIGNING, I DECLARE THAT ALL INFORMATION IN THIS STATEMENT IS TRUE AND CORRECT. A registrant who declares as true any materiel matter pursuant to Section 17913 of the Business and Professions Code the registrant knows to be false is guilty of a misdemeanor punishable by a fine not to exceed one thousand dollars ($1,000). ***I am also aware that all Information on this statement becomes public record upon filing pursuant to the California Public Records Act (Government Code Sections 6250-6277).***
This statement was filed with the County Clerk of Monterey County on May 28, 2021.
NOTICE-In accordance with Subdivision (a) of Section 17920, a Fictitious Name Statement generally expires at the end of five years from the date on which it was filed in the office of the County Clerk, except, as provided in Subdivision (b) of Section 17920, where it expires 40 days after any change in the facts set forth in the statement pursuant to Section 17913 other than a change in the residence address of a registered owner. A new Fictitious Business Name Statement must be filed before the expiration. The filing of this statement does not of itself authorize the use in this state of a Fictitious Business Name in violation of the rights of another under Federal, State, or common law (See Section 14411 et seq., Business and Professions Code).
Publication dates: June 4, 11, 18, 25, 2021. (PC611)

FICTITIOUS BUSINESS NAME STATEMENT
File No. 20211339
Filing type: ORIGINAL FILING.
The following person(s) is(are) doing business as: **PONICLOGIC, 395 Del Monte Center 106, Monterey, CA 93940.**
County of Principal Place of Business: MONTEREY.
Registered Owner(s):
BRITTON ANTHONY McLEVIS, 395 Del Monte Center 106, Monterey, CA 93940.
This business is conducted by an individual.
The registrant commenced to transact business under the fictitious business name or names listed above on June 1, 2021.
S/Britton Anthony McLevis
Date: June 1, 2021
BY SIGNING, I DECLARE THAT ALL INFORMATION IN THIS STATEMENT IS TRUE AND CORRECT. A registrant who declares as true any materiel matter pursuant to Section 17913 of the Business and Professions Code the registrant knows to be false is guilty of a misdemeanor punishable by a fine not to exceed one thousand dollars ($1,000). ***I am also aware that all Information on this statement becomes public record upon filing pursuant to the California Public Records Act (Government Code Sections 6250-6277).***
This statement was filed with the County Clerk of Monterey County on June 1, 2021.
NOTICE-In accordance with Subdivision (a) of Section 17920, a Fictitious Name Statement generally expires at the end of five years from the date on which it was filed in the office of the County Clerk, except, as provided in Subdivision (b) of Section 17920, where it expires 40 days after any change in the facts set forth in the statement pursuant to Section 17913 other than a change in the residence address of a registered owner. A new Fictitious Business Name Statement must be filed before the expiration. The filing of this statement does not of itself authorize the use in this state of a Fictitious Business Name in violation of the rights of another under Federal, State, or common law (See Section 14411 et seq., Business and Professions Code).
Publication dates: June 4, 11, 18, 25, 2021. (PC612)

FICTITIOUS BUSINESS NAME STATEMENT
File No. 20211279
Filing type: ORIGINAL FILING.
The following person(s) is(are) doing business as: **VISION BUILDERS, 590 Brunken Ave., Suite A, Salinas, CA 93901.**
County of Principal Place of Business: MONTEREY.
Registered Owner(s):
JARED DUKE TIKKER, 224 Wildwood Way, Salinas, California 93908.
This business is conducted by an individual.
The registrant commenced to transact business under the fictitious business name or names listed above on May 10, 2021.
S/Jared Duke Tikker
Date: May 21, 2021
BY SIGNING, I DECLARE THAT ALL INFORMATION IN THIS STATEMENT IS TRUE AND CORRECT. A registrant who declares as true any materiel matter pursuant to Section 17913 of the Business and Professions Code the registrant knows to be false is guilty of a misdemeanor punishable by a fine not to exceed one thousand dollars ($1,000). ***I am also aware that all Information on this statement becomes public record upon filing pursuant to the California Public Records Act (Government Code Sections 6250-6277).***
This statement was filed with the County Clerk of Monterey County on May 21, 2021.
NOTICE-In accordance with Subdivision (a) of Section 17920, a Fictitious Name Statement generally expires at the end of five years from the date on which it was filed in the office of the County Clerk, except, as provided in Subdivision (b) of Section 17920, where it expires 40 days after any change in the facts set forth in the statement pursuant to Section 17913 other than a change in the residence address of a registered owner. A new Fictitious Business Name Statement must be filed before the expiration. The filing of this statement does not of itself authorize the use in this state of a Fictitious Business Name in violation of the rights of another under Federal, State, or common law (See Section 14411 et seq., Business and Professions Code).
Publication dates: June 4, 11, 18, 25, 2021. (PC613)

FICTITIOUS BUSINESS NAME STATEMENT
File No. 20211277
The following person(s) is(are) doing business as:
The DeLauras, 50300 Partington Ridge Rd., Big Sur, CA 93920,
County of Monterey
Registered Owner(s):
Kendal DeLaura, 50300 Partington Ridge Rd., Big Sur, CA 93920
This business is conducted by An Individual
Registrant commenced to transact business under the fictitious business name listed above on 07/26/2018
S/ Kendal DeLaura
This statement was filed with the County Clerk of Monterey County on 05/20/2021
6/11, 6/18, 6/25, 7/2/21
CNS-3472566#
CARMEL PINE CONE
Publication dates: June 11, 18, 25; July 2, 2021. (PC616)

Lien Sale Auction Advertisement

Notice is hereby given that Pursuant to the California Self-Service Storage Facility Act, (B&P Code 21700 et. seq.), the undersigned will sell at public auction; personal property including but not limited to furniture, clothing, tools, and/or other misc. items
Auction to be held at **1pm** on **June 18, 2021** at
www.selfstorageauction.com.
The property is stored at:
Leonards Lockers 816 Elvee Dr Salinas Ca 93901.

NAME OF TENANTS

CARMEN LETICIA G BANDA	DANIEL AGUERO
JESSICA RIVERA	CHRISTOPHER JAMES RUDDY
ADAM LUJAN ORTIZ	ALMA MARINEZ
DORA HERNANDEZ	ELIZABETH LEE ANN DEBMON

Publication date: June 4 & 11, 2021 (PC609)

LEGALS DEADLINE: Tuesday 4:30 pm

NOTICE OF PUBLIC HEARING
On California American Water's Urban Water Management Plan

California American Water will hold a public hearing on Thursday, June 17, 2021, on the final draft of the 2020 Urban Water Management Plan and Water Shortage Contingency Plans for its Monterey County District service area. **This service area includes the cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Del Rey Oaks, Sand City, a portion of Seaside, Hidden Hills and Ryan Ranch subdivisions, Bishop subdivision including the area known as Laguna Seca Ranch Estates and vicinity, and certain unincorporated areas in the County of Monterey.** Copies of the plan will be available for public review, and public comment will be accepted. The hearing will be held online at 1:00 p.m., Thursday, June 17, 2021.

The link for this meeting is as follows: https://bit.ly/3bO0C7O
Or call in (audio only) +1 916-244-8157
Phone Conference ID: 187 057 3#

Draft plans are available for review in the customer notifications section of www.californiaamwater.com.

Publication dates: June 4 & 11, 2021 (PC604)

Notice is hereby given that at the next Regular Board meeting of the Carmel Area Wastewater District, held at the District office, 3945 Rio Road, P.O. Box 221428 Carmel, CA. 93922, on

9:00 a.m., Thursday, June 24, 2021

Via **ZOOM**. Please visit our website homepage at www.cawd.org and use Webinar ID# 876 7611 2791 & Password 149153 or call 1 (669) 900-9128 or 1 (346) 248-7799 to access.

The Board will publicly discuss and approve the:

FY 2021/22 Final Budget

No later than June 15, 2021, the full budget documents will be available on the District's web site www.cawd.org
Any member of the public may appear virtually at the meeting and be heard regarding any item in the recommended budget or for the inclusion of additional items.
All proposals for revisions must be submitted (written or oral) to the District Secretary before the close of the public meeting.

Publication dates: June 4 & 11, 2021 (PC610)

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K

Appendix K. Adopting Resolution

CALIFORNIA AMERICAN WATER

July 1, 2021

Attention: Coordinator, Urban Water Management Plans
California Department of Water Resources
1416 9th Street
Sacramento, CA 95814

Subject: Adoption of California American Water's Monterey County District 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To Whom It May Concern:

This letter confirms that California American Water has formally adopted its 2020 Urban Water Management Plan and Water Shortage Contingency Plan for its Monterey County District as required by the California Water Code Section 10642. These plans will be submitted to the California Department of Water Resources for review.

Sincerely,



Ian C. Crooks
Vice President, Engineering
California American Water



46 Cal.Rptr.3d 387 (2006)
141 Cal.App.4th 677

SAVE OUR CARMEL RIVER, et. al., Plaintiffs and Appellants,
v.
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT, et. al., Defendants and Respondents.

No. H029242.

Court of Appeal of California, Sixth District.

June 23, 2006.
As Modified July 21, 2006.

Michael W. Stamp, Law Offices of Michael W. Stamp, Monterey, CA, for Appellants: Save Our Carmel River, et al.

David C. Laredo, Delay & Laredo, Pacific Grove, CA, Deborah Mall, City Atty., for Respondents: Monterey Peninsula Water Dist., et al., City of Monterey.

Charles R. Olson, Sanger & Olson, a Law Corp., San Francisco, Donald Hubbard, Hubbard & Hubbard LLP, for Real Parties in Interest: Foursome Development Co.

BAMATTRE-MANOUKIAN, J.

Appellants Save Our Carmel River, Patricia Bernardi and the Open Monterey Project appeal from the denial of their petition for a writ of mandate to overturn decisions by the City of Monterey (City) and the Monterey Peninsula Water Management District (Water District) to approve a water credit transfer. The City had found the water credit transfer was exempt from the California Environmental Quality Act (CEQA)[1] under the categorical exemption for replacement or reconstruction of existing facilities contained in section 15302 of the CEQA Guidelines.[2] The Water District had also approved the transfer, based in part on the City's exemption determination, and further found that the water credit transfer complied with the Water District's rules and regulations governing such transfers.

Appellants contend that the water credit transfer does not fall within the categorical exemption for replacement or reconstruction of existing structures or facilities. (Guidelines, § 15302.) They further contend that even if the categorical exemption were applicable, there was evidence that two of the exceptions contained in the Guidelines applied here to remove the project from exempt status. (Guidelines, §§ 15300.2, subd. (b), 15300.2, subd. (c).) Finally, they contend that the Water District violated its own rules in approving the transfer.

We find that section 15302 of the Guidelines, which provides that the replacement of an existing structure or facility is exempt from CEQA review, does not apply to the water credit transfer here. We further find that the Water District's approval of the transfer was not supported by substantial evidence in the record, in part because it was based on the City's exemption determination as lead agency, but also because the record reflected that the Water District did not consider the possible cumulative impacts of the water credit transfer, as expressly required by its rules. We will therefore reverse the trial court's denial of the writ of mandate and direct that the court enter an order granting the writ of mandate.

BACKGROUND

I. Water Issues on the Monterey Peninsula — An Historical Perspective

The Monterey Peninsula Water Management District was created by the State Legislature in 1977, based on findings that integrated water management was necessary because of severe water shortages in the area. The mandate of the Water District is to conserve and augment existing water supplies and to prevent waste and unreasonable use of those supplies. (Water Code Appendix, Chapter 118, § 118-2.) Nearly 25 years later, this court wrote that "[i]t is well documented that water availability is a critical problem throughout Monterey County . . . ." (*Save our Peninsula Committee v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 108-109, 104 Cal.Rptr.2d 326.) We noted that a Monterey County Ordinance passed in 1988 found that "`the potential exists that Monterey County's allocation of water will be exhausted so as to pose an immediate threat to the public health, safety, or welfare.'" (*Ibid.*)

The California-American Water Company (Cal-Am) is the main water supplier on the Monterey Peninsula, serving approximately 90 percent of the water users throughout the Monterey Peninsula Water District. Cal-Am draws on two principal sources of water for its customers: the Carmel River Basin and aquifers in the Seaside Basin. The primary source of Cal-Am's water supply is the Carmel River, either via surface diversion or from a number of wells situated along the lower Carmel River. In 1995, in response to complaints that Cal-Am was illegally taking water from the Carmel River, the State Water Resources Control Board (State Water Board) issued Order No. 95-10. Order No. 95-10 is generally considered to be the controlling factor in water allocation and water resource management on the Monterey Peninsula.

In Order No. 95-10, the State Water Board found that Cal-Am was diverting excess water from the Carmel River Basin "without a valid basis of right," causing environmental harm.[3] In a related decision, the State Water Board found that "[e]xisting diversions from the Carmel River have adversely affected the public trust resources in the river." Cal-Am was ordered by the state agency to significantly reduce its pumping from the Carmel River, to mitigate the adverse environmental effects of its excess usage and to develop a new plan for obtaining water legally. (*Save our Peninsula Committee v. Monterey County Bd. of Supervisors, supra,* 87 Cal.App.4th at pp. 108-109, 104 Cal. Rptr.2d 326.)

In addition to the Carmel River Basin, Cal-Am also extracts water from pumping in the Seaside Groundwater Basin. Because State Water Board Order 95-10 required Cal-Am to limit its diversions from the Carmel River Basin, this necessitated that it maximize its production from the Seaside Basin. As a result of the increased reliance on production from these wells, the aquifers in the Seaside Basin have not been able to fully recharge in recent years and are being depleted.

Under the Water District's water allocation program, the Water District allocates shares of Cal-Am's total annual water supply among its eight member jurisdictions, including the City of Monterey. Each jurisdiction manages its water allocation. Permits for new or intensified use of water require Water District approval. When a jurisdiction assigns all of its allocated water for new projects within the jurisdiction, it is "out of water" and cannot issue any further permits that require new water use. The Water District Rules[4] provide that each new or expanded water use shall be "strictly accounted for." (District Rule 32-B.) An environmental impact report (EIR) prepared for the District's allocation program mandated that the District institute a 15 percent water conservation program.

A. *The Water Use Credit Program — District Rule 25.5*

As part of its oversight of water allocation and distribution, the Water District established a program whereby a water customer may obtain and reuse water credits when water use on a particular property is reduced or discontinued. This program is described in Water District Rule 25.5. A reduction of water use, whether by changing to a less-intensive use, by retrofitting equipment with water conserving devices, or by abandoning or demolishing a building, results in a water

credit that may be used later on the same site.

The property owner applies to the Water District for the water credit and the District calculates the amount of the credit based upon the number and types of water-using fixtures that will be discontinued. A 15 percent reduction is figured into the credit, to be reserved by the District pursuant to its mandated conservation program. (See District Rule 25.5-A.1.) Thus the credit received by the water customer is only 85 percent of the reduction in capacity.

Under Rule 25.5-A.1, a documented water credit obtained from the District "may be applied to, and shall allow future water use on that Site at any time within a period of 60 months." The owner may apply for one extension of the 60-month period. However after this time, "any remaining unused Water Use Credit shall expire." There are no provisions for further extensions.

B. *The Water Credit Transfer Program — District Rule 28-B*

In 1993, the Water District began the Water Credit Transfer Program as a means to facilitate commercial expansion in the community while also supporting the District's conservation goals. Under the Water Credit Transfer Program, transfers of documented water credits (for commercial and industrial property only) are allowed from an existing commercial use to an expanding commercial use in the same jurisdiction. In 1995, a provision was added to the rule authorizing a transfer from a commercial use to a jurisdiction's water allocation. Water credit transfers must be approved by the Water District Board of Directors, with prior approval of the jurisdiction in which the property is located.

In a property-to-property water credit transfer, the credit may only be used for water use intensification purposes, "as proposed by a current application for a water permit." (Rule 28-B.7.) Transferred credits "shall not be `banked' for future use at any new or different site." (Rule 28-B.7.) In a property-to-jurisdiction water credit transfer, the future use of the credits "shall be at the discretion of the jurisdiction." (Rule 28-B.8.) The effect of any water credit transfer is "the irrevocable extinction of any right or entitlement to the actual water use, water use capacity, or water credit which has been transferred from the originating (transferring) site." (Rule 28-B.15.)

Because any water credit is subject to a 15 percent reduction and reservation by the District pursuant to Rule 25.5, only 85 percent of the water use capacity is actually transferred in a water credit transfer. Thus a "key assumption" of the water credit transfer program is that "transfers will result in net reduced water use."

In 2000, in order to test this assumption, the Water District ordered a report to determine whether or not water demand had actually been reduced as a result of the water credit programs. The preliminary report indicated that the anticipated water savings from the water credit transfer program were not occurring. There were concerns that commercial water use factors did not accurately reflect actual historic water use at the transferring site. A final study completed in 2001 was "inconclusive" due to the lack of sufficient verifiable data. The data that was collected showed an increase in acre-feet of water actually used as a result of the water credit transfer program, rather than a decrease.

In 2002, the Water District determined that "the water transfer program had not resulted in the anticipated savings that had originally motivated the program and, in some cases, may have resulted in an increase in water usage." The water credit transfer program was discontinued, but was then reinstated the following year, in 2003, in response to a lawsuit by some of the District's jurisdictions. In reinstating the program, the District clarified that approval of a water credit transfer application is a discretionary act by the Board that requires environmental review. This language was added to District Rule 28-B.1: "Due to the District's ongoing concern about the viability of the available water supply and the possibility that water transfers may result in additional water usage, water transfers shall be approved by the Board of Directors, subject to the other provisions of this Rule, if the transfer will not have an adverse impact on the water supply. In exercising its discretion, the Board of Directors shall consider the impacts of the application under consideration, as well as the cumulative impacts of other transfers, on the water supply."

In enacting the 2003 ordinances that reinstated the Water Credit Transfer Program with an additional requirement for individual environmental assessment, the Water District Board indicated an intent to prepare an EIR to address concerns about the program in general, including whether it was accomplishing its water savings goals or whether it was, according to a staff report, "exacerbating current environmental damage to local water resources." However, the Board later voted not to proceed with an EIR.[5]

A staff report in July of 2004 reflected ongoing concerns about the Water Credit Transfer Program. Staff noted that since the program had been initiated in 1993, circumstances had changed regarding water issues on the Monterey Peninsula. First and foremost, the State Water Board's Order 95-10 had severely limited the water supply within the District and had mandated a comprehensive water conservation plan in the region. In letters from the State Water Board to the Water District clarifying Order 95-10, the State Board had indicated that the water credit transfer program might violate both the letter and spirit of Order 95-10. Although the amount of water usage that had been transferred thus far pursuant to the water credit transfer program was relatively small (26 transfers totaling 60.843 acre-feet) in relation to Cal-Am's total water production supply, District staff wrote that "there is the potential for increased utilization of the program, particularly as water supplies are less available in the local jurisdictions and transfers provide one of the only ways to obtain a water permit for expanded uses."

Before turning to the water credit transfer in this case, it will be useful to have in mind the applicable requirements of CEQA and the CEQA Guidelines.

II. CEQA Overview

"CEQA embodies our state's policy that `the long-term protection of the environment . . . shall be the guiding criterion in public decisions.'" (*Architectural Heritage Assn. v. County of Monterey* (2004) 122 Cal.App.4th 1095, 1100, 19 Cal.Rptr.3d 469; § 21001, subd. (d).) As this court has observed, "the overriding purpose of CEQA is to ensure that agencies regulating activities that may affect the quality of the environment give primary consideration to preventing environmental damage. [Citation.]" (*Save Our Peninsula Committee v. Monterey County Bd. of Supervisors, supra*, 87 Cal.App.4th at p. 117, 104 Cal.Rptr.2d 326.) Consistent with this strong environmental policy, the CEQA statutes and the Guidelines issued by the State Resources Agency to implement CEQA "have established a three-tiered process to ensure that public agencies inform their decisions with environmental considerations." (*Davidon Homes v. City of San Jose* (1997) 54 Cal.App.4th 106, 112, 62 Cal.Rptr.2d 612.)

"The first tier is jurisdictional, requiring that an agency conduct a preliminary review in order to determine whether CEQA applies to a proposed activity. (Guidelines, §§ 15060, 15061.)" (*Davidon Homes v. City of San Jose, supra*, 54 Cal.App.4th at p. 112, 62 Cal.Rptr.2d 612.) CEQA applies if the activity is a "project" under the statutory definition, unless the project is exempt. If the agency finds the project is exempt from CEQA under any of the exemptions expressly set forth in the statute and in the Guidelines, no further environmental review is necessary. If no exemption applies, the agency proceeds to the second tier and conducts an initial study in order to determine "if the project may have a significant effect on the environment." (Guidelines, § 15063, subd. (a).) If the initial study shows that there is "no substantial evidence that the project or any of its aspects may cause a significant effect on the environment," the agency prepares a negative declaration so stating. (Guidelines, § 15063(b)(2); *San Bernardino Valley Audubon Society v. Metropolitan Water Dist.* (1999) 71 Cal. App.4th 382, 389-390, 83 Cal.Rptr.2d 836.) If the project does not qualify for a negative declaration, the agency must proceed to the third step in the process, full environmental review in an EIR. (Guidelines, §§ 15063, subd. (b)(1), 15080; *Davidon Homes v. City of San Jose, supra*, 54 Cal.App.4th at p. 113, 62 Cal.Rptr.2d 612; §§ 21100, 21151.)

The case before us concerns only the first step of the process, namely the determination that the project was categorically exempt from CEQA.

A. *Categorical Exemptions*

The Legislature has authorized the Secretary of the Resources Agency to adopt a list of classes of projects determined to be exempt from CEQA because they "do not have a significant effect on the environment." (§ 21084.) Such classes of projects are "declared to be categorically exempt from the requirement for the preparation of environmental documents." (Guidelines, § 15300.) The determination whether a project is exempt under one of these classes is made as part of the preliminary review process prior to any formal environmental evaluation of the project. (*City of Pasadena v. State of California* (1993) 14 Cal.App.4th 810, 820, 17 Cal. Rptr.2d 766, disapproved on another point in *Western States Petroleum Assn. v. Superior Court* (1995) 9 Cal.4th 559, 38 Cal. Rptr.2d 139, 888 P.2d 1268.) If the agency determines one of the exemptions applies, the agency may prepare and file a notice of exemption, including a description of the project, a finding that the project is exempt under the relevant class or classes, and a brief statement of reasons supporting the finding. (Guidelines, § 15062, subd. (a).) "Where a project is categorically exempt, it is not subject to CEQA requirements and `may be implemented without any CEQA compliance whatsoever.'" (*Association for Protection etc. Values v. City of Ukiah* (1991) 2 Cal.App.4th 720, 726, 3 Cal.Rptr.2d 488.)

The Secretary of the Resources Agency has identified 33 classes of projects as exempt. These appear in the Guidelines at sections 15301 through 15333. The class at issue in this case is "Class 2," described in Guidelines section 15302 as "replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, . . ."

B. *Exceptions to Exempt Status*

The categorical exemptions are not absolute. Even if a project falls within the description of one of the exempt classes, it may nonetheless have a significant effect on the environment based on factors such as location, cumulative impact, or unusual circumstances. "[W]here there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper." (*Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 205-206, 132 Cal. Rptr. 377, 553 P.2d 537.) Guidelines section 15300.2 was adopted in recognition of this rule. It sets forth several exceptions to the categorical exemptions.

Subdivision (b) provides that "[a]ll exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant." (Guidelines, § 15300.2, subd. (b).) Subdivision (c) provides that "[a] categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances." (Guidelines, § 15300.2, subd. (c).)

A determination by the agency that a project is categorically exempt constitutes an implied finding that none of the exceptions applies. (*Association for Protection etc. Values v. City of Ukiah, supra,* 2 Cal.App.4th at p. 731, 3 Cal.Rptr.2d 488.)

III. The Water Credit Transfer in This Case

In November of 1994, a commercial building complex located on Foam Street in Monterey, totaling approximately 11,274 square feet, was demolished. The uses in the building complex included a plumbing shop, barber shop, bakery, massage parlor and antique store. Based on the number of fixtures on the property, the District calculated a water credit of 0.789 acre-feet. A coordinated commercial development was planned in phases for the entire block of properties where the Foam Street property is located. In the first phase, the property where the building was demolished was to be used as a parking lot. That has been its continuing use since 1994.

In October of 1999 the developer, Foursome, applied to the Water District for a five-year extension of the water credit assigned to the Foam Street property, pursuant to District Rule 25.5-A.1. The Water District approved the extension and advised Foursome that the water credit would expire November 1, 2004.

On August 24, 2004, Foursome informed the City that it proposed either to create an addition to its office complex at 765 Wave Street or to design and develop a new structure on a vacant lot owned by it at 860 Wave Street. These locations were in the vicinity of the demolished building on the Foam Street property.[6] The letter asked the City to permit the transfer of the .789 acre-feet of water credit allocated to the Foam Street property to the City for approximately one year, "to be held in reserve" until the architectural plans were complete, and then to be re-transferred for use at the new site. As the letter acknowledged, this procedure would effectively "eliminate the expiration date of November 1, 2004 as established by the Monterey Peninsula Water Management District."

On August 27, 2004, Foursome applied to the Water District for a property-to-jurisdiction water credit transfer from 784 Foam Street to the City of Monterey, pursuant to District Rule 28-B. The application noted that the water credit was due to expire on November 1, 2004. The water credit transfer was placed on the agenda of the Water District's board meeting on October 18, 2004.

On September 15, 2004, the Water District's Water Demand Manager, Stephanie Pintar, wrote to the City regarding Foursome's application for a water credit transfer. Pintar emphasized that under Water District Rule 28-B.1, the Water District Board in approving a water credit transfer must find that the transfer "will not have an adverse impact on the water supply" and must also consider the impacts of the transfer, as well as the cumulative impacts of other transfers, on the water supply. Pintar asked to review the City's environmental analysis, and in particular the City's determination as to cumulative impacts relating to the transfer.

The City approved the water credit transfer from 784 Foam Street to the City of Monterey and issued a "Notice of Exemption" on September 27, 2004, finding the project to be categorically exempt from CEQA under the Class 2 exemption set forth in CEQA Guidelines section 15302, for replacement of an existing structure. The notice explained that the project was exempt as a Class 2 exemption because it involved a transfer of a water credit from a previously existing building to the City's water allocation, which the City stated it would re-transfer back to the same site "with the understanding that the property owner will construct a similar-sized building to that which previously existed on the site."

On September 28, 2004, the City responded to the inquiry from Water Demand Manager Pintar. City planner Richard Rerig explained that upon review he had determined that the water credit transfer could not have a significant effect on the environment. The letter notified the District that the City had found the water credit transfer to be exempt from CEQA and that the City had filed a Notice of Exemption.

The administrative record does not contain any further evidence of any environmental evaluation of the water credit transfer by the City. However, in a declaration later provided to the court, City planner Rerig stated that it was his opinion that the water credit transfer "could not possibly have a significant effect on the environment." He determined there were no cumulative impacts from this water credit transfer because any new building on the site would be required to use 15 percent less water than the buildings that previously occupied the site, due to the mandatory 15 percent reduction of the credit under the Water District's conservation policy.

At the October 18, 2004 board meeting of the Water District, Water Demand Manager Pintar recommended that the water credit transfer be approved. Pintar noted that the District would retain 15 percent of the credit, resulting in a net transfer of .671 acre-feet. She concluded that the transfer met the requirements of District Rule 28-B. The staff report explained that the transfer would not result in cumulative impacts because the City had found it was categorically exempt from CEQA. The report acknowledged that this was the first water credit transfer application that the Water District Board had considered since the language had been added to Rule 28-B.1 mandating consideration of adverse

impacts on the water supply, and expressly requiring the Board to consider the cumulative impacts of other transfers. In response to a question by a Board member regarding the cumulative impacts of transfers of other water credits due to expire, Pintar conceded she "did not look at similar properties with credits that would expire in the near term."

A representative of Foursome spoke at the Water District board meeting about a planned development on the entire block of properties, including the property entitled to a water credit. He asked the Board to allow the water credit transfer to the City so that the credit could "be held in abeyance" until plans for the development were finalized.

Appellants submitted a letter to the Board, objecting to the proposed water credit transfer on CEQA grounds, as well as on the basis that it violated the District's own Rules. They contended that the water credit transfer did not fall within the Class 2 categorical exemption because it was not a replacement of an existing structure. Furthermore, there was evidence in the record showing environmental impacts from the water credit transfer, in the form of studies commissioned by the District indicating that the net result of water credit transfers was an increase in overall water demand. The letter noted that if the Board approved this transfer, it would be the first time the Board had ever allowed a credit to be transferred to a jurisdiction to be held for future use in order to avoid the ten-year mandatory expiration date. The letter referred to records showing numerous other on-site water credits that could be similarly "banked" by transferring them for a holding period to the City, in the event that the Board established a precedent with the Foursome transfer. The letter pointed out that the District Rules expressly prohibited banking of water credits for future use. (Rule 28-B.7) Furthermore, the Rules provided for no exception to the ten-year expiration date in Rule 25.5.

The Board voted to approve the water credit transfer by a vote of 4 to 2. The dissenters expressed concerns about the CEQA exemption and about compliance with District Rule 28-B, particularly the lack of any cumulative impact analysis.

Appellants filed their petition for a writ of mandate on October 25, 2004, contending that the Water District and the City had violated CEQA in approving the water credit transfer based on the Class 2 exemption without any environmental review, and that the Water District in addition had violated its own Rules. Appellants asked the court to set aside the approvals of the project. Foursome and Cal-Am participated as real parties in interest.

The court denied the writ petition. The court found that substantial evidence supported the determination that the Class 2 exemption in Guidelines section 15302 applied. The court reasoned that because the credit would not be used for any new or additional structure that was not based on historic use, it fell within the class of exemptions for replacement or reconstruction of existing structures. The court found that no exceptions applied. Acknowledging that studies done by the District appeared to show that the water credit transfer programs did not generally result in any actual water savings, the court found that this did not constitute substantial evidence showing a possibility of an adverse environmental impact because "the current use will be substantially the same as the historical use associated with the site." The court further found that substantial evidence did not support a finding that there would be cumulative impacts from successive projects of this same type. The court relied on evidence that there was a 15 percent reduction figured into the water credit, and that only 26 transfers had been approved by the District since the program had been initiated in 1993. Finally, the court found that the requirements of Rule 28-B were satisfied by the District's finding that this was not a complex transfer involving multiple sites and therefore did not result in any cumulative impact.

ANALYSIS

I. Standards of Review

As always, we start with the standards that will guide our review.

A. *The City's Action*

The City's determination that the project was exempt from compliance with CEQA requirements was a quasi-legislative action, where no administrative hearing was held or required. A preliminary determination such as this is subject to judicial review under the abuse of discretion standard in Public Resources Code section 21168.5. (*Association for a Cleaner Environment v. Yosemite Community College Dist.* (2004) 116 Cal.App.4th 629, 636, 10 Cal.Rptr.3d 560; *Association for Protection etc. Values v. City of Ukiah, supra,* 2 Cal.App.4th 720, 3 Cal.Rptr.2d 488.) Our inquiry focuses on "whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the agency has not proceeded in a manner required by law or if the determination or decision is not supported by substantial evidence." (§ 21168.5.)

Where the issue turns only on an interpretation of the language of the Guidelines or the scope of a particular CEQA exemption, this presents "a question of law, subject to de novo review by this court." (*Fairbank v. City of Mill Valley* (1999) 75 Cal.App.4th 1243, 1252, 89 Cal.Rptr.2d 233; *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165, 1192, 61 Cal.Rptr.2d 447.) Our task is "to determine whether, as a matter of law, the [project] met the definition of a categorically exempt project." (*Santa Monica Chamber of Commerce v. City of Santa Monica* (2002) 101 Cal.App.4th 786, 792, 124 Cal.Rptr.2d 731.) Thus as to the question whether the activity comes within the categorical class of exemptions, "we apply a de novo standard of review, not a substantial evidence standard." (*Ibid.;* See also, *Western States Petroleum Assn. v. Superior Court, supra,* 9 Cal.4th at p. 573, 38 Cal.Rptr.2d 139, 888 P.2d 1268.)

Where the record contains evidence bearing on the question whether the project qualifies for the exemption, such as reports or other information submitted in connection with the project, and the agency makes factual determinations as to whether the project fits within an exemption category, we determine whether the record contains substantial evidence to support the agency's decision. (*Apartment Assn. of Greater Los Angeles v. City of Los Angeles* (2001) 90 Cal.App.4th 1162, 1173, 109 Cal.Rptr.2d 504; *Fairbank v. City of Mill Valley, supra,* 75 Cal.App.4th at p. 1252, 89 Cal.Rptr.2d 233; *Dehne v. County of Santa Clara* (1981) 115 Cal. App.3d 827, 842, 171 Cal.Rptr. 753.) There must be "`substantial evidence that the [activity is] within the exempt category of projects.' [Citation.]" (*Magan v. County of Kings* (2002) 105 Cal.App.4th 468, 475, 129 Cal.Rptr.2d 344.) Generally speaking, the court "may consider only the administrative record in determining whether a quasi-legislative decision was supported by substantial evidence within the meaning of Public Resources Code section 21168.5." (*Western States Petroleum Assn. v. Superior Court, supra,* 9 Cal.4th at p. 573, 38 Cal.Rptr.2d 139, 888 P.2d 1268.)

An agency's determination that the project falls within a categorical exemption includes an implied finding that none of the exceptions identified in the Guidelines is applicable. The burden then shifts to the challenging party to produce evidence showing that one of the exceptions applies to take the project out of the exempt category. (*Santa Monica Chamber of Commerce v. City of Santa Monica, supra,* 101 Cal.App.4th at p. 795, 124 Cal. Rptr.2d 731; *City of Pasadena v. State of California, supra,* 14 Cal.App.4th at pp. 824-825, 17 Cal.Rptr.2d 766, disapproved on another point in *Western States Petroleum Assn. v. Superior Court, supra,* 9 Cal.4th 559, 38 Cal.Rptr.2d 139, 888 P.2d 1268.) The question whether an exception applies is a question of fact, which is subject on appeal to review for substantial evidence. (*Fairbank v. City of Mill Valley, supra,* 75 Cal.App.4th at pp. 1259-1260, 89 Cal.Rptr.2d 233.) Some courts apply the "fair argument" test, holding that an exemption cannot stand if the challengers present a fair argument that an exception applies. (*Id.* at p. 1259, 89 Cal. Rptr.2d 233.) Other courts apply an ordinary substantial evidence test. (*Id.* at pp. 1259-1260, 89 Cal.Rptr.2d 233.)

B. *The Water District's Action*

In reviewing the Water District's approval of the water credit transfer, where a public hearing was held and an adjudicatory decision was made, we apply the test for administrative mandamus. (Code Civ. Proc., § 1094.5.) "Section 1094.5 clearly contemplates that at minimum, the reviewing court must determine both whether substantial evidence supports the administrative agency's findings and whether the findings support the agency's decision. . . . [W]hen petitioned for a writ of mandamus, a court's inquiry should extend, among other issues, to whether `there was any prejudicial abuse of discretion.' Subdivision (b) [of section 1094.5] then defines `abuse of discretion' to include instances in which the administrative order or decision `is not supported by the findings, *or* the findings are not supported by the evidence.' (Italics added.) Subdivision (c) declares that `*in all . . . cases*' (italics added) other than those in which the reviewing court is authorized by law to judge the evidence independently, [fn. omitted] `abuse of discretion is established if the court determines that the findings are not supported by substantial evidence in the light of the whole record.' [Citation.]" (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 514-515, 113 Cal.Rptr. 836, 522 P.2d 12; *Stolman v. City of Los Angeles* (2003) 114 Cal.App.4th 916, 923, 8 Cal. Rptr.3d 178.)

II. Does the Class 2 Exemption Apply to This Project?

In order to answer this question, we must first address the threshold issue, as to which the parties disagree, namely what is "the project" in this case?

A. *What is the "Project?"*

A "project" under CEQA is a discretionary activity by a public agency that "may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. . . ." (§ 21065, subd. (a).) It includes agency approval of "a lease, permit, license, certificate, or other entitlement." (§ 21065, subd. (c).)

Appellants contend that the project in this case is the transfer of the water use credit from the Foam Street property to the City of Monterey. Foursome argues that this is too narrow a definition of the project. Foursome points out that under the Guidelines definition, a "project" is "the whole of an action." (Guidelines, § 15378, subd. (a).) In Foursome's view, the whole project in this case is the replacement of the commercial structure that was demolished on the Foam Street property in 1994. Thus the water credit transfer must be evaluated in this context. The City essentially shares this point of view, arguing that the water credit transfer is simply one of the aspects of the replacement of the building on the Foam Street property, and that the Class 2 exemption applies to all aspects of the project.

Although the Guidelines define a project as "the whole of an action" (Guidelines, § 15378, subd. (a)), an agency action qualifies as a project if it is "necessary to the carrying out of some private project involving a physical change in the environment." (*Simi Valley Recreation & Park Dist. v. Local Agency Formation Com.* (1975) 51 Cal.App.3d 648, 664, 124 Cal.Rptr. 635, italics omitted.) Here it appears that the transfer of water credits was a necessary step in the eventual plan by Foursome to develop the block of properties that included 784 Foam Street. Furthermore, the water credit transfer was also an activity unto itself, as it was the approval of an "entitlement" to future water rights. (§ 21065, subd. (c).)

Foursome contends that the water credit transfer by itself could not possibly cause any direct or indirect change to the environment. As appellants point out, however, courts have considered water credit transfers to have environmental impact. (See, e.g., *Save Our Peninsula Committee v. Monterey County Bd. of Supervisors, supra,* 87 Cal.App.4th at pp. 129-131, 104 Cal.Rptr.2d 326.) Furthermore, the record in this case reflects that the State Water Board considered water credit transfers to have an effect on the water supply. And the Water District has expressly stated its "concern about the viability of the available water supply and the possibility that water transfers may result in additional water usage, . . ." (District Rule 28-B.) Thus the Water District, which supervises and manages water distribution in the area,

views a water credit transfer to be an activity with possible environmental consequences, and its Board is required in approving a transfer to consider whether it would have "an adverse impact on the water supply." In this case, if the water credit were not transferred to the City, it would expire under Rule 25.5. Thus the transfer of the credit, to be held for future development of the property, results in an increment of water that will be used rather than conserved. Thus the City's action can be seen as causing a "reasonably foreseeable indirect physical change in the environment." (§ 21065, subd. (a).)

For all of these reasons, and bearing in mind that "`project' is given a broad interpretation in order to maximize protection of the environment" (*McQueen v. Board of Directors* (1988) 202 Cal.App.3d 1136, 1143, 249 Cal.Rptr. 439, disapproved on another point in *Western States Petroleum Assn. v. Superior Court, supra,* 9 Cal.4th 559, 38 Cal.Rptr.2d 139, 888 P.2d 1268), we conclude that the water credit transfer in this case was a "project" within the meaning of CEQA. This conclusion is fully supported by the record. Foursome applied here only for a transfer of water credits and the only action taken by the City was to approve the water credit transfer. Furthermore, the City's Notice of Exemption described the "Project" as a "Transfer of commercial water credit from 784 Foam Street to the City of Monterey." Similarly, the "Project Title" on the Notice of Exemption was "Water credit transfer from 784 Foam Street to City of Monterey." And the Water District staff report identified the project as a "Commercial-to-jurisdiction Water Use Credit Transfer."

B. *Was the Project Categorically Exempt Under Guideline 15032?*

The Guidelines provide that certain classes of projects "have been determined not to have a significant effect on the environment." (Guidelines, § 15300.) Since a determination that a project falls within a categorical exemption excuses any further compliance with CEQA whatsoever, we must construe the exemptions narrowly in order to afford the fullest possible environmental protection. (*Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster, supra,* 52 Cal.App.4th at p. 1193, 61 Cal.Rptr.2d 447; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 966, 91 Cal.Rptr.2d 66; *Dehne v. County of Santa Clara, supra,* 115 Cal.App.3d at p. 842, 171 Cal.Rptr. 753.) "[E]xemption categories are not to be expanded or broadened beyond the reasonable scope of their statutory language." (*Dehne v. County of Santa Clara, supra,* 115 Cal.App.3d at p. 842, 171 Cal.Rptr. 753; *Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105, 125, 65 Cal.Rptr.2d 580, 939 P.2d 1280.) These rules ensure that in all but the clearest cases of categorical exemptions, a project will be subject to some level of environmental review.

The Class 2 exemption at issue here consists of "replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, . . ." (Guidelines, § 15302.) Subdivision (b) of this Guideline provides that it applies specifically to "[r]eplacement of a commercial structure with a new structure of substantially the same size, purpose, and capacity." (Guidelines, § 15302, subd. (b).) On its face, this exemption does not apply to a water credit transfer, which is neither a structure nor a facility and therefore does not fit the elements of this exemption.

The City contends that the exemption applies for the reasons stated on its Notice of Exemption: "The project will transfer a documented water credit from a previously-existing building at 784 Foam Street to the City's water allocation. The City will then commit the water credit back to the same site with the understanding that the property owner will construct a similar-sized building to that which previously existed on the site."

Even if we were to consider the water credit transfer at issue here as part of an ongoing project to replace an existing structure, the City's determination that the requirements of the Class 2 exemption were met must be supported by substantial evidence in the record. (*Magan v. County of Kings, supra,* 105 Cal.App.4th at p. 475, 129 Cal.Rptr.2d 344.) In our view, the City's "understanding" that there will be a replacement structure of similar size and purpose on the same site does not amount to substantial evidence within the meaning of CEQA. The Guidelines define "substantial evidence" as "enough relevant information and reasonable inferences from this information that a fair argument can be made to

support a conclusion, ..." Substantial evidence does not include "[a]rgument, speculation, unsubstantiated opinion or narrative . . . ." (Guidelines, § 15384, subd. (a).) In the record before us, there is no "information" from which the City could conclude that the contemplated building meets the elements of the Class 2 exemption, in that it is a replacement structure "located on the same site" as the former structure and that it will have "substantially the same purpose and capacity" as the replaced structure. (Guidelines, § 15302.)

There were no plans, reports or proposals submitted with the application for a water credit transfer that showed a replacement structure to be built on the Foam Street property where the commercial complex was demolished in 1994. The only application to the City consisted of Foursome's letter of August 24, 2004, which stated that Foursome proposed to build either an "addition" to an office complex or a "new structure," the purpose of which was not described. Both of these were to be located on sites other than the Foam Street property at issue here. As we have noted, categorical exemptions must be carefully applied and supported by the evidence. (*Dehne v. County of Santa Clara, supra,* 115 Cal.App.3d at p. 842, 171 Cal.Rptr. 753.) At the very least a Class 2 exemption determination must be based on evidence from which the agency can compare the replacement structure and the existing structure. Foursome's application letter does not provide this evidence.

We have found no cases applying a Class 2 exemption that have extended its application beyond the reasonable scope of its plain language. The typical application involves an agency's consideration of plans for reconstruction or replacement of an existing structure. For example, in *Dehne v. County of Santa Clara, supra,* 115 Cal. App.3d 827, 171 Cal.Rptr. 753, the applicant submitted plans and proposals to modernize its cement plant. The evidence in the record showed that the new plant would be in the same location as the existing facility, that the new facilities would not extend outside the area bounded by the present facility, that the purpose of the new facility would be the same, and that it would have substantially the same production capacity. (*Id.* at p. 829, 171 Cal.Rptr. 753.) On review of the agency's determination that the project was exempt, the court was thus able to evaluate whether the elements of the Class 2 exemption were met and it found that they were. In the case before us, there is no similar factual predicate for the City's determination of a Class 2 exemption. There is only the City's "understanding" that a new structure will eventually be built that qualifies for the exemption.

Foursome contends that the City was in possession of plans for the replacement structure, and refers us to several documents contained in City's files.[7] These documents show that in 1991 Foursome's predecessor company wrote a letter to the City, requesting an amendment to a 1989 use permit to allow use as a parking lot of property at 738 and 790 Foam Street and 799 Wave Street. This was to be a first phase for future development of the property. Use permits issued in 1992 and extended in 1993 refer to a phase one parking lot and a phase two parking structure and a 17,972 square-foot commercial building to be constructed on property at 738 and 790 Foam Street and 799 Wave Street. The use permits provide that they expire on March 9, 1994. No site plans are included in the record before us and no further documentation appears until Foursome's letter to the Water district in 1999, requesting a five-year extension of the water credit at issue here.

The building that was demolished in 1994, for which the credit was issued, was 11,274 square feet. Its uses included retail shops, a bakery and a massage parlor. The project referred to in the 1992 use permit, which has apparently expired, consists of a parking structure and a 17,972 square foot commercial building of indeterminate use, to be located on several sites that may include the site where the building was demolished. The 2004 application for a water credit transfer refers to two different buildings on entirely different sites. In order to support a Class 2 exemption, there must be substantial evidence that the activity meets the requirements of the exempt category. (*Magan v. County of Kings, supra,* 105 Cal.App.4th at p. 475, 129 Cal.Rptr.2d 344.) In other words, there must be evidence from which it can be concluded that a new structure will replace an existing structure "on the same site" with "substantially the same purpose and capacity." (Guidelines, § 15302.) The record before us, even including the prior proposals and permits for the property, does not contain such evidence.

Foursome contends that the declaration of City Planner Rerig, which was submitted to the trial court, provided substantial evidence supporting the City's conclusion that the project was exempt under Guidelines section 15302.[8] In *Western States Petroleum Assn. v. Superior Court, supra,* 9 Cal.4th at page 573, 38 Cal.Rptr.2d 139, 888 P.2d 1268, our Supreme Court made clear that the trial court in a mandamus proceeding "generally may consider only the administrative record in determining whether a quasi-legislative decision was supported by substantial evidence within the meaning of the Public Resources Code section 21168.5." (*Id.* at p. 573, 38 Cal. Rptr.2d 139, 888 P.2d 1268.) Our review is likewise limited to the record before the City at the time of its decision. We therefore do not consider the declaration in evaluating whether substantial evidence supported the City's exemption determination.

Foursome, the City and the Water District all emphasize the small amount of the water credit at issue here, when viewed in the context of the water supply in the entire region. They argue that a water credit transfer of such a small amount cannot possibly have any significant effect on the environment. This argument does not bear on the Class 2 exemption determination. The size of the project in relation to the surrounding area is not an element of a Class 2 exemption. To the extent that the project's size is relevant to the cumulative impacts analysis, we will address this issue in that portion of the discussion.

Foursome argues in its briefing on appeal that there may be other CEQA exemptions that apply to the water credit transfer. Since these issues were not raised below, we do not address them here. The City's exemption determination was based only on Guidelines section 15302. We express no opinion as to whether any other categorical exemption or other CEQA exemption may apply or as to what level of environmental review may be appropriate for this project.

We find as a matter of law that the water credit transfer in this case does not fit the definition of a categorically exempt project under the Class 2 exemption defined in Guidelines section 15302. We further find that substantial evidence in the record does not support City's determination that the project met the requirements of a Class 2 replacement structure. "An agency abuses its discretion if there is no basis in the record for its determination that the project was exempt from CEQA." (*Davidon Homes v. City of San Jose, supra,* 54 Cal.App.4th at p. 114, 62 Cal. Rptr.2d 612.) We therefore conclude that the City's exemption determination constituted a prejudicial abuse of discretion. (§ 21168.5.)

III. The Exceptions to Exempt Status

Since we conclude that the water credit transfer did not come within the Class 2 categorical exemption, we need not reach the next step of the analysis, which focuses on the question whether any exceptions to the exemption apply. Furthermore, the evidence submitted by appellants to support the exceptions they contend applied here was not before the City when it determined that this project was exempt. Such evidence was, however, before the Board of the Water District, when it held a hearing on Foursome's request for a water credit transfer. We will therefore discuss appellants' evidence in the context of the Water District decision.

IV. The Water District Approval

Under CEQA law, the City acted as the "lead agency" with the principal responsibility for approving the water credit transfer and preparing any environmental documents. (Guidelines, § 15367.) The Water District was the "responsible agency." (Guidelines, § 15381.) As the responsible agency, the Water District is entitled to rely on the lead agency's environmental documents in acting on whatever aspect of the project requires its approval. (§ 21080.1; Guidelines, § 15050, subd. (c).) The responsible agency typically has permitting authority or discretionary approval power over some aspect of the project for which a lead agency is primarily responsible. (§ 21069; Guidelines, §§ 15096, 15381; *Citizens Assn. for Sensible Development of Bishop Area v. County of Inyo* (1985) 172 Cal.App.3d 151, 173-175, 217 Cal.Rptr. 893.) And the "responsible agency may refuse to approve a project in order to avoid direct or indirect environmental

effects of that part of the project which the responsible agency would be called on to carry out or approve." (Guidelines, § 15042.)

Here the water credit transfer program was created by the Water District, which was responsible for ensuring that any water credit transfer complied with its Rules, namely Rule 25.5 and Rule 28-B. The Water District's approval of the project, although it was based in part on the City's environmental assessment, was a determination independent from that of the City and must be separately evaluated against the Water District's Rules. As noted, our review of the Water District's action consists of a determination whether the District's findings supported its decision and whether substantial evidence supported the findings. (Code Civ. Proc., § 1094.5, subd. (b).)

Appellants first contend that in approving the water credit transfer the Water District made no findings that the transfer would not have "an adverse impact on the water supply," or that it had considered "the cumulative impacts of other transfers[] on the water supply" as required by Rule 28-B.1. We believe the District made sufficient findings. The findings of an administrative agency can be informal so long as they serve the purposes of enabling the parties to determine whether and on what basis to appeal and enabling a reviewing court to determine the basis for the decision. (*Topanga Assn. for a Scenic Community v. County of Los Angeles, supra,* 11 Cal.3d at p. 517, 113 Cal.Rptr. 836, 522 P.2d 12.) Findings may consist of adopting the recommendations in a staff report. (*McMillan v. American Gen. Fin. Corp.* (1976) 60 Cal. App.3d 175, 183-184, 131 Cal.Rptr. 462.) That is what happened here at the Water District Board meeting, where a motion to adopt the staff recommendations and approve the water transfer was passed.

The Water District staff report acknowledged that Rule 28-B required the Board to approve the transfer "if the transfer will not have an adverse impact on the water supply," and the same rule further called for "consideration of the impacts of the application under consideration, as well as the cumulative impact of other transfers, on the water supply." The Water Demand Manager preparing the report found no adverse impact and also identified no "cumulative impact that could result from the proposed transfer." While these are sufficient findings to support the Board's decision, that does not end the inquiry. We must in addition determine whether the findings are supported by substantial evidence in light of the whole record. (*Topanga Assn. for a Scenic Community v. County of Los Angeles, supra,* 11 Cal.3d at pp. 514-515, 113 Cal.Rptr. 836, 522 P.2d 12.)

Appellants contend that the evidence does not support the findings contained in the staff report and adopted by the Water District Board. The record supports this contention. The Water District staff report concluded that the water credit transfer would not have an adverse impact on the water supply based solely on the Class 2 exemption determination made by the City. The Water Demand Manager referred to the Notice of Exemption issued by the City and to a letter from the City planner stating that the water credit transfer was "exempt from the provisions of [CEQA]." Since we have concluded that the water credit transfer did not meet the requirements for a Class 2 categorical exemption, the City's Class 2 exemption determination does not provide substantial evidence for the finding in the Water District staff report, and adopted by the Board, that the transfer would not have an adverse environmental impact.

As to the consideration of the possible cumulative impacts of the water credit transfer, the report concluded there were no cumulative impacts for three reasons: First, the City had impliedly found that there were no cumulative impacts by determining that the project came within a categorical exemption. Second, the City had committed the water credit to be transferred back to the same property for use by a replacement structure of a similar size and capacity as the structure that originally existed on the site. And finally, the transfer in question was a simple transfer involving only one property and was "not a complex transfer involving multiple originating sites or multiple receiving sites."

Because City's Class 2 exemption determination cannot stand, City's implied finding under Guidelines section 15300.2, subdivision (b), that the project would have no cumulative impacts, must also fail and cannot suffice to provide substantial evidence to support the District's finding regarding cumulative impacts. The second and third reasons cited by the Water District staff relate to the specific water credit transfer at issue, and do not address "the cumulative impacts

of other transfers," as required by Rule 28-B.1. As to this issue, Water Demand Manager Pintar, who prepared the report, was asked directly by a Board Director whether her cumulative impacts analysis included consideration of other properties in similar situations where water credits were due to expire and thus could be transferred to the jurisdiction for holding purposes. Pintar answered: "I did not look at similar properties with credits that would expire in the near term." In their letter to the Board, appellants had argued that approval of a water credit transfer for the acknowledged purpose of tolling the mandatory ten-year expiration period in Rule 25.5 would establish a precedent for other properties in similar situations. Appellants submitted copies of records listing commercial properties with existing water credits, showing water credits totaling from 35 to 85 acre feet that could possibly be affected by the Board's decision. As is apparent from the Water Demand Manager's response, this evidence was not considered or taken into account in her recommendation that the transfer be approved.

Foursome argues that the colloquy that took place at the Water District Board meeting reflects that the Board considered cumulative impacts, which was all that it was required to do under Rule 28-B.1. We disagree. The rule requires the Board to consider not only the proposed transfer but also the cumulative impacts of "other transfers" on the water supply. The discussion and the staff report indicate that evidence of other properties with water credits due to expire was not considered by staff in its report for the Board. As a Board Director observed, "if we allow people to transfer an expiring water credit to the City for the City to hold in abeyance for them until such time as they are going to use it again, I mean it's basically an end run around Rule 25.5, and I think there are a number of properties that fall into the same pattern, and I am concerned that we don't have an adequate report from staff on the cumulative impacts of those . . . ." The Board had before it no assessment as to how many other properties were similarly situated and therefore it had no basis to evaluate the possible "cumulative impacts of other transfers."[9]

Respondents stress the small amount of the water credit transfer at issue here, contending that it could have no possible effect on the water supply. However, the purpose of the requirement that cumulative impacts be considered, in CEQA law as well as in the District Rules, is to ensure review of the effects of the project in context with other projects of the same type. Thus the Guidelines expressly provide that "[c]umulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (Guidelines, § 15355, subd. (b).)

Respondents point out that since the water credit transfer program was instituted in 1993, only 26 transfers have been made, transferring a total of 60.843 acre-feet. They contend that this shows that even the cumulative effect of the transfer program is de minimus. We disagree, for several reasons. The cumulative impact analysis requires the Board to consider changes in the environment resulting from "the incremental impact of the project when added to other closely related past, present, and *reasonably foreseeable probable future projects*." (Guidelines, § 15355, subd. (b), italics added.) A consideration of only the past water credit transfers does not fulfill this requirement. This is particularly so since the record indicates that water credit transfers may be on the rise. A previous staff report had acknowledged "the potential for increased utilization of [water credit transfers], particularly as water supplies are less available . . . and transfers provide one of the only ways to obtain a water permit for expanded uses." Furthermore, the transfer at issue here was the first water credit transfer to be considered by the Board under the revised Rule 28-B, which added the requirement that the Board consider environmental impacts, and specifically cumulative impacts, when considering an application for a water credit transfer. And it was the first such transfer where the credit was to be held by the jurisdiction to be re-transferred to the development site in order to avoid the ten-year expiration date in Rule 25.5. Thus the precedential effect of the approval of this project has some bearing on the cumulative impact analysis.

Foursome and the Water District assert repeatedly that the water credit transfer at issue cannot possibly have any impact on water resources on the Monterey Peninsula because the State Water Board will count all water credit transfers towards the 11,285 acre-feet water diversion limit imposed by the State Board on Cal-Am under Order 95-10. The record citations provided by Foursome and Water District do not support these assertions. The citations reference a staff report prepared for a Water District Board meeting in January of 2004. Staff noted that after the State Water Board

issued Order 95-10, the Water District had sought to clarify certain aspects of the order. The executive staff of the State Water Board had responded with several letters. In two of these, the state agency staff had asserted that the water credit transfers may violate both the letter and the spirit of Order 95-10. The State Water Board staff "indicated that it would recommend action to reduce the 11,285 AF Cal-Am diversion limit to correspond with future water allocations associated with water credit transfers." The actual letters from the State Water Board are not included in our record. There is no evidence that the State Water Board ever took action to require that water allocations associated with water credit transfers be counted as part of Cal-Am's water diversion limit.

Finally, respondents insist that the water credit transfer at issue here, even if considered with other water credit transfers, cannot have any cumulative impact or other impact because the Water District reserves 15 percent of the water credit and thus only 85 percent of the credit is transferred, resulting in a net water savings. The evidence in the record shows, however, that because of the method of calculating the water credit, the 15 percent reservation may not be representative of actual water savings. Two studies were ordered by the Water District, and based on these studies the Water District had determined in 2002 that "the water transfer program had not resulted in the anticipated savings that had originally motivated the program and, in some cases, may have resulted in an increase in water usage." Because of these studies, the Water District actually discontinued the program, and questioned whether it was "exacerbating current environmental damage to local water resources." When the program was reinstituted, the revised Water District Rule 28-B expressed the Water District's continued concern about "the possibility that water transfers may result in additional water usage."

In sum, based on our review of the record before us, we conclude that the Water District's finding of no cumulative impacts associated with the water credit transfer was not supported by substantial evidence. Although Rule 28-B.1 provided that the Board must consider "the cumulative impacts of other transfers," staff did not consider evidence of other potential transfers of water credits, particularly those that were facing the ten-year expiration date, and therefore the Board did not have the relevant evidence from which to make an informed decision. As we have noted, this was the first occasion for the Board to apply the new provision in Rule 28-B.1, which acknowledged the Board's "ongoing concern about the viability of the available water supply and the possibility that water transfers may result in additional water usage," and which provided that the Board must consider adverse impacts and specifically cumulative impacts of other transfers on the water supply. And it was the first transfer application to be considered by the Board where the water credit was to be held by the jurisdiction for later use, in order to avoid the ten-year expiration date in Rule 25.5.

We express no opinion as to the possible significance of the evidence of any cumulative impacts or as to whether the Board's consideration of such impacts might change the outcome here.

DISPOSITION

The order denying a writ of mandate is reversed and the court is directed to issue an order granting the writ of mandate and ordering that the City of Monterey and the Monterey Peninsula Water Management District reverse their approvals of the water credit transfer in accordance with the opinions expressed herein. Appellants are awarded costs on appeal.

WE CONCUR: PREMO, Acting P.J., and DUFFY, J.

[1] Public Resources Code section 21000, et seq. Further unspecified statutory references are to this code.

[2] These guidelines, which we will refer to simply as "Guidelines," are contained at California Code of Regulations, title 14, section 15000, et seq.

[3] Approximately 75 percent of Cal-Am's average annual diversions from the Carmel River were found to be illegal. However, in recognition of the health impacts of such a drastic cutback of water to the Monterey Peninsula, the State Water Board set the goal of achieving a 20 percent reduction of Cal-Am's historical use until a replacement supply for the unlawfully diverted amounts could

be developed.

[4] Rules and Regulations of the Monterey Peninsula Water Management District. We will be referring to these as the Rules or the District Rules.

[5] No EIR had been prepared when the program was first put into effect in 1993.

[6] The record is somewhat unclear about the address of the property where the building was demolished. The building was located on parcel No. 001-016-015, which apparently included addresses ranging from 762 to 798 Foam Street. The first water credit extension sought in 1999 referred to a credit for 738/790 Foam Street, as did Foursome's letter of August 24, 2004. The City's Notice of Exemption refers to the property location as 784 Foam Street. The Water Demand Manager assigned to the project "clarifie[d]" at the board meeting that the water credit was tied to 784 and 790 Foam Street. Foursome refers to the "donor site" throughout its briefing on appeal as 738/790 Foam Street.

[7] These documents were apparently added to the administrative record by Foursome after the record was initially certified by the City and the Water District.

[8] In this declaration Rerig states that he reviewed Foursome's proposal to transfer its water credit. He determined that the credit arose because Foursome demolished a commercial building many years prior. He further determined "that the transfer of that water use credit to the City of Monterey for subsequent reuse at Foursome's development site could not possibly have a significant effect on the environment." He therefore prepared a Notice of Exemption. Rerig's declaration does not refer to the exemption contained in Guidelines section 15302.

[9] Foursome's assertion that the Board was aware that "few water credits were near their 10-year expiration date" is not supported by the record.

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