This meeting is not subject to
Brown Act noticing requirements.
The agenda is subject to change.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

Water Supply Planning Committee Members:
Robert S. Brower, Sr. Chair
Jeanne Byrne
David Pendergrass

Alternate:
Andrew Clarke

Staff Contact
David J. Stoldt, General Manager

After staff reports have been distributed, if additional documents are produced by the District and provided to the Committee regarding any item on the agenda, they will be made available at 5 Harris Court, Building G, Monterey, CA during normal business hours. In addition, such documents may be posted on the District website at mpwmd.net. Documents distributed at the meeting will be made available in the same manner.

AGENDA
Water Supply Planning Committee
Of the Monterey Peninsula Water Management District
******

Tuesday, April 5, 2016, 9:00 am
MPWMD Conference Room, 5 Harris Court, Bldg. G, Monterey, CA

Call to Order

Comments from Public - *The public may comment on any item within the District's jurisdiction. Please limit your comments to three minutes in length.*

Action Items – *Public comment will be received.*

1. Consider Development of Recommendation to the Board on Items Related to Integrated Regional Water Management Program
   A. Approve Revised MOU for Integrated Regional Water Management in the Monterey Peninsula, Carmel Bay and South Monterey Bay
   B. Authorize Execution of MOA for Integrated Regional Water Management Planning and Funding in the Central Coast Region
   C. Authorize Expenditure for Assistance with Proposition 1 Grant Program Coordination

2. Consider Development of Recommendation to the Board on Contract for Preparation of Los Padres Dam Fish Passage Study

3. Consider Development of Recommendation to the Board on Items Related to Bureau of Reclamation Watersmart Program
   A. Consider Authorization of Contract for Assistance with Preparation of the Salinas and Carmel River Basins Study
   B. Authorize the General Manager to Enter Into a Grant Agreement with the United States Bureau of Reclamation

4. Consider Recommendation to the Board Regarding a Finance Plan for Utilization of User Fee and Water Supply Charge Funds

Discussion Item – *Public comment will be received.*

5. Discuss Possible District Water Entitlement Ordinance

6. Update on Seaside Basin Boundary Modification Application for Sustainable Groundwater Management Act (SGMA)

7. Update on Carmel River Basin (Carmel Valley Alluvial Aquifer) SGMA Process

8. Update on ASR Activities

9. Update on Pure Water Monterey Project

10. Update on California American Water Desalination Project

11. Update on Alternative Desalination Project

Suggestions from the Public on Water Supply Project Alternatives (15 min limit)
Set Next Meeting Date
Adjournment

Upon request, MPWMD will make a reasonable effort to provide written agenda materials in appropriate alternative formats, or disability-related modification or accommodation, including auxiliary aids or services, to enable individuals with disabilities to participate in public meetings. MPWMD will also make a reasonable effort to provide translation services upon request. Please send a description of the requested materials and preferred alternative format or auxiliary aid or service by 5PM on Friday, April 1, 2016. Requests should be sent to the Board Secretary, MPWMD, P.O. Box 85, Monterey, CA, 93942. You may also fax your request to the Administrative Services Division at 831-644-9560, or call 831-658-5600.

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WATER SUPPLY PLANNING COMMITTEE

ITEM: ACTION ITEM

1. CONSIDER DEVELOPMENT OF RECOMMENDATION TO THE BOARD ON ITEMS RELATED TO INTEGRATED REGIONAL WATER MANAGEMENT PROGRAM

A. APPROVE REVISED MOU FOR INTEGRATED REGIONAL WATER MANAGEMENT IN THE MONTEREY PENINSULA, CARMEL BAY AND SOUTH MONTEREY BAY

B. AUTHORIZE EXECUTION OF MOA FOR INTEGRATED REGIONAL WATER MANAGEMENT EXECUTION PLANNING AND FUNDING IN THE CENTRAL COAST REGION

C. AUTHORIZE EXPENDITURE FOR ASSISTANCE WITH PROPOSITION 1 GRANT PROGRAM COORDINATION

Meeting Date:	**April 5, 2016**	**Budgeted:**	**N/A**
From:	**David J. Stoldt, General Manager**	**Program/ Line Item No.:**	**2-6-1-B Prop. 1 Coordination**
Prepared By:	**Larry Hampson**	**Cost Estimate:**	**$25,000**

General Counsel Review: N/A
Committee Recommendation: The Water Supply Planning Committee reviewed this item on April 5, 2016 and recommended _____. The Administrative Committee reviewed this item on April 11, 2016 and recommended _____.
CEQA Compliance: Exempt under CEQA Section 15262

SUMMARY: The District is designated as the lead entity to implement the Integrated Regional Water Management (IRWM) Plan for Monterey Peninsula, Carmel Bay, and southern Monterey Bay (Monterey Peninsula region). In 2007, MPWMD helped form a Regional Water Management Group (RWMG) to implement the IWM Plan with other local agencies that have regional responsibilities for water resources management. The group has been expanded to include the Big Sur Land Trust (BSLT), the City of Monterey, the Monterey Regional Water Pollution Control Agency (MRWPCA), the Monterey County Water Resources Agency (MCWRA), the Marina Coast Water District, the Resource Conservation District of Monterey County, and MPWMD. Recently, the RWMG asked the City of Seaside to join the RWMG.

In 2014, voters approved the $7 billion Proposition 1, a portion of which authorized $43 million in competitive grants for IRWM projects in the six Central Coast planning regions. Funding is administered by the Department of Water Resources (DWR). The Central Coast planning regions have tentatively agreed to a funding area allocation that requires a local entity from each planning region to execute a Memorandum of Agreement (MOA) on behalf of each region (see attached **Exhibit 1-A**). The amount allocated to the Monterey Peninsula region is proposed to be $4.3 million.

A copy of the draft amended MOU to add the City of Seaside to the RWMG and authorize the General Manager to execute a MOA among the Central Coast IRWM regions is attached as **Exhibit 1-B**.

RECOMMENDATION: With this recommendation, the General Manager would be authorized to:

A) Make minor or non-substantive modifications to the RWMG Memorandum of Understanding presented to the Board (**Exhibit 1-A**, attached), in order to accommodate requests made by the Regional Water Management Group entities prior to signing the MOU or to delete references to entities that may decline to participate in amending the MOU;
B) Execute on behalf of the Monterey Peninsula the Memorandum of Agreement for Central Coast IRWM planning and funding presented to the Board (**Exhibit 1-B**, attached);
C) Enter into a contract with Gutierrez Consultants, Inc. for assistance with Proposition 1 grant program coordination.

District staff recommends approval of the above actions.

BACKGROUND: Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, was passed by California voters in November 2002. It amended the California Water Code (CWC) to add, among other articles, Section 79560 *et seq*., authorizing the Legislature to appropriate $500 million for Integrated Regional Water Management (IRWM) projects. Propositions 84 and 1E, which were passed in 2006, authorized more than $2 billion Statewide and provided grant funding through a performance-based competitive program for water resource related projects. Proposition 1, passed in 2014, is known as the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Water Code, Sections 79700 - 79798) (Act), and authorized the Legislature to appropriate funding for competitive grants for Integrated Regional Water Management (IRWM) projects. Funding of $43 million for grants will be administered by the Department of Water Resources (DWR).

The intent of the IRWM Grant Program is to encourage integrated regional strategies for management of water resources and to provide funding, through competitive grants, for projects that protect communities from drought, protect and improve water quality, and improve local water security by reducing dependence on imported water. The IRWM Grant Program is administered by DWR and is intended to promote a new model for water management. One of the goals of the IRWM Grant Program is to encourage communities to work on synergistic approaches to solving regional water supply and environmental quality problems.

The following milestones have been completed:

- 2005 – MPWMD defined a geographic planning area, or Region, and began developing an IRWMP that encompasses the groundwater basins and watersheds of the Monterey Peninsula, Carmel Bay and South Monterey Bay. The Region includes the six Monterey Peninsula Cities, portions of the unincorporated area of Monterey County in the Carmel Highlands, Pebble Beach, and the inland areas of Carmel Valley and the Laguna Seca

area.

- 2006 – Department of Water Resources (DWR) awarded a grant of $497,000 to MPWMD to complete an IRWM Plan for the Region.
- November 2007 – MPWMD adopted an IRWM Plan for the region.
- August 2008 - the RWMG was formed to provide an institutional structure to guide the implementation of the IRWM Plan. The RWMG has been expanded to include the Big Sur Land Trust (BSLT), the City of Monterey, the Monterey Regional Water Pollution Control Agency (MRWPCA), the Monterey County Water Resources Agency (MCWRA), Marina Coast Water District (MCWD), the Resource Conservation District of Monterey County (RCDMC), and MPWMD
- 2009 – MPWMD coordinated the RWMG group's effort to successful complete the Regional Acceptance Process conducted by DWR to permanently establish the Monterey Peninsula planning region.
- 2011 – DWR awarded a $995,000 grant to MPWMD to update the IRWM Plan to Proposition 84 standards and to complete nine planning projects around the region.
- 2010 to 2012 – representatives from each of the seven agencies in the expanded RWMG developed and agreed to a set of principles to guide the update and implementation of the IRWM Plan.
- 2014 – the MPWMD formally adopted the updated IRWM Plan in June 2014.
- 2015 – the City of Seaside was contacted and requested to be on the RWMG
- 2015/16 – MPWMD worked with the Monterey Peninsula RWMG and other Central Coast RWMGs to negotiate a funding area allocation for Prop. 1 IRWM funds

A formally adopted IRWM Plan (IRWMP) is required by the State in order to be eligible to apply for funds to implement projects. An IRWMP must comply with Proposition 1 standards and must address, at a minimum, water supply, groundwater management, ecosystem restoration, and water quality. The State IRWM guidelines require efforts to maximize affected entities participation in drafting the plan. Soliciting and incorporating input from the community is also a significant part of the consideration process.

The IRWMP is not a detailed plan for solving water management issues and implementing projects. Rather, the IRWMP provides a framework for agencies, non-profit groups, for-profit corporations and other stakeholders with missions and responsibilities to work together on common water management strategies, objectives, goals and projects. As such, the IRWMP takes into consideration the many plans and policies currently being implemented for water resource management, analyzes how these are interrelated and shows how projects and programs can have multiple benefits when grouped together. However, the IRWMP does not bind any agency or group to carry out particular actions, policies, or projects.

MPWMD is the lead agency for IRWM planning for the Monterey Peninsula, Carmel Bay, and South Monterey Bay. The MOU formalized the collaborative planning effort that several local agencies had been involved in for several years, describes the process for completing and amending and also described the role of stakeholders in carrying out the Plan. The RWMG initially executed the MOU in June 2008 and has subsequently amended the MOU several times. Additional work will be required to update the IRWM Plan to Proposition 1 standards. In addition, 20% of IRWM funds are required to be expended on Disadvantaged Communities

(DACs)1. On the Monterey Peninsula, portions of the Cities of Monterey and Seaside are considered DACs. Staff is requesting up to $25,000 to retain Gutierrez Consultants, Inc. for assistance with outreach to DACs, preparation of initial assessments, and preparation of grant application materials for DAC projects. A rate sheet is attached as **Exhibit 1-C**.

STAFF/RESOURCE IMPACTS

Section 6.16 of the MOU, **Personnel resources,** states "It is expected that the General Managers and/or other officials of each entity signatory to this MOU will periodically meet to insure that adequate staff resources are available to implement the IRWM Plan." Staff anticipates additional effort through at least the end of Fiscal Year 2017-18 to coordinate the completion and adoption of an updated IRWM Plan, work on a Stormwater Resource Management Plan, an application to the State in 2016 for Disadvantaged Community grant funds, and applications in 2017 or 2018 for IRWM Implementation Grant funds. The District's budget for FY 2015-16 included $25,000 for expenses for Proposition 1 coordination. This was reduced to $0 at the mid-year budget adjustment; however, due to unfilled positions in the Planning and Engineering Department that are unlikely to change in FY 2015-16, staff now requests funds for assistance to carry out IRWM-related tasks.

EXHIBITS

1-A Draft Amended Memorandum of Understanding for in the Monterey Peninsula, Carmel Bay, and South Monterey Bay Area

1-B Draft Memorandum of Agreement for Integrated Regional Water Management Planning and Funding in the Central Coast Funding Area

1-C 2016 Rate Sheet, Gutierrez Consultants, Inc.

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1 **Disadvantaged Community** (DAC) – a community with an annual median household income that is less than 80 percent of the Statewide annual median household income (Water Code §79505.5).

EXHIBIT 1-A

AMENDED

Memorandum of Understanding for Integrated Regional Water Management in the Monterey Peninsula, Carmel Bay, and South Monterey Bay Region

1. PURPOSE

The purpose of this Memorandum of Understanding (MOU) is to recognize a mutual understanding among entities in the southern Monterey Bay area regarding their joint efforts toward Integrated Regional Water Management (IRWM) planning. That understanding will continue to increase coordination, collaboration and communication for comprehensive management of water resources in the cities and unincorporated portions of the Monterey Peninsula, Carmel Bay, and South Monterey Bay Region (Region).

A. **Background and Description of Amendments**. The initial MOU to form a Regional Water Management Group (RWMG) was fully executed on July 22, 2008 by the Big Sur Land Trust (BSLT), a 501 (c) 3 organization, the City of Monterey, the Monterey Regional Water Pollution Control Agency (MRWPCA), the Monterey County Water Resources Agency (MCWRA), and the Monterey Peninsula Water Management District (MPWMD). The MOU formed a Regional Water Management Group (RWMG) for the purposes of developing and implementing projects consistent with the guidelines set by the State of California for IRWM.

Subsequently, the Marina Coast Water District (MCWD) requested approval to become part of the RWMG and signed an amended MOU in June 2011 that includes MCWD as a member of the RWMG. In 2012, the MOU was amended to include the Resource Conservation District of Monterey County (RCD) as a member of the RWMG. In 2015, the City of Seaside was recommended for addition to the RWMG.

In 2014, voters passed Proposition 1, the Water Quality, Supply, and Infrastructure Improvement Act of 2014 the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act (Public Resources Code, sections 79700 - 79798), which authorizes the Legislature to appropriate funding for competitive grants for Integrated Regional Water Management (IRWM) projects. Funding is administered by the Department of Water Resources (DWR).

In 2015, representatives from the RWMGs representing the Central Coast region entered into discussions about a funding area allocation agreement for Proposition 1 funds allocated to the Central Coast funding area. Negotiations have resulted in a draft agreement that is acceptable to all RWMGs.

This amended MOU reflects the addition of the City of Seaside as a member of the RWMG and amends the MOU to authorize MPWMD to execute a funding area agreement on behalf of the RWMG.

2. RECITALS

A. The State of California desires to foster Integrated Regional Water Management (IRWM) planning and encourages local public, non-profit, and private (for profit) entities to define planning regions appropriate for managing water resources and to integrate strategies within these planning regions.

B. Water resources management authority in the Region is currently distributed among various public agencies with a range of legal powers and regulatory responsibilities. These public agencies have definite jurisdictional boundaries, whereas sensible water resources planning and management frequently requires actions in multiple jurisdictions. Non-public entities within the Region have considerable interests in cooperating with public entities to protect, manage, and enhance water resources within the Region.

C. Seven ~~Six~~ public entities and one non-profit entity in the Region with responsibility and interests in the management of water resources have agreed to form a Regional Water Management Group for the purposes of developing and implementing projects consistent with the guidelines set by the State of California for IRWM. These entities are:

- Big Sur Land Trust (BSLT), a 501 (c) 3 organization;
- City of Monterey;
- City of Seaside
- Monterey Regional Water Pollution Control Agency (MRWPCA);
- Monterey County Water Resources Agency (MCWRA);
- Marina Coast Water District (MCWD);
- Resource Conservation District of Monterey County; and
- Monterey Peninsula Water Management District (MPWMD).

D. The Regional Water Management Group has defined an appropriate planning Region that takes into consideration jurisdictional limits, powers and responsibilities, and watershed and groundwater basin boundaries. The Regional Water Management Group is taking the lead in overseeing and implementing a detailed IRWM Plan within the planning Region. The Region is generally described as encompassing approximately 347 square miles and consists of groundwater basins and coastal watershed areas contributing to the Carmel Bay and south Monterey Bay. The Region includes coastal watersheds from the southernmost portion of the San Jose Creek watershed north to the northern limit of the Seaside Groundwater Basin. The inland area is bounded by the Seaside Groundwater Basin to the north and by the Carmel River watershed to the south and east. The western limit of the planning Region generally coincides with the land and Pacific Ocean interface, but includes the Pt. Lobos, Carmel Bay, and Pacific Grove Areas of Special Biological Significance (ASBS) adjacent to the coastal portion of the Region.

The principal groundwater basins in the planning Region are the Seaside Groundwater Basin and the Carmel Valley Aquifer. The Region includes about 38 miles of the coast within the Monterey Bay National Marine Sanctuary, three ASBS, the Cities of Carmel-by-the Sea, Del Rey Oaks, Monterey, Pacific Grove, Sand City, Seaside, and unincorporated portions of Monterey County including the Carmel Valley watershed (255

square miles), Pebble Beach, the Carmel Highlands and portions of the Seaside Groundwater Basin adjacent to Highway 68 (also known as Canyon Del Rey). This description of the planning Region is not intended to be a limitation on projects and resource planning that may be shared between adjacent IRWM planning Regions (e.g., the Greater Monterey County IRWM planning Region to the north and east).

E. The entities signatory to this MOU desire to link and integrate efforts to jointly oversee the development and implementation of a comprehensive Integrated Regional Water Management Plan for the Region and to allocate Proposition 1 IRWM funding within the planning Region.

3. GOALS

The goals of the collaborative effort undertaken pursuant to this MOU are:

3.1 To implement a comprehensive IRWMP for the Region that will consider the strategies that are required by the State under CWC 79562.5 and 79564 and subsequent modifications required under Proposition 84 and Proposition 1. Eligible projects must yield multiple benefits and include one or more of the following elements (PRC § 75026.(a)):

- **Water supply reliability, water conservation and water use efficiency**
- **Stormwater capture, storage, clean-up, treatment, and management**
- **Removal of invasive non-native species, the creation and enhancement of wetlands, and the acquisition, protection, and restoration of open space and watershed lands**
- **Non-point source pollution reduction, management and monitoring**
- **Groundwater recharge and management projects**
- **Contaminant and salt removal through reclamation, desalting, and other treatment technologies and conveyance of reclaimed water for distribution to users**
- **Water banking, exchange, reclamation and improvement of water quality**
- **Planning and implementation of multipurpose flood management programs**
- **Watershed protection and management**
- **Drinking water treatment and distribution**
- **Ecosystem and fisheries restoration and protection**

3.2 To implement a comprehensive IRWMP for the Region that incorporates water supply, water quality, flood and erosion protection, and environmental protection and enhancement objectives.

3.3 To improve and maximize coordination of individual public, private, and non-profit agency plans, programs and projects for mutual benefit and optimal gain within the Region.

3.4 To help identify, develop, and implement collaborative plans, programs, and projects that may be beyond the scope or capability of individual entities, but which would be of mutual benefit if implemented in a cooperative manner.

3.5 To facilitate regional water management efforts that include multiple water supply, water quality, flood control, and environmental protection and enhancement objectives.

3.6 To foster coordination, collaboration and communication between stakeholders and other interested parties, to achieve greater efficiencies, enhance public services, and build public support for vital projects.

3.7. To realize regional water management objectives at the least cost possible through mutual cooperation, elimination of redundancy, and enhanced regional competitiveness for State and Federal grant funding.

4. DEFINITIONS

4.1 **Funding Area Agreement.** The agreement entered into between the six regions within the Central Coast funding area to allocate a portion of Proposition 1 IRWM funds to each planning region.

4.2 **Integrated Regional Water Management Plan (IRWMP or IRWM Plan).** The plan envisioned by state legislators and state resource agencies that integrates the strategies, objectives, and priorities for projects to manage water resources proposed by public entities, non-profit entities, and stakeholders within a defined Planning Region. The minimum plan standards are as shown in Appendix A of "Integrated Regional Water Management Grant Program Guidelines, November 2004, Department of Water Resources and State Water Resources Control Board, Proposition 50, Chapter 8," as revised. Minimum IRWM Plan standards may be revised from time to time by the State of California.

4.3 **Integration**. The combining of water management strategies and projects to be included in an IRWMP.

4.4.a **Lead Agency for IRWM Plan Development.** The Monterey Peninsula Water Management District is designated by the Regional Water Management Group to lead the development or implementation of an Integrated Regional Water Management Plan for the Region.

4.4.b **Lead Agency for IRWM Grant Applications.** The Regional Water Management Group may designate any entity in the Regional Water Management Group to be the Lead Agency in making application to the State for grant funds.

4.4.c **Lead Agency for Executing a Central Coast funding area agreement**. The entity the Regional Water Management Group designates to represent the Monterey Peninsula Region to execute a Funding Area Agreement.

4.5 **Non-profit Agency.** A 501 (c) (3) corporation, conservancy, group or other organization involved in water resources management in the Region.

4.6 **Private Agency.** A private or publicly held for-profit corporation or property owner involved in water resources management in the Region

4.7 **Project**. A specific project that addresses a service function.

4.8 **Public Agency**. A state-authorized water district, water agency, water management agency or other public entity, be it a special district, city or other governmental entity, responsible for providing one or more services in the areas of water supply, water quality, wastewater, recycled water, water conservation, stormwater/flood control, watershed planning and aquatic habitat protection and restoration.

4.9 **Region.** The area defined by the Regional Water Management Group (RWMG) consisting of watersheds, sub-watersheds and groundwater basins under the jurisdiction of one or more entities within the RWMG.

4.10 **Service Function.** A water-related individual service function provided by a private, public, or non-profit entity, i.e. water supply, water quality, wastewater, recycled water, water conservation, stormwater/flood protection, watershed planning, recreational facilities, and habitat protection and restoration.

4.11 **Signatory Entity.** A public, private, or non-profit entity within the Region that is signatory to this MOU.

4.12 **Stakeholder.** A non-signatory public, private, or non-profit agency identified in the IRWM Plan with an interest in water resources management within the Region.

4.13 **Technical Advisory Committee.** The committee organized to advise the Regional Water Management Group and Stakeholders concerning the IRWM Plan. Normally, the group will be comprised of individuals with technical backgrounds in the fields of marine and freshwater biology, ecology, geology, engineering, hydrogeology, planning, resource conservation, riparian systems, water conservation, and water quality. However, stakeholders with interests in a particular aspect of resource or project management, but not necessarily a technical background, may also be considered for inclusion in the TAC.

4.14 **Regional Water Management Group.** The group of entities that takes the lead in overseeing the development and implementation of the Integrated Regional Water Management Plan within the Planning Region. The RWMG consists of the Monterey Regional Water Pollution Control Agency, the Monterey County Water Resources Agency, the Monterey Peninsula Water Management District, the City of Monterey, the City of Seaside, the Marina Coast Water District, the Resource Conservation District of Monterey County, and the Big Sur Land Trust.

4.15 **Water Management Strategies**. Plans for and activities to be considered in an IRWMP include, but are not limited to, ecosystem restoration, environmental and habitat protection and improvement, water-supply reliability, flood management, groundwater management, recreation and public access, storm water capture and management, water conservation, water quality improvement, water recycling, and wetlands enhancement and creation.

5. IRWMP PARTICIPANTS

5.1 **Adopting Entities.** The entities in the Region that participate in the development, adoption, and implementation of the Integrated Regional Water Management Plan for the Region. Each entity intending to carry out a project proposed in the IRWMP must formally adopt the IRWMP or provide written substantiation of acceptance by the governing authority of the entity. For a public agency, adoption of the IRWMP is by formal resolution of the governing body. For a non-profit or for-profit entity,

proof of acceptance of the IRWMP by the equivalent of a public agency governing body is required (e.g., by a board of directors or other management entity).

5.2. **Stakeholders**. Entities, such as other public, private, and non-profit entities, business and environmental groups, that are considered valuable contributors to the understanding and management of the Region's water resources.

5.3. **Regulatory Agencies**. These agencies, including, but not limited to, the Central Coast Regional Water Quality Control Board, California Coastal Commission, U.S. Army Corps of Engineers, California Public Utilities Commission, National Marine Fisheries Service (NOAA Fisheries), U.S. Fish and Wildlife Service, and the California Department of Fish and Game, will be invited to participate in the development and implementation of the IRWMP.

5.4 **Regional Water Management Group.** The group of entities that takes the lead in developing and implementing an Integrated Regional Water Management Plan within the Planning Region.

6. MUTUAL UNDERSTANDING

6.1. **Subject matter scope of the IRWMP**. The IRWMP for the Region will include, but is not limited to, water supply, water quality, wastewater, recycled water, water conservation, stormwater/flood control, watershed planning, erosion prevention, and habitat protection and restoration. It is acknowledged that the proposals contained in the IRWMP may be based, in part, on the land-use plans of the member entities local governments such as Cities, Monterey County, and special districts located within the Region. Therefore, the resultant IRWMP will by design have incorporated the land-use plans and assumptions intrinsic to the respective water-related service function.

6.2. **Geographical scope of the IRWMP.** The area for this Memorandum is generally defined as the watersheds and associated groundwater basins contributing to the south Monterey Bay and Carmel Bay as shown in Figure 3-1: Map of Monterey Peninsula Integrated Regional Water Management Planning Region in the IRWM Plan.

The Region includes coastal watersheds from the southernmost portion of the San Jose Creek watershed north to the northern limit of the Seaside Groundwater Basin. The inland area is bounded by the Seaside Groundwater Basin to the north and by the Carmel River watershed to the south and east. The western limit of the planning Region generally coincides with the land and Pacific Ocean interface, but includes the Pt. Lobos, Carmel Bay, and Pacific Grove Areas of Special Biological Significance (ASBS) adjacent to the coastal portion of the Region.

However, it is recognized that the geographic scope represented in the IRWM Plan may be amended to include projects that are implemented cooperatively between IRWM planning regions (e.g., with the Greater Monterey County IRWM planning region) and is not intended to be a rigid boundary.

6.3. **Approach to developing the IRWMP**. It will be the responsibility of each entity signatory to this Memorandum to provide the Lead Agency with information for the IRWMP concerning project proposals or to identify the need for a water management strategy for each service function provided by a signatory entity.

In order to be included in the IRWMP, all proposals for development of water management plans and water development project proposals related to the IRWMP must meet the standards identified in the IRWM Plan for the Region.

A technical advisory committee consisting of staff representatives from the Regional Water Management Group, other Stakeholders and such other organizations as may become contributing entities, will review proposed management plans and project proposals for consistency with the IRWMP and recommend a prioritized list of projects to be carried out within the Region. The Regional Water Management Group and Stakeholders will meet to review the recommendation made by the TAC.

6.4. **Approval of prioritized project list.** Approval of the prioritized project list should occur by consensus of the Regional Water Management Group and Stakeholders and should be based on the prioritization process described in the IRWMP and the recommendations of the Technical Advisory Committee. However, if a consensus cannot be reached among the Stakeholders and Regional Water Management Group, the Regional Water Management Group may make a final determination of the prioritized project list.

6.5. **Adoption of the IRWMP**. Plan adoption will occur by approval of the governing board of each entity. Each member of the RWMG shall adopt the IRWM Plan or an amended IRWM Plan, when the Plan becomes available. Project proponents named in an IRWM grant application shall adopt the IRWM Plan or amended IRWM Plan prior to submittal of the grant application. It should be noted that the adopted Plan and project list may be amended from time to time as described below.

6.6 **Amendment of IRWMP or Prioritized Project list.** The IRWM Plan and prioritized project list may be amended from time to time. Any member of the Regional Water Management Group or Stakeholders may request that the Lead Agency convene a meeting of the Regional Water Management Group and Stakeholders for the purposes of amending the IRWM Plan or the prioritized project list. However, it is anticipated that the IRWMP or prioritized project list will be amended no more frequently than annually, unless more frequent amendments are required to meet State IRWM standards or grant application cycles. An amended IRWM Plan must be consistent with State IRWM standards as described in Definition 4.1 "Integrated Regional Water Management Plan" and any subsequent revisions by the State to IRWM guidelines.

6.7. **Project Implementation.** Project proponents will be responsible for completing proposed projects and providing project reports to the Lead Agency.

6.8 **Project Monitoring.** The Regional Water Management Group will be responsible for monitoring the implementation of the IRWMP. The technical advisory committee will regularly report to the General Managers and Governing Boards of the Regional Water Management Group regarding progress on the development and implementation of the IRWMP. The Lead Agency will be responsible for coordinating data collection and dissemination.

6.9 **Grant Applications.** The Regional Water Management Group will designate a Lead Agency to apply for grant funds. The Lead Agency for each grant application should have a mission and expertise that is consistent with the purpose of the grant being applied for.

6.10 **Central Coast funding area agreement.** The RWMG designates MPWMD to execute an funding area agreement on behalf of the Monterye Peninsula Planning Region.

6.11 **Grant Awards and Agreement**. The Lead Agency will be the grantee and administer the grant on behalf of the Regional Water Management Group and Stakeholders.

6.12 **Participation in Regional Water Management Group (RWMG)**. Any qualified stakeholder may petition to become a member of the RWMG. A qualified stakeholder must demonstrate the following: a) an interest, responsibility or authority over multiple resources within the region; or b) a unique interest, responsibility, authority, or asset not shared by any other entity within the RWMG. The RWMG shall consider such a request for a change to the RWMG and shall vote by majority to accept or reject the request.

6.13 **Length of Term in Regional Water Management Group**. Members of the RWMG may change from time to time, depending on the level of resources available to each entity. However, there is no required minimum or maximum length of time required as a member of the RWMG. If an entity withdraws from the RWMG, the remaining entities should attempt to replace the interest, responsibility or authority lost by the withdrawal.

6.14 **Rights of the Parties and Constituencies**: This MOU does not provide any added legal rights or regulatory powers to any of the signatory parties, or to the RWMG as a whole. This MOU does not of itself give any party the power to adjudicate water rights, or to regulate or otherwise control the private property of other parties. This MOU does not contemplate the parties taking any action that would adversely affect the rights of any of the parties, or that would adversely affect the customers or constituencies of any of the parties.

6.15 **Termination**. An entity signatory to this MOU may withdraw from participation upon 30 days advance notice to the other signatory entities, provided it agrees to be financially responsible for any previously committed, but unmet resource commitment.

6.16. **Personnel resources**. It is expected that the General Managers and/or other officials of each entity signatory to this MOU will periodically meet to insure that adequate staff resources are available to implement the IRWM Plan.

6.17. **Other on-going regional efforts**. Development of the IRWMP is separate from efforts of other organizations to develop water-related plans on a regional basis around Monterey Bay and the Central Coast. As the IRWMP is developed and implemented, work products may be shared to provide other entities and groups with current information.

~~**7. INDEMNIFICATION**~~

~~7.1 Each Party shall indemnify, defend and hold harmless the other parties, to the extent allowed by law and in proportion to fault, against any and all third-party liability for claims, demands, costs or judgments (direct, indirect, incidental or consequential) involving bodily injury, personal injury, death, property damage or other costs and expenses (including reasonable attorneys' fees, costs and expenses) arising or~~

~~resulting from the acts or omissions of its own officers, agents, employees or representatives carried out pursuant to the obligations of this Agreement.~~

~~7.2 These indemnity provisions shall survive the termination or expiration of this Agreement. Further, each Party will be liable to the other Party for attorneys' fees, costs and expenses, and all other costs and expenses whatsoever, which are incurred by the other Party in enforcing these indemnity provisions.~~

7~~8~~. RECORD OF AMENDMENTS

7~~8~~.1 June 2010 – add Marina Coast Water District to RWMG. Revise Goals, Definitions and MOU terms to reflect Proposition 84 requirements.

7~~8~~.2 March 2012 – add process to change RWMG, define when plan is to be adopted, revise to Proposition 84 standards

7~~8~~.3 August 2012 – add Resource Conservation District of Monterey County to RWMG

7.4 March 2016 – add City of Seaside to RWMG; designate MWPMD to execute and implement a funding area allocation for Proposition 1 funds; remove indemnification clause.

EXHIBIT 1-A

8~~9~~. SIGNATORIES TO THE MEMORANDUM OF UNDERSTANDING

We, the duly authorized undersigned representatives of our respective entities, acknowledge the above as our understanding of the intent and expected outcome in overseeing the development and implementation of an Integrated Regional Water Management Plan for the Monterey Peninsula, Carmel Bay, and South Monterey Bay Region.

_____	_____
Signature	Signature
_____	_____
Printed Name **Monterey County Water Resources Agency**	Printed Name **Monterey Regional Water Pollution Control Agency**
_____	_____
Date	Date
**********	**********
_____	_____
Signature	Signature
_____	_____
Printed Name **Big Sur Land Trust**	Printed Name **City of Monterey**
_____	_____
Date	Date
**********	**********
_____	_____
Signature	Signature
_____	_____
Printed Name **Monterey Peninsula Water Management District**	Printed Name **Marina Coast Water District**
_____	_____
Date	Date

EXHIBIT 1-A

Signature

_____

Printed Name
Board President, Resource Conservation District of Monterey County

_____

Date

****

Signature

_____

Printed Name
City of Seaside

_____

Date

****

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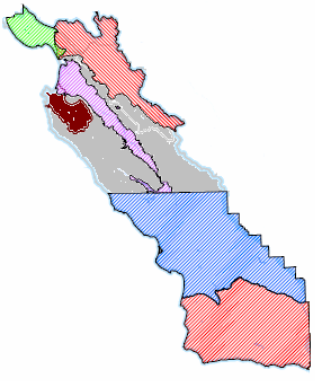
EXHIBIT 1-B



Central Coast Region IRWM

MEMORANDUM OF AGREEMENT FOR INTEGRATED REGIONAL WATER MANAGEMENT PLANNING AND FUNDING IN THE CENTRAL COAST FUNDING AREA

PARTIES:

This Memorandum of Agreement (MOA) is entered into and is effective as of the date it is executed by all of the Regional Water Management Groups listed below and referred to as "Parties" in this MOA:

1. Santa Cruz Regional Water Management Group comprised of:

- ☐ Central Water District
- ☐ City of Capitola
- ☐ City of Santa Cruz
- ☐ City of Scotts Valley
- ☐ City of Watsonville
- ☐ County of Santa Cruz
- ☐ Santa Cruz County Sanitation District
- ☐ Davenport County Sanitation District
- ☐ Resource Conservation District of Santa Cruz County
- ☐ Scotts Valley Water District
- ☐ Soquel Creek Water District

Hereinafter, the "Santa Cruz Region."

2. Pajaro River Watershed Regional Water Management Group, comprised of:

- ☐ Pajaro Valley Water Management Agency (PVWMA)
- ☐ San Benito County Water District (SBCWD)
- ☐ Santa Clara Valley Water District (SCVWD)

Hereinafter, the "Pajaro Region."

EXHIBIT 1-B

3. Greater Monterey County Regional Water Management Group, comprised of:

- ☐ Big Sur Land Trust
- ☐ California State University Monterey Bay
- ☐ California Water Service Company
- ☐ Castroville Community Services District
- ☐ City of Salinas
- ☐ City of Soledad
- ☐ Elkhorn Slough National Estuarine Research Reserve
- ☐ Environmental Justice Coalition for Water
- ☐ Garrapata Creek Watershed Council
- ☐ Marina Coast Water District
- ☐ Monterey Bay National Marine Sanctuary
- ☐ Monterey County Agricultural Commissioner's Office
- ☐ Monterey County Water Resources Agency
- ☐ Monterey Regional Water Pollution Control Agency
- ☐ Moss Landing Marine Laboratories
- ☐ Resource Conservation District of Monterey County
- ☐ Rural Community Assistance Corporation
- ☐ San Jerardo Cooperative, Inc.

Hereinafter, the "Greater Monterey County Region."

4. Monterey Peninsula, Carmel Bay, and South Monterey Bay Regional Water Management Group, comprised of:

- ☐ Big Sur Land Trust (BSLT)
- ☐ City of Monterey
- ☐ Monterey County Water Resources Agency (MCWRA)
- ☐ Monterey Regional Water Pollution Control Agency (MRWPCA)
- ☐ Monterey Peninsula Water Management District (MPWMD)
- ☐ Marina Coast Water District (MCWD)
- ☐ Resource Conservation District of Monterey County (RCDMC)
- ☐ City of Seaside[1]

Hereinafter, the "Monterey Peninsula Region."

[1] The City of Seaside is proposed to be added to the RWMG.

EXHIBIT 1-B

5. San Luis Obispo County Regional Water Management Group, comprised of:

- ☐ California Men's Colony
- ☐ Cambria Community Services District
- ☐ Central Coast Salmon Enhancement
- ☐ City of Arroyo Grande
- ☐ City of Grover Beach
- ☐ City of Morro Bay
- ☐ City of Paso Robles
- ☐ City of Pismo Beach
- ☐ City of San Luis Obispo
- ☐ Coastal San Luis Resource Conservation District
- ☐ Heritage Ranch Community Services District
- ☐ The Land Conservancy of San Luis Obispo County
- ☐ Los Osos Community Services District
- ☐ Morro Bay National Estuary Program
- ☐ Nipomo Community Services District
- ☐ Oceano Community Services District
- ☐ San Luis Obispo County
- ☐ San Luis Obispo County Flood Control and Water Conservation District
- ☐ San Miguel Community Services District
- ☐ San Simeon Community Services District
- ☐ S&T Mutual Water Company
- ☐ Templeton Community Services District
- ☐ Upper Salinas-Las Tablas Resource Conservation District

Hereinafter, the "San Luis Obispo County Region."

6. Santa Barbara County Regional Water Management Group, comprised of:

- ☐ City of Buellton
- ☐ City of Carpinteria
- ☐ City of Guadalupe
- ☐ City of Goleta
- ☐ City of Lompoc

EXHIBIT 1-B

- ☐ City Santa Barbara
- ☐ City of Santa Maria
- ☐ City of Solvang
- ☐ Cachuma Operation and Maintenance Board (COMB)
- ☐ Central Coast Water Authority (CCWA)
- ☐ Heal the Ocean
- ☐ Casmalia Community Services District (Cuyama CSD)
- ☐ Vandenberg Village Community Services District (VVCSD)
- ☐ Carpinteria Sanitary District (CSD)
- ☐ Goleta Sanitary District (GSD)
- ☐ Goleta West Sanitary District (GWSD)
- ☐ Cachuma Resource Conservation District (RCD) (Independent)
- ☐ Laguna County Sanitation District (Dependent)
- ☐ Santa Barbara County Water Agency (SBCWA) (Dependent)
- ☐ Santa Barbara County Flood Control District (SBCWA) (Dependent)
- ☐ Carpinteria Valley Water District (CVWD)
- ☐ Goleta Water District (GWD)
- ☐ Santa Maria Valley Water Conservation District (SMVWCD)
- ☐ Santa Ynez Community Services District
- ☐ Santa Ynez River Water Conservation District (SYRWCD)
- ☐ Santa Ynez River Water Conservation District, Improvement District 1 (ID #1)

Hereinafter, the “Santa Barbara Region.”

EXHIBIT 1-B

RECITALS:

A. The Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Water Code, Sections 79700 - 79798) (Act), approved by the voters as Proposition 1, authorizes the Legislature to appropriate funding for competitive grants for Integrated Regional Water Management (IRWM) projects. Funding is administered by the Department of Water Resources (DWR).

B. The intent of the Act is to provide funds for projects that are included in an adopted IRWM Plan consistent with Part 2.2 (commencing with Water Code Section 10530) of Division 6, and respond to climate change and contribute to regional water security. In order to improve regional water self-reliance security and adapt to the effects on water supply arising out of climate change, projects funded under the Act are to:

(a) Help water infrastructure systems adapt to climate change.

(b) Provide incentives for water agencies throughout each watershed to collaborate in managing the region's water resources and setting regional priorities for water infrastructure.

(c) Improve regional water self-reliance.

C. The Regional Water Management Groups in the Santa Cruz Region, the Pajaro Region, the Greater Monterey County Region, the Monterey Peninsula Region, the San Luis Obispo County Region, and the Santa Barbara Region comprise the six Parties. The boundaries of each Region are shown in **Attachment A.**

D. The primary intent of the six Parties to this MOA is to share future Proposition 1 funding for the IRWM grant program among the six Parties in a fair and equitable manner. Each Party will independently determine and prioritize projects to be funded within its Planning Region consistent with the legislative intent for a competitive grant program. This MOA is also intended to reduce the need for the Parties to compete against each other for grant funds, which creates unnecessary economic inefficiencies in implementing each Planning Region's IRWM Plan.

E. DWR may establish standards to guide the selection and funding of IRWM projects within the Funding Area. Project selection for funding will be consistent with Water Code section

79742.

F. Each Party has an accepted IRWM Plan and desires close coordination to enhance the quality of planning, identify opportunities for supporting common goals and projects, and improve water supply reliability, water quality, and environmental stewardship to meet current and future needs in each Planning Region. The Parties will coordinate and work with their advisory groups to identify projects of value across or within Planning Regions, identify funding for highly ranked projects, and support implementation.

G. The Parties each desire to retain autonomous control over how funds are allocated within their respective regions, but recognize the potential to improve inter-regional cooperation and efficiency. Since 2005, the Parties have worked to improve the IRWM planning process in the Funding Area, to coordinate planning across Planning Region lines, and to facilitate the distribution of funding for IRWM projects by DWR within the Funding Area.

H. The Parties will coordinate on grant funding requests by each of the Parties to ensure that the sum of the total grant requests from the Funding Area does not exceed the amount allocated to the Funding Area.

NOW, THEREFORE, the Parties acknowledge that the above recitals are true and correct and hereby incorporated herein by this reference and further agree as follows:

1. Definitions

The following terms and abbreviations, unless otherwise expressly defined in their context, shall mean:

A. Funding Area – The 11 regions and sub-regions referenced in Water Code section 79744 (a) and allocated a specific amount of funding to support IRWM activities. The Central Coast Funding Area incorporates lands in the Central Coast Regional Water Quality Control Board jurisdiction as of 2004, including portions of the counties of Santa Clara (south of Morgan Hill), San Mateo (southern portion), Santa Cruz, San Benito, Monterey, Kern (small portions), San Luis Obispo, Santa Barbara, Ventura (northern portion).

B. Regional Water Management Group (**RWMG) –** RWMG means a group in which three or more local agencies, at least two of which have a statutory authority over water supply or

water management, as well as those persons who may be necessary for the development and implementation of an IRWM Plan. An RWMG is the documented leader of IRWM planning and implementation efforts in a Planning Region.

C. Planning Region – The geographic area in which the IRWM regions will conduct their respective coordination and integration of stakeholders, agencies and projects. The boundaries of the six Planning Regions in the Funding Area are shown in Attachment A.

D. Overlap Areas – Identified areas within adjacent Planning Regions that may be part of a common watershed or jurisdictional area within an adjacent Planning Region. Overlap Areas are identified in each respective Planning Region IRWM Plan and should be subject to special coordination and collaboration between adjacent Planning Regions to ensure maximum benefits in each respective Planning Region.

E. **Overlap Projects** – Projects identified in an IRWM Plan as valuable and benefiting from cross boundary (interregional) coordination.

F. Responsible Agency – The Agency designated within each RWMG to represent each Party to this Agreement.

F. IRWM Plan – A comprehensive plan for a defined geographic area, the specific development, content, and adoption of which shall satisfy requirements developed pursuant to this part. At a minimum, an IRWM Plan describes the major water-related objectives and conflicts within a region, considers a broad variety of resource management strategies, identifies the appropriate mix of water demand and supply management alternatives, water quality protections, and environmental stewardship actions to provide long-term, reliable, and high-quality water supply and protect the environment, and identifies disadvantaged communities in the region and takes the water-related needs of those communities into consideration (Water Code §10530 et seq., in particular §10534).

G. Disadvantaged Community (DAC) – a community with an annual median household income that is less than 80 percent of the Statewide annual median household income (Water Code §79505.5).

2. Formula for Sharing Funds

A. The Funding Area has been allocated **$43 million** through Proposition 1 for the IRWM program administered by DWR. This allocation includes the following breakdown:

DWR Administration Fee - 7% of Funding Area Total	**$ 3,010,000**
DAC Funding - 20% of Funding Area Total	**$ 8,600,000**
DAC engagement (non-competitive)	**$ 4,300,000**
DAC project implementation (competitive)	**$ 4,300,000**
Implementation and Planning Grants	**$ 31,390,000**

B. For the purposes of this MOA, the formula for sharing funds among the Parties will be based on the following: one-half (1/2) of funds are equally split among the Parties; one-quarter (1/4) of funds are split based on population percentage of each Planning Region based on 2009-2013 American Census Data; and one-quarter (1/4) of funds are split based on the percentage of area in square miles of each Planning Region. The division of funding shall be consistent with **Attachment B**.

3. General Planning Cooperation

All Planning Regions will meet prior to providing feedback to DWR on Proposed Guidelines for the IRWM Program and before submitting applications for grant funding from DWR. The number of meetings will depend on the amount and intensity of planning and coordination efforts of the Planning Regions. The purpose of these meetings will be to enhance the quality of planning, identify opportunities for supporting common goals and projects, and to improve integrated water management efforts in the Funding Area. The planning efforts will support integration and coordination across Planning Regions.

4. Coordination of Submittals and Applications

Each Planning Region should contain a reference to this MOA in each grant application submittal to the IRWM grant program.

5. Common Programs

Common programs found to be of high value for some or all Planning Regions will be identified

and considered for high priority placement in the Planning Region's ranking of projects for funding. These may include programs to address Disadvantaged Community issues, Overlap Projects, and shared responsibilities for management of watersheds that cross Planning Region boundaries. While each Planning Region will select projects in accordance with its own process, the Planning Regions may cooperate on the implementation of common projects or programs if these efforts are selected for funding.

Each Planning Region is encouraged to invite representatives from the adjoining Planning Regions to participate as a non-voting member in its determinations of projects and programs affecting Overlap Areas. The intent of this section is to promote understanding, communication and coordination between and among Planning Regions.

6. Scope of the Agreement

Nothing contained within this MOA binds the Parties beyond the scope or term of this MOA unless specifically documented in subsequent agreements, amendments or contracts. Moreover, this MOA does not require any commitment of funding beyond that which is voluntarily committed.

7. Term of Agreement

The term of this MOA is from its Effective Date shown above until all funds allocated to the Funding Area as shown in Attachment B have been awarded by DWR to the Funding Area, unless extended by mutual agreement of the Parties.

8. Modification or Termination

This MOA may be modified or terminated with the written concurrence of all Parties.

9. Change of Responsible Agency

It is recognized that any Responsible Agency may wish to withdraw from the responsibilities described in the terms of this MOA. It is the intent of the Parties to each maintain a Responsible Agency to represent the interests of their respective Planning Region and Regional Water Management Group to implement the terms of this MOA. Any Responsible Agency that intends to withdraw from this MOA shall give a 30-day notice to the other Parties and should designate a successor agency as a Responsible Agency.

EXHIBIT 1-B

10. Withdrawal from MOA

Any Party that intends to withdraw from this MOA shall give a 30-day notice to the other Parties.

11. Notice

Any notices sent or required to be sent to any Party shall be mailed to the following addresses:

The Santa Cruz Region
Tim Carson, Program Director
Regional Water Management Foundation
7807 Soquel Drive, Aptos, CA 95003
tcarson@cfscc.org

The Pajaro Region
Tracy Hemmeter, Senior Project Manager
5750 Almaden Expressway
San Jose, California 95118
themmeter@valleywater.org

The Greater Monterey County Region
Susan Robinson, Coordinator for Greater Monterey County IRWM Region
P.O. Box 201
Cabot, VT 05647
srobinsongs@frontier.com

The Monterey Peninsula Region
Larry Hampson, District Engineer
Monterey Peninsula Water Management District
P.O. Box 85, Monterey CA 93942
larry@mpwmd.net

EXHIBIT 1-B

The San Luis Obispo County Region
Mladen Bandov, Water Resources Engineer
San Luis Obispo County Public Works Department
County Government Center, Room 206, San Luis Obispo CA 93408
mbandov@co.slo.ca.us

The Santa Barbara Region
Fray Crease, Water Agency Manager
Santa Barbara County Water Agency
130 E. Victoria St.
Suite 200
Santa Barbara, CA 93101
fcrease@cosbpw.net

12. Funding Uncertainties

The Parties cannot be assured of the results of these coordination efforts and applications for funding. Nothing within this MOA should be construed as creating a promise or guarantee of future funding. No liability or obligation shall accrue to the Parties if DWR does not provide the funding. The Parties are committed to planning and coordinating notwithstanding IRWM funding. The form of such coordination may change based on the sources of funding.

13. Other Provisions

The following provisions and terms shall apply to this MOA.

A. This MOA is to be construed in accordance with the laws of the State of California. Any action at law or in equity brought by any of the Parties shall be brought in a court of competent jurisdiction within the Party's County that files an action against another Party for a breach of this MOA, and the Parties hereto waive all provisions of law providing for change of venue in such proceedings to any other county.

B. If any provision of this MOA is held by a court to be invalid, void or unenforceable, the remaining provisions shall be declared severable and shall be given full force and effect to the extent possible.

C. This MOA is the result of negotiations between the Parties hereto and with the advice and assistance of their respective counsels. No provision contained herein shall be construed against any Party because of its participation in preparing this MOA.

D. Any waiver by a Party of any breach by the other of any one or more of the terms of this MOA shall not be construed to be a waiver of any subsequent or other breach of the same or of any other term hereof. Failure on the part of any of the respective Parties to require from the others exact, full and complete compliance with any terms of the MOA shall not be construed to change the terms hereof or to prohibit the Party from enforcement hereof.

E. This MOA may be executed and delivered in any number of counterparts or copies, hereinafter called "Counterpart," by the Parties hereto. When each Party has signed and delivered at least one Counterpart to the other parties hereto, each Counterpart shall be deemed an original and, taken together, shall constitute one and the same MOA, which shall be binding and effective as to the Parties hereto.

F. This MOA is intended by the Parties hereto as their final expression with respect to the matters herein, and is a complete and exclusive statement of the terms and conditions thereof.

EXHIBIT 1-B

IN WITNESS WHEREOF, the Parties hereto have executed this MOA on the dates shown on the attached counterpart signature pages:

The Santa Cruz Region

The Pajaro Region

The Greater Monterey County Region

The Monterey Peninsula Region

The San Luis Obispo County Region

The Santa Barbara Region

EXHIBIT 1-B

Attachment A – Central Coast Funding Area Map

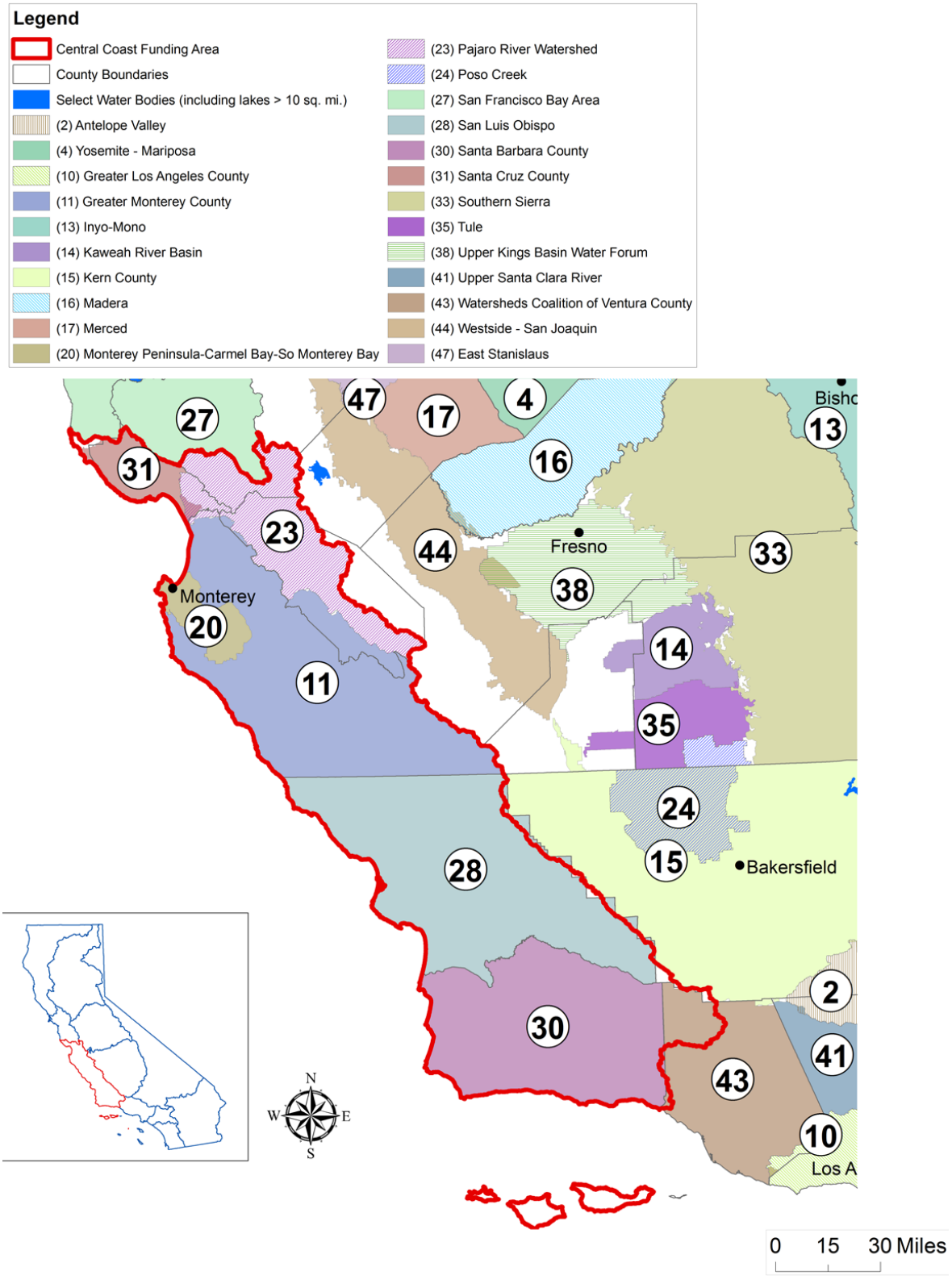


EXHIBIT 1-B

Attachment B
Allocation of Proposition 1 Funds

Each of the six Planning Regions has IRWM project and program needs that far exceed the funding allocated to the Funding Area. Significant local match funding for selected projects is available in each Planning Region. Funding for planning and timing of implementation may vary among the Planning Regions. Because of these factors and because not all of the Proposition 1 funding will be made available at the same time, the Parties will cooperate and coordinate on individual funding cycle applications to ensure that the sum of the total grant requests does not exceed the amount identified for the Funding Area in any given cycle. Total allocations to the Parties will be divided according to the schedule below. The allocations to the six Planning Regions are indicated in percentages of the total funds that will be available over the life of the program.

Table 1 –Funding Area Allocation

Total Proposition 1 IRWM Funding to Funding Area	**$ 43,000,000**
Breakdown of Prop 1 to Funding Area:	
DWR fees (5% program delivery, 2% bond administration)	**$ 3,010,000**
DAC Funding (20% of CCFA Total) - 2 Rounds	**$ 8,600,000**
Implementation and Planning Grants - 2 Rounds	**$ 31,390,000**

Table 2 – Basis of Funding Area Allocations

Funding Area Regions Allocation Option #1 (1/2 Equal Split Among Regions) + (1/4 % by population) + (1/4 % by acreage)	Baseline Factor (1/6 based on 6 Regions in Funding Area)	Population	Population Factor (% of Funding Area Total)	Area (sq. miles)	Area Factor (% of Funding Area Total)	Overall Factor (% of Funding Area funds)
Santa Cruz	**16.67%**	281,401	14.89%	376	3.39%	12.90%
Pajaro River Watershed	**16.67%**	327,183	17.32%	1,295	11.68%	15.58%
Greater Monterey	**16.67%**	384,947	20.38%	3,199	28.85%	20.64%
Monterey Peninsula	**16.67%**	131,088	6.94%	341	3.08%	10.84%
San Luis Obispo	**16.67%**	309,187	16.37%	3,322	29.96%	19.91%
Santa Barbara	**16.67%**	455,468	24.11%	2,555	23.04%	20.12%
Totals	**100.00%**	**1,889,274**	**100.00%**	**11,088**	**100.00%**	**100.00%**

EXHIBIT 1-B

Table 3 – Summary of Funds Available to Each Planning Region (less DWR fees)

	Santa Cruz	Pajaro Valley Watershed	Greater Monterey	Monterey Peninsula	San Luis Obispo	Santa Barbara	Total CCFA
ALLOCATION OPTION # 1							
Allocation Option #1 - DAC Funds ((1/2 Equal Split Among Regions) + (1/4 %by population) + (1/4 % by acreage))	$ 1,109,810	$ 1,340,107	$ 1,775,034	$ 931,966	$ 1,712,669	$ 1,730,414	**$ 8,600,000**
Allocation Option #1 - Impl'n Funds ((1/2 Equal Split Among Regions) + (1/4 %by population) + (1/4 % by acreage))	$ 4,050,805	$ 4,891,390	$ 6,478,875	$ 3,401,677	$ 6,251,243	$ 6,316,010	**$ 31,390,000**
Total Allocation Option #1	**$ 5,160,615**	**$ 6,231,497**	**$ 8,253,910**	**$ 4,333,643**	**$ 7,963,912**	**$ 8,046,424**	

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EXHIBIT 1-C

2016 Rate Sheet
Gutierrez Consultants, Inc.

Classification	Rate
Principal	$217
Engineer/Planner	$180
Project Assistant	$155

The individual hourly rate includes salary, overhead and profit. The hourly rate also includes ordinary expenses, including telecommunications, computer usage, and regular reproduction jobs. Other direct costs (ODCs) such as large reproduction jobs and travel expenses will be charged at actual cost plus 10%. Mileage will not be marked up. Subconsultants will be billed at actual cost plus 10%. Mileage rate will be that allowed by current IRS guidelines.

WATER SUPPLY PLANNING COMMITTEE

ITEM: ACTION ITEM

2. CONSIDER DEVELOPMENT OF RECOMMENDATION TO THE BOARD ON CONTRACT FOR PREPARATION OF LOS PADRES DAM FISH PASSAGE STUDY

Meeting Date: April 5, 2016

From: Dave Stoldt,
General Manager

Prepared By: Larry Hampson

SUMMARY: The District received proposals from MWH and HDR to conduct a study of alternatives to provide volitional upstream passage for steelhead over Los Padres Dam and through the reservoir. Proposals were reviewed by staff at MPWMD, the California Department of Fish and Wildlife (CDFW), and the National Marine Fisheries Service (NMFS). California American Water, which will reimburse the District for expenses associated with the study, has also received copies of the proposals and has been advised of the reviews.

Attached as **Exhibit 2-A** and **2-B** are portions of the proposals containing the technical aspects (the actual work proposed). The HDR proposal cost of $280,597 is significantly less than the MWH proposal, which is priced at $346,500. However, HDR proposed a somewhat different approach on two of the study tasks than MWH. Staff has contacted both firms to discuss their proposals in an effort to have an "apples to apples" comparison of the proposals.

RECOMMENDATION: At the time this staff note was prepared, staff had not fully resolved difference between the two proposals. A recommendation concerning selection of a consultant will be made at the Committee meeting.

DISCUSSION: Cal-Am's General Rate Case (GRC) for 2015-2017 authorizes Cal-Am to co-fund studies with the District to develop a long-term management plan for Los Padres Dam (LP Dam) and Reservoir. Studies will include evaluating upstream steelhead passage at LP Dam, whether the Carmel River is better or worse with surface storage at Los Padres Dam, and what options exist to maintain physical existing surface storage in Los Padres Reservoir (i.e., manage annual sediment inflow to the reservoir). Also included in the studies would be an analysis of the potential geomorphic effects of a resumption or increase of the natural flow of sediment.

The plan of study for the fish passage assessment is intended to build on recent improvements to downstream passage and comprehensively evaluate and recommend potential viable alternatives to improve upstream passage at LP Dam and through the reservoir. At their January 20, 2016 meeting, the Water Supply Planning Committee reviewed the draft study plan and recommended representation from the Monterey Peninsula, the County of Monterey and environmental interests on the proposed Advisory Group.

During the proposal review with CDFW and NMFS, the NMFS representative (Joyce Ambrosius) pointed out that the Advisory Group would be more effective at evaluating the larger question of whether the Carmel River and steelhead habitat is better off with or without Los Padres Dam. Staff concurs with this observation mainly because there is no real controversy about improving fish passage at the dam and through the reservoir. It is a well-recognized and long-standing issue that requires an alternative that is technically, economically, and biologically feasible. Staff recommends that the funds intended for an Advisory Group meeting be retained in the project budget, but used to enable an additional Technical Review Committee meeting, if necessary.

EXHIBITS

2-A HDR proposal (selection)
2-B MWH proposal (selection)

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EXHIBIT 2-A

Proposal for

Los Padres Dam Fish Passage Feasibility Study

Monterey Peninsula Water Management District

March 25,
2016

06 Technical Aspects of Proposal

Through our previous experience developing and implementing this similar study plan with United Water, our team members are familiar with the challenges, advantages, and disadvantages of specific technical approaches contained therein. Nearly all of this prior work was completed by the key staff and/or organizations included on our team. Given our team's recent successful completion of the Santa Felicia study and our experience at Los Padres Dam (LPD), our team has a high level of insight to the applicability and associated level of effort required to complete the study plan tasks outlined in the RFP.

In addition to our experience with the Santa Felicia study, our team's specific approach to conducting this proposed study also recognizes the prior efforts examining fish passage at LPD. We recognize some of the limitations imposed on the previous LPD study and anticipate that this newest endeavor will foster a far more effective environment for success. The proposed effort will be benefited by the following factors offered by the HDR team:

- Key staff members on HDR's proposed team reflect decades of experience with numerous fish passage programs and facilities throughout the western U.S., Pacific Northwest, and Canada. As shown in Section 3 of this proposal, our resume of completed projects has given this team first-hand experience with the most relevant and applicable fish passage technologies throughout the nation, including those studies directly referenced in the RFP (Alameda Creek Diversion Dam, Santa Felicia, and the Susitna-Watana Hydroelectric Project). This experience is augmented significantly by our Carmel River experience gained over the past 16 years beginning with a year 2000 study developed by R2 reviewing "Carmel River Dam Fish Passage Facilities," continuing through HDR's successful design and construction support of the Los Padres Dam Downstream Fish Passage Project, and through AECOM's involvement in the recent removal of San Clemente Dam.
- Regular and direct communication with fisheries resource agencies and DSOD facilitated through the TRC process will improve collaboration and understanding of project expectations beyond what was achieved during previous feasibility studies at LPD. Our team has incorporated meeting facilitators that will focus on achieving meeting or workshop goals, clearly coordinate the transfer of information with all parties, and accurately document discussions, decisions, and action items. Through integration of our coordination and meeting facilitation team, we anticipate clearer focus on combined objectives and more effective communication and feedback from the District, Cal-Am, and additional partners that make up TRC and Advisory Group.
- HDR team members have had the opportunity to work with DSOD through design approval and construction of a fish passage project at LPD in addition to numerous other projects. We have navigated through their concerns for the existing facility and have developed defendable and implementable solutions when others could not. We recognize the importance and potential limitations that limit the type, size, and configuration of fish passage facilities at LPD and feel that our site-specific experience will improve communication and efficiency, while performing the proposed work tasks. To proactively augment this project need, our team includes a liaison to communicate with DSOD, define structural and geotechnical constraints, refine criteria, and inform the fish passage alternative development process.

The HDR team has a high regard for the scope of work and available budget. as the primary authors of both the Santa Felicia and Susitna-Watana scopes of work, these study plans were developed to do more than just develop the most promising alternatives. These study plans were very formal and structured to not only develop alternatives, but to thoroughly inform stakeholders of the available options, chances

of success, complexity, reliability, and costs. The Santa Felicia study was also part of a FERC relicensing effort. Our experience with similar studies, and level of effort can vary widely based on the specific owner needs. To fully inform the selection committee, the two studies used to formulate the Los Padres study plan in the RFP were based on cost well over $1 million each to fully implement. When preparing this proposal, the HDR team estimated a potential project cost to fully implement the study plan – as stated in the RFP – in excess of $400,000.

The HDR team proposes to be responsive to this opportunity and to carry out the work and provide the deliverables following the general outline and detailed scope of work presented in the RFP. However, we also desire to provide value, effectiveness, and cost awareness to the project partners using our knowledge of this process and the budget constraints potentially limiting this effort. Therefore, the following technical approach is modified from the original technical study plan presented in the RFP to accommodate the budgetary limitations known for this project, while still maintaining defensibility, transparency, and integrity of the intended study plan.

Given the experience and high capability of the HDR team we are confident we can complete the specific scope of work within the anticipated 18-month timeline of the study. As noted in a recent answer to a RFP question, it is desired to conclude the study sooner. Using the approach outlined here in this proposal, and if agreed to at the time of contracting, we can anticipate being able to complete the study within 15 months.

Consultant Team Specific Scope of Work

The feasibility evaluation includes six main tasks, as outlined below, with specific detail and deliverables. This specific scope of work will become the study work plan upon initiation of the project.

Task 1 Feasibility Study Preparation (Consultant)

The intent of this task is to compile, synthesize, and document pertinent key background information that characterizes the operational, physical, and biological basis of study for this project. The resulting information will be used to shape key decisions in the feasibility process, as well as inform the type, size, and configuration of technically, ecologically, and financially feasible alternatives to fish passage at LPD. This task will result in three key deliverables that will be used to communicate key baseline information, physical and operational constraints, target biological performance goals, and the initial framework upon which fish passage alternatives will be evaluated. Those basic deliverables include: 1) a compilation of background information summarizing the key operational, physical, and biological basis of study for this project; 2) project work maps illustrating the physical configuration of the exiting project area; 3) a list of criteria and their definitions that will be proposed to be used as the basis comparison and evaluation throughout the development and selection of potential fish passage alternatives; and 4) generation of an initial data gaps log with potential pathways for addressing them. The development of these basic building blocks is described in more detail in the following sections.

TASK 1-1 COMPILE BACKGROUND INFORMATION

The HDR team will begin the feasibility process by obtaining available background information and data that characterizes the operational, physical, and biological considerations influencing the development of potential fish passage options and subsequent alternatives. Given this team's experience on the Carmel River and at LPD, we anticipate the compilation of background information to be efficient and will build upon previous work performed by this team. The resulting information will be synthesized, documented, and distributed to the TRC members prior to TRC Meeting No. 1 to become more easily familiar with the key and essential conditions unique to this project location.

The background information for this project is intended to represent the primary foundation upon which each option or alternative is developed. Information obtained for this project will be lumped into three basic categories as follows:

- **Physical data** that describes physical layout of the facility stilling pool, dam, spillway, abutments, reservoir, and adjacent hill slopes, in addition to the flow frequency and

quantity that passes through the reservoir and down the Carmel River. This also includes any available stage vs. discharge data, temperature, or water quality data that has been recorded and can be made available. The HDR team is thoroughly familiar with the site and feels that much of the information already existing in the 2009 Administrative Draft Fish Passage Assessment can be amended, updated, and augmented with any new information available through the District or already collected as part of projects recently completed by HDR. Reservoir data from water years subsequent to 1999 can be added to the period of record and characterized into wet, normal, and dry operational conditions. Additional USGS and District records can be combined with the previous period of record to update the available hydrology data set. The updated hydrology and dam stage records can be used to select appropriate ranges of flows and reservoir elevations anticipated during the periods of fish migration established as part of this task.

- **Operational data** pertinent to the current purpose, function, and objectives of LPD are to include any rule curves, instream flow enhancement objectives, operational scenarios or characterizations, historic reservoir stage data, maintenance requirements, outlet works operations, safety requirements, or similar type information related to the reservoirs function and specific measures required to achieve facility objectives. It will be necessary as part of this process by which the Carmel River instream flow committee uses information to make reservoir releases during summer low-flow periods.
- **Biological data** and fisheries resources will be summarized, including a clear description of the species and life stages targeted for upstream and downstream passage (inclusive of other steelhead and resident life histories exhibited in the Carmel River), migration periodicity for each target species and life stage, known fish abundance and estimates of current and future peak rates of migration, and biological performance objectives for the Carmel River. The team recognizes that only limited data regarding upstream and downstream migration will be available for this study. The Consultant Team will collect additional data obtained at San Clemente dam prior to its decommissioning, trap and transport data available for the LPD adult fish collection facility operations, in addition to trapping and monitoring data of juveniles and adults available through efforts by the District. This newest information can be used to augment the baseline already established in the 2009 report. As required in other tasks, the information gaps present in the biological framework will be identified and discussed with the TRC.

Deliverables: a compilation of background information that characterizes the physical, operational, and biological basis for this project

TASK 1-2 OBTAIN BATHYMETRIC AND TOPOGRAPHIC DATA FOR LOS PADRES RESERVOIR

As part of previous projects, the HDR team has been involved in the use, evaluation, and collection of various forms of survey and bathymetric information for the project area. We recognize that the California State University of Monterey Bay conducted bathymetric data collection and calculation of a stage-volume relationship in 2008. We also recognize that substantial sedimentation was anticipated in the years following the 2008 survey, which has likely modified lake bed contours and the stage-volume relationship. As part of the 2010 fish passage facility design work performed by HDR, Cal-Am hired Bestor Engineering to perform detailed aerial mapping and surveys of the dam, spillway, dam face, stilling basin and outlet areas. Bestor was asked to augment bathymetric information present in the stilling basin and additional information was later added to the available survey files and stitched together with available reservoir bathymetry in February of 2011.

In addition to the quantitative information generated as part of previous work performed at LPD, both Jon Mann and Mike Garello were present at the site throughout various periods of design and construction during implementation of the downstream fish passage project. During those efforts, Mike and Jon had the opportunity to observe and photograph conditions representing extremely low reservoir elevations and an empty stilling basin. These

first-hand accounts bring additional insight and applicable experiences which are useful when characterizing reservoir, and stilling basin conditions with respect to their influence on fish collection, fish passage, and fish passage facility development.

While a combination of laser scanning and multi-beam bathymetry will result in a highly detailed and accurate surface model of the reservoir and surrounding upland areas, using these technologies can be costly and may provide a level of detail that exceeds the requirements for the deliverables outlined in the RFP. These technologies are traditionally used to characterize specific features on the landscape (submerged objects, dredging trenches, buildings, and other facilities), which are not included in the list of deliverables for this task.

HDR has provided the same types of required deliverables for other clients while utilizing less costly methods that still meet the RFP requirements. HDR recommends that an approach that utilizes single-beam bathymetric survey methods combined with aerial LiDAR for upland areas be considered. This approach would still provide accurate volumetric information at 5-foot vertical intervals or better within the reservoir area and the cross sections at 100 feet horizontally per the RFP.

Single-beam sonar data survey data will be collected in parallel and perpendicular transects at a variable spacing in order to best delineate the bathymetric elevations in an efficient manner given the special extents of reservoir features. A transect will also be run along the perimeter of the ponds so that the border of the ponds is captured for surface and contour generation (i.e., so interpolation is not required to fill in the perimeter).

Sonar will be mounted off the bow or side of a vessel on a pole. A standard bar-check (defined in USACE Hydrographic Surveying Manual EM 1110-2-1003) will be used to calibrate the echosounder. Calibration facilitates proper determination of measured water depths based on speed of sound in the water. GPS receiver will be mounted on top of the sonar pole mount if possible; or, the horizontal offsets will be measured and applied during post-processing to ensure proper positioning of measured soundings.

The sonar will comprise a 200 kHz frequency (Standard frequency for bathymetric surveying). A 3.5 degree transducer (i.e., small beam width) will be used to obtain the most accurate soundings. A differential kinematic GPS (RTK GPS) will be used to position the soundings centimeter accuracy.

HDR has also determined that aerial LiDAR was collected in 2010 for the region surrounding and including the Los Padres Dam and Reservoir. These data have 2-meter point spacing and are vertically accurate to approximately 10 centimeters (0.3 feet). A processed bare earth DEM is publically available to characterize upland areas in the vicinity of the reservoir and convert it to the project coordinate system and Datum. LiDAR scientists from the HDR team would then evaluate the data for any inconsistencies or errors. Assuming no errors are discovered or discovered errors can be easily reconciled, members of the HDR team would collect RTK field topographic positions to supplement and validate the aerial LiDAR data, focusing efforts on the upstream extent of the data to ensure any above Normal Maximum Water Surface Elevation (NMSWE) area calculations accurately represent the extent of upstream contours. If previous upland surveys are available from previous efforts.

While a multi-beam survey provides a census level representation of the inundated reservoir area, a single-beam survey is a sampling methodology intended to characterize trends. The area in between transects will be interpolated using industry standard methodologies, resulting in a volumetrically unbiased and accurate representation of the reservoir bottom.

The information collected will be synthesized into compiled GIS and AutoCAD compatible formats to develop representative 3D surface visualizations, create representative cross-sections, and to verify the reservoir inundation areas and hydraulic pathways suitable for fish passage at discrete intervals (5 feet or smaller) of elevation.

Deliverables: a report describing methods used; a digital elevation model of Los Padres Reservoir; reservoir cross-sections at 100-foot intervals; and inspection reports, including photos and descriptions of passage through reservoir sediments

TASK 1-3 PREPARE EVALUATION CRITERIA

In addition to compilation of background material, the Consultant team will begin tailoring project-specific definitions of the comparison and evaluation criteria. These specific criteria will be categorized as technical, biological, and economic feasibility criteria. Refinements to these definitions will be made initially based upon known challenges and experiences as part of the Santa Felicia project, as well as the team's knowledge of various LPD project constraints. A draft list of criteria and definitions will be prepared for distribution and consideration prior to the TRC Meeting No. 1.

Deliverables: draft feasibility criteria

TASK 1-4 IDENTIFY CRITICAL DATA GAPS

The Consultant Team will identify missing or additional key information and will provide recommended steps to acquire the necessary material. In some cases, data gaps and the need to collect additional information will require direct communication with the TRC. The process to address any information gaps will be identified based on the specifics of the necessary information, and a plan to address this information need will be formulated for TRC and Advisory Group review. In some cases, reasonable and defendable assumptions may be adopted by the TRC for the purposes of carrying out this study. In other cases, a clear path forward to obtain additional data may need to be formulated. It is assumed that any additional data collection not specifically stated in this technical scope of work will require additional contract modification with the Consultant Team. All data gaps, decisions, working assumptions, and corresponding methods for resolving data gaps will be recorded in a data gaps log that will be tracked as a living document throughout the course of this study. Critical data gap identification and resolution is intended to occur throughout various study plan work activities rather than at discrete points in the study plan.

Deliverables: data gaps tracking log which identifies missing data or information and a proposal for acquiring data or information

Task 2: Prepare Biological Performance Tool (Consultant and TRC)

"South-Central California Coast Steelhead are adapted to deal with highly variable rainfall and temperature conditions, but are otherwise similar to other steelhead." California Trout

Successfully restoring South-Central California Coast steelhead (SCCCS) access to and from spawning and rearing habitats upstream of Los Padres Dam (LPD) involves a range of biological, engineering, and environmental considerations. SCCCS exhibit variations in life history strategies, including age at migration, migration timing, and habitat use. These different life history strategies (for example, fluvial anadromous, freshwater resident, and lagoon anadromous) allow SCCCS to take advantage of changes in environmental conditions caused by drought, fire, or floods. Little is known about the proportion of juvenile steelhead exhibiting these variations in life history strategies, and life history expressions may change from year to year, and from upstream to downstream habitats. These variations in life history are particularly challenging when evaluating the influence of alternate fish passage facility designs. One tool to assist in fish passage feasibility evaluations is a BPT.

When faced with the need to integrate site-specific hydrology, dam, reservoir, and river features, localized steelhead life histories, and site-specific migration cues, R2 and HDR team members, in coordination with water district, state, and federal biologists, developed a quantitative tool to evaluate site-specific conditions for steelhead passage at Santa Felicia Dam, California. The BPT was successfully used to evaluate optimum hydraulic capacities of alternate downstream fish passage facilities and estimate steelhead migrant survival for alternate reservoir and dam passage scenarios.

The BPT can be adapted to calculate survival indices based on size, timing, and environmental conditions of migrating steelhead and evaluate fish passage facility performance under a range of life history expressions. This ability to evaluate

the influence of alternate facilities under a range of life history assumptions will be particularly useful for LPD where the proportion of SCCCS migrating as fry, yearling, multiple-year smolts, or adults may be poorly understood.

The Consultant Team will develop a BPT that will be used to estimate potential steelhead passage survival using the downstream fish passage concepts identified and refined in the feasibility study. In addition, compiling information on upstream steelhead migratory behavior based on collected data will help identify the type, location, size, and timing of potential upstream fish passage facility components and the necessary coordination with existing downstream passage facilities. Additional information needs may be defined during the compilation and studies may be outlined and planned for implementation to provide such information. The proportion of the migrant population using each alternative and the estimated survival associated with new upstream pathways will determine the biological performance and contribute to the feasibility evaluation of fish passage concepts identified and developed in the study. Where information on Carmel River SCCCS is lacking, the BPT will be used to evaluate facility performance under a range of life history strategies.

TASK 2-1 COMPILE BACKGROUND INFORMATION ON MIGRATORY PATHWAYS (CONSULTANT)

Information needed to develop and populate the fish passage model (that is, the BPT) includes physical, hydraulic, and biological information on conditions in the watershed and in particular at Los Padres Reservoir, flow releases, and operational characteristics of downstream fish passage facilities. Results of studies conducted at other water control projects, conceptual-level drawings of potential fish passage facilities, and, where appropriate, the professional opinions of the TRC may also be compiled.

Passage conditions will be evaluated using average daily flow data for representative average, wet, and dry years. Project operations data will include daily reservoir water surface elevations, average daily flow releases through the outlet pipes and spillway, and periodic water quality data. Recent data on releases from storage and reservoir pool levels will be reviewed. This is presumed to be representative of current and proposed future conditions. Representative years will be selected in coordination with members of the TRC to evaluate fish passage facilities. Information compiled as part of Task 2-1 will be used to populate the fish passage model and will be presented with a progress report at the end of this task.

Deliverables: technical memo characterizing available Los Padres Reservoir data and recommendation of target flows/reservoir elevations for passage, and a review of studies and concepts appropriate to LPD fish passage

TASK 2-2 REVIEW AND IDENTIFY CRITICAL BIOLOGICAL DATA GAPS (CONSULTANT AND TRC)

The TRC will discuss the information complied during planned meetings and determine its completeness for the fish passage biological evaluation needs. Evaluation of upstream and downstream migratory pathways requires structural and hydrologic information and assumptions regarding steelhead behavior. No site-specific data are available to make survival estimates, so these will depend on data collected at similar facilities, literature values, or professional opinions of the researchers.

As noted in the RFP, the focus of this study is on the engineering constraints, biological needs of steelhead (i.e., ability of different life stages to use a particular alternative), and the economic costs of volitional passage. Should definitive data on steelhead use and population in the upper watershed become available, it could be factored into the recommendations for this study.

If additional information is needed, the TRC will work with HDR to take appropriate steps to acquire the necessary material or develop reasonable assumptions. The process to address information gaps will be identified based on the specifics of the information. If data gaps are identified that prove critical to the feasibility evaluations and TRC recommendations, the TRC will identify the most appropriate means to fill those gaps, including influence on ability to complete a meaningful analysis, timing to acquire and evaluate the information, and potential outcomes, as they could affect the recommendations by the TRC. This task could be combined with the efforts under Task 1-4 for identifying the critical data gaps. The following

steps will be utilized in Task 2-2 as led by the HDR team:

- Perform a background review of biological information, and identify information needs
- Identify any biologically-related critical data gaps
- The TRC will review information from Task 1 (background) and Task 2 (BPT) with the Consultant to determine suitability for work to evaluate passage facilities. It is expected that review will be completed using web access

  Deliverables: incorporation of data needs into the data log developed as part of Task 1-4

TASK 2-3 DEVELOP AND POPULATE FISH PASSAGE MODEL WITH AVAILABLE INFORMATION

The Consultant Team will evaluate potential fish passage facilities at the Project using the BPT that tracks survival at LPD and reservoir. BPT will be used to conduct a relative comparison of the biological performance of downstream fish passage facilities. An evaluation of the uncertainty and sensitivity of the assumptions used to develop the mathematical functions will provide an indication of the robustness of modeling results. Evaluation of critical parameters, and background information available to define them, will be evaluated to determine the influence of the values in evaluating the potential feasibility of fish passage facilities.

The following steps will be utilized in Task 2-3:

- Finalize BPT, which will be a spreadsheet-based passage evaluation model.
- Populate the model with data and perform sensitivity runs to assess the model's output prior to use on the fish passage concepts and alternatives.

  Deliverables: a compilation of background information related to the project biology; a draft of the spreadsheet based model and data set; and a sample of a model run with output and a preliminary sensitivity analysis

Task 3: Identify Fish Passage Concepts (Consultant, TRC)

This task is a crucial first step to enlist the TRC in agreement on the fish passage concepts to be evaluated and builds upon the knowledge gained from compiling existing baseline data and establishing the site-specific operational, physical, and biological basis of design completed in previous tasks. Our approach includes the development and early distribution of a functional fish passage technology assessment and determination of applicability to the TRC for review and consideration prior to the TRC Meeting No. 1. The functional assessment is performed by starting with the basic building blocks of fish passage (e.g., attract fish, guide fish, collect fish, convey fish, transport fish, hold fish, etc.). All known technologies that accommodate each function will be identified and cross-referenced with applicable NOAA and CDFW design criteria, site-specific physical conditions, and biological objectives. Technologies with higher levels of applicability will be identified and recommended for use in development of alternative concepts. Technologies with limited applicability will be flagged for consideration. Technologies appearing to have fatal flaws or only limited levels of applicability to site specific conditions will be recommended for removal from consideration. Technologies and their applicability will be based upon their use at other existing facilities, known successes or failures, and their range of documented performance at other locations. Experimental technologies will be accommodated in the process as available information allows. For example, technologies such as WHOOOSH and passive multi-level fixed collectors with a helical bypass (the Helix) will be discussed. Consultant team will formulate and list conceptual-level alternatives based upon the results of the functional assessment that will be introduced to the TRC for discussion purposes. The results of the functional assessment and compilation of conceptual alternatives will be distributed to the TRC for review and consideration three to six weeks prior to the meeting, in addition to the operational, physical, and biological baseline data already prepared as part of Tasks 1 and 2.

This brainstorming tactic is a normal and very necessary part of concept development and has been successfully used in our other projects such as the fish passage feasibility studies performed by HDR and AECOM on Alameda Creek and by HDR on the Chehalis Basin Strategy Project. On these occasions, the preliminary functional assessment was prepared and submitted to the corresponding technical committee for review, consideration, and to initiate discussion. The resulting document provides a cross-section of potential building blocks (fish passage technologies or components), an initial discussion on their applicability relative to specific project goals and site-specific conditions, a list of potential alternative concepts compiled from the most applicable fish passage technologies, and discussion relative to the inclusion or removal from further evaluation and alternative formulation. TRC participants will have time to consider the listed technologies and come to TRC Meeting No. 1 prepared with additional information and feedback.

TASK 3-1 TRC MEETING #1 – CONCEPT WORKSHOP

Under the coordination and guidance of the meeting facilitators provided by the HDR team, the TRC and HDR team will meet to discuss the results of the fish passage functional assessment and will consider the selection of fish passage concepts for further evaluation in light of dam operations, physical, and biological information collected as part of Tasks 1. The meeting will include a presentation summarizing the primary operational, physical, and biological parameters that inform the type, size, configuration and effectiveness of fish passage technologies or concepts. Additional review of proposed comparison and evaluation criteria will be conducted to make sure that all attendees are approaching discussions and consideration of options off of the same basis of comparison. Potential for fatally flawed options and technologies that don't appear to meet performance expectations or specific constraints identified by DSOD or others will be discussed. Ultimately, the TRC will collaborate closely with the HDR team to create a list of technically feasible concepts that meet the basic criteria for further consideration and to define what constitutes fatal flaws for feasibility. Concepts selected for further consideration will be assembled into like categories and considerations for upstream, downstream, and combined passage facilities will be addressed. Documentation for concepts not selected for further evaluation will be developed for the project record.

An initial alternative evaluation matrix will be formulated based upon any refinements made to the evaluation criteria that occur during the TRC Meeting No. 1. It is assumed that the matrix will be based upon a grid analysis technique (Pugh Matrix) with weighted evaluation criteria and scoring of how well each alternative meets the evaluation criteria definition. Decisions regarding the weighting of each evaluation criteria, as well as the ranking or scoring of alternatives will be made at this meeting. For example, incorporation of criteria weighting techniques, such as the unranked paired comparison technique, can be employed here to manage the subjectivity introduced into the process and to maintain the integrity of the grid analysis approach. The HDR team will facilitate the discussion by providing numerous previous examples, from other successful projects completed by the HDR team, their advantages and disadvantages, and discussion of tradeoffs as part of this meeting. A refined draft of the grid analysis technique will be defined and agreed upon prior to the end of the meeting.

Prior to adjourning, a summary of decisions recorded, next steps, milestone dates, and priority information needs will be discussed and included for the meeting documentation.

It is assumed that a facilitator and project manager from the HDR team will attend the meeting in person while the remaining participants from the HDR team will attend via conference call, webinar, and/or video conference to control meeting costs in a manner that maintains meeting effectiveness and efficiency. The HDR team will provide the means for conference calling, webinars, and or video conferencing as long as phone lines and high speed internet connections are available.

Deliverables: electronic copies of a technical memo describing design parameters, functional fish assessment of fish passage technologies, initial summary of concepts, evaluation criteria and definitions, and initial analysis; base drawings; and a workshop agenda

TASK 3-2 MEETING #1 SUMMARY

The Consultant Team will prepare a document summarizing the primary discussion topics and results of TRC Meeting No. 1. The document will clearly note meeting discussion topics, accomplishments, major decisions, next steps, milestone dates, and priority information needs. This summary document will be distributed within two weeks of the meeting date to the TRC and to the Advisory Group. As part of the summary, updates and refinements to work products prepared in previous tasks will be incorporated as a result of the feedback obtained during the TRC Meeting No. 1.

Deliverables: meeting summary, including updated criteria document and a draft evaluation spreadsheet; list of fish passage concepts identified in the session; list of additional information necessary to reduce uncertainty or risks associated with each concept; a discussion of the fatal flaw analysis and documentation of concepts eliminated from further consideration at this time; status update on the biological performance tool and any further development recommended by the Panel; and a short list of fish passage concepts for further development

Task 4: Alternative Development and Refinement (Consultant and TRC)

The intent of the Task 4 activities is to use the concepts selected for further evaluation in Task 3, formulate a series of fish passage alternatives, and develop initial narrative and illustrative products to depict the type, size, configuration, functionality, and operation of each alternative. Site-specific constraints, as well as risk and uncertainties for each alternative, will be defined as part of this task. The alternative development process includes the following steps: 1) development of alternatives; 2) scoring of initial alternatives using the grid matrix with input from the TRC; 3) refinement of alternatives based upon the results and feedback obtained in TRC Meeting No. 2; 4) submittion of refined alternatives and scoring matrix to TRC for independent review and feedback, and 5) facilitation of teleconference webinar to discuss comments and feedback prior to preparation of the Draft Fish Passage Feasibility Report. These activities associated with Task 4 are described further in the following sections.

TASK 4-1 DEVELOP INITIAL CONCEPTS INTO ALTERNATIVES (CONSULTANT)

The Consultant Team will use the concepts selected for further evaluation as part of Task 3 and begin the process of formulating comprehensive fish passage alternatives that address the objectives and constraints for this project. In general, each alternative will be developed to clearly define the type, size, and configuration of the primary alternative components and also to describe its theory of operation, anticipated functionality and performance with respect to site constraints, and anticipated environmental operating conditions. The physical illustration and description of components will be developed to a level of detail sufficient to inform Class V Opinion of Probable Construction Cost (OPCC) development.

As the alternatives are developed, the HDR team will identify any concepts or alternatives that appear to be fatally flawed or infeasible. Those alternatives will be modified if possible or a recommendation for removal from evaluation will be made to the TRC. The HDR team will retain at least one upstream volitional alternative for further evaluation during this alternative development process.

For each alternative, the HDR team will generate both narrative and illustrative information as follows:

- A clear narrative description summarizing the primary alternative components and theory of operation
- Hydraulic operational parameters and characteristics created as figures in the text or HGLs on the drawings
- Plan and sectional drawings to scale on 11x17 drawing sheets
- Benefits, risks, and a comparison of advantages and disadvantages comparable to other alternatives being formulated based upon the evaluation criteria developed in Task 3
- Results from application of the BPT
- Initial OPCC values and summary of relative anticipated operating costs (high, medium, or low)

As part of this task, the Consultant will compile the grid form evaluation matrix based upon the evaluation criteria established in Meeting #1 and the alternatives developed as part of this task. Scores for this matrix will be left blank and the matrix will be prepared for use in TRC Meeting No. 2 described below.

All OPCC and operational costs will be developed to a Class V level of detail based upon the information available at the time. As requested in the RFP, cost data will be developed for comparative purposes. The Consultant Team recognizes the risk and uncertainty in developing costs for complex facilities such as the type of projects implemented for the purposes of fish passage. An article titled "Planning Pacific Salmon and Steelhead Reintroductions: Aimed at Long-Term Viability and Recovery," in the North American Journal of Fisheries Management (Anderson, Joseph et. al., 2014) discusses the disparity between costs incurred and populations recovered. To proactively inform our ability to accurately address project costs and to reduce the disparity between planning level costs and actual costs that are realized by so many project owners throughout the Pacific States, the HDR Team has compiled lists feasibility level, design level, and construction level cost data for numerous similar facilities throughout the Pacific implemented in the past decade. These activities were performed as part of the feasibility evaluations recently performed for many of the projects presented in our team qualifications. Given the availability of this information, The HDR Team will employ the use of parametric cost estimates, scaled and calibrated to this site for the purposes of cost development.

Deliverables: compilation of narratives and illustrations of alternatives; a compiled evaluation matrix; and supporting documentation

TASK 4-2 MEETING #2 – REVIEW AND REFINE ALTERNATIVES (CONSULTANT, TRC)

The facilitation experts provided by the Consultant Team will coordinate and facilitate a second meeting with the TRC. The overall intent of the second meeting will be to discuss and refine passage alternatives while focusing on the initial completion of the evaluation matrix. In a collaborative forum, rates will be selected to represent how well an alternative achieves a given evaluation criteria based upon the system generated in Task 3 and results will be computed representing the overall score given to an alternative. Higher scores will represent alternatives that reflect a great level of compatibility with the selected evaluation criteria. The results of the grid analysis will be used as a decision tool to further refine facility components, identify data gaps, and assess the potential influence of sensitivity and uncertainties. A progress summary on the use of the BPT as well as identification of additional fatal flaws or modifications required for alternatives will be discussed.

HDR team will incorporate the results and feedback obtained during Meeting No. 2 to update descriptions and drawings for the fish passage alternatives to more effectively meet project objectives. The results will be presented to the TRC at the meeting, with the goals of receiving input and the TRC reaching consensus on a list of alternatives for final refinement in Task 5.

It is assumed that a facilitator and project manager from the Consultant Team will attend the meeting in person while the remaining participants from the Consultant Team will attend via conference call, webinar, and/or video conference to control meeting costs in a manner than maintains meeting effectiveness and efficiency. The Consultant Team will provide the means for conference calling, webinars, and or video conferencing as long as phone lines and high speed internet connections are available.

Deliverable: meeting coordination, workshop agenda, and attendance

TASK 4-3 MEETING #2 SUMMARY

The Consultant Team will prepare a document summarizing the primary discussion topics and results of TRC Meeting No. 2. The document will clearly note meeting discussion topics, accomplishments, major decisions, next steps, milestone dates, and priority information needs. As part of the summary, updates and refinements to work products prepared in previous tasks will be incorporated as a result of the feedback obtained during the TRC Meeting No. 2. The HDR team will incorporate updated narratives, illustrations, and supporting documentation of draft fish passage alternatives This summary document will be distributed

within three weeks of the meeting date to the TRC and to the Advisory Group.

Deliverables: status update on the biological performance tool and any further development recommended by the TRC and/or Group; final evaluation spreadsheet; list of fish passage alternatives identified in the session; list of additional information necessary to reduce uncertainty or risks associated with each alternative; discussion of the fatal flaw analysis and documentation of alternatives eliminated from further consideration at this time; and a recommendation of alternatives for further development.

TASK 4-4 TELECONFERENCE MEETING #3

The facilitation experts provided by the HDR team will coordinate and facilitate a third meeting with the TRC for the purposes of reviewing the most up-to-date alternative descriptions, performance data, and to review feedback on the revised work products distributed in Task 4-3. The agenda will also include a discussion topic focused on the elimination of any alternatives that appear to be less favorable from a performance or feasibility level. During the meeting, the TRC and the HDR team will work collaboratively to perform a final determination of volitional passage, adjust prioritized or ranked alternatives based upon their scoring and relative level of performance with respect to project evaluation criteria, and to agree on recommendations for the final documentation.

If, at the conclusion of this meeting, the consensus is that upstream volitional passage is not feasible, the reasoning and justification for this conclusion will be documented for the project record.

The Consultant Team will record results and feedback obtained during Meeting No. 3 and will incorporate updated narratives, illustration, and supporting documentation of the final fish passage alternatives into the Draft Fish Passage Feasibility Report prepared as part of Task 6.

It is assumed that attendance will be via conference call, webinar, and/or video conference to control meeting costs in a manner than maintains meeting effectiveness and efficiency. The Consultant Team will provide the means for conference calling, webinars, and or video conferencing for participants that have access to high speed internet.

Deliverables: meeting coordination, agenda, and attendance, documentation of the meeting and revisions to alternatives will be incorporated into the Draft Fish Passage Feasibility Report.

Task 5: Present Final Set of Passage Alternatives (Consultant, TRC with Advisory Group input)

The objective of Task 5 will be to communicate with the Advisory Group the results of Tasks 1 through 4 and obtain feedback from the community prior to finalizing the fish passage alternatives.

TASK 5-1 PRESENT FINAL SET OF PASSAGE ALTERNATIVES (CONSULTANT, TRC, ADVISORY GROUP)

The Consultant Team will coordinate and facilitate a meeting with the TRC and Advisory Group to discuss the refined set of passage alternatives developed and updated as part of Task 5 activities.

Deliverable: meeting summary that includes comments from the Advisory Group; a copy of any written materials submitted by the Advisory Group; and any follow-up response from the Consultant or TRC

Task 6: Reporting and Fish Passage Recommendations (Consultant and TRC)

Task 6 is structured to organize and report on the full development of the final fish passage alternatives. A draft and final feasibility report will be developed that will document the process followed, development of fish passage alternatives, evaluation criteria, summary of alternatives eliminated with justification for the eliminations, a final feasibility evaluation and the final recommended alternative(s). Each alternative selected will be described with text and conceptual level design drawings, an OPCC, estimate of operating and maintenance costs, an implementation schedule and description of construction issues, listing of pros and cons, and a summary and details of the final evaluation.

At least one volitional alternative for upstream passage will be described, regardless of its feasibility; however, if all volitional alternatives are determined to have one or more fatal flaws,

the additional work described in this task may not be carried out.

The final feasibility report will include the TRC recommendation regarding the technical and biological feasibility of providing volitional steelhead passage at LPD and other recommended alternatives. If a volitional passage facility cannot be recommended due to site constraints, uncertainties, or other factors the final report will document the rationale. Recommendations for next steps will be developed, which might include: fish passage alternatives to be pursued; further studies, if needed to address uncertainties or risk; or additional analysis to determine economic feasibility. The draft report will be presented to the TRC and Advisory Group for input.

Depending on the nature of comments, the draft report may be finalized or, if additional issues are raised, the report may be amended and recirculated for final review.

TASK 6-1 PREPARE DRAFT FISH PASSAGE FEASIBILITY REPORT (CONSULTANT, TRC)

The Consultant and TRC will review the final set of alternatives and recommendations made by the Advisory Group and the TRC will make a final recommendation. A Draft Fish Passage Feasibility Report will be developed in this task to document the scope of the study, background information used, design criteria, the process utilized to conduct the feasibility analyses, the results of the analyses and the TRC recommendation. It is anticipated that the report will include the following contents but that the final outline will be based upon comments received from the TRC and Advisory Group as part of Task 5:

- Introduction
  - Problem statement
  - Purpose, objective
  - Fish passage goal statement
  - Relevance to Steelhead Recovery Plan
  - Overview of the study process
  - Summary of meetings, coordination, and progress reports
- Overview of the BPT
  - Overview of the spreadsheet based fish passage model
- Descriptions of alternatives
  - Short descriptions of all initial brainstorm concepts (functional assessment of fish passage technologies)
  - Documentation of concepts that were dropped for fatal flaws or low ranking
  - Preferred concepts
  - Detailed physical, functional, and operational descriptions
  - Summary of disadvantages and advantages
  - Implementation challenges and uncertainties
  - Constructability considerations
  - Expected performance for upstream and downstream fish passage (based on the biological performance tool)
  - Opinions of probable construction and operating costs
  - Two to five scale drawings will be provided for each alternative, with applicable site overviews, site plans, sections, elevations, and hydraulic design parameters clearly defined.
- Evaluation of Alternatives
  - Description of evaluation process
  - Description of evaluation matrix and criteria
  - Weighting and scoring
  - Criteria that could lead to fatal flaws
  - Graphics and summaries of evaluation
  - Ranking of alternatives based on evaluation matrix
  - Ranking of alternatives based just on fish passage criteria
  - Relative fish passage ranking compared to cost and operations criteria
- Conclusions and Recommendations
- References cited

The Consultant will provide a draft report to the TRC for review. After a 30-calendar day review period, the Consultant will proceed to incorporate comments provided by the TRC to date and finalize the document. If no substantive issues are raised during the review, the Consultant will move on to production of the Final Report; however, if substantive issues are raised, the Consultant, Cal-Am, and the District may elect to work directly with the commenter(s) to address any issues, or hold a meeting to address issues.

Task 7 Project Management

The Project Manager for the Consultant team will implement effective project management procedures and communication with the District throughout the duration of the project. Activities anticipated for this task include the following:

- Management and oversight of all "consultant in-house" project personnel and sub consultants. This shall include monitoring budgets, schedule, financial reporting timelines, personnel assignments, and ensuring that work not expressly contained within the scope of work is not performed without prior written authorization from the District.
- Preparation and update of a project schedule: A project schedule shall be prepared and regularly updated to reflect work progress, spending progress, changes in scope, or other activities that may impact the project schedule and costs.
- Monthly project progress status and expenditure reports shall be prepared and delivered to the District's project manager. The expenditure report shall include a summary of expenditures for the preceding month, monthly and project lifecycle spending projection tracking, project-to-date for each task and the total project, along with estimates on percentage completion of the scope of services and earned value analysis.
- Project progress meetings will be held to update all members of the team on the status of the project, to identify uncertainties or impacts to schedule, and to discuss course corrections when necessary to keep the project moving forward.
- Coordination and facilitation of other project related meetings such as: 1) kick-off meeting with MPWMD and Cal-Am; 2) review of existing and proposed operations in the field w/MPWMD and Cal-Am; 3) meetings with regulatory agencies as required to determine constraints.

Deliverables: Invoices; progress reports; copies of communications among agencies and consultants (if appropriate); and meeting minutes

Optional Tasks

The following optional tasks are offered for the consideration of the District and TRC.

OPTIONAL TASK 1 OBTAIN MULTI-BEAM SONAR BATHYMETRIC AND TOPOGRAPHIC DATA FOR LOS PADRES RESERVOIR

As a replacement for proposed Task 1-2, the Consultant Team will collect a full-bottom coverage, multi-beam sonar bathymetric survey of the reservoir to yield high-resolution, high-accuracy elevations of the present reservoir bottom and side slope surfaces. A Teledyne Odom MB2 multi-beam echo-sounder is recommended for this project. The MB2 is developed for rapid mobilization and is optimized for deployment on smaller vessels. It features a selectable swath width of up to 140 degrees, acoustic beam widths of 1.8º, user-selectable frequency range of 200 to 460 kHz, and an integrated real-time sound velocity profiler (SVP) sensor. Its ultimate range resolution is 2 cm. The MB2 will be combined with a Coda Octopus F-180 GPS-aided inertial motion unit to accurately and rapidly determine the three-dimensional position and orientation of the sonar.

Position and heading of the vessel-mounted system will be determined through transmission of real-time kinematic (RTK) GPS receiving corrections from a base station located at the previously described land-side established control point. The complete sonar system will yield precise positioning and sounding measurements. Hydrographic survey data will be collected and processed using XLEM HYPACK HYSWEEP software. The processed data result in a dense and highly detailed point cloud representation of the reservoir area of bathymetric coverage.

The information collected will be synthesized into compiled GIS and AutoCAD compatible formats to develop representative 3D surface visualizations, create representative cross-sections, and to verify the reservoir inundation areas and hydraulic pathways suitable for fish passage at discrete intervals (5 feet or smaller) of elevation.

Deliverables: a report describing methods used; a digital elevation model of Los Padres Reservoir; reservoir cross-sections at 100-foot

intervals; and inspection reports including photos and descriptions of passage through reservoir sediments

OPTIONAL TASK 2 - PRESENT INITIAL SET OF PASSAGE ALTERNATIVES (CONSULTANT, TRC, ADVISORY GROUP)

The Consultant Team will coordinate and facilitate a meeting with the TRC and Advisory Group to discuss the initial set of passage alternatives developed as part of early Task 4 activities. This meeting would occur earlier in the development of alternatives in addition to Advisory Group meeting already proposed. The purpose of this meeting would be to reach out and collaborate more closely with the Advisory Group prior to completion of the final alternatives.

Deliverable: meeting summary that includes comments from the Advisory Group; a copy of any written materials submitted by the Advisory Group; and any follow-up response from the Consultant or TRC

OPTIONAL TASK 3 - TRC MEETING NO. 3 AND MEETING SUMMARY REPORT– DETERMINATION OF FEASIBILITY AND SELECTION OF ALTERNATIVE(S) (CONSULTANT AND TRC)

As a replacement of the teleconference activity presented in Task 4-4, an additional face-to-face workshop could be added for the purposes of Alternative Refinement. For this task, the facilitation experts provided by the Consultant Team will coordinate and facilitate a third face-to-face workshop with the TRC for the purposes of reviewing the most up-to-date alternative descriptions and performance data and to eliminate any alternatives that appear to be less favorable from a performance or feasibility level. During the meeting, the TRC and the Consultant Team will work collaboratively to perform a final determination of volitional passage, prioritize or rank alternatives based upon their scoring and relative level of performance with respect to project evaluation criteria, and make selections for alternatives to recommend for the final documentation. If, at the conclusion of this meeting, the consensus is that upstream volitional passage is not feasible, the reasoning and justification for this conclusion will be documented for the project record.

In addition to meeting coordination and attendance, the Consultant Team will prepare a document summarizing the primary discussion topics and results of TRC Meeting No. 3. The document will clearly note meeting discussion topics, accomplishments, major decisions, next steps, milestone dates, and priority information needs. This summary document will be distributed within two weeks of the meeting date to the TRC and to the Advisory Group. As part of the summary, updates and refinements to work products prepared in previous tasks will be incorporated as a result of the feedback obtained during the TRC Meeting No. 3. Recommendations discussed pertinent to the selection of alternatives and feasiblity of the selected alternatives for the final report will be documented as well as any alternatives selected to not be carried forward.

Deliverables: final status of the biological performance tool and any further development recommended by the TRC; final evaluation spreadsheet; list of fish passage alternatives evaluated at the session; list of additional information necessary to reduce uncertainty or risks associated with each alternative; discussion of the fatal flaw analysis and documentation of alternatives eliminated from further consideration at this time; and a recommendation of alternatives for further development

7

Pricing

07 Pricing

Our project costs are summarized by task with a not-to-exceed amount for the proposed total costs. Tasks are presented with an estimated approximate level of effort in hours and the equivalent costs for that estimated level of effort for each task. Hours are provided for the prime and subconsultants combined. It is anticipated that the project budget will be managed to the total costs and not to the individual tasks budgets to provide flexibility and adaptability for subtle changes to the estimated level of efforts as tasks are completed.

Costs for optional tasks are available upon request.

Schedule

We are confident we can complete the scope of work within the anticipated 18-month timeline of the study. Using the approach outlined above, and if agreed to at the time of contracting, we anticipate being able to complete the study within 15 months.

Cost and Schedule Control

For all projects, HDR uses a proven schedule and cost control tracking system that includes a production schedule vs. actual progress tracking component and an earned value component comparing budget versus actual costs. This tracking capability is contained within an intranet-based company wide system. Projects are broken down into clearly trackable tasks, subtasks/work units that reflect a detailed view of the total array of activities required to accomplish the work consistent with the project scope of work and requirements. The project manager and discipline task leaders receive weekly updates on schedule and cost performance. The system also tracks and reports all subcontractor information within the same period.

Task	Description	Hours	Cost
1	**Feasibility Study Preparation (Consultant)**		
1-1	Compile Background Information	60	$9,751
1-2	Obtain Bathymetric and Topographic Data for Los Padres Reservoir	160	$27,562
1-3	Prepare Evaluation Criteria	18	$3,431
1-4	Identify Critical Data Gaps	38	$7,423
2	**Prepare Biological Performance Tool (Consultant and TRC)**		
2-1	Compile Background Information on Migratory Pathways (Consultant)	24	$4,893
2-2	Review and Identify Critical Biological Data Gaps (Consultant and TRC)		
2-3	Develop and Populate Fish Passage Model with Available Information	132	$21,682
3	**Identify Fish Passage Concepts (Consultant, TRC)**		
3-1	TRC Meeting #1 – Concept Workshop	78	$15,359
3-2	Meeting #1 Summary	86	$18,967
4	**Alternative Development and Refinement (Consultant, TRC with Advisory Group input)**		
4-1	Develop Initial Concepts into Alternatives (Consultant)	394	$48,656
4-2	Meeting #2 – Review and Refine Alternatives (Consultant, TRC)	60	$12,368
4-3	Meeting #2 Summary	58	$11,651
4-4	Teleconference Meeting #3 - Determination of Feasibility and Selection of Alternative(s) (Consultant and TRC)	32	$6,265
5	**Present Final Set of Passage Alternatives (Consultant, TRC with Advisory Group input)**		
5-1	Present Final Set of Passage Alternatives (Consultant, TRC, Advisory Group)	24	$4,828
6	**Reporting and Fish Passage Recommendations (Consultant and TRC)**		
6-1	Prepare Draft Fish Passage Feasibility Report (Consultant, TRC)	254	$41,526

7	**Project Management**		
7-1	General Project Management, Team and Client Coordination, Scheduling and Reporting	160	$24,602
7-2	Kickoff Meeting with MPWMD and Cal-Am including Site Visits	48	$6,705
7-3	QA/QC including Independent Technical Reviews Senior Technical Advisors Oversight	92	$14,837
	Total	**1,718**	**$280,597**

EXHIBIT 2-B

SECTION 6 – TECHNICAL ASPECTS

In accordance with the RFP instruction, this section will present MWH's technical project approach to the work. We have broken this section into the following areas to define our approach to completing this contract:

- Project Understanding and Approach. This is a high level description of MWH's understanding and general approach to successfully completing this project.
- Scope of Work. This section presents the detailed scope of work to be provided.
- Optional Tasks. Additional services that might be conserved by MPMWD to be added to the project at a later time.
- Confirmation Statement.

MWH APPROACH TO DELIVER THIS PROJECT

One of the reasons that we feel that our previous passage projects (and really all MWH projects) have been successful is that we maintain the focus of our team on the primary objective of the project. For this study, that will be to find if there exists a feasible method to provide 'unimpeded, safe and effective," upstream fish passage over Los Padres Dam for S-CCC steelhead, or not. We understand that MPWMD and Cal-Am have several choices to make regarding the future of LPD and the investments associated with continued ownership and operation of the dam. It will be our job to work with MPWMD, Cal-Am, the TRC and other stakeholders to provide a realistic assessment of passage over Los Padres dam.

MWH has assembled an outstanding team of experts with the specific skills and expertise required to work directly with MPWMD on this Study. The key professionals have extensive experience in all aspects of intake structure planning, design, and construction, and have worked together on other similar projects. Over the past 25 years, the MWH project team members alone have studied, designed, and constructed more than 50 fish passage projects. Including our partners Tetra Tech, Cramer Fish Sciences and BioAnalysts this number could easily be doubled. Adding fish passage to Los Padres is complicated. However, the number of viable concepts available is discrete and familiar to our team. We have reviewed these at many other similar sites. Our approach to MPWMD's project has been used many times and can be summarized as follow:

- Use industry experts to build and evaluating fish passage concepts.
- Establish clear and reasonable criteria with all parties at the onset of the project
- Quickly process and document the full list of possible passage concepts. Then, as quickly, utilize the collective expertise to eliminate the wild and unrealistic concepts and focus on real options.
- Look hard at the shortlist options and understand the real cost and benefits are for each concept
- Make a clear and concise conclusion that will stand up over time.

In the sections below we provide a narrative approach and thoughts behind how we will execute each of the six technical tasks.

TASK 1: FEASIBILITY STUDY PREPARATION

Detailed and accurate information is the cornerstone of the subsequent tasks. MWH, Cramer Fish Sciences, Tetra Tech and Whitson Engineering have all worked on the Carmel River or at Los Padres dam.

This knowledge gives us an advantage in understanding this history and knowing what information is available and relevant.

Hydrologic Evaluation

As part of this task, a review of the available hydrology and reservoir operations data will be carried out. This work will generally consist of a review and update, using more recent data, of the information contained in the 2009 Administrative Draft Los Padres Dam Fish Passage study. Data from the below Los Padres Reservoir gage provides the best data set to assess seasonal variability in outlet flows under existing (with-dam) conditions. Online mean-daily flow data are available for this gage from the MPWMD website from Water Year 2005 (WY2005) to the present, but records appear to be available back to WY2000. Although probably not necessary for this level of analysis, we assume the detailed 15-minute data from the stage recorder could be obtained from MPWMD if issues associated with intra-daily variability arise. Output from the Carmel Valley Simulation Model (CVSIM), which is used by MPWMD as a management tool to evaluate various water-supply alternatives for the Monterey Peninsula Water Supply Project EIR/EIS (MPWMD, 1994), will also be considered in the hydrologic assessment, as appropriate, particularly for evaluating any alternatives that involve operational changes.

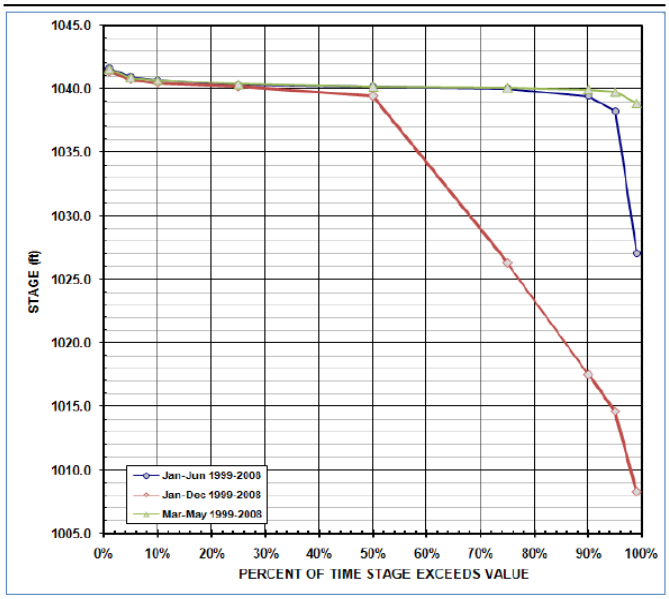

Figure 6-1. Los Padres Dam Stage Duration Curves for mean daily forebay elevations calculated over three specific time intervals for the period of record 1999 to 2008 (Figure 3 from 2009 Fish Passage Study)

We assume reservoir stage records are available from MPWMD for use in this assessment. Under current conditions, the reservoir normally fills in fall and winter, and releases from storage are made once the level drops below the spillway as outlined under a water budget process defined by a Memorandum of Agreement between CDFG, Cal-Am and MPWMD (CRAC, 2012). Using data from 1999 through 2008, the 2009 Fish Passage study concluded that the reservoir is essentially full (water-level about Elevation 1039 feet) more than half the year, but is above that level more than 90% of the time during the downstream fish passage period that extends from March through May (Figure 6-1). Results from the hydrologic and reservoir operations assessments will be used to quantify reservoir water levels and downstream flow rates over a range of water year scenarios, including an average water year, a wet water year, a single dry water year, and a multiple dry water year scenario.

Multibeam Bathymetry and Vessel-Mounted LiDAR Topography Surve

We propose to conduct a multibeam echosounder survey (MBES) of the Los Padres reservoir in support of the Los Padres Dam Fish Passage Feasibility Study. The survey will provide full (90+%) coverage surface data for use in characterizing the reservoir bottom and sides from full depth up to approximately elevation 1050-1060 feet (NGVD 1929)The survey will encompass the full storage capacity of the reservoir utilizing a combination of MBES and Vessel-Mounted LiDAR (VML) collected from our shallow draft hydrographic survey vessel. A California-based multibeam survey vessel (See Appendix) will be mobilized to the

reservoir and will outfit/calibrate the MBES/VML systems onsite. With suitable boat launch, high water levels, and absence of shallow water obstructions, the on-water portion of multibeam survey effort in the reservoir is expected to take one survey day.

Tetra Tech will utilize a single-head multibeam sonar, R2Sonic 2020 or Reson 7125 or equivalent, integrated with a high-accuracy POS MV/320 GNSS inertial navigation system (INS). An on-site Real-time kinematic GPS base station will be set up on survey control monuments provided by the local Whitson Engineering survey team. Daily quality control checks of the RTK system accuracies will be performed in accordance with Tetra Tech quality control procedures. The RTK GPS corrections, combined with the INS provide bathymetric survey sounding accuracies which meet or exceed Army Corps of Engineers and IHO Special Order survey requirements.

MBE Bathymetric and VML Topographic data will be processed using CARIS HIPS/SIPS 9.1 software. Data will be imported to Fledermaus and ESRI ArcGIS, bathymetric surfaces, contours and chart layouts will be created and electronic products delivered in PDF, SHP, and ASCII XYZ format files as required.

Reservoir Sedimentation Evaluation

Sedimentation has significantly affected reservoir storage capacity since construction of the dam in 1949. The initial storage capacity at the time of construction was about 3,130 ac-ft. Between that time and 1980, over 1,130 ac-ft of sediment had deposited in the reservoir, a significant portion of which occurred following the 1977 Marble-Cone fire that burned nearly all of the upstream watershed (Hecht, 1981). Sediment dredging in 1984 removed more than 180 ac-ft of material, increasing the reservoir capacity to about 2,179 ac-ft (Smith et al, 2009). Bathymetric data collected in 2008 indicates that sedimentation had resulted in nearly a 50 percent reduction in storage capacity, with about 1,350 ac-ft of sediment accumulation at that time (Smith et al, 2009). These data suggest an average annual sediment inflow of about 20 ac-ft/year. Sediment management is a primary concern for MPWMD, both in terms of reservoir storage capacity and the effects of sedimentation on the downstream river (MPWMD, 2014). Sedimentation at the head of the reservoir may also create fish passage issues during portions of the fish passage period when the reservoir is not full and the delta at the head of the reservoir is exposed (Figure 6-2). At the time of the 2008 bathymetry, the topset elevation of the main part of the sediment delta is at about between 1039 feet and 1040 feet (Figure 6-3). The extent to which this elevation has changed since 2008 is not known, but considering the typical full-pool elevation of 1,040 feet, it is probably very similar, although the distal end may have moved downstream farther into the reservoir. As a result, we tentatively assume that fish passage issues would begin to occur when the reservoir level drops below about 1,040 feet.

Figure 6-2. Headcutting into the silt and organic deposits in the delta at the head of Los Padres Reservoir.

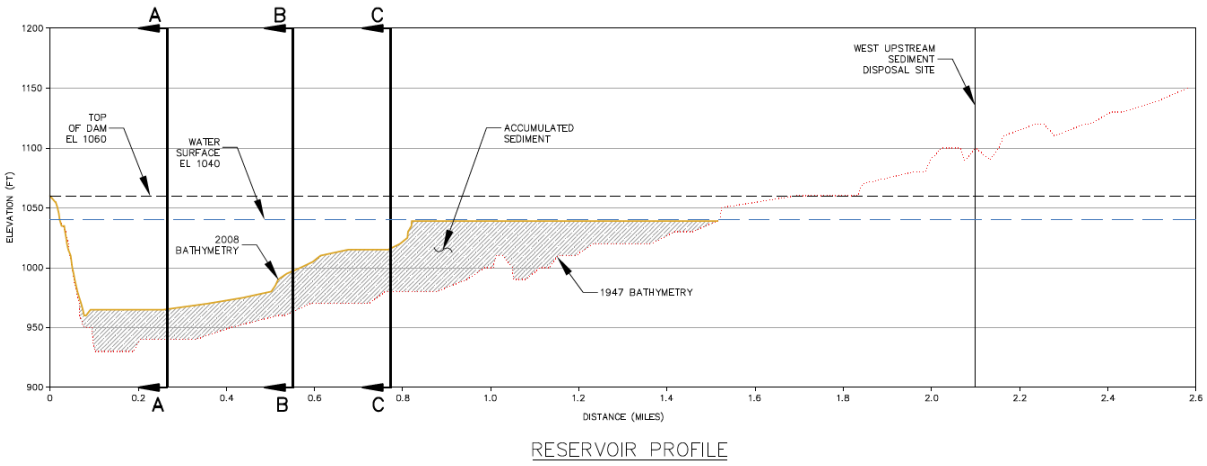

Figure 6-3. Reservoir profile based on 2008 survey.

The survey data collected for this study will be used to characterize the existing configuration of the reservoir sediment deposits, assess issues related to fish passage, and refine and update estimates of reservoir sedimentation volumes, based on a comparison with the pre-dam and 2008 bathymetry with the new bathymetry to be collected as part of this study. Photographic documentation and characterizations by field personnel will be used to qualitatively define the size range of surface materials in the reservoir deposits. All of this information will be used along with the results from the reservoir level assessment to identify periods when reservoir sedimentation becomes a barrier to fish passage, and to determine which locations are the most significant barriers, and to provide a framework for planning purposes. This information will allow an assessment of the potential impact the upper reservoir deposits may have on the success of fish passage, and, if there is any differentiation between alternatives.

This task also includes the initial development of the criteria to be used for the development and evaluation of fish passage. As mentioned earlier, we have found this to be a critical tool toward managing the subsequent stakeholder meetings with TRC and Advisory groups and keeping the project on track to a conclusion. It is important to be inclusive of stakeholders and experts but gaining agreement on basic criteria and constraints is crucial to keeping the process moving forward.

TASK 2: PREPARE BIOLOGICAL PERFORMANCE TOOL (CONSULTANT)

We have approached the selection and development of the biological model by teaming up with Cramer Fish Scientists and supporting them with Stephanie Theis a MWH fish biologist with Dr. Al Giorgi. Cramer Fish Scientists have applied similar tools on several projects and will be the lead to manage and demonstrate the model for Los Padres. Dr. Giorgi has been working in fish passage for many years and has a wealth of knowledge about past studies and data available for use in these models. More specifically he will help to ensure available data is applied to the model correctly. He recently was requested to provide input variable and resolve data conflicts in a biological passage model for the Susitna-Watana project.

Our approach to development of the Biological Performance Tool (BPT) will begin with review of comparable tools developed in other systems, review of Carmel River steelhead migration data, review of steelhead migration data from other comparable coastal California rivers, and consultation with the TRC. These activities will be completed as part of Task 2-1 and will provide the foundation and data inputs for

development of the BPT in Task 2-3.

Task 2-2 calls for review of information developed in Task 2-1 in order to make improvements and to identify "gaps" where further study will be required. We will facilitate this discussion with TRC and make appropriate revisions based upon comments received. We anticipate development of the BPT will lead to a better understanding of which factors contribute most to uncertainty in passage evaluation. As such, we would recommend that the final deliverable for Task 2-2, and recommendations for additional studies (if necessary) be finalized only after BPT sensitivity analysis is complete.

The primary activity of Task 2 will be the review and development of a Biological Performance Tool (BPT). We will begin the process by reviewing tools developed previously that could be modified or built-upon for application to the Project. In order to contribute to the objectives of the Los Padres Dam Fish Passage Feasibility Study, we anticipate the BPT will need to account for and integrate a variety of physical and biological factors which influence two interrelated processes. First, is the relative probability that migrating steelhead will arrive needing passage at Los Padres Dam. Second, is the conditional probability that migrating steelhead arriving at Los Padres Dam will successfully pass upstream or downstream. The following is a partial list of factors which will influence one or both of these processes and which may need to be incorporated in the BPT in order to a properly evaluate passage alternatives at Los Padres Dam.

1. Viable steelhead populations are characterized by a variety of life history types and migration strategies. As such, it will be critical for the BPT to represent key life-stages and migratory behaviors which may cause fish to encounter Los Padres Dam passage facilities.
2. The probability of steelhead (of each life-stage) encountering Los Padres Dam will vary by month, river flow and water year type. In some months and water year types, adult steelhead will not be entering the Carmel River or migrating to Los Padres Dam. In other months, and at certain flow conditions, the probability of steelhead reaching Los Padres Dam could be relatively high.
3. The probability of migrating steelhead (of each life-stage) arriving at and successfully passing Los Padres Dam will depend on:
    a. passage facility type and expected attraction effectiveness;
    b. whether the fish is moving upstream or downstream;
    c. flows upstream and downstream of Los Padres Dam;
    d. water temperatures upstream and downstream of Los Padres Dam;
    e. Los Padres Reservoir surface water elevation;
    f. Los Padres Reservoir water temperature profile, and;
    g. sediment deposits at head of Los Padres Reservoir.

We will utilize the information collected in Task 2-1 (and consultation with the TRC) to develop simple mathematical functions to describe how key factors will influence the probability of migrating steelhead reaching Los Padres dam and the probability of those fish successfully passing given alternative passage facilities. Figure 1 depicts a hypothetical example of adult steelhead migration probability (as a function of water year type), and adult passage probability for three passage alternatives.

EXHIBIT 2-B

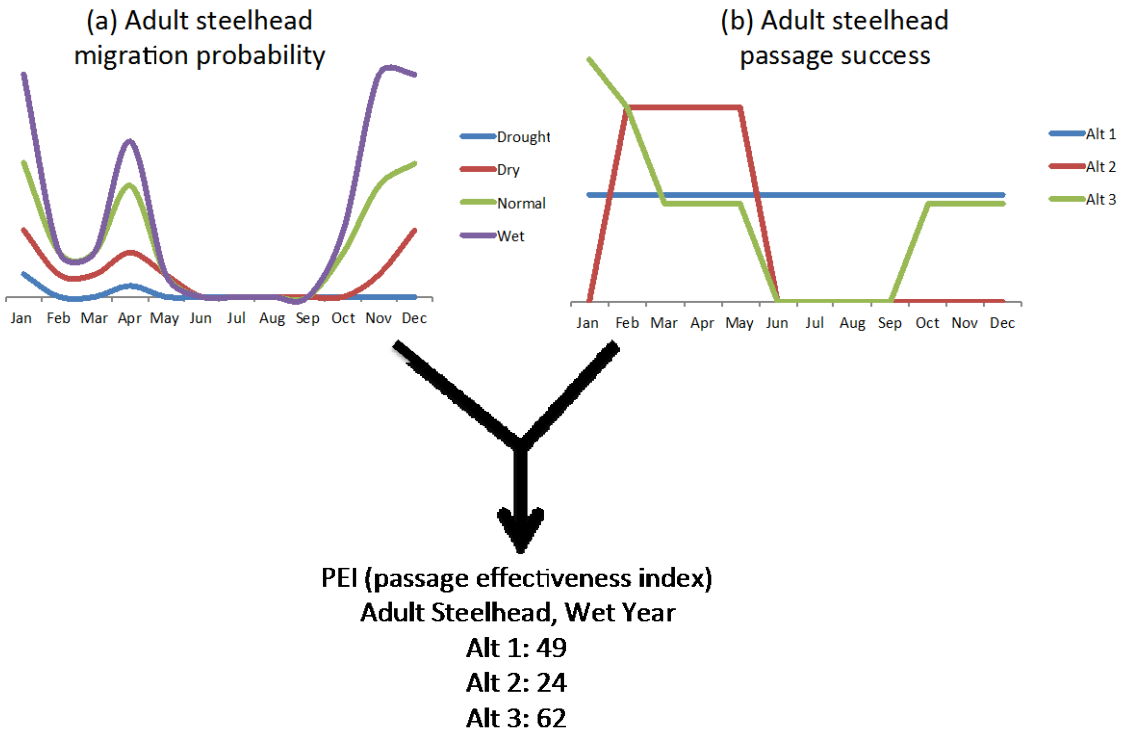

Figure 1. Example illustrating how hypothetical migration probability and passage success functions can be integrated into an index of passage effectiveness. Indices could be further integrated across water year types or steelhead life stages; potentially including weighting factors for water year types or life stages of particular importance

We will develop a model utilizing the information and functional relationships identified in Task 2-1 and 2-2. The model will be spreadsheet-based unless a similarly transparent but better performing alternative is available and approved by the client. We will fully document the model, describing and justifying all required assumptions. Where appropriate, model parameters and functions will include uncertainty and incorporate effects of uncertainty into estimates of overall passage effectiveness. We will run the model to evaluate three passage alternatives and also to assess the sensitivity of model outcomes to parameter uncertainty. Lastly, we will prepare a Technical Memorandum providing model documentation, describing data inputs, assumptions, results from sensitivity analysis, and results from evaluation of passage alternatives. The Technical Memorandum will include as appendices final deliverables from Task 2-1 and 2-2.

Assumptions:

- As stated in the RFP, the focus of this Project is not whether passage facilities would result in an increase in anadromous steelhead in the upper watershed. The model will be used to provide a relative comparison of likely steelhead passage effectiveness for the developed alternatives. The number of steelhead produced, captured or passed will not be estimated by the BPT. Such a model could be developed, but would require a separate scope of work.
- Downstream passage programs are already underway at LPD. Downstream passage alternatives are not being developed or analyzed under this Study. The potential effect of the upstream

passage alternatives on existing downstream passage routes (BGS, outlet, Spillway) will be evaluated and represented in the model where appropriate.

- The primary input of the TRC into the model will be during Task 2-1 and Task 2-2. Allowing for the TRC to review and request revisions to the BPT based on deliverables provided in Task 2-3, or any of the subsequent tasks is beyond the scope of work. We will provide updates on the BPT at all meetings as described in the scope of work and report BPT results as required for Tasks 3, 4, 5, and 6, but this work does not include revisions to the BPT itself.

TASK 3: IDENTIFY FISH PASSAGE CONCEPTS (CONSULTANT, TRC)

In Task 3 the concepts are fish developed. Our scope includes a significant amount of preparation for TRC Meeting #3. We will develop a preliminary list of concepts that will be presented along with the other brainstorming concepts. What this preparation does is it ensures a comprehensive list of concepts is considered by the group. It also allows the team to prepare for the initial screening of the concepts at the conclusion of the brainstorming and will expedite the 'fatal flaw' discussions with the group.

In our proposal we have included our fish passage engineers, biologists, and Dennis Dorratcague and Tom Bumstead. Dennis and Tom have worked with many of the expected TRC members on other steelhead projects and their presence allows the TRC, MPWMD and Cal-Am access to all of the experts to ask questions or otherwise gain the benefit of their experiences. Conversely it helps the team manage any technical discord that may arise in the meeting and reduce the chances of the meeting getting derailed.

At the conclusion of the meeting, the goal will be to have passage components assimilated into alternatives and the shortlist of alternatives narrowed down to no more than the 3 or 4 most likely projects. In a room full of engineers and scientists it is often difficult to keep the group from getting into the fine details. An important message that we will repeat is that for a feasibility assessment we need to focus on general design aspects and how they can be implemented (cost/risk) and how they can be compared (biological effectiveness). We found this was necessary in our work on the Yuba Salmon Forum considering passage and restoration on the Yuba River. In that project it was necessary to develop and screen seven different programs each with different combination of upstream and downstream passage at 5 – 10 dams or other channel features. This message was a standing reminder stated in each workshop so that the group could get through the information without taking offense if details were deferred and documented.

Information will be recorded during the meeting and summarized for the group. These notes will be circulated and tracked for documentation of both the process and decisions.

TASK 4: ALTERNATIVE DEVELOPMENT (CONSULTANT, TRC WITH ADVISORY GROUP INPUT)

The shortlist of alternatives will be developed further with the physical and hydraulic designs developed to understand the performance and limitations. Concept drawings will be developed and relative costing assessments completed. Updated information will be distributed with sufficient time to allow meeting attendees to review.

The evaluation matrix will be developed and presented at the Meeting #2 with preloaded criteria and information. This will be an introduction to the final selection process and the group will actively participate in updating the information and defining any sensitivity analyses that would be helpful at the following meeting with the final alternatives.

Summary notes will be reviewed with MPWMD and presentation materials will be prepared for the Advisory Group presentation. We would expect to provide a high level summary of the status of the work, tools that are being employed and interim results.

TASK 5: FISH PASSAGE ALTERNATIVES REFINEMENT (CONSULTANT, TRC WITH ADVISORY GROUP INPUT)

The final alternatives will be developed and concept cost estimates prepared. We have assumed based on our experience with these processes that we will carry two alternatives to this final assessment and presentation. One will be a volitional concept that meets an agreed upon definition of volitional and the other will be a hybrid. The process of developing cost estimates normally provides additional input to the project descriptions and pros and cons for the alternatives. This input will be documented as the drawings and meeting information are prepared and evaluation matrix updated. The final biological model results will be tabulated and presented.

Meeting #3 will be conducted similar to the previous two but the focus will be more on the comparison and perceived confidence of the biological effectiveness. The team and MPWMD will have reviewed the information prior to the meeting and will come prepared to present the teams conclusions as to feasibility. The input from the TRC will be and the conclusion either accepted or modified. Prior to dispersal of the TRC group we like to poll each member to offer a final opportunity to comment. We have found this effective in reducing the magnitude of major comments that must be resolved prior to the Advisory Group presentation.

TASK 6: REPORTING AND FISH PASSAGE RECOMMENDATIONS (CONSULTANT AND TRC)

The Feasibility Report will be prepared based on the information already developed and presented. The report will be organized as noted in the RFP unless otherwise changed in the TRC meetings. Although most of the information in the Draft report will have already been seen and discussed in the TRC meetings, questions or input is expected and we will maintain open communications with MPWMD and all the stakeholders. Once comments have been received and addressed the final documents will be submitted to MPWMD.

SCOPE OF WORK

MPWMD has developed a detailed scope of work for this project. MWH and our team have executed similar scopes of work at other locations many times. As requested the full detailed scope of work suitable for inclusion into the MPWMD Agreement is presented herein. As requested in the RFP we have included all of the RFP Scope. We have followed the task sequence and headings that were presented in the RFP except that we have subdivided Task 3 to better fit and define the work.

TASK 1 – Feasibility Study Preparation

The Consultant will compile and review relevant background information needed to prepare for a concept development of passage concepts, evaluation criteria and an evaluation process. The information will allow TRC members to become familiar with the operational, physical, hydrologic, and biological setting of the LPD, the range of alternatives that could be considered, and draft criteria to evaluate concepts. This information will be important for identifying concepts and alternatives that can reasonably and realistically fit within the construct of existing operations (including downstream passage), and that meet the stated objective of improving upstream passage for Carmel River steelhead. This background information will be utilized and updated throughout the Study, and will be documented in the Final Report.

Task 1.1 Compile Background Information

The Consultant will compile available information relevant to fish passage from MPWMD, Cal-Am and resource agencies. Data requests and interviews will be conducted to collect available information that will include:

- Project and related operations summary, including operation of existing trap and truck and downstream fish passage facilities, with a brief narrative on operations under different climatic conditions. These would include average water years, wet water years, a single-dry water year, and multiple or extended-dry water year scenarios.
- Biological design criteria and data summary that includes migration timing and appropriate calendar margins for exception years and antecedent conditions that may be documented in the literature.
- Key fish passage design flows
- Reservoir elevations during migration seasons
- Stage-discharge curves at existing entrance to ladder for trap and haul operation
- Project working drawings of the dam, reservoir and related properties suitable for initial analysis including:
    - a site plan with topography/channel bathymetry, and features in the vicinity of the ladder, plunge pool, dam, and spillway
    - sections through the dam at the west end of the dam, middle of the dam, spillway, and east of the spillway, with design water surface elevations
    - section of western slope immediately downstream of the dam from elevation 1060 to the plunge pool
    - enlarged plan at the plunge pool and existing ladder
    - Cal-Am to define protocol for sensitive information

Deliverables:

- TM 1.1 - Background Information

Task 1.2 Obtain Bathymetric and Topographic Data for Los Padres Reservoir

Using a combination of multi-bean sonar soundings, laser scanning or similar devices, the Consultant will obtain data to characterize the reservoir bottom and sides from the lowest reservoir elevation (the bottom) to approximately elevation 1050 (NGVD 1929) or 1053 (NAVD 1988).

- Obtain topographic/bathymetric data and provide cross-sections at 100-foot intervals from the dam spillway to the extent of backwater at the highest elevation (top of dam).
- Field verify reservoir inundation area for passage constraints at varying levels of the reservoir stage (minimum 5-foot stage intervals) from spillway elevation to elevation 1000 (NGVD 1929)
- Prepare a base map of the project area survey report
- Conduct an assessment of passage conditions through the reservoir based on current conditions.
- Prepare a technical memorandum summarizing existing conditions, survey, inspection reports including photos of reservoir conditions.

Deliverables:

- TM 1.2 – Existing Conditions

1.3 Prepare Evaluation Criteria

Following the compilation, preparation, and review of background information, the Consultant will prepare the draft evaluation criteria using technical, biological and economic feasibility criteria.

The deliverables for this task include:

- TM 1.3 - Draft Feasibility Criteria

Task 1-4 Identify Critical Data Gaps

The Consultant will identify missing or additional desired information and appropriate steps to acquire the necessary material. This process to address any information gaps will be identified based on the specifics of the necessary information, and a plan to address this information need will be formulated for TRC and Advisory Group review. Prepare a Technical Memorandum that outlines the data needed and its value to the Feasibility Study. The TM will also include estimates of cost and schedule to obtain and incorporate the data into the project schedule and potential ramifications to the Study conclusions, if any, if the data are not collected.

Deliverables:

- TM 1.4 – Data Gap Assessment

Task 1 Assumptions:

- MPMWD will provide all available as-built or construction records of the facility including drawings, surveys, construction photos, etc., 2 weeks prior to the field survey.
- Available cad files or pdf files of existing facilities will be made available prior to initiating field work.
- Survey
    - No new contour survey will be surveyed or mapped only validation as-built survey of critical facilities. Limited topographic mapping along the proposed fish structure alignment, topography will be obtained at the dam and abutments from the extents of the bathymetric mapping to the high water level. Whitson Engineers will provide limited mapping of the

dam including location of structures, abutments the spillway, existing fish trap and critical elevations of structures identified before the survey.

- Provide control in state plane, NAD83, and NGVD 1929

- Bathymetry and Shoreline Topography
  - No severe weather (e.g. electrical storms, high winds, rain) which could compromise equipment and personnel safety will occur during the survey period or vessel launch and retrieval.
  - The onsite boat launch is maintained, available and suitable for unaided trailer launch and recovery of a 24-foot shallow draft jet boat at the pool level on the planned survey day.
  - Cal-Am/MPWMD will provide an on-site representative with authority to make decisions at the work site and communicate with dam operations regarding access and any related operational issues. The representative will be available to communicate with TT personnel and work up to 12 hours on the day of the survey.
  - It is assumed that GPS coverage augmented with inertial data will be sufficient for continuous data collection. It is possible data gaps will exist where GPS technology is incapable of positioning the vessel leading to gaps in the data coverage.
  - Sufficient water depth (>5 feet) will exist in all survey areas for collection of bathymetric data and for safe operation of the Tetra Tech survey vessel. In areas of extreme shallow-water tree debris/ deadheads on shore, 100% bathymetric coverage may not be possible.
  - MBE and Vessel mounted LiDAR are "line-of-sound" technology, as such physical obstructions such as vegetation, debris, structures, water turbulence, rain, and range can obscure the desired target. Efforts will be made to maximize coverage for the desired survey areas but no guarantee can be given for complete coverage.
  - Vessel mounted LiDAR data delivery does not include removal of all vegetation to create a "bare earth" surface. VLM data will be clipped at the top of shoreline slope, bulkhead and/or top of pier.
  - MBE data can generally be collected to approximately 1' below the waterline. VML data can be generally collected down to the waterline. If reservoir elevations can be adjusted, collection will be timed to make use of higher and lower water levels to maximize overlap, but full coverage cannot be guaranteed due to geometry constraints induced by access restrictions, structures and other possible factors in the survey area.
- Data or information collected after submittal of the TM's in this Task will be incorporated during the preparation of the Final Report (Task 6)

Task 2 Prepare Biological Performance Tool (Consultant and TRC)

This task involves the selection and development of a biological performance tool that will be used to estimate and compare potential steelhead passage survival using fish passage concepts to be identified and refined in the feasibility study. In addition, compiling information on upstream steelhead migratory behavior based on LPD counts, San Clemente Dam counts (through 2015), and DIDSON data near the mouth of the river, will help identify the type, location, size, and timing of potential upstream fish passage facility components and the necessary coordination with existing downstream passage facilities. Additional information needs may be defined during the compilation and studies could be designed and implemented

to provide such information. The proportion of the migrant population using each alternative and the estimated survival associated with new upstream pathways will determine the biological performance and contribute to the feasibility evaluation of fish passage concepts identified and developed in the study.

Successful steelhead passage at the Project must consider both upstream and downstream migratory pathways and the potential for both upstream and downstream movement to occur at the same time. Upstream fish passage systems are typically designed around considerations of upstream collection and upstream passage. Upstream collection defines the ability to attract and collect fish from downstream of a barrier. This characteristic includes the ability to behaviorally or hydraulically attract or guide the fish from the river into a fish collection chamber. Typical features of an upstream collection feature include a collection facility entrance (weir, orifice, slot, etc.), attraction flow to draw fish into the entrance, and a collection pool that encourages fish to stay, or traps fish in the facility to prepare for transport past the dam. The existing ladder and trap may be sufficient to meet these requirements for adults, but do not meet these requirements for juveniles.

Upstream passage defines the means to move fish from the collection pool to a release site upstream of the dam. Typical features of an upstream passage component include various styles of fish ladders, fish lifts, and fish locks. The existing ladder, trap and transport program is to be evaluated for improvements separately from this study. Its relation to this study may be as an alternative to be considered as an Optional Task if volitional passage cannot be achieved. The study will consider volitional passage both in the ideal application where fish can enter and transit without outside assistance and in the managed form where fish that enter the ladder are transported to the reservoir with automated systems.

Upstream Collection and Passage –This component must accommodate the behavior of the target life stages and consider flow control operations, river hydrology, site hydraulics, and water quality. Attraction to the ladder requires sufficient flows to attract upstream migrants away from other competing flows from spill or other releases. Upstream passage must effectively collected in such a way that minimizes migratory delay and injury. Water temperatures may affect attraction, oxygen saturation in the ladder and exit conditions and should also be evaluated for upstream passage facility alternatives.

Downstream Passage – The existing downstream passage facility was intended to serve as an interim measure to improve passage until a permanent facility could be built. This may compete with the upstream passage facility for flow releases from the reservoir and there is a potential for exit flow from the upstream passage facility to attract downstream migrants. Depending on size of migrant, time of year, flow condition, and steelhead behavior, the proportion of the out-migrant population using the downstream passage facilities may change in response to project operations, flow conditions and seasonal timing. Once outmigrants successfully approach the dam spillway, they must successfully find and enter the floating collector Behavioral Guidance System installed to pass the dam. Fish that do not pass downstream through fish passage facilities may seek other pathways, including being attracted to the upstream passage facilities. Consideration should be given to the potential for downstream migrants to attempt to enter the upstream facilities at the point of exit to the reservoir. Understanding the migratory patterns of each life stage will be key to determining the operational protocols for both upstream and downstream migration facilities.

Biological Performance Tool – A biological performance tool will consist of a spreadsheet based fish passage model that tracks steelhead survival, or passage efficiency, through the various alternatives available. The values developed from the fish passage model will be used to compare and evaluate and

compare potential fish passage concepts. The model will not be used to represent estimates of the size of the steelhead population or impacts on steelhead populations within the watershed. Estimates of the proportion of the potential migrant population using each alternative will be integrated with estimates of survival associated with each alternative under representative average, wet and dry hydrologic conditions. An evaluation of the uncertainty associated with each assumption will provide an indication of the robustness of modeling results and the potential influence on recommendations of fish passage feasibility.

Task 2-1 Compile Background Information on Migratory Pathways (Consultant)

The Consultant will collect information needed to develop and populate the fish passage model including the existing system information collected in Task 1.1.

A literature review will be conducted to consider relevant studies conducted at other water control projects with the results and conceptual-level drawings of similar fish passage facilities documented for use. Where appropriate the professional opinions of the TRC may also be solicited and compiled.

Recent data on releases from storage and reservoir pool levels will be reviewed. This is presumed to be representative of current and proposed future conditions for this Study. Representative years will be selected in coordination with members of the TRC to evaluate fish passage facilities.

Information compiled as part of Task 2-1 will be used to populate the fish passage model and will be presented with a progress report at the end of this task.

Information collected in Task 1.1 relative to passage considerations within Los Padres Reservoir will be reviewed specially for applicability to the biological model. This will include water flows, migration timing, temperatures and predation data.

Biological data and information will be collected from the operations of the existing adult trap and newly construction downstream passage facility as they are available. This will be summarized for application to the new biological model.

The Consultant will prepare a technical memo characterizing available Los Padres Reservoir biological data and provide a summary of available input biological data that can be applied to the model. The TM will be submitted for review and comment to the TRC.

Deliverables:

- TM 2.1 - Biological Data Summary

Task 2-2 Review and Identify Critical Biological Data Gaps (Consultant and TRC)

The TRC will review and discuss the information developed in Task 2.1. The Consultant will facilitate a planned web call to review and discuss TRC comments on the biological data and completeness for the fish passage biological evaluation needs. The results of this conference will be summarized in a Technical Memorandum with a draft returned to the TRC for review and acceptance. Upon receipt of comments the Memorandum will be finalized and included in the Feasibility report under Task 6.

If additional information is needed, the TRC will work with Consultant to identify appropriate steps to acquire the necessary material or develop reasonable assumptions. The process to address information

gaps will be identified based on the specifics of the information. If data gaps are identified that prove critical to the feasibility evaluations and TRC recommendations, the TRC will identify the most appropriate means to fill those gaps, including influence on ability to complete an meaningful analysis, timing to acquire and evaluate the information and potential outcomes as they could affect the recommendations by the TRC.

Deliverables:

- TM 2.2 – Biological Data Gap Assessment

Task 2-3 Develop and Populate Fish Passage Model with Available Information

The Consultant will evaluate potential fish passage facilities at the Project using a biological performance tool that estimates passage efficiency and survival at LPD and reservoir. The biological performance tool will be used to conduct a relative comparison of the biological performance of fish passage alternatives. An evaluation of the uncertainty and sensitivity of the assumptions used to develop the mathematical functions will provide an indication of the robustness of modeling results.

Evaluation of critical parameters, and background information available to define them, will be evaluated to determine the influence of the values in evaluating the potential feasibility of fish passage facilities.

One goal of the fish passage model is to incorporate a mechanism to easily alter the percentage of fish that move through each potential alternative as a function of river flow and reservoir water surface elevation. A flow response factor will be developed for upstream steelhead migrants to identify how migrants respond to flow. An initial response factor may assume that the number of fish entering the project on a given day in the migration period is approximately proportional to the volume of the daily reservoir inflow in relation to the total inflow during the migration period. Using separate calculations for peak and off-peak migration periods, the total volume of inflow will be calculated and the proportion of fish migrating per day will be based on the percent of total flow for each day under average, wet and dry representative water years. An alternate response factor could assume that an equal number of fish passes each day in the migration period, or migration rates are correlated to water temperature. By incorporating an adjustable value, the sensitivity of the response factor to changing conditions will provide an indication of the influence of the response factor in evaluating total Project survival.

The mathematical functions used to calculate survival between alternatives will be developed in an Excel or other spreadsheet format to ensure transparency and ease of stakeholder review. The results of the biological performance tool will be an estimate of system survival or passage efficiency for each passage alternative. In addition, similar flow response functions and pathway apportionment will be used to estimate fish passage survival under existing conditions without volitional upstream fish passage facilities.

Attraction and ladder flow is an important design feature of facility components. Attraction flow volumes for both upstream and downstream are a balance between site conditions and competing flow releases. Alternate attraction flow volumes will be examined in terms of fish attraction to assess facility sizing options. The feedback mechanism provided by fish passage model results will assist engineering decisions and allow each concept to be refined so that the optimum design of each fish passage alternative can be used in the feasibility evaluation.

EXHIBIT 2-B

Parameter values will be estimated from site specific data, borrowed from other populations, or professional opinion based on steelhead passage behavior. Each assumption will be identified and documented and major parameters will be accompanied by an evaluation of uncertainty.

The Consultant will complete the following activates under this Task 2-3:

- Review available spreadsheet-based passage evaluation model (biological model) and select the best model that best fits the scope of this study.
- Customize the biological performance tool to include the biological data and factors developed in and approved by the TRC in Tasks 2.1 and 2.2.
- Populate the model with data and perform sensitivity runs to assess the model's output prior to use on the fish passage concepts and alternatives.
- Evaluate existing conditions to estimate fish passage survival under existing conditions
- Prepare a Technical Memorandum that documents the model, results of existing conditions, inputs, sensitivity results. The TM will include the final deliverables from Tasks 2.1 and 2.1 as appendices with a compilation of background information related to the project biology.

Deliverables:

- TM 2.3 – Biological Model. Draft and final with model

Assumptions:

- As stated in the RFP, the focus of this Project is not whether a volitional passage facility would result in an increase in anadromous steelhead in the upper watershed. The focus of this Project is on the engineering constraints, biological needs of steelhead (i.e., ability of different life stages to use a particular alternative), and the economic costs of volitional passage. The model will be used to provide a relative comparison of effectiveness of the developed alternatives.
- Downstream passage programs are underway at LPD. Downstream passage alternatives are not being developed or analyzed under this Study. Only the potential effect of the upstream passage alternatives on the existing downstream passage routes (BGS, outlet, Spillway) are included in the model.
- As stated in the RFP, the focus of this Project is not whether passage facilities would result in an increase in anadromous steelhead in the upper watershed. The model will be used to provide a relative comparison of likely steelhead passage effectiveness for the developed alternatives. The number of steelhead produced, captured or passed will not be estimated by the BPT. Such a model could be developed, but would require a separate scope of work.
- Downstream passage programs are already underway at LPD. Downstream passage alternatives are not being developed or analyzed under this Study. The potential effect of the upstream passage alternatives on existing downstream passage routes (BGS, outlet, Spillway) will be evaluated and represented in the model where appropriate.
- The primary input of the TRC into the model will be during Task 2-1 and Task 2-2. Allowing for the TRC to review and request revisions to the BPT based on deliverables provided in Task 2-3, or any of the subsequent tasks is beyond the scope of work. We will provide updates on the BPT at all meetings as described in the scope of work and report BPT results as required for Tasks 3, 4, 5, and 6, but this work does not include revisions to the BPT itself.

EXHIBIT 2-B

Task 3 Identify Fish Passage Concepts (Consultant, TRC)

This task will identify possible passage concepts and conduct the initial screening and then presentation of the concepts to the TRC. Task numbers have been changed from the RFP to include Task 3.1 that incorporates the development of the concepts.

Task 3-1 Workshop Preparation

The Consultant will develop upstream passage concepts based on studies, experience, and history of other fish passage facilities and specific criteria and guidelines published by NMFS and CDFW. Concepts might be based on components of fish passage facilities, operational procedures, locations of facilities at the LPD site, or may replicate an entire facility.

The concepts will be organized for an initial evaluation and a "fatal flaw analysis" will be performed to eliminate any concept that cannot meet the basic criteria. Fatal flaws might include dam or personnel safety issues, constructability concerns, or poor chance of satisfying fish passage or other objectives. For concepts that have fatal flaws, the Consultant will document contacts with appropriate review experts and agencies including, but not limited to DSOD, CDFW, and NMFS. Concepts at this early phase of development that are fatally flawed will be documented and presented to the TRC, but will not be further developed unless there is direction from the TRC to do so. Concepts without fatal flaws will be considered technically feasible for further analysis and development.

Using the information developed in Tasks 1, 2 and 4, the Consultant will identify design flow ranges, select hydrologic design years, and develop preliminary working base drawings. The Consultant will prepare a draft spreadsheet evaluation matrix (Pugh Matrix, or similar) and evaluation criteria descriptions for use at with the TRC.

Prepare a presenting and organizing initial passage concepts. The package should describe design parameters, concepts, evaluation criteria, and initial evaluation matrix, fatal flaw screening and include schematic diagrams to communicate the concepts presented.

Deliverables:

- TRC Meeting #1 - Informational Package and workshop agenda

Task 3-2 TRC Meeting #1 – Concept Workshop

The TRC and Consultant will meet to discuss passage concepts and criteria for evaluation. The Consultant will work with MPWMD to organize and conduct the Meeting in general accordance with the protocols below. The Consultant will provide staff to record and distribute meeting notes.

The information package containing a summary suitable for use at a workshop will be distributed to the TRC three weeks in advance of the meeting for attendees to review and discuss prior to the workshop.

Deliverables:

- Meeting presentation.

Assumptions:

- Meeting Protocols and Preparation and Agenda. The RFP included an example of meeting protocols for this type of project. We assume Meeting # 1 will follow these as appropriate for the

specifics of the Los Padres site. The concepts developed in Task 3.1 will be presented during brainstorming to facilitate ideas and discussions.

Task 3-3 Meeting #1 Summary

The Consultant will prepare draft meeting notes for review by MPWMD. Upon acceptance by MPWMD the draft notes will be distributed to the TRC for review and acceptance. The notes for Task 3-2 will include the following:

- Updated criteria document and a draft evaluation spreadsheet. List of fish passage concepts identified in the session.
- List of additional information necessary to reduce uncertainty or risks associated with each concept.
- A discussion of the fatal flaw analysis and documentation of concepts eliminated from further consideration at this time.
- Status update on the biological performance tool and any further development recommended by the Panel.
- A short list of fish passage concepts for further development.

It is intended that this summary document will be distributed within two weeks of the meeting date to the TRC and to the Advisory Group. Acknowledgement or acceptance of the notes will be requested for two weeks following submittal and final notes will be distributed one week following receipt of comments.

Deliverables:

- Meeting Summary Notes, Draft and Final.

Task 4 Alternative Development (Consultant, TRC, Advisory Group)

Task 4 is to review the list of concepts and develop the fish passage concepts identified in Task 3. The fish passage alternatives will address site-specific constraints, describe the full hydraulic functional design and general layout of each alternative, and will identify any uncertainties associated with each alternative prior to the evaluation process. With this task, the Advisory Group would be asked for feedback on the initial set of alternatives to be studied.

Potential volitional fish passage alternatives will be identified and evaluated concurrently with the existing trap and transport program. Volitional passage is the concept of giving fish the choice of moving upstream or downstream based on their own motivation. The following is the definition of volitional passage:

> *"Volitional fish passage is a means of fish passage with appropriate hydraulic conditions such that all individual migrating adult and juvenile fish of the species of interest have the opportunity to move freely and safely upstream and/or downstream past the Project according to their own motivation."*

Under volitional passage, a barrier is modified such that fish arrive at the site under their own power, swimming through or around and past the former blockage. A concrete fish ladder is an example of a volitional facility for adult steelhead. Volitional fish passage facilities are generally preferred because they operate constantly, require little human interference, and may be mechanically less likely to break. They may be less costly to maintain and operate but may represent a larger capital expenditure. However,

volitional facilities often provide little flexibility to accommodate uncertainties, or to adjust to changes in fish behavior, environmental or operating conditions. It should be noted that the dam owner will be responsible for ongoing maintenance and operation of passage facilities.

Space or engineering constraints may prevent the design of safe and effective, volitional fish passage facilities. Particularly for juveniles, impoundments may present challenges that cannot be overcome with volitional passage if currents confuse fish navigation or if physical constraints preclude construction of upstream passage facilities that can accommodate juvenile migration. In some situations, non-volitional facilities can be a preferred method of providing fish passage.

At least one pure volitional passage alternative for upstream passage will be included in the final set of alternatives throughout the study, regardless of its feasibility. There may also be alternatives that have volitional passage characteristics though are not entirely volitional throughout the hydrologic and reservoir storage and release cycle.

Once alternatives are defined, an initial opinion of probable construction and operating cost (OPCC) will be provided in this task for each alternative. Estimates may be based on comparative analysis to other systems or may be composed of unit estimates for items in an alternative. The level of accuracy of the estimate should be commensurate with a concept-level screening process and – depending on the complexity of an alternative – may have a large expected accuracy range. The estimated performance of the alternatives will be compared using the biological performance tool developed and updated in Tasks 2 and 3. The technical feasibility of constructing facilities will include site-specific constraints including geology and dam safety.

Alternatives that are not feasible will be dropped from consideration and reasons for them being dropped, will be described. It may be the case that an alternative scores low due to a specific uncertainty; in this case, the alternative will be retained and a plan to address this uncertainty developed. Based on the evaluation scores, the Consultant will update the remaining alternatives for additional evaluation by the TRC.

A meeting will be held with the Consultant, TRC, and Advisory Group to present the process alternatives and their relative scores after which the TRC will propose a final list of feasible alternatives for additional development.

Task 4-1 Develop Initial Concepts into Alternatives (Consultant)

Based on the concepts selected in Task 3, the Consultant will further develop alternatives. The primary goals of this task are:

- Define each concept with respect to its hydraulic and operational characteristics.
- Draw and define the concepts so that the design intent is clearly communicated. A common format for drawings will be developed by the Consultant in this task.

For each alternative, the Consultant will provide:

- Plan and sectional drawings to scale, to fully define the concept.
- Hydraulic characteristics and function design features, shown on the sketches, or on separate sheets.

- Brief write-up suitable for review to describe the concept's key characteristics and how the alternative operates.
- List of pros and cons for each alternative relative to operations, biological performance goals, reliability, etc. (Note: it is intended that the biological performance tool be applied to each alternative.)
- Probable opinion of construction and operating cost and complexity (high, medium, or low).
- An updated evaluation matrix containing selected alternatives and the evaluation criteria agree upon at TRC Meeting #1. The evaluation matrix should build on the criteria developed in Meeting #1 and should be presented in a grid form or Pugh Matrix, which breaks the alternatives down into discrete elements for comparison, evaluation, and optimization.

With the additional investigation, some concepts or alternatives may prove to be infeasible or may be modified. As noted above, at least one upstream volitional alternative will be retained for the duration of the study.

Deliverables for Task 4-1 include:

- compilation of alternatives
- an evaluation matrix
- supporting documentation

Assumptions:

- For budgeting purposes it is assume that up to 3 alternatives will be developed and modeled.

Task 4-2 Meeting #2 – Review and Refine Alternatives (Consultant, TRC)

The TRC and Consultant will meet to discuss and refine passage alternatives to fit LPD requirements. Protocols are to be similar to Meeting #1.

The evaluation matrix will be utilized during a meeting to prepare the first evaluation of the alternatives that will challenge the existing state of each alternatives conceptual design for better performance, and will allow a relative comparison of the alternatives. The matrix will result in consolidated scores, which reflect the relative success of achieving criteria, and will thus help rank or prioritize alternatives.

The results of the grid analysis can be used to further refine facility components, identify data gaps, and assess the potential influence of uncertainties. However, the grid analysis is only a decision tool; the results are used to influence but not dictate decisions. The characteristics and effectiveness of upstream fish passage facilities will be evaluated, and the results used to refine and optimize the location, size and timing of each type of passage facility.

Based on the results of this initial evaluation, the Consultant will work to update descriptions and drawings for the fish passage alternatives. The results will be presented to the TRC at Meeting #3, with the goals of receiving input and the TRC reaching consensus on a list of alternatives for final refinement in Task 5.

Deliverables for Task 4-2 include:

- workshop agenda

Assumptions:

- The meeting Agenda will be organized as follows:
    - The Consultant will present an overview of the work completed to date, and will address any questions from the previously distributed meeting notes.
    - Discuss and refine evaluation criteria based on the current state of the alternatives.
    - Identify any criteria that, if not satisfied to some degree, would constitute a fatal flaw.
    - Identify any uncertainties and/or risks associated with each alternative, and a means to address these issues.
    - Review results of the application of the biological performance tool to gain an understanding of the fish passage performance for each alternative.
    - Review the alternative evaluation matrix and update the matrix based on input at the meeting.
    - Perform a fatal flaw analysis on each alternative; eliminate alternatives with fatal flaws; and record eliminated alternatives for reporting in the meeting notes.
    - Combine and consolidate alternatives into distinct, stand-alone fish passage alternatives appropriate for the LPD site. This exercise will be the first iteration of defining passage alternatives for further development and additional review (if necessary).
- The meeting is assumed to be one full day.

Task 4-3 Meeting #2 Summary

The Consultant will prepare draft meeting notes for review by MPWMD. Upon acceptance by MPWMD the draft notes will be distributed to the TRC for review and acceptance. The notes for Task 4-3 will include the following:

- Status update on the biological performance tool and any further development recommended by the TRC and/or Group.
- Final evaluation spreadsheet.
- List of fish passage alternatives identified in the session.
- List of additional information necessary to reduce uncertainty or risks associated with each alternative.
- A discussion of the fatal flaw analysis and documentation of alternatives eliminated from further consideration at this time.
- A recommendation of alternatives for further development.

It is intended that this summary document will be distributed within two weeks of the meeting date to the TRC and to the Advisory Group. Acknowledgement or acceptance of the notes will be requested for two weeks following submittal and final notes will be distributed one week following receipt of comments.

Deliverables:

- Meeting Summary Notes, Draft and Final.

Task 4-4 Present Initial Set of Passage Alternatives (Consultant, TRC, Advisory Group)

The Consultant, TRC, and Advisory Group will meet (Advisory Group Meeting #1) to discuss the initial set of passage alternatives to fit LPD requirements. Protocols are to be similar to Meeting #1.

Deliverables:

- Meeting summary that includes comments from the Advisory Group, a copy of any written materials submitted by the Advisory Group, and any follow-up response from the Consultant or TRC.

Task 5 Fish Passage Alternatives Refinement and Determination of Feasibility

Task 5 will focus on the refinement of the remaining fish passage alternatives and a determination of whether upstream volitional passage is feasible at LPD. In addition to further development of the alternative design drawings, the Consultant will prepare an opinion of probable construction and operating cost for each alternative, describe operational protocols and issues, address comments and/or issues brought up at previous meetings, perform final runs of the biological performance tool, prepare a final quantitative evaluation of the alternatives using the final Pugh matrix and evaluation criteria, and address constructability issues and any remaining data needs or significant risks. At least one volitional fish passage alternative will be included in the final list of alternatives. A draft outline for the final report will be developed by the Consultant for review by the TRC.

The TRC will review the technical feasibility of the alternative(s), the expected biological performance, and the cost to construct and operate each alternative. Evaluation of alternatives will include strong consideration of the risk and uncertainties associated with the implementation and performance of the alternatives and whether alternatives would include continuation of the existing trap and transport facilities. The Consultant, TRC, and Advisory Group will meet to review the final set of alternatives before the TRC makes a final recommendation.

If there is a consensus on evaluation of alternatives by the TRC, the Study terminates, and Cal- Am and others may formulate an implementation plan to carry the recommendations forward. If there is no consensus, it is presumed that the status quo would not change (i.e., the trap and transport facilities and program would continue); however, if there is no consensus, Cal-Am, MPWMD and the TRC should consider what, if any, steps should be taken to address upstream passage. This is not included as a Task in this Project.

Task 5-1 Fish Passage Alternatives Refinement (Consultant)

The Consultant will prepare Engineer's Opinions of Probable Construction Costs (OPCC) for the remaining alternatives to a Class 5 level as defined by the American Association of Cost Engineers International (AACE). The cost estimates will be suitable for comparison of the alternatives, but may not reflect an accurate number for capital budgeting as they will be developed based on very limited information.

According to the AACE International Recommended Practices and Standards:

"AACE International Class 5 estimates are generally prepared based on very limited information, and subsequently have wide accuracy ranges. Typically, engineering is 0% to 10% complete. They are typically used for any number of business planning purposes, such as but not limited to market studies, assessment of initial viability, evaluation of alternate schemes, project screening, project location studies, evaluation of

resource needs and budgeting, or long-range capital planning. Virtually all Class 5 estimates use stochastic estimating methods such as cost curves, capacity factors, and other parametric and modeling techniques. Expected accuracy ranges are from -20% to -50% on the low side and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances. As little as 1 hour or less to perhaps more than 200 hours may have been spent preparing the estimate depending on the project and estimating methodology."

Any data gaps or significant risks will be identified for discussion prior to the final Meeting.

Deliverables for Task 5-1 include:

- draft final evaluation matrix, including OPCC
- draft final report outline

Assumptions:

- For budgeting purposes it is assume that up to 2 alternatives will be refined and modeled.

Task 5-2 Meeting #3 – Determination of Feasibility and Selection of Alternative(s) (Consultant and TRC)

A meeting of the TRC and Consultant will be conducted to review and critique the alternatives, re-run the biological performance tool based on updated information (if necessary), do a final scoring of alternatives and determine: 1) if upstream volitional passage is feasible; 2) which alternative(s) should be pursued further; and 3) prioritize alternatives (if possible).

Up to this point, at least one upstream fish passage alternative should have been carried forward for inclusion in the final report. If, at the conclusion of the Final Meeting #3, the consensus is that upstream volitional passage is not feasible, document the reasoning for coming to this conclusion.

Deliverables for Task 5-2 include:

- workshop agenda

Assumptions:

- The meeting Agenda will be organized as follows:
    - Review and discuss the updated alternatives. Note any remaining information needs or significant risks associated with the alternative conceptual designs or recommended operation.
    - If necessary, re-run the biological performance tool based on the updated designs.
    - Review the OPCC, constructability issues, and the technical feasibility of each alternative.
    - Finalize the criteria, and perform a final evaluation of the alternatives relative to evaluation criteria, using the Pugh evaluation matrix.
    - Eliminate any alternatives that have fatal flaws based on their latest design, or that score low relative to others, and record eliminated concepts for reporting in the meeting notes.
    - Develop recommendations for future actions regarding each remaining alternative, including opportunities to improve performance or optimize alternatives based on the comparisons in the evaluation matrix.

  - List of final pros and cons for each alternative. If possible, prioritize alternatives.
  - Finalize the Fish Passage Feasibility Study report outline.
- The meeting is assumed to be one full day.

Task 5-3 Meeting Summary

The Consultant will prepare draft meeting notes for review by MPWMD. Upon acceptance by MPWMD the draft notes will be distributed to the TRC for review and acceptance. The notes for Task 5-3 will include the following:

- Final status of the biological performance tool and any further development recommended by the TRC.
- Final evaluation spreadsheet.
- List of fish passage alternatives evaluated at the session.
- List of additional information necessary to reduce uncertainty or risks associated with each alternative.
- A discussion of the fatal flaw analysis and documentation of alternatives eliminated from further consideration at this time.
- A recommendation of alternatives for further development.

It is intended that this summary document will be distributed within two weeks of the meeting date to the TRC and to the Advisory Group. Acknowledgement or acceptance of the notes will be requested for two weeks following submittal and final notes will be distributed one week following receipt of comments.

Deliverables:

- Meeting Summary Notes, Draft and Final.

Task 5-4 Present Final Set of Passage Alternatives (Consultant, TRC, Advisory Group)

The Consultant, TRC, and Advisory Group will meet (Advisory Group Meeting #2) to discuss the final set of passage alternatives to fit LPD requirements. Protocols are to be similar to Meeting #1.

Deliverables:

- Meeting summary that includes comments from the Advisory Group, a copy of any written materials submitted by the Advisory Group, and any follow-up response from the Consultant or TRC.

Task 6 Reporting and Fish Passage Recommendation

Task 6 is structured to organize and report on the full development of the final fish passage alternatives. A draft and final feasibility report will be developed that will document the process followed, development of fish passage alternatives, evaluation criteria, summary of alternatives eliminated with justification for the eliminations, a final evaluation and the final recommended alternative(s). Each alternative selected will be described with text and conceptual level design drawings, an OPCC, estimate of operating costs, an implementation schedule and description of construction issues, listing of pros and cons, and a summary and details of the final evaluation. At least one volitional alternative for upstream passage will be

described, regardless of its feasibility; however, if all volitional alternatives are determined to have one or more fatal flaws, the additional work described in this task may not be carried out.

The final feasibility report will include the TRC recommendation regarding the technical and biological feasibility of providing volitional steelhead passage at LPD. If a volitional passage facility cannot be recommended due to site constraints, uncertainties, or other factors the final report will document the rationale. Recommendations for next steps will be developed, which might include: fish passage alternatives to be pursued; further studies, if needed to address uncertainties or risk; or additional analysis to determine economic feasibility. The draft report will be presented to the TRC and Advisory Group for input. Depending on the nature of comments, the draft report may be finalized or, if additional issues are raised, the report may be amended and recirculated for final review.

Task 6-1 Prepare Draft Fish Passage Feasibility Report (Consultant, TRC)

The Consultant and TRC will review the final set of alternatives and recommendations made by the Advisory Group and the TRC will make a final recommendation. A Draft Fish Passage Feasibility Report will be developed in this task to document the scope of the study, background information used, design criteria, the process utilized to conduct the feasibility analyses, the results of the analyses and the TRC recommendation. A draft table of contents for the report is listed below as a guide.

The draft (and final) report will contain at least the following:

1 Introduction
- 1.1 Problem statement
- 1.2 Purpose, objective
  - 1.2.1 Fish passage goal statement
  - 1.2.2 Relevance to Steelhead Recovery Plan
- 1.3 Overview of Fish Passage Panel Process
  - 1.3.1 Summary of meetings, coordination, and progress reports
- 1.4 Overview of the biological performance tool
  - 1.4.1 Overview fish passage model

2 Descriptions of alternatives
- 2.1 Initial Brainstorm Concepts
  - 2.1.1 Brainstorming Workshop Summary
  - 2.1.2 Concept Analysis and Selection
- 2.2 Preferred Concepts
  - 2.2.1 Concept Descriptions
  - 2.2.2 Pros and cons
  - 2.2.3 Biological Performance for Upstream and Downstream Passage
  - 2.2.4 Implementation challenges and uncertainties
  - 2.2.5 Constructability considerations
  - 2.2.6 Opinions of probable construction and operating costs
  - 2.2.7 Concept Drawings

3 Evaluation of Alternatives
- 3.1 Description of evaluation process
  - 3.1.1 Description of evaluation matrix and criteria
  - 3.1.2 Weighting and scoring
  - 3.1.3 Criteria that could lead to fatal flaws
- 3.2 Evaluation Results

3.2.1 Ranking of alternatives based on evaluation matrix
3.2.2 Ranking of alternatives based just on fish passage criteria
3.2.3 Relative fish passage ranking compared to cost and operations criteria
4 Conclusions and Recommendations
5 References cited

The Consultant will provide a draft report to the TRC for review. At least thirty (30) calendar days should be provided to prepare written comments. If no substantive issues are raised during the review, the Consultant will move on to production of the Final Report; however, if substantive issues are raised, the Consultant, Cal-Am, and MPWMD may elect to work directly with the commenter(s) to address any issues, or hold a meeting to address issues.

Deliverables:

- Draft Feasibility Report, electronic copy pdf and/or MS Word
- Written documentation of final TRC comments
- Final Report, 5 printed and bound copies, one electronic copy in pdf format

Assumptions:

- The meeting Agenda will be organized as follows:

TASK 7 – Project Management

7.1 Project Management

Project management, general communications and associated quality management will be provided throughout the duration of the project. This task consists of standard project management tasks, including scheduling, budget tracking, invoicing, and general project communications. Monthly progress summary reports will include at a minimum: description of tasks performed and accomplishments; a comparison of budgeted vs. actual expenses; and a discussion of the progress of the schedule.

7.2 Meetings

The Consultant shall facilitate meetings with MPWMD, Cal-Am, and other interested parties including, but not limited to:

- Kick-off meeting with MPWMD and Cal-Am;
- Review of existing and proposed operations in the field w/MPWMD and Cal-Am;
- Review of preliminary and final alternatives with TRC and Advisory Group (under Tasks 3, 4 and 5)
- Miscellaneous meetings with regulatory agencies as required to determine constraints.

Meetings will generally be held at the MPWMD Ryan Ranch office or at the Cal-Am Pacific Grove office, unless other arrangements are made.

Assumptions:

- Invoices will be prepared and submitted to MPMWD monthly with the Progress reports.
- Cal-Am quarterly reports are assumed to be satisfied by the monthly invoicing and reports.

Task 7 Deliverables:

- Monthly Invoices and Progress reports;
- Copies of communications among agencies and consultants (if appropriate);
- Meeting minutes.

OPTIONAL TASKS

Optional Task 1-1a: Hydraulic Modeling to Determine Stage-discharge Curve at Existing Ladder Entrance If additional refinement of the stage-discharge rating curves in the vicinity of the fish ladder outlet are needed to support the analysis, cross-sectional survey data can be collected along the downstream river over an appropriate reach of the channel, and the data used to prepare a one dimensional (1-D) hydraulic model the surveyed reach. The model would be developed using the U.S. Army Corps of Engineers HEC-RAS software (Version 5.0; USACE 2016). Considering the relatively steep slope of the river below the dam, a relatively short (~ 0.5-mile long) model should be sufficient to ensure accurate estimates of the hydraulic characteristics in the vicinity of the spillway and existing fish ladder. Appropriate hydraulic roughness and boundary conditions will be incorporated into the model, and the model will be executed over a range of flows up to the maximum recorded mean daily flow measured at the below Los Padres Reservoir gage. Results from this model will be used to develop a stage-discharge rating curve at the existing fish ladder entrance. The approximate cost for this additional work would be $7,000.

Optional Task 1-2a: Aerial survey of the dam, abutment and spillway area may be advantageous to the development of more accurate cost estimates for the study and aid in the understanding of alternatives by stakeholders. Generation of 3D figures would be possible if current topography and contour information were developed. The approximate cost for this additional work would be $10,000 for the ground control and aerial photogrammetric Services.

Optional Task 1-2b: If the water levels are too low to adequately survey the sediment delta surface in the upper reservoir during the bathymetric and vessel-mounted LiDAR survey alternative methods are available to collect these data. Tetra Tech has experience with terrestrial, mobile-land, mobile-water and aerial-based LiDAR scanning and own specialized equipment for each of these applications. Additional topography for Los Padres upper reservoir would best be addressed with additional ground-based Terrestrial Laser Scanner (TLS) scanning or possibly airborne laser scanning (ALS). ALS can be used to extensively map riverine topography and when employing airborne blue/green LiDAR shallow-water bathymetry can also be mapped. The ground-based TLS provides a more detailed and accurate topographic surface than ALS and is less expensive for small areas, such as LPD. The bathymetric survey crew could deploy a TLS from the LPD reservoir shoreline to map upper-reservoir floodplain. Conducting several geo-referenced overlapping scans with the FARO Focus3D X330 scanner as part of the bathymetry survey effort would provide detailed topography of the upper reservoir floodplain with only 1-2 days additional effort. Tetra Tech have used TLS on several hydroelectric dam projects (See the additional examples provided in Section 9 - Appendix). No pricing is available at this time until the scope is defined.

EXHIBIT 2-B

SECTION 7 -- PRICING

MWH®

SECTION 7 – PRICING AND SCHEDULE

PROJECT BUDGET

The basis for the fee estimate is defined in the Scope of Work for the design consulting services described in Section 6. The Scope of Work is taken from MPWMD's RFP amended as of March 15, 2016 with modifications and/or additional definition consistent with our approach as presented in our Proposal. Only tasks defined in Section 6 have been included on the fee estimate. MWH's suggestions for Optional Tasks presented in Section 6 have not been in our pricing but can be added pending a review of goals and scope by MPWMD.

Task	Budget ($US)
Task 1 - Feasibility Study Preparation	$77,770
Task 2 - Prepare Biological Performance Tool	$71,560
Task 3 - Identify Fish Passage Concepts	$36,500
Task 4 - Alternatives Development	$45,400
Task 5 - Fish Passage Alternatives Refinement and Determination of Feasibility	$30,890
Task 6 - Reporting and Fish Passage Recommendation	$52,700
Task 7 - Project Management and Meetings	$31,680
Total Not to Exceed Budget Estimate	$346,500

The above budget represents an estimate for an efficient execution of the scope requested in the RFP. We appreciate that MPWMD and its funding partners have constraints on budget amounts. We would be happy to discuss the scope and level of effort for the work to bring the budget into alignment if needed with available funds. A couple items that we noticed that stand out as costs that we would not normally see in our past passage studies. These could be modified at MPWMD's discretion if the end product still meets the requirements of the project:

- Bathymetry. The budget pricing for the resurvey of the entire reservoir is about $35,500. We believe the fish passage feasibility can be completed without this information. We do understand that this data may be valuable for other analyses being conducted by MPWMD but wanted to discuss the contribution to the Feasibility Study for Fish Passage.
- Biological Modeling. While input from biologists is critical to the siting and design of fish passage features the total biology budget primarily for modeling and presentation of the model at meeting is slightly over 28% of the budget. The value of this level of effort toward determining cost and feasibility might be worth further discussion.

MWH proposes to complete the work for the amount shown on the table above to be billed monthly based on progress at hourly rates that will remain fixed for the 18-month duration of the contract.

SCHEDULE

MWH design team have reviewed the work required to Los Padres Fish Passage Feasibility Study and have developed a preliminary schedule for the project that demonstrates sufficient time for efficient execution of the work within the 18-month period stated in the RFP. A copy of the schedule is included in Section 9 – Appendix but a few of the critical early milestones are as follows:

- Notice to Proceed 6/1/2016
- Kickoff Meeting 6/14/2016
- TRC Meeting #1 ..... 11/17/2016
- Final Submittal..... October 2017

The preliminary schedule is based on the defined scope and sequence presented in the RFP with further definition of work activities and deliverables described in the detailed Scope of Services presented in Section 6. A few important items to be considered when reviewing the Preliminary Schedule:

- The schedule will need to be revised and validated prior to the execution of the Agreement to incorporate MPWMD input and changes to the scope of work.
- Based on the Calendar of Events presented in the RFP we would anticipate receiving Notice of Selection at or before the May Board meeting.
- The schedule is preliminary and subject to review and agreement by MPMWD. Several sequences require input from MPMWD, TRC or others that may affect the final completion. MWH will work with MPMWD to finalize a baseline schedule for the Agreement.
- Our opinion on the overall schedule and the level of effort required there are several areas where the schedule can be optimized to deliver the final Feasibility Report before the indicated date. These changes would best be reviewed and discussed with MPWMD in conjunction with the final scoping for the agreement.

SCHEDULE CONFIRMATION STATEMENT

MWH confirms that the scope of work defined in this section is inclusive of all elements necessary to complete the work within the 18 month schedule as defined in Section 7. MWH cannot be held responsible for schedule impacts caused by the actions of others outside of our control.

Based on our experience working in similar arrangements with collaborative TRC and other stakeholder involvement we have found that one of the biggest risks to the schedule is difficulty in gathering the outside stakeholders for the TRC and Advisory Group. Key to meeting and maintaining schedule is to fix the dates of all group meetings as early in the project as possible. For Los Padres we will establish the full meeting schedule internally with MPWMD at the inception of the project at the kickoff meeting. These dates will be presented as an agenda item in TRC Meeting #1 for concurrence. We have found this to be appreciated by the outside stakeholders that must plan their travel budgets well in advance with their respective agencies.

WATER SUPPLY PLANNING COMMITTEE

ITEM: ACTION ITEM

3. CONSIDER DEVELOPMENT OF RECOMMENDATION TO THE BOARD ON ITEMS RELATED TO BUREAU OF RECLAMATION WATERSMART PROGRAM

A. CONSIDER AUTHORIZATION OF CONTRACT FOR ASSISTANCE WITH PREPARATION OF THE SALINAS AND CARMEL RIVER BASINS STUDY

B. AUTHORIZE THE GENERAL MANAGER TO ENTER INTO A GRANT AGREEMENT WITH THE UNITED STATES BUREAU OF RECLAMATION

Meeting Date:	**April 5, 2016**	**Budgeted:**	**No**
From:	**David J. Stoldt, General Manager**	**Program/ Line Item No:**	**Water Supply Projects 1-5-1 Groundwater Replenishment Project**
Prepared By:	**Larry Hampson**	**Cost Estimate:**	**$45,000 (initial)**

General Counsel Review: N/A
Committee Recommendation: The Water Supply Planning Committee reviewed this item on April 5, 2016 and recommended _____. The Administrative Committee reviewed this item on April 11, 2016 and recommended _____.
CEQA Compliance: N/A

SUMMARY: The United State Bureau of Reclamation (Reclamation) is recommending funding in FY2015 of a grant of up to $950,000 through its WaterSMART program for the Salinas and Carmel River Basins Study (Study) (see **Exhibit 3-A**). The Study will be a collaborative effort to evaluate future water supply and demand imbalances in a changing climate and to develop potential adaptation strategies to meet future demands. Study partners include the Monterey Regional Water Pollution Control Agency (MRWPCA), the Monterey County Water Resources Agency (MCWRA), the San Luis Obispo County Public Works Department (SLO County) and MPWMD (Study Partners). The Study would cover an area of about 5,000 square miles that includes the Carmel River Basin, the Monterey Peninsula, and the Salinas River Basin in Monterey and San Luis Obispo Counties. It is intended that eh Study be completed within three years and be complementary to the Drought Contingency Plan for North Monterey County that the District is administrative lead for.

The recipient cost share (non-federal or partner share) is a minimum of 50% of total project costs. The Study Partners have identified $1.155 million in non-federal share, which exceeds the minimum. The District has identified up to $1.126 million of potential cost-share that includes a combination of ongoing District expenses and reimbursements for activities related to the Study. Expenses specific to the Study are estimated at $45,000 (i.e., expenses that are not shared among other District programs and activities).

Reclamation goals for this Study include: (1) downsizing a global climate model (GCM) from a 100 kilometer grid to a 6 to 10 kilometer grid that is applied to the two basins; (2) developing a range of climate change scenarios extending to the year 2100; 3) working with the Study Partners to input data from the downsized GCM into water resource models developed for each basin; and 4) identifying potential adaptation strategies to meet future municipal, industrial, and environmental water demands.

RECOMMENDATION: If this item is approved, the Board will:

A) Authorize the General Manager to enter into an agreement for services with Brown and Caldwell to assist with tasks in the Study Plan for a cost not-to-exceed $45,000; and B) Authorize the General Manager to enter into a grant agreement with Reclamation to receive funds and complete a Salinas and Carmel River Basins Study. District staff recommends approval of the above actions.

BACKGROUND:

Development of a Study would build on several previous and concurrent planning efforts in the Monterey Peninsula, Greater Monterey County, and San Luis Obispo County Integrated Regional Water Management planning regions and the network of agencies and stakeholders that is advancing the Pure Water Monterey project, a Drought Contingency Plan for North Monterey County, and a Groundwater Sustainability Plan for the Salinas Valley Groundwater Basin. The Study would the following specific activities:

- Task 1 – Detailed Plan of Study
- Task 2 – Model Development/Integration/Calibration/Validation and GCM Modeling
- Task 3 – Current Water Supply/Demand Assessment
- Task 4 – Future Water Supply/Demand Assessment
- Task 5 – Identify Supply/Demand Imbalance
- Task 6 – Develop Adaptation Strategies
- Task 7 – Trade-off Analysis of Alternatives $150,000 $50,000 $200,000
- Task 8 – Draft Report, Findings and Recommendations $50,000 $25,000 $75,000
- Task 9 – Final Report
- Task 10 – Stakeholder Outreach/Project Team Meetings

Detailed descriptions of Tasks are contained in **Exhibit 3-B**.

Most of the non-federal share for development of the Study is anticipated to come from past expenditures (after July 1, 2014) and existing District efforts including: communication and public outreach plans to continue water conservation; feasibility and project studies for drought-resistant projects such as for the Pure Water Monterey project; a surface-groundwater model for the Carmel River Basin; a groundwater model for the Seaside Groundwater Basin; development of a long-term plan for Los Padres Dam; and development of a habitat simulation model for steelhead in the Carmel River. MPWMD and project partners would work with Reclamation to develop a detailed work plan. Reclamation would be involved in the management of the planning process and can provide technical assistance to develop elements of the Study.

IMPACT ON STAFF/RESOURCES: If the District enters in an agreement to receive grant funds, staff time will be required to administrate the grant over approximately two years. The non-federal share is anticipated to be a combination of in-kind services from Study Partners (including MPWMD, MRWPCA, MCWRA, SLO County), such as staff labor, and consultant expenses associated with existing programs.

EXHIBITS

3-A June 30, 2015 Letter re: Study Selection (Gonzales to Hampson)

3-B April 2015 Salinas and Carmel River Basins Study Proposal

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EXHIBIT 3-A

United States Department of the Interior

BUREAU OF RECLAMATION
P.O. Box 25007
Denver, CO 80225-0007

JUN 30 2015

IN REPLY REFER TO:

84-51000
WTR-1.10

VIA ELECTRONIC MAIL ONLY

Monterey Peninsula Water Management District
Attn: Mr. Larry Hampson
P.O. Box 85
Monterey, CA 93942

Subject: Fiscal Year (FY) 2015 Basin Study Selection – *Salinas and Carmel Rivers Basin Study*

Dear Mr. Hampson:

Thank you for your interest in the Bureau of Reclamation's Basin Study Program. I am pleased to inform you that your proposal is one of two studies selected for funding in FY 2015. Reclamation anticipates contributing Federal funds in the amount of $950,000 toward the completion of the proposed study.

Mr. Arlan Nickel, the Mid-Pacific Regional Basin Study Coordinator, will contact you shortly to begin the process of developing a Memorandum of Agreement and Plan of Study. We look forward to working with you to address the critical water needs of the Salinas and Carmel River Basins.

If you have any questions regarding the selection process, please contact Ms. Amanda Erath at (303) 445-2766 or aerath@usbr.gov.

Sincerely,

Roseann Gonzales
Director, Policy and Administration

EXHIBIT 3-A

Identical Letters Sent To:

Monterey County Water Resources Agency
Mr. Robert Johnson, Assistant General Manager
893 Blanco Circle
Salinas, CA 93901

Monterey Regional Water Pollution Control Agency
Keith Israel, General Manager
5 Harris Court, Building D
Monterey, CA 93940

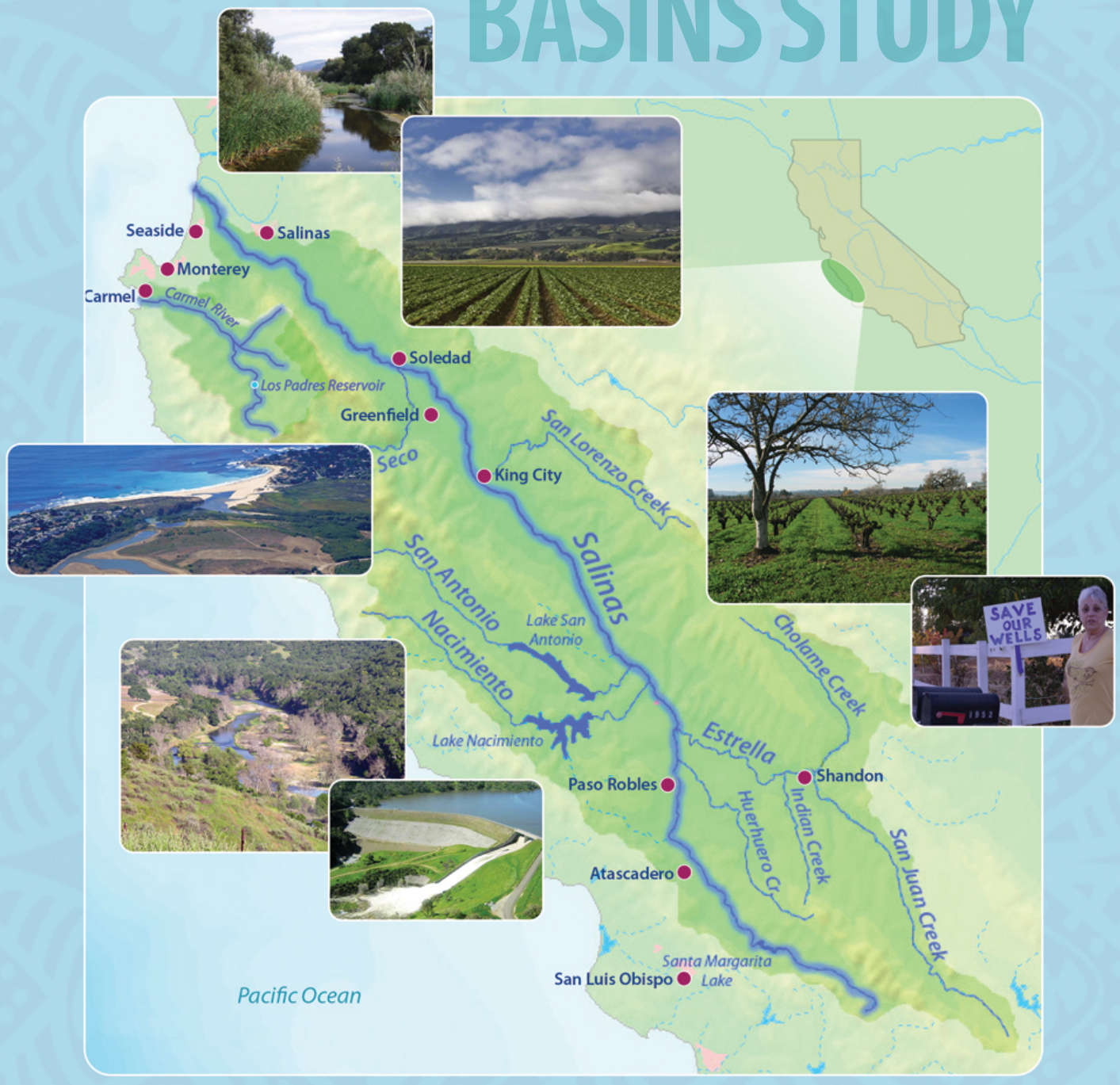
San Luis Obispo County
Wade Horton, Public Works Director
County Government Center, Room 206
San Luis Obispo, CA 93408

EXHIBIT 3-B

Proposal | April 2015

U.S. Department of the Interior | Bureau of Reclamation

SALINAS and CARMEL RIVER BASINS STUDY



Section A

PROJECT INFORMATION

1. TITLE: SALINAS AND CARMEL RIVER BASINS STUDY

A collaborative study to evaluate future water supply and demand imbalances in a changing climate and to develop potential adaptation strategies to meet future demands.

Within the Salinas and Carmel River basins an imbalance in the water supply and demand is being exacerbated by the extended drought, competing demands, and climate change. The goal of the study is to understand, anticipate, and adapt to these effects and to identify adaptive management strategies that will yield sustainable surface water and groundwater supplies capable of meeting the needs of agriculture, municipal users, the environment, an expanding population, and recreation.

Basin Statistics

- Area: 4,500 square miles
- Population: 370,000
- Annual tourist: 9,000,000
- Agricultural acres: 250,000
- Annual water use: 600,000 acre-feet
- Annual Economic Output: $11,000,000,000

2. LOCATION OF STUDY AREA AND BOUNDARIES OF THE BASIN

The study boundaries encompass the Salinas and Carmel River Basins, as shown on Figure 1, providing an opportunity to improve collaboration between partners, collectively plan for changing conditions, and cooperatively identify regional water supply opportunities in both basins.

The Salinas River is the largest river on California's Central Coast, originating in the center of San Luis Obispo County flowing 170 miles north and northwest to the Monterey Bay National Marine Sanctuary (MBNMS), about 80 miles south of San Francisco. The Carmel River lies adjacent to the Salinas River Basin and both are affected by the same weather patterns. The two rivers are separated by the Monterey Peninsula and the Sierra de Salinas, with the Salinas River out-letting to the MBNMS northerly of the Peninsula and the Carmel River out letting to the MBNMS southerly of the Peninsula at Carmel Bay, about 16 miles south of the Salinas River mouth.

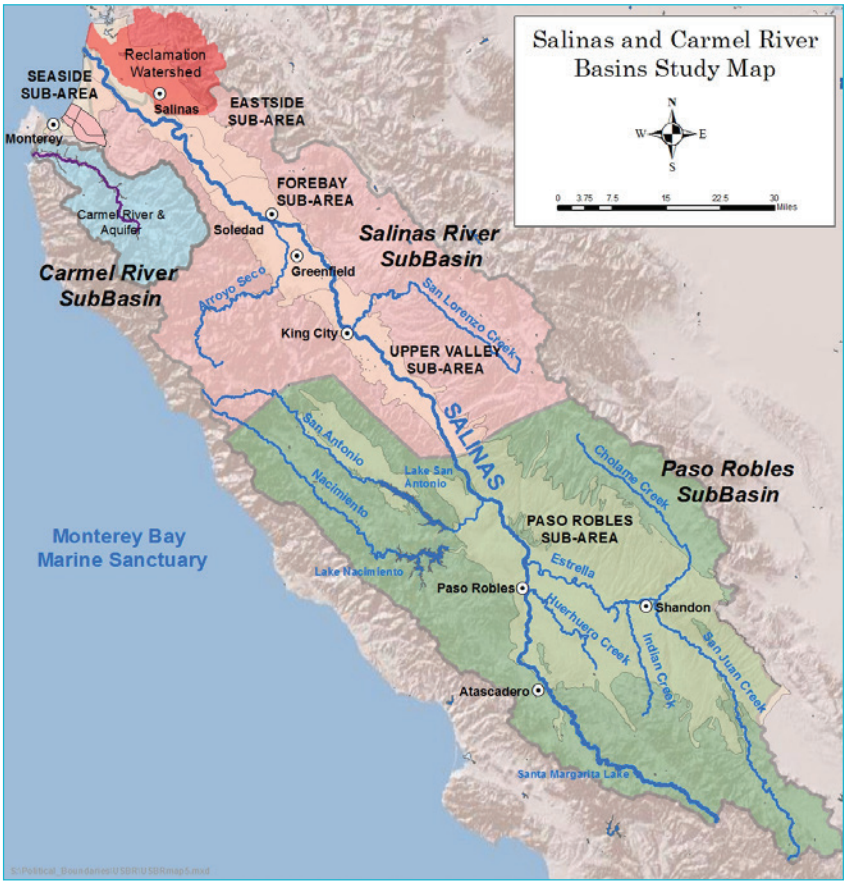


Figure 1. Map of Study Area.

The Salinas River originates in the La Panza Range and drains 4,160 square miles, from Santa Margarita Lake at 2,400 feet to the Ocean. It is fed by flows from Lake Nacimiento, Lake San Antonio, and the Arroyo Seco River. Dams at the three man-made reservoirs provide flood protection and are operated to provide approximately 288,000 acre feet per year (AFY) for municipal water supplies, agricultural irrigation, recreation, groundwater recharge, and drought protection. The capacity of the hydro plant at Nacimiento Dam is 4.3 Mw-hours per year. The Salinas River's groundwater resources are used extensively to meet the water supply needs throughout the Salinas Valley.

The 255 square-mile Carmel River Basin (CRB) watershed begins in the Santa Lucia Mountains at 5,000 feet and merges with seven major stream tributaries along a 36-mile course before discharging to the Ocean. The Monterey Peninsula watersheds, which total about 85

square miles and the adjacent Seaside Groundwater Sub-Basin (SGB), drain directly to the ocean. The CRB and SGB are operated conjunctively to provide water to the Monterey Peninsula for municipal, commercial, and industrial use.

The MBNMS was designated in 1992 as a federally protected marine area and is one of the nation's largest marine sanctuaries, larger than Yellowstone National Park and deeper than the Grand Canyon, and supports pristine beaches, jewel-like tide pools, lush kelp forests, steep canyons and an offshore sea- mount teeming with life.

One small valley [Salinas Valley] in California has become the center of vegetable production in the United States, with some remarkable production statistics:
artichokes - 99%
broccoli - 92%
processing tomatoes - 94%
celery - 94%
garlic - 86%
cauliflower - 83%
head lettuce - 76%,
carrots - 67%
asparagus - 58%
grown and distributed throughout North America and the world.

Together, these two river basins include some of the world's most fertile agricultural lands and are internationally known for their natural beauty; ecological diversity; multi-national cultural history; and recreation opportunities such as fishing, auto racing, and golfing. The area is oftentimes referred to as the "Salad Bowl of the World" or "America's Salad Bowl" because of the variety of crops grown. Approximately one-third of the state's annual strawberry yield is grown in the area. Wine grapes are so important and distinctive that there are three designated "American Viticultural Area" domains within the area. With a total value of over $1.9 billion, by itself Monterey County is the fourth highest agricultural producing county in California. Combined with the agricultural production of San Luis Obispo County, the area under this proposed basin study is one of the most important areas in California and the western United States.

In addition to the agricultural resources, these basins support important natural resources. National Forest lands occupy a large portion of the upper watersheds who's runoff flows into the MBNMS and support the largest sustainable west coast run south of San Francisco of Oncorhynchus mykiss, a salmonid species commonly referred to as South-Central California Coast (SCCC) steelhead trout, a federally and state listed threatened and endangered species. Numerous on-going activities are currently focused on providing for reliable water supplies, while improving the ability of SCCC steelhead trout to recover.

3. TOTAL STUDY COST

The Basin Study is estimated to cost $2.1 million and Basin Study non-federal partners are contributing over 50%.

A significant amount of recent and on-going work, funded by the non-federal partners, will contribute to the "in-kind services" cost share and is presented in Appendix A. The partners are committed to participate and collaborate with Reclamation on data and technical needs, stakeholder engagement, developing an integrated watershed model, and using the unified tool to determine the projected impacts of climate change to water supplies and demands in the Salinas and Carmel Basins, as well as assisting in evaluating how proposed adaptation strategies will perform across a range of future climate conditions. The estimated cost share is shown in Table 1, although not all local contributions are shown.

Table 1 – Basin Study Major Tasks And Cost-Share

Task	Partners Share[1]	Federal Share[2]	Estimated Cost
Task 1 – Pre-Study Efforts (Plan of Study/MOA)[3]	$100,000	$25,000	$125,000
Task 2 – Model Development/Integration/Calibration/ Validation and GCM Modeling	$250,000	$550,000	$800,000
Task 3 – Current Water Supply/Demand Assessment	$100,000	$50,000	$150,000
Task 4 – Future Water Supply/Demand Assessment	$150,000	$100,000	$250,000
Task 5 – Identify Supply/Demand Imbalance	$30,000	$30,000	$60,000
Task 6 – Develop Adaptation Strategies	$200,000	$70,000	$270,000
Task 7 – Trade-off Analysis of Alternatives	$150,000	$50,000	$200,000
Task 8 – Draft Report, Findings and Recommendations	$50,000	$25,000	$75,000
Task 9 – Final Report	$25,000	$15,000	$40,000
Task 10 – Stakeholder Outreach/Project Team Meetings	$100,000	$35,000	$135,000
Proposed Carmel and Salinas Basins Study TOTAL	**$1,155,000**	**$950,000**	**$2,105,000**

1. MCWRA, MRWPCA, MPWMD, SLOC; includes costs since May 2014
2. USBR, USGS
3. Specific modeling approach to be defined in Plan of Study

4. BASIN STUDY PARTNERS

The Basin Study partners, which include all four of the decision making agencies in both basins, are committed to working with Reclamation to define the current regional conditions, supporting the estimation of future conditions, and identifying and implementing strategies for adapting to and managing these changes.

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5. RECLAMATION REGIONAL CONTACT

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6. SUPPORTING STAKEHOLDERS

There is an existing network of stakeholders in both basins that are actively involved in regional water management planning. The Basin Study partners are committed to continued involvement of this wide range of stakeholders who represent diverse interests the study area.

There are three current IRWM plans that cover the study area: the San Luis Obispo County Plan, the Greater Monterey County Plan and the Monterey Peninsula, Carmel Bay and Southern Monterey Bay Plan. These IRWM Plan efforts include significant participation from virtually every level and aspect of water resource management. It is expected as the Plan of Study is developed, several more partners and stakeholders will participate in the Basin Study process. The cost- share partners will use and expand the existing stakeholder network and framework to solicit input during the Basin Plan Study. Section C5 presents in further detail many of the stakeholder groups supportive of this effort. Included in Appendix B are Letters of Support from some of these groups.

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Section B

STUDY ABSTRACT

Performing a comprehensive study to evaluate regional supplies and demands within the context of the anticipated effects of global climate change is essential for this environmentally, economically, and culturally significant study area.

The Salinas and Carmel Rivers Basin Study provides opportunities to improve inter-agency collaboration and develop integrated strategies for securing regional sustainable water supplies that benefit agricultural, urban, and environmental water demands. Strategies for adapting to climate change, including changing precipitation patterns, runoff, and sea level rise must be developed and integrated into the watershed management of the Salinas and Carmel River Basins. The Basin Study will, therefore, provide a scientific and collaborative basis for the development and implementation of current and future planning decisions that will yield management and land use decisions for sustainable water supplies. This Study provides opportunities to develop solutions and strategies to fill gaps in supply and demand planning, reduce risks to property and infrastructure associated with climate change, and improve sustainability of aquifers and rivers in order to provide adequate water supplies for the benefit of all users well into the future.

Basin Study Objectives

1. Improved regional collaboration in the development of an integrated modeling tool.
2. Identify Risks and Potential Impacts of climate change on future water resources (supply & demand).
3. Develop solutions and adaptation strategies to fill the gaps in supply/ demand.

Water years 2012-14 stand as California's driest three consecutive years for precipitation. This occurred in a period of record warmth, with new climate records set in 2014 for statewide average temperatures. At the time this proposal was prepared, in April 2015, the drought continues. The local participating agencies of the Salinas and Carmel Rivers Basin Study proposal (MCWRA, MPWMD, MRWPCA, SLOCPWD), who are responsible for stewardship of local natural resources, have an urgency to collaborate with Reclamation. A Basin Study would augment ongoing efforts by the participating local agencies and provide unprecedented opportunities for Federal, State and local agencies to collaborate and advance models of the Salinas and Carmel Rivers Basin Study via inter-agency work. The basins and sub-basins included in this proposal are currently experiencing insufficient water supplies and are projected to have insufficient water supplies in the future, as well as are facing legal and regulatory restrictions on water use. Finding replacement water supplies is vital for this region to be in compliance with legal mandates, cope with climate change, and improve environmental conditions.

Substantial development within the 100-year floodplain of rivers in this Basin Study has placed billions of dollars of urban and agricultural property at risk during large flood events. In addition, climate change could impact fire risk in the National Forest lands that provide most of the runoff within the basins and are already subject to high fuel loads. Water resource management in the study area is divided among multiple layers of local, regional, State, and Federal agencies, as well as for-profit entities such as private utilities.

As further described in this joint effort proposal, the Basin Study partners are actively engaged in pursuing sustainable practices in accordance of with the requirements of the State's Groundwater Sustainability Act (SGMA). Together, the partners are developing plans for sustainable groundwater management in the basins. The partners have implemented changes in conjunctive use programs to improve steelhead recovery and we participate in one another's operating and public outreach committees. The partners are dedicated to pursuing and evaluating the challenges of water resource management so that together, along with decision makers, they will collectively ensure future generations are provided with the tools to adapt to available water supplies and demand in proactive and responsible measures.

Recent picture by stakeholder in Paso Robles Basin shows that the Salinas River is dry due to the current drought.

C1. THE EXTENT AND CONSEQUENCES OF EXISTING OR ANTICIPATED IMBALANCES IN WATER SUPPLY AND DEMAND

Historical water supply and demand imbalances have resulted in sinking groundwater levels, seawater intrusion, impaired water supplies and regulatory actions. These imbalances will be further exacerbated by climate change.

Due to low annual rainfall along California's beautiful Central Coast, the Salinas and Carmel River Basins have faced water supply and management challenges for over half a century. Lacking imported water supplies and facilities, this region is limited to the use of in-basin supplies. Therefore, droughts like our current drought facing all of California are especially difficult for this area. The consequences of the historical imbalances between supply and demand have resulted in sinking groundwater levels, seawater intrusion, impaired water supplies, regulatory actions in the form of a Cease and Desist order (CDO) on pumping, adjudication, and requirements for minimum in-stream fish flows. These historical imbalances and consequences will only be further exacerbated by climate change effects, with a very real possibility of longer and more severe drought periods followed by periods of extreme precipitation events that could cause severe damage to property owners and critical habitats alike. Consequently, all groundwater basins within the study area are designated as high and medium priority by the State, and are subject to compliance with the Sustainable Groundwater Management Act (SGMA).

Although the three IRWM plans address water supplies and demand as well as climate change, and numerous individual studies on subareas of the basins have been conducted, a Basin-wide comprehensive study of the potential effects of climate change on water supplies, demands and imbalances within the Salinas and Carmel River Basins has not yet been performed. This study provides the opportunity and the means to develop comprehensive and coordinated adaptive strategies to address climate change risk to the basins' water supplies. Consistency in analysis and management of adjacent watersheds and groundwater basins is a requirement of SGMA.

Total Study Area Supplies and Demands

The Basin Study area is comprised of four sub-basins: Salinas Valley Basin (SVB), CRB, SGB, and the Paso Robles Groundwater Basin (PRGB). All four of these basins are in a current state of imbalance between supply and demand as demonstrated by seawater intrusion and groundwater level declines. While many studies and projects were conducted to find solutions to these issues, a projected imbalance remains that will be exacerbated by climate change. Table 3 summarizes the current and projected future supply and demand imbalances for each sub-basin. It is anticipated that imbalances in the demands will be re-evaluated as a part of the Basin Study, in light of climate, population and other changes.

Paso Robles Groundwater Basin

The current water demand for the PRGB is largely estimated, as the only metered water users are within water purveyor boundaries. In 2014, an integrated watershed/basin model was utilized to estimate historical demands within the PRGB on an average annual basis for the period of 1980 through 2011, as well as the perennial yield. Three water purveyors within the subbasin have contracts for 6,250 AFY of Lake Nacimiento water; however, only about 2,500 AFY has been put in place within the last few years, as the remaining treatment infrastructure is in the process of being constructed.

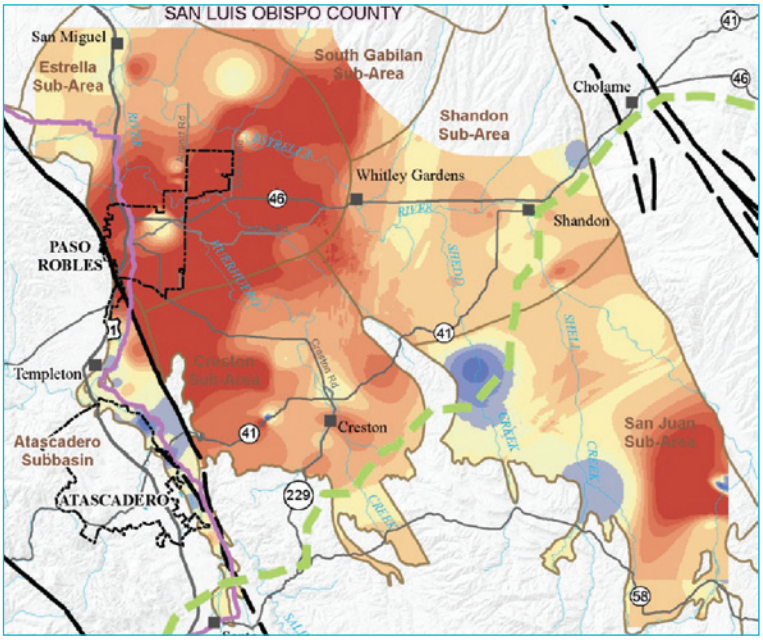


Figure 2 - Paso Robles groundwater basin change in water levels 1997 through 2013 (darkest red = >70 foot decline).

EXHIBIT 3-B

Table 3 – Summary of Basin Area Supply, Demand and Unmet Demands

Basin Area	User	Supply (acre-feet)	Demand (acre-feet)	Unmet Demands (acre-feet)
PRGB (Current)	Agriculture[1]	89,600[4]	76,000	3,600[5]
	M&I[1]		17,200	
	Environmental[2]	74,090	41,010	No unmet demands
	Recreation[3]	Min pool: 2000 AF	Reached 1 time in 30 yrs	est. 3% of the time
PRGB (2040)	Agriculture[1]	89,600[4]	91,072	17,344[5]
	M&I[1]	6,250[6]	22,122	
	Environmental[2]	74,090	41,010	No unmet demands are projected
	Recreation[3]	Min pool: 2000 AF	Reached 1 time in 30 yrs	est. 3% of the time
CRB and SGB (Future)	Agriculture[1]	Included in M&I	Included in M&I	
	M&I[1]	9,000[7]	20,000[8]	11,000
	Environmental[2]	Minimum instream flow and adjudication requirements are in effect.		
CRB and SGB (Current)	Agriculture[1]	Included in M&I	Included in M&I	unknown
	M&I[1]	10,000 (legal)[7]	15,500[9]	5,500
	Environmental[2]	Basins are overappropriated and subject to cutbacks.		
SVB Current	Agriculture	446,000[10]	418,000[11]	17,000[11]
	M&I		45,000[11]	
	Environmental	The need for allocations is mentioned but not quantified.		
SVB (Future)	Agriculture	429,000[10]	358,000[11]	14,000[11]
	M&I		85,000[11]	
	Environmental	The need for allocations is mentioned but not quantified		

1. 1980-2011 Average Annual Basis; Geoscience, 2014
2. Master Water Report, Carollo, 2009
3. Salinas Reservoir
4. Paso Robles Groundwater Basin estimated perennial yield; Geoscience, 2014
5. Unmet Demands for the purposes of the Paso Robles Sub Area means the extent to which demands exceed the perennial yield of the PRGB and Nacimiento water contract allocations on an average annual basis, which results in sustained basin drawdown.
6. Nacimiento Water Contracts = 6,250 AFY
7. Existing riparian, appropriative, and percolating rights determined by SWRCB, SGB Adjudication, and annual well reports
8. Cal-Am estimate, CPUC Application A12-04-019 plus 2014 Monterey Peninsula IRWM Plan Update
9. From Annual MPWMD well production reports
10. Demand - Unmet Demands
11. Greater Monterey IRWMP

Due to the imbalance in water demand and supply within the PRGB, groundwater levels have been declining over the past 30 years. Declining groundwater levels have led to the need for deeper wells across the basin. Some water users located along the edge of the basin have lost access to the groundwater and are now drilling into fractured rock formations. Figure 2 illustrates the results of the basins declining groundwater elevations.

The existing physical impacts have resulted in multiple conflicts and actions, and the formation of various stakeholder groups. Most recently, a two-year urgency ordinance was adopted by the San Luis Obispo County Board of Supervisors requiring new development and irrigated agriculture to offset new demands on the PRGB by a ratio of 1 to 1; formation of a Water District is being pursued; and several landowners within the PRGB have filed litigation for a quiet title action. Continuing declines in groundwater levels in the PRGB is anticipated to lead to the need for residential landowners to lower wells where possible, or vacate the area. Declining groundwater levels may also result in the loss of smaller agricultural operations unable to afford coping with recurring drought, or energy and treatment costs associated with pumping water from lower levels.

Carmel River and Seaside Groundwater

More than 105,000 people reside in the MPWMD service area, which is dependent for water supplies from two sources: runoff from the Carmel River Basin (CRB) and groundwater from the Seaside Groundwater Basin (SGB). The CRB currently supplies about 70% of domestic supply for the Monterey Peninsula; however, in 2009, the State Water Resources Control Board (SWRCB) issued a CDO to the local water provider. California American Water (Cal-Am). The CDO requires Cal-Am to find replacement supplies for two-thirds of the annual diversions from the CRB by January 1, 2017. The Monterey Peninsula will be unable to comply with the CDO by this date and a time extension from the

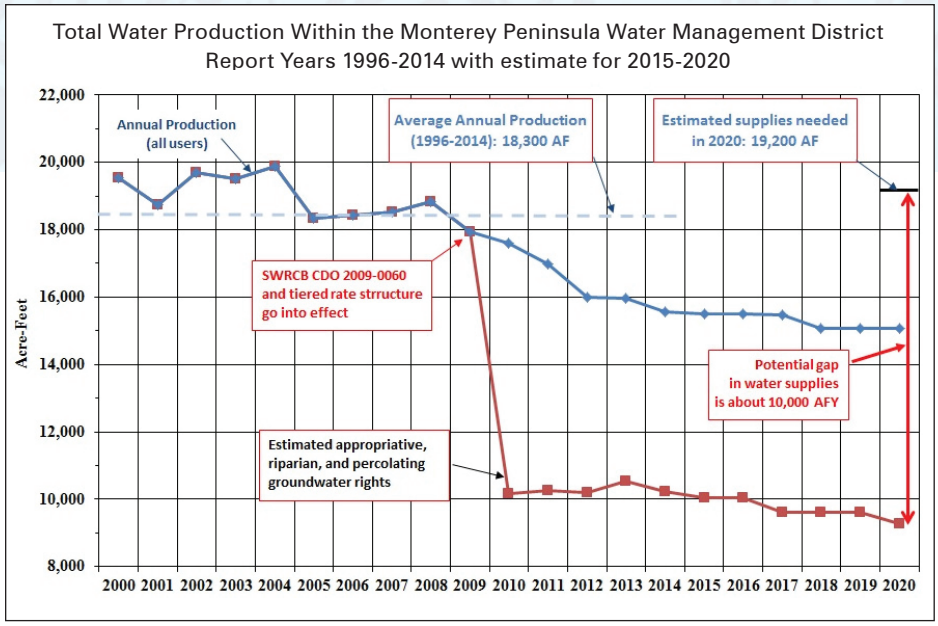


Figure 3. Current water demands shown exceed legal rights to supplies. Recently added new supply is subject to meeting in-stream flow requirements.

SWRCB is being sought. The SGB is at the northwest corner of the Salinas Valley, adjacent to Monterey Bay. Historical and persistent low groundwater elevations caused by pumping led to basin adjudication in 2006 and an amended court decision in 2007 that created the Seaside Basin Watermaster and ordered a ramp down in production from about 5,600 AFY to the Natural Safe Yield of 3,000 AFY by 2021. No seawater intrusion is occurring presently, but water levels are lower than those required to protect against seawater intrusion. Recharge into the basin aquifers will be beneficial for protection against seawater intrusion.

Both basins are being pumped in excess of legal rights to do so, which places the community at risk of heavy fines or severe rationing of up to 50%. Figure 3 shows that the estimated replacement need for the Monterey Peninsula is approximately 10,000 AFY. The MRWPCA's Pure Water Monterey Groundwater Replenishment (GWR) Project would provide 3,500 AFY of highly treated recycled wastewater to the SGB and Cal-Am's proposed desalination plant on the coast south of the Salinas River would provide the balance of the replacement supplies. Both projects are currently under environmental review, with completion anticipated by 2020.

Habitat for steelhead in the CRB has been degraded and annual returns of adult steelhead have fallen below 10% of the estimated potential for the run. WY 2014 and 2015 show the lowest fish densities ever recorded. Usable surface storage in the CRB is small (1,400 AF) and shrinking due to high sediment loads. Runoff from the basin averages about 75,000 AFY, but with wide swings in flow both annually and seasonally. During most years the lower 6 to 7 miles of the Carmel River are dewatered by July by diversion for domestic supply. With no flood control reservoirs in the CRB and more than 1,600 properties in the Carmel Valley are located in the 100-year floodplain, about 90% of the Federal Emergency Management Agency (FEMA) 10-year repeat claims in Monterey County come from Carmel River flooding. In addition, properties and infrastructure around the mouth of the river are clearly at risk from any rise in sea level.

Salinas Valley Sub-Basin

Groundwater is the source for almost all of the water demands in the Salinas Valley. In the northern coastal areas of the SVB, most groundwater extraction occurs from two ground- water sources which are the 180-foot, and 400-foot aquifers. An ongoing imbalance between the rate of groundwater withdrawal and recharge has resulted in overdraft conditions in this basin that have allowed seawater from Monterey Bay to intrude inland into both of these aquifers as shown in Figure 4. By 2011, seawater was estimated to affect as much as 28,142 acres overlying the 180-foot aquifer in the northern Salinas Valley and 12,575 acres overlying the 400-foot aquifer. As a result, urban and agricultural supply wells have been abandoned or destroyed in some locations. To halt further groundwater degradation and prevent seawater from moving further inland, aquifer pumping and recharge rates must be brought into balance.

In 1992, MRWPCA and the MCWRA formed a partnership to build two projects: a water recycling facility at the Regional Treatment Plant (Salinas Valley Reclamation Plant) and a distribution system consisting of 45 miles of pipeline and 22 supplemental wells called the Castroville Seawater Intrusion Project (CSIP). The objective of these projects focused on advancement of seawater intrusion prevention by supplying recycled water in lieu of groundwater for irrigation to nearly 12,000 acres of farmland in the northern Salinas Valley. The $75 million projects were completed in 1997 and highly treated wastewater is currently used for irrigation. Yet supply and demand imbalances remain an issue.

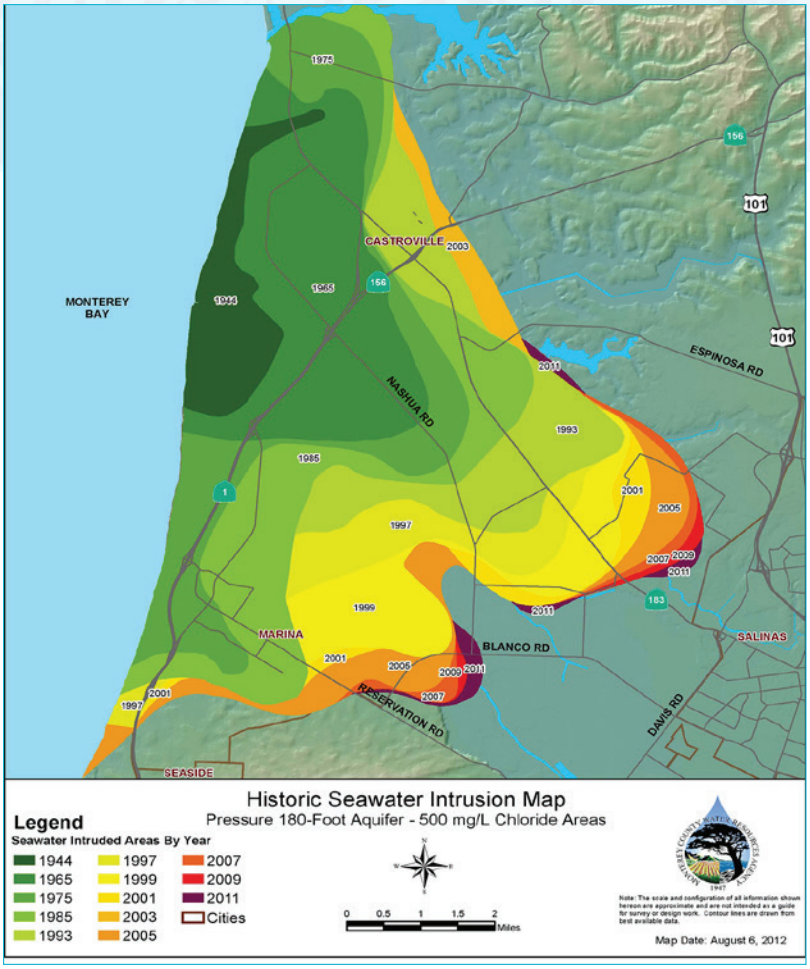


Figure 4. Historical Seawater Intrusion in Salinas Valley.

C2. DEMONSTRATE THE ABILITY TO ADDRESS THE ELEMENTS OF THE BASIN STUDY WITHIN THE STUDY TIMELINE

Based upon the extent of prior studies, the current resource commitments by Federal and non-Federal partners, and compliance timelines under the SGMA, we can conduct a basin study by June 2018.

a) Projections of water supply and demand, including risk related to water supply relating to climate change

The Basins' existing and projected water supplies and demands are well understood, and there exists multiple tools and models that can be used to evaluate the projections of water supply and demand under variable conditions, including water supply risks related to climate change.

During the course of the Salinas and Carmel Rivers Basin Study, it is anticipated that Reclamation will develop climate change scenarios representing potential variations seen for: 1) precipitation patterns that can result in a change in timing and quantity of runoff; 2) change in groundwater recharge and discharge; and 3) increased temperatures leading to increased evaporation/evapotranspiration and increased water demand (e.g., higher temperatures requiring increased agricultural irrigation). It is also anticipated that most of these climate change scenario conditions will be applicable over the entire study area; however, where local variations are required, additional evaluation will be conducted to determine local impacts. For example, sea level rise scenarios will be important to consider for the coastal portions of this study area, but not applicable to the upper Salinas River or Carmel River Basin areas.

While multiple tools exist to evaluate future supply and demand under climate change scenarios, the Salinas and Carmel Rivers Basins' region could benefit from Reclamation's technical support to better determine the interaction between basin subareas and to define how changes in one sub-basin can affect other sub-basins. With Reclamation's oversight and regional collaboration, the predictive tools and models can be integrated to evaluate each scenario on a basin wide basis. The tools and model will be also be modified during the Basin Study to update temperature and precipitation assumptions as identified by Reclamation's climate change scenarios. Additional details on some of the available models and tools that will be used during this study are discussed below for each sub-basin.

Paso Robles Sub-Basin

San Luis Obispo County's Resource Management System (RMS) provides a mechanism for ensuring a balance between land development and the water resources necessary to sustain such development. When a water resource deficiency becomes apparent, a Resource Capacity Study (RCS) is conducted to determine when water demands will equal the dependable supply of the resource, or whether they have already, and identify water and land use management strategies to address deficiencies. A RCS for the PRGB was completed in 2011. The RCS provides an analysis of future water demands utilizing eight scenarios for water use factor assumptions. In 2014, the integrated watershed/ groundwater basin computer model (Figure 5) was used to quantify future demands and simulate the PRGB response to those demands. The future demands include a "no growth" scenario and a "growth" scenario and repeated past hydrology (e.g. no climate change). The watershed and groundwater model incorporate precipitation estimates, surface runoff, infiltration, percolation, subsurface inflow and outflow, pumping estimates and change in groundwater storage.

A previous climate change vulnerability analysis suggest the PRGB may see more severe (but not more frequent) rainfall events, leading to quick pulses of runoff. Currently, there is insufficient infrastructure to harness that momentary surplus of water, and poor land use practices prevent much of the rain from infiltrating into the ground. Water supply shortages, which are already a serious problem, are expected to worsen. Climatic conditions are expected to be drier, with longer, hotter summers. Potential increases in the number of fires and severe storms could exacerbate already high rates of sediment runoff, which would affect the capacity of the Salinas Reservoir (impacting water supply) and Salinas River (exacerbating flooding, minimizing/altering ecosystem habitat, including but not limited to the steelhead trout). The findings of this past study will be updated based on the results of this Basin Study.

Carmel River and Seaside Groundwater Basin Models

In 2014 MPWMD worked with the USGS to develop the conceptual model for a linked surface-groundwater flow model for the Carmel Basin using the GSFLOW model, which will have a daily time step (PRMS and MODFLOW are components). The model accommodates changing climate parameters and is expected to be calibrated in 2015 using several long-term records. In 2016 MPWMD expects to complete an Instream Flow Incremental Method (IFIM) study for portions of the Carmel River. Both 1D and 2D hydraulic models will be used to evaluate the effects of stream diversions on steelhead habitat suitability and instream flow needs. Data collection for model development was halted in Spring 2015 due to low fish densities. In the SGB, a peer-reviewed numerical groundwater flow model based on MODFLOW was developed using extensive well-log and production data to model long-term changes to four water-bearing geologic layers. The model can predict potential impacts to the groundwater basin from management actions, such as new supplemental water supply projects that include injection and extraction of various source waters, including basin rainfall, desalinated water, excess flows diverted from the Carmel River Basin and injected into the SGB, and highly treated recycled water proposed for injection into the SGB (i.e., for indirect potable reuse). The two basin models are powerful tools for evaluating how changing climate affects future water supply and can reveal the efficacy of adaptation strategies and how demands could impact the supply availability and use.

MPWMD proposes to work with the USGS and the Desert Research Institute to model future CRB flows. Along with estimation of demands, adaptation strategies to adapt to climate change will be evaluated. MPWMD would guide model development with USGS performing peer review. For the SGB, climate change analysis results would be incorporated into the basin model to assess the effects on groundwater resources from future climate patterns, future demand, water supply alternatives, and proposed project operations. Results from the two models would be merged to describe what the effects would be to the water resources and people of the Monterey Peninsula.

Salinas Valley Sub-Basin

The MCWRA has collected ground water extraction data from well operators in the Salinas Basin since the 1992-1993 reporting year. Information received from the 300-plus well operators is compiled by the Ground Water Extraction Management System (GEMS) portion of the Water Resources Agency Information Management System (WRAIMS), a relational database maintained by the MCWRA. The intent of the ground water reporting program is to provide documentation of the reported amount of ground water that is extracted each year.

MCWRA has measured groundwater levels within the Salinas Basin since the 1940s to monitor the health of the basin, as well as to evaluate the effectiveness of releases from Lake Nacimiento and Lake San Antonio reservoirs for groundwater recharge. Each year, weighed averages of groundwater level data from the fall data collection program are compiled by hydrologic subarea to track long-term trends. For reference, the graph in Figure 6 highlights the initiation of years of major water supply projects in the Salinas Valley and the impacts of these major water supply projects on groundwater level trends.

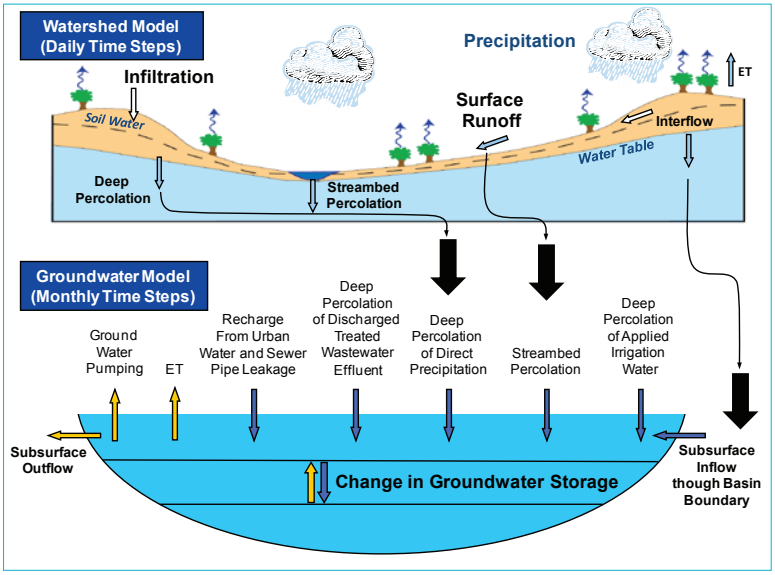


Figure 5. Conceptual Diagram of the Paso Robles Groundwater/ Watershed Model.

b) How water and power infrastructure/ operations will perform in the face of changing realities

The existing tools and models that are currently used to assess supply and demand imbalances will also be useful in evaluating how water infrastructure operations will perform in the future.

To meet the requirements of the SECURE Water Act, the Basin Study will consider the extent of changes in water supply that could impact the following activities: water deliveries, hydroelectric power generation, recreation, fish and wildlife habitat, endangered species, water quality, ecologic resiliency, and flood control. The hydraulic and watershed models will be useful in evaluating how changes in quantity and timing of precipitation events or reservoir releases may potentially cause impacts to habitat and protected species. It is anticipated that Reclamation and other Federal resource agencies, including NOAA, will participate to determine potential impacts to endangered species.

MCWRA operates two reservoirs (Lake Nacimiento and Lake San Antonio) which release water into tributaries of the Salinas River. Monterey County Parks Department operates year round recreation activities on both reservoirs and both have established minimum releases to maintain fisheries habitats downstream. As discussed in the previous section, MCWRA has tools to evaluate the effectiveness of reservoir releases based on past experience. This will be useful for evaluating how the reservoirs can be operated under future condition to address changing conditions for a wide variety of objectives due to climate change. It will also be beneficial to identify how potential structural changes or modifications in how and where water is stored will assist with development of adaptations to the anticipated effects of climate change. Both reservoirs currently play a crucial role in water supply and flood control in the Salinas River and that role will likely increase under climate change scenarios. Lake Nacimiento Dam has a hydropower generation facility that is operated with a license from the Federal Energy Regulatory Commission (FERC), and the impacts of power production will be considered for any changes anticipated in water releases.

c) Development of appropriate adaptation and mitigation strategies to meet future demands

The Basin Study will identify the extent to which existing water management systems in the region are adaptable to climate change impacts and the steps or new infrastructure are needed to make those systems more robust for a changing water reality.

Over the past several decades, numerous water management strategies have been proposed to strengthen current water supplies to meet future demands: water conservation, municipal wastewater recycling, storm water reclamation, indirect potable reuse of recycled water supplies, aquifer storage and recovery, and seawater desalination. Many of these types of projects have been implemented, such as the Monterey County Water Recycling Projects, which deliver recycled water from MRWPCA to agricultural users to address seawater intrusion, and the Salinas Valley Water Project, which diverts Salinas River water to agricultural users. An examination of the expansion potential of existing projects could bring new irrigation water supplies to additional farmland and further reduce groundwater pumping in the seawater intruded areas.

The past and ongoing studies of additional water supply and management strategies will be important to consider during the development of the Basin Study. For example, San Luis Obispo County has recently hired a consultant to prepare a Water Supply Options Study for the PRGB. The scope includes evaluating supplemental supplies brought to the PRGB, utilizing additional Lake Nacimiento water in this basin, and identifying opportunities for water exchanges. It also includes evaluating the potential to utilize water avail-

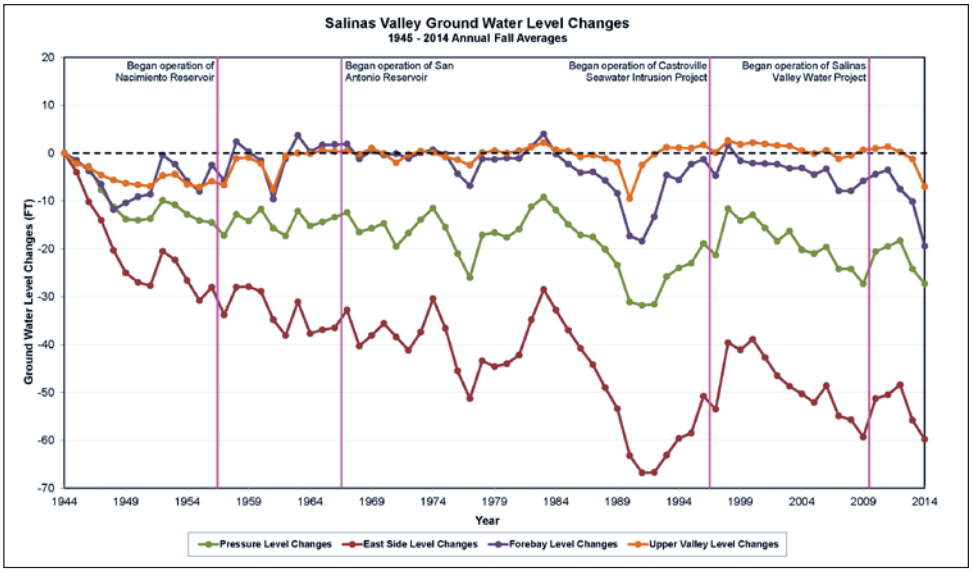


Figure 6. Historical Groundwater Levels in Salinas Valley.

able per the County's 25,000 AFY contract for State Water. However, given reliability concerns and future uncertainties due to climate change, the County and Basin stakeholders are looking to optimize the use of local water supplies to stabilize the Basin's groundwater levels. The results of this evaluation, and alternative strategies to address the needs of the PRGB is of interest to Reclamation because of the Cooperative Operation Agreement (COA) with the State related to shared facilities with the Central Valley Project.

The Salinas and Carmel Rivers Basin Study will complement the Water Supply Options Study by also evaluating storm water diversion opportunities, such as utilizing the Salinas River and its tributaries in the PRGB as additional sources of supply. Likely, this would require use of the groundwater and watershed model to evaluate runoff under different scenarios to determine if there are opportunities to capture flows during wet years or extreme events. San Luis Obispo County is also using the basin computer model to investigate the best location to put water in the PRGB, the impacts of agricultural pumping on the residential wells, as well as storm water capturing and storage opportunities.

Other potential strategies that would be considered as part of this Basin Study is reoperation or expansion of the existing reservoirs (Lake Nacimiento, Lake San Antonio and the Salinas Dams) to better meet the needs of the basins now and into the future, as well as identifying additional water storage facilities needs would reduce the effects of drought conditions. A recent study of the CRB in connection with evaluating the fate of an ageing main stem reservoir shows there is adequate runoff for an off-main stem reservoir with an option for pumped storage to generate peaking hydropower.

It is proposed that as part of the Basin Study, regular workshops will be held with stakeholders, the Basin Study partners and the Reclamation to collaborate and exchange ideas on new strategies that could have multiple benefits to the region.

Lake Nacimiento is the Only Reservior with a Hydropower Facility in the Study Area.

d) Trade-off analysis of strategies identified

This Basin Study will build upon the work already completed to screen, evaluate, and facilitate a trade-off analysis of identified strategies, including the synthesis of new actions based on better integration.

The regional IRWM Plans from both Counties provide a ready framework for the critical review and trade-off analysis of adaptation strategies. The vetting process in the IRWM Plans is designed to identify the programs and projects that best meet stakeholder needs while meeting numerous environmental and societal objectives. Working in a more comprehensive manner, the IRWM Plans and new Basin Study stakeholders will consolidate the identification of proposed and in-progress water resources management projects. In addition to the IRWM Plans, each cost-share partner has been or is currently involved in projects and studies that require evaluation of the trade-offs of various alternatives. For example, the Water Supply Options Study being conducted for the PRGB is designed to consider the trade-offs associated with alternative water supply options. The GWR project is evaluating numerous combinations of source waters (agricultural return flows, storm water, agricultural process wastewater, etc.) for recycling and indirect potable reuse.

Upon completion of the Basin Study climate change analysis, the Basin Study partners and Reclamation will identify adaptation strategies through multiple workshops. Drawing upon collective experiences, the group will facilitate a trade-off analysis of identified strategies, including the synthesis of new actions based on a better integration. Criteria for comparing alternatives will be jointly determined during the Pre-Study Efforts (Task 1). Criteria are likely to include cost, environmental impact, risk, and stakeholder acceptance. It is anticipated that Reclamation will solicit the help of NOAA and other federal agencies to determine the impacts and trade-offs related to aquatic resources in the study area, due to the presence of endangered and threatened species.

Stakeholder outreach will be conducted as part of this Basin Study within the context of existing stakeholder groups and the IRWM Plans. Vetting the potential adaptation strategies with stakeholders will be an important step in identifying the potential acceptance of a proposed action. This important feedback loop will inform both the Reclamation and the cost-share partners as to those strategies that appear to be the most robust, perform well across the longest timeframe, and are the most cost effective.

C3. THE EXTENT TO WHICH FEDERAL INVOLVEMENT IS NEEDED AND THE STRENGTH OF ANY NEXUS BETWEEN THE BASIN STUDY AND RECLAMATION PROJECT OR ACTIVITY

Reclamation and it's SecureWATER Basin Study Program provides a unique opportunity to assist the four water management agencies in the Salinas and Carmel Basins in the development of a comprehensive assessment of potential climate change impacts to water supplies and demands in these basins. There is currently no other local, state or federal agency which has the authority and capability to Partner with these four agencies in the development of strategies and actions which respond to projected imbalances between supplies and demands across both of these basins. An important nexus for Reclamation's involvement in the proposed Salinas and Carmel Basins Study is found under the State and Federal Coordinating Operating Agreement (COA). Since San Luis Obispo County has an annual allocation of 25,000 acre-feet of water from the State Water Project (SWP), the COA provides that delivered water may be supplied by either by the State Water Project or by Reclamation's Central Valley Project (CVP).

As evidenced in this proposal, extensive modeling and planning efforts have been undertaken independently in each of the three subbasins. The local agencies are now seeking Federal assistance in 1) integrating the individual system models into one linked model to provide a comprehensive system assessment tool with consistent data at the boundaries, and to consider impacts of climate change, and 2) leading and facilitating the evaluation of climate adaptation strategies that work best to meet all needs in the study area.

Federal expertise in hydrology, engineering, modeling, and climate analysis and the Basin Study results will provide the analysis and oversight needed to facilitate the identification of consistent, complimentary management activities in all three subbasins. Table 4 lists the Basin Plan elements and partner contributions. With Reclamation as the lead agency, it is anticipated that participation by other federal agencies result in a more complete and robust Basin Study.

FEDERAL NEXUS
The annual allocation of water from the State Water Project provides a nexus due to the COA stating that CVP water may be delivered.

The Salinas and Carmel River Basins generate over nine million visitors and $11 billion to the state and local economy, annually. The Salinas River Basin provides agricultural products that are distributed throughout the United States and as key exports to foreign trading partners. As agriculture is the backbone of the region's economy, water is its lifeblood. A federal interest therefore exists in ensuring that a major link in our nation's food supply and commerce remains viable and sustainable in the face of anticipated climate change impacts. However, this extremely productive area has also produced an imbalance of water supply for both the environmental and consumptive uses. Participation by federal partners will help the basins address complex issues by developing collaborative and comprehensive management approaches to water supply imbalances made worse by a changing climate. Federal resource agency participation will also be critical to address the habitat issues related to threatened and endangered species in the river basins.

There are numerous Federal facilities and agencies that provide important functions that are impacted by climate change within the study area that would benefit from participation as outlined in Table 5. The strongest nexus between Reclamation and the Basin Study is the fact that the Paso Robles Sub Basin is considering using water available under San Luis Obispo County's State Water Project (SWP) Contract to stabilize levels. The Central Valley Project (CVP) and SWP are jointly operated under a coordinated operating agreement (COA). The COA provides that either SWP or CVP water may be used for deliveries. Under the COA, any deliveries to the Paso Robles Sub Basin by the SWP is essentially the same as a delivery made by Reclamation's CVP (see Appendix D). This Basin Study is an opportunity to identify adaptation strategies to mitigate the impacts of climate change that also reduce the need for SWP and CVP water.

One such option involves optimizing and/or expanding the Salinas Reservoir Dam which is owned by the Army Corp of Engineers and is operated by San Luis Obispo County. The dam can currently store up to 23,843 acre-feet (AF). The original design of the dam included spillway gates that would have increased capacity to an estimated 45,000 AF, and an increase in safe annual yield of 1,650 AFY (see Appendix D). However, due to the expense of the modifications necessary and absence of a regional approach to consider this option, this adaptation strategy has not been pursued. Also, inflow may not be stored in the Salinas Reservoir unless there is a live stream in the Salinas River between the dam and the confluence on the Nacimiento River. Reclamation's overview capabilities and authorities, as well as its expertise in climate change analysis, will be important for helping to analyze the viability and benefit of this adaptation strategy and potentially move it forward.

Table 4. Basin Study Elements and Partner Contributions

Study Elements	Local Partners	Federal Partners
1. Modify projections of future supply and demand to include the impacts of climate change in a consistent manner across the study area and ensure consistent data is used at the boundaries of each sub basin.	Provide projections of future supply and demand Provide data and local studies regarding climate change risks and impacts on water supplies Provide data regarding sub basin boundary conditions Provide computer models	Use local data (e.g. Monterey County climate change impacts analysis methodology to be used for the Zone 2C model) and Federal data and techniques (e.g. West-Wide Climate Risk Assessments methods/process) to perform and/or enhance climate change risk assessments and studies across the study area Update supply and demand projections as needed to ensure consistency across the sub basins.
2. Analyze how the study area's existing water and power operations and infrastructure will perform in response to the projections of future water supplies and demands	Provide results of computer modeling and input data for runs that analyzed the impacts of changes of water supply on a variety of demands, along with demand change projections, if performed	Modify existing models and tools to integrate results from Objective #1 and to analyze or reanalyze the water and power operations and infrastructure performance projections as needed
3. Develop adaptation and mitigation strategies to improve operations and infrastructure to supply adequate water in the future	Provide information on the strategies under consideration in each area	Evaluate the effectiveness of the identified strategies using the results from Objective #2 and/or conducting additional modeling, and facilitate the development of any additional mitigation strategies
4. Perform trade-off analysis of the options identified and findings	Provide previous trade-off analyses and participate in trade-off analysis refinement	Perform/refine trade-off analyses to compare the potential costs and benefits of the adaptation strategies and develop findings

C4. EXISTING DATA AND MODELS, AND STUDY PARTNER FUTURE SUPPLY AND DEMAND ASSESSMENT ABILITIES

The Basin Study partners own and use extensive data sets, spreadsheet tools and models for water supply and demand projections that will also be used for this Basin Study.

Development of Integrated Hydrologic Models for the Salinas and Carmel River Basins

The Basin Study partners have collected data and studied the basins for many decades. The breadth and extent of the data available is too numerous to list here. Appendix F includes a summary of data and other relevant sources of information available to support the Basin Study. The SGMA requires consistent data (including groundwater elevation data, groundwater extraction date, surface water supply, total water use, change in groundwater storage, water budgets, sustainable yield) to be used in hydrogeologic analysis. The Basin Study partners are seeking Federal participation to ensure the models are consistently utilized, particularly at watershed and basin model boundaries, prior to using the models to analyze the effect of various water supply and demand projections and assessing the benefits and performance of various adaptation strategies. Table 6 summarizes the computer models and studies relevant to the proposed Basin Study and summarizes their relationship to the proposal. These are the models the Basin Study partners are seeking to leverage as part of this Basin Study.

The three major objectives of the model effort in support of the proposed Basin Study would be:

1. To evaluate and utilize existing hydrologic models developed for the Salinas and Carmel Basins and to leverage the investments made previously by the Partner agencies in these models.
2. To develop a comprehensive Salinas and Carmel basin hydrologic assessment tool (covering both the upper and lower Salinas basins) that uses data from the existing sub-basin models including the Paso Basin and the Carmel Valley models and others as appropriate.
3. To apply the most recent CMIP5 Global Climate Models (GCMs) which are appropriately downscaled to assess climate change impacts to supplies and demands across both of these basins.

The Salinas and Carmel River Basins are currently experiencing an imbalance in water supply and demand. These adjacent river basins have very different hydrologic systems as well as supply and demand issues. However, both the Salinas and Carmel basins have common issues relating to adequate supplies, resources and habitat management. Interbasin transfers of treated water is also occurring from the Carmel Basin to the Seaside groundwater basin. The overarching

EXHIBIT 3-B

Table 5 – Federal Partners and How They Benefit from the Basin Study

Federal Agency Active in Study Area	Relationship and Benefit to Study Area	Benefit of Performing Basin Study to the Federal Agency
US Bureau of Reclamation (Reclamation)	• Central Valley Project (CVP) – Paso Robles Sub Basin is considering using water available under San Luis Obispo County's State Water Project (SWP) Contract to stabilize levels – The CVP and SWP are jointly operated under a coordinated operating agreement (COA). The COA provides that either SWP or CVP water may be used for deliveries. Under the COA, any deliveries to San Luis Obispo County by the SWP is essentially the same as a delivery made by Reclamation's CVP. • Provided funding for the Castroville Seawater Intrusion Project	• Reclamation's SecureWATER basin study program is uniquely capable of bringing together San Luis Obispo and Monterey Counties - which encompass the Salinas River Basin and also incorporates the two special districts that provide water management and treatment in the Carmel River Basin on the Monterey Peninsula. The Reclamation's Basin Study program will provide the avenue to collaboratively involve the four non-Federal Partner agencies with Reclamation in order to investigate potential climate impacts to supplies and demands in these two river basins, which has never occurred before. • Identification of a range of adaptation strategies to mitigate the impacts of climate change, which may reduce the need for SWP and CVP water. • Identification of additional strategies to mitigate sea-water intrusion in light of climate change impacts.
US Geological Survey (USGS)	• Groundwater Ambient Monitoring and Assessment (GAMA) Program Priority Basin water quality testing • Future project to complete California's 4th Climate Change Assessment • Monterey County MOU	• Opportunity to integrate water quality findings from the GAMA program into adaptation strategy analysis • Potential for CAWSC staff to develop a number of climate future scenarios for the Salinas and Carmel basins, and support CAWSC's efforts associated with California's 4th Climate Change Assessment.
US Army Corps of Engineers (COE)	• Owns Salinas Dam and inspects levees on the Salinas River • Issue 404 permits for projects	• Re-evaluation of hydrologic conditions and Dam operations in light of climate change impacts • Identification of optimization and/or modification opportunities to meet multiple needs for study area
NOAA -National Marine Fisheries Service -Monterey Bay	• Responsible for federally threatened South Central California Coast Steelhead trout designated critical habitat • Primary administrator of the MBNMS	• Opportunity to integrate species and MBNMS needs into supply and demand assessments and mitigation strategies
US Fish and Wildlife Service (USFWS)	• Salinas River National Wildlife Refuge • Resposible for numerous federally threatened species	• Opportunity to integrate species needs into supply and demand assessments and mitigation strategies.
Federal Military Installations	• Army Reserve Garrison Fort Hunter Liggett, largest installation in the Army Reserve with 165,000 acres • US Army Defense Language Institute & Navy Post Graduate School	• Opportunity to integrate military installation water supply and demand needs into assessments and mitigation strategies analysis.
Bureau of Land Management (BLM)	• Manages more than 15,000 acres of Fort Ord and National Monument • Will manage approximately 1,000 acres in the Carmel River	• Opportunity to integrate BLM water supply and demand needs, and resource protection into assessments and mitigation strategies analysis.
U.S. Forest Service (USFS)	• Maintains Los Padres National Forest (large portions of upper watersheds)	• July, 2013 MOU between Reclamation and NFS establishing collaborative framework for watershed management to enhance water supplies and adapt to climate change.
U.S. Coast Guard Station - Monterey Bay	• Maritime law enforcement and search/rescue along the California coast. • Work jointly with other agencies in governing the MBNMS	• Relationship to the proosed basin study includes climate change induced extreme weather events, flooding and search and rescue.

EXHIBIT 3-B

Table 6 – Sources of Existing Models and Studies To Be Used

Basins	Existing Models/Studies	How the model and studies can be/have been used
CRB/SGB	2006 Carmel River Flood Insurance Study and HEC-RAS	Predict flood elevations/areas of inundation along Carmel River
	2014 CRB GSFLOW (PRMS linked to MODLFOW) – to be developed in 2015/16	Simulate Carmel River flow, reservoir storage, aquifer storage, diversions, water system operations
	2014 Canyon Del Rey HEC-HMS & HEC-RAS	Predict flood magnitudes, elevations, and areas of inundation
	Seaside Groundwater Basin Model	Simulate groundwater flow and contours with variable inputs/outputs to basin
PRGB	1991 Salinas Reservoir Expansion Feasibility Study	Established PRGB sustainability objectives
	2012 Groundwater Management Plan	Identified management strategies
	2014 Integrated Watershed/Groundwater Basin Computer Model (HSPF/Modflow) and 2015 Supply Options Study	Used the model to assess impacts to groundwater supply by: • Repeating the 1980 – 2011 hydrology and reservoir operation information for the simulation period 2012 – 2040 • Applying "no-growth" and "growth" future demand pumping estimates to establish baselines for strategy comparison and compare to basin level stability objectives • Identified and tested management strategies with the model and compared the degree of benefit and trade offs
	http://www.slocountywater.org/site/Water%20Resources/Water%20Forum/	
SVB	Integrated Groundwater Surface Water Model. Calibrated Baseline model (scheduled for completion early 2016)	Basin Sustainability: • Evaluate seawater intrusion on annual basis thru 2030/build-out • Evaluate groundwater level elevations on annual basis thru 2030/build-out • Evaluate total water demand on annual basis thru 2030/build-out • Assess climate change effects and combined effects of groundwater pumping and rising sea level on the location of the freshwater-seawater interface over time and develop projections of changes in seawater intrusion volume.
	Groundwater elevation contours Pressure 180 ft and Eastside shallow aquifers 1994-2013	
	Groundwater elevation contours Pressure 400 ft and Eastside deep aquifers 1994-2013	

purpose of combining both of these river basins into a singular basins study is to identify promising adaptation strategies which may potentially benefit both river basins. To address both local surface and groundwater management issues, the Partner agencies have developed multiple separate models in the Salinas and Carmel Valleys.

The proposed model framework for the basin study would include enhancing these models by ensuring consistency, particularly at basin boundaries, and for purposes of climate change impact analyses. Incorporated in these simulations will be the magnitude and frequency of known or anticipated water shortages and all natural and anthropogenic supply components. The shortages will be quantitatively analyzed and evaluated based on the magnitude and timing of shortages. Since the Basin Study will address water supply and the related effects of potential climate change on future water supply, it is essential to have models that can simulate all the known and anticipated supply and demands for all types of water uses (agricultural, municipal and industrial, environmental needs, and recreation). In addition, the nature of imbalances will include an analysis of quantity and quality of water supplies. In particular, the effects from sea-water intrusion will be simulated and evaluated from growing demand and sea-level rise related to climate change. The potential consequences for not addressing imbalances in supply and demand will be shown through tables, graphs, and other figures. Also additional sources of water that are currently not captured or reused will be identified.

Specifically, for the upper/lower Salinas Valley, the simulations will include connections to San Antonio, Nacimiento and Salinas Reservoirs. A review of the existing models will include providing input on the code selection used to develop the models. For example, MF-OWHM rev 2 is ideally suited as it will include the new Reservoir linkage Process (SWOPS) that simulates the reservoir inflows, outflows, charges and credits and demand driven releases of agriculture. This approach has already been successfully used bythe USBR and USGS for the Lower Rio Grande project EIS that also included climate change analysis. Specifically incorporating these reservoirs will allow an analysis of how this existing infrastructure and operations will perform in the face of changing water drivers, such as population increases, more

water-intensive agriculture, and climate change. Another GSFLOW based model of the Carmel River Valley may be constructed as this is a separate watershed and better suited to simulation with a combined PRMS-MODFLOW model like GSFLOW where there is less agriculture and a more dynamic interplay between rainfall runoff, streamflow and natural vegetation. However, the combination and linkage of these models will allow the development of appropriate adaptation and mitigation strategies to meet future water demands to be applied and analyzed. Furthermore, using these models trade-off analysis of the strategies identified and proposed alternatives in terms of their relative cost, environmental impact, risk (probability of not accomplishing the desired/expected outcome), stakeholder response, or other attributes common to the alternatives can be done.

The four non-Federal partners and Reclamation, which comprise the Study Team for the Salinas and Carmel Basins Study, are proposing that Reclamation's Technical Services Center (TSC) be the lead agency for development of the Basin Study's assessment-level hydrologic model. Preliminary discussions with TSC staff have indicated that the USGS's Water Science Center, located in Sacramento, may be engaged by the TSC in integrating the existing hydrologic models in the Salinas and Carmel Basins and to provide the technical expertise and recommended approaches to climate change downscaling and analysis.

Several options for the modeling approach used are anticipated to be developed as part of the Plan of Study. This includes possibly having the TSC assist with further development of the SWOPS pack package which will be publicly released as a joint product by the USGS as part of the second release of MODFLOW-OWHM (One Water Hydrologic Model) in 2016. The SWOPS process is linked to the streamflow routing and Farm Process within MF-OWHM and allows the simulation of charges, credits, carry over, changes in reservoir storage, inflows and outflows, delivery efficiencies, and calls linked to agricultural and other demands on a monthly basis.

The potential collaboration of USGS and Reclamation's TSC would enhance the information developed and credibility in the Salinas and Carmel Basin Study relating to climate downscaling, bias corrections, and analysis in coastal regions which require new and more refined methods than are currently being used by USBR. A potential collaboration with USGS brings expertise in several numerical codes as well as climate simulations specifically downscaled at a detailed resolution for the California coast The USGS has completed other linked climate change studies for the Central Valley and has a concurrent study in the adjacent Pajaro Valley that will also involve this same analysis. Alignment with this work would allow integration and consistency throughout the study area.

C5. THE LEVEL OF STAKEHOLDER INTEREST IN AND SUPPORT FOR THE BASIN STUDY

Due to the significant existing impacts of water demands outpacing supply in this study area, there is widespread stakeholder support for finding solutions to this imbalance.

Stakeholder participation on water related projects and studies have been extensive in the Salinas and Carmel River Basins. Water issues in general can always generate significant discussion and diverse opinions on the best approach to be implemented. However, while a healthy discussion is expected among stakeholders, there are no known opponents to this Basin Study; and in fact, the Basin Study partners expect there to be wide spread support for further efforts to develop more sustainable water supplies for the region. Letters of Support for the Basin Study are included in Appendix A and summarized in Table 7. The stakeholder groups in these basins are well defined and will be engaged during this study using existing processes and groups.

Paso Robles Groundwater Sub-Basin

The SLOCPWD serves as staff to the San Luis Obispo County Flood Control and Water Conservation District (District), and is the cost share partner for the Salinas and Carmel Rivers Basin Study. The District funds work efforts for PRGB water resource planning efforts carried out by the SLOCPWD via its Flood Control budgets. The SLOCPWD has led or participated in the development of the County's IRWM Plan, the Nacimiento Water Project, the Paso Robles Groundwater Basin Model and Management Plan, and the County-wide Master Water Report. All these efforts included stakeholder participation. Most recently, the District is funding a Water Supply Options Feasibility Study for the PRGB, which will provide some of the mitigation strategies to be evaluated in the Basin Study and include stakeholder outreach.

The District has a Paso Robles Groundwater Basin Advisory Committee, and the Feasibility Study and Basin Study will be developed in coordination with this Committee. In May of 2013, the Committee identified water supply options to benefit the Basin, including the Salinas River watershed, as a top solution to investigate. The Committee meets monthly on the third Thursday and all members of the public are invited to attend. The SLOPWD will also host town hall meetings in the evenings approximately every three to four months. All materials will be posted on the SLOCPWD's website and many events will be recorded.

Table 7 – List of Stakeholders Providing Letters of Support

Federal Government	State Government	Local Government	Local Stakeholders
U.S. Senator Barbara Boxer[1]	California Congresswoman Lois Capps[1]	County of San Luis Obispo, Board of Supervisors Debbie Arnold (Chair)	Paso Robles Agricultural Alliance for Groundwater Solutions (PRAAGS) Jerry Reaugh, Chairman
U.S. Dept of Commerce NOAA - NBNMS Paul Michel (Superintendent)	CA State Senator 17th District William Monning		Paso Robles Groundwater Basin Overliers for Water Equity (Pro Water Equity-PWE) Sue Luft, President
U.S. Department of Interior, USGS Eric Reichard (Director)	California Assemblyman Katcho Achadjian		Carmel Valley Association Patricia Walton, President
			Legislative Analyst of the San Luis Obispo County Farm Bureau Joy Fitzhugh

1. Letter to be sent directly to Reclamation

Salinas Valley Sub-Basin

MRWPCA has multiregional responsibility for wastewater treatment throughout the Salinas Valley, Carmel River, and Seaside Basins. MRWPCA was established in 1979 under a Joint Powers Authority (JPA) agreement between the City of Monterey, the City of Pacific Grove and the Seaside County Sanitation District. MRWPCA operates the regional wastewater treatment plant, including the Salinas Valley Reclamation Plant water recycling facility (collectively known as the Regional Treatment Plant), a non-potable water distribution system known as the Castroville Seawater Intrusion Project, sewage collection pipelines, and 25 wastewater pump stations. The MRWPCA mission is to meet the wastewater and reclamation needs of its member agencies while protecting the environment.

MCWRA's mission is to manage, protect, and enhance the quantity and quality of water and provide specified flood control services for present and future generations of Monterey County. MCWRA's nine member board include representatives appointed by each Board of Supervisor member from the five districts within the County. The remaining members are appointed from the Monterey County Farm Bureau, the Mayor select committee, the Grower-Shipper Association of Central California and the Board of Supervisors' as Agricultural Advisory Committee.

The proposed Basin study will compliment current stakeholder efforts already scheduled to take place. Climate change is a large consideration for studies that are in process, and that will be in process in the near future. Currently Monterey County is working on a new Salinas Valley Basin model, of which effects of climate change will need to be evaluated and/or modeled. The Water Resources Agency is evaluating constructing a tunnel to connect two reservoirs to increase the effectiveness of these structures, and that process will involve modeling climate change effects.

Also, the state has recently passed legislation called SGMA. SGMA requires that all basins plan to achieve sustainability by 2042. These efforts are just beginning, and there are required milestones that will need to be met. Again, climate change will be a major factor in keeping the basins to be studied sustainable, and there will be a great deal of stakeholder input into this process.

Carmel River Basin and Seaside Groundwater Basin

The MPWMD is a special district created by the California State legislature in 1977 to promote or provide for long term sustainable water supply and to manage and protect the water resources of the Monterey Peninsula for the benefit of the community and the environment. MPWMD is currently working with other local special districts, water purveyors, City governments, and other groups to fund water supply solutions. The MPWMD Board is comprised of five elected officials, one member appointed by a Mayor's group and one member appointed by the Monterey County Board of Supervisors. There are numerous opportunities for the public within the MPWMD organization to take part in water management issues. The MPRWA portfolio includes desalination, groundwater replenishment, aquifer storage and recovery, and recycled water.

Other regional stakeholders include local water purveyors (Cal-Am, Marina Coast Water District, City of Seaside, City of Salinas, California Water Service Company), recycled water purveyors (Carmel Area Wastewater District/Pebble Beach Community Services District), as well as governmental agencies such as Fort Ord Reuse Authority.

C6. THE EXTENT TO WHICH THE PROPOSED STUDY WILL EMPLOY AN INTEGRATED WATERSHED PLANNING APPROACH.

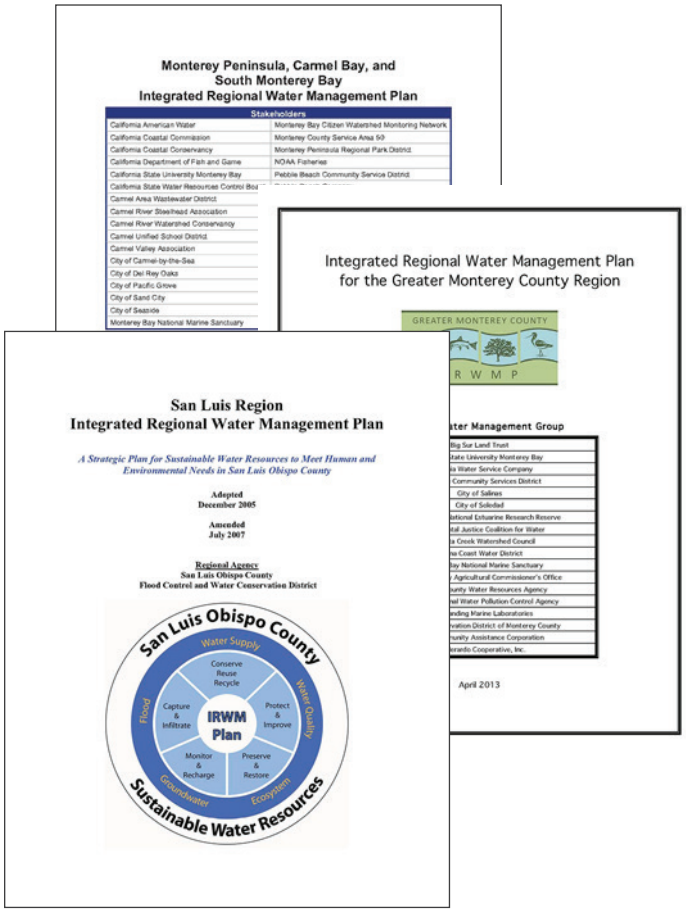
This Basin Study will identify relationships between sub-basins and identify climate adaptation strategies that result in water resources management strategies representing the most economically feasible, environmentally preferable and technically sustainable solutions to meet the future water resource management needs for the entire region, consistent with the integrated watershed approach already being implemented by the agencies in their IRWMPs.

The Basin Study partners are all key participants in California's IRWM Plan Program. Each is leading and/or participating in numerous water resources planning and implementation projects that have and will continue to shape water resource management through the use of an integrated watershed planning and management approach. Perhaps more importantly, their ongoing participation and familiarity with the IRWM Plan process means their regulating boards are accomplished with the use and procedures of the integrated planning process, their stakeholders are accustomed to participating in this process, and their service area residents are familiar with the process and its results. The Basin Study partners are also collaborating with each other by being stakeholders in each other's IRWM Plan efforts and participating in committees that have regional impacts. The associated IRWM Plans cover the following study areas: 1) the San Luis Obispo County Plan; 2) the Greater Monterey County Plan; 3) the Monterey Peninsula Carmel Bay, and Southern Monterey Bay Plan.

Pursuant to California's requirements, these IRWM Plans must address estimates of current and future water supply and demand, and the water management strategies of water supply reliability, water quality protection and improvement, groundwater management, ecosystem restoration, environmental and habitat protection and improvement, flood management, recreation and public access, storm water capture and management, water conservation, water recycling, and wetlands enhancement and creation on a regional basin. It is therefore the plan of the Basin Study partners to use these existing integrated watershed planning and management stakeholder network and framework to guide and develop the Salinas and Carmel Rivers Basin Plan Study.

The IRWM Plans establish "working groups". Members are expected to participate in all aspects of the IRWM Planning process. During Plan development, members attend monthly meetings, participate on subcommittees to develop various elements of the Plan, identify regional issues and conflicts, determine goals and objectives, and develop the process for ranking projects. As part of the Basin Plan Study, a Plan will be developed to identify how stakeholders will be engaged during the study, coordinated with the ongoing IRWM Plan outreach.

The goal of this Basin Study is to identify the most economically feasible, environmentally preferable and technically sustainable solutions to meet the future water resource management needs for all Salinas and Carmel River stakeholders. Building on the IRWM Plans' collaborative approaches will lead to identifying climate adaptation strategies that have the most benefits for the region and improved cooperative and integrated opportunities for more effective operation of existing systems and developing new projects. Water management strategies identified in the IRWM Plans will likely need to be refined given the results of the Basin Study's climate change-based analysis of supplies, demands, issues, and opportunities within the study area.



The three existing IRWMP efforts set the stage for successful outreach and integration.

Section D

STUDY OUTLINE AND SCHEDULE

Table 8 – Study Outline and Schedule

Schedule assumes a June 2015 Notice of Selection

Task	Partners Share[1]	Federal Share[2]	Estimated Cost	Proposed Schedule[4]
Task 1 – Pre-Study Efforts Summary: Scope out the study and agree to tasks, schedule, budget and roles/responsibilities for achieving study objectives in order to execute a Memorandum of Agreement (MOA) and develop a Plan of Study 1.a: Hold kick off meetings with study partners to establish: • Goals and objectives • Needs and challenges, and data gaps to be filled • Stakeholder outreach plan and regional coordination framework • Use of existing models • Climate change framework and scenarios to be applied • Decision criteria and basin balance objectives • Details of the technical sufficiency review 1.b: Prepare a detailed Plan of Study (POS) that outlines study goals objectives, management plan (including tasks, schedule and budget and study tasks for conducting the basin study and modeling approach). 1.c: Develop and execute MOA between project partners **Deliverable**: MOA and Plan of Study	$100,000	$25,000	$125,000	6/2015 to 9/2015
Task 2 – Model Development Integration/Calibration/Validation and GCM Modeling[3] Summary: Develop a comprehensive Salinas basin hydrologic model (covering both the upper and lower Salinas basins), integrate the model with the Paso Robles Groundwater Subbasin (Paso Basin) model, and assist with the completion of the Carmel Valley and Seaside Basin hydrologic model to ensure consistency as appropriate. Develop a detailed comprehensive downscaling of Global Climate Models (GCMs) in order to assess climate change impacts to supplies and demands across the basin, and apply and analyze selected GCMs to the Salinas, Paso Basin and Carmel Valley and Seaside Basin hydrologic models. 2.a: Data collection from various local sources 2.b: Determine model basis for model performance including common parameters, inputs for models and overall water balance 2.c: Federal technical sufficiency review models 2.d: Develop model integration approach for entire basin system 2.e: Refine and recalibrate model and conduct model simulations 2.f: Provide downscaled GCMs 2.g: Identify climate scenarios to evaluate (precipitation, sea level rise, temperature, others) and evaluate impacts through use of downscaled Global Climate Models. 2.h: Consider risk and reliability evaluation of dams and river channels, especially where requiring consultation with Federal agencies over impacts to T&E species or from increased flood risks. **Deliverable**: Technical Memorandum	$250,000	$550,000	$800,000	10/2015 to 2/2017
Task 3 – Current Water Supply and Demand Assessment Summary: Refine previous existing water supply and demand assessments to include considerations of variability due to climate change and to account for any demands not previously covered. Assessment to include quantification/identification of supply and demands. 3.a: Federal technical sufficiency review 3.b: Update water demand assessments as needed **Deliverable**: Technical Memorandum	$100,000	$50,000	$150,000	10/15 to 4/2016

EXHIBIT 3-B

Task	Partners Share[1]	Federal Share[2]	Estimated Cost	Proposed Schedule[4]
Task 4 – Future Water Supply and Demand Assessment Summary: Develop future water supply and demand assessments to include considerations of variability due to climate change and to account for any supplies not previously covered. Assessment to include change in timing and quantity of runoff, groundwater recharge/discharge and reservoir operations and potential for increased demands due to increases in temperature and evaporation. 4.a: Federal technical sufficiency review of previous existing and future water supply and demand assessments 4.b: Develop water supply and demand assessments as needed 4.c: Summarize in a Future Supply and Demand Assessment TM **Deliverable**: Technical Memorandum	$150,000	$100,000	$250,000	2/2017 to 5/2017
Task 5 – Identify Supply and Demand Imbalances Summary: Identify imbalances between existing and future water supply and demands under climate change scenarios on a regionwide basis. **Deliverable**: Technical Memorandum	$30,000	$30,000	$60,000	4/2017 to 6/2017
Task 6 – Develop Adaptation Strategies Summary: Identify Adaptation Strategies to address imbalances and risks. Alternatives will be developed to sufficient level of detail to be able to use the model to evaluate effectiveness of proposed strategies, assess rough cost and potential environmental impacts. 6.a: Review previously identified opportunities 6.b: Identify any additional opportunities to address 6.c: Summarize the opportunities to evaluate in the trade off analysis in a TM **Deliverable**: Technical Memorandum	$200,000	$70,000	$270,000	6/2017 to 9/2017
Task 7 – Trade-off Analysis of Strategies Summary: Compare alternatives identified for established metrics for each sub-basin and the system as a whole, including: • Environmental impacts • Risk/Reliability • Costs • Stakeholder support • Institutional/Regulatory • Performance • Recreational • Power Generation **Deliverable**: Technical Memorandum	$150,000	$50,000	$200,000	9/2017 to 12/2017
Task 8 – Findings and Recommendations Prepare a draft report summarizing and prioritizing the findings and recommendations of the alternatives analysis, including technical details, and a QA/QC review. Conduct a Technical Sufficiency review (by the Reclamation or TSR panel) of the modeling and draft report. **Deliverable**: Draft Basin Study Report and Response to Technical Sufficiency Review Comments	$50,000	$25,000	$75,000	1/2018 to 5/2018
Task 9 – Final Report A final report will be developed summarizing the findings of the Basin Study. **Deliverable**: Final Basin Study Report	$25,000	$15,000	$40,000	6/2018 to 9/2018
Task 10 – Stakeholder Outreach and Involvement/Project Team Meeting Identify and work with key stakeholders throughout the Basin Study to solicit input on the study findings and proposed alternatives through stakeholder meetings, small group meetings and a project website. **Deliverable**: Project Communications Plan, Stakeholder Workshops Meeting Minutes	$100,000	$35,000	$135,000	Ongoing
Proposed Carmel and Salinas Basins Study TOTAL	**$1,155,000**	**$950,000**	**$2,105,000**	

1. MCWRA, MRWPCA, MPWMD, SLOC; includes related costs since May 2014
2. USBR, USGS
3.Specific modeling approach to be defined in Plan of Study
4.Schedule to be confirmed as part of Pre-Study efforts.

EXHIBIT 3-B

Appendix A

SUMMARY OF REGIONAL STUDIES AND PARTNER COST SHARE

Table A1 – Summary of Basin Study Partners Cost Share

A. Agency	Relevant Past Studies and Costs Prior to April, 2014		Proposed In-Kind Services Match	
Monterey County Water Resources Agency (MCWRA)	• Protective Elevations to Control Sea Water Intrusion in the Salinas Valley, November 2013	$120,000	• 2013 Groundwater Extraction Summary, September 2014	$85,000
	• 2012 Groundwater Extraction Summary, September 2013	$84,000	• Seawater Intrusion Maps 2014	$90,000
	• State of the Salinas River Groundwater Basin Report, January 2015	$103,000	• Integrated Groundwater Surface Water Model (to be completed early 2016)	$671,000
	• Groundwater Level Contour Maps, 2013	$90,000	• Basin Study Plan Match (Staff resources)	$100,000
Monterey Peninsula Water Management District (MPWMD)	• SGB Salt and Nutrient Management Plan (2014)	$60,000	• 2014 Update to IRWM Plan (2014)	$156,000
	• Canyon Del Rey Drainage Plan Update (2014)	$250,000	• CRB Surface-Groundwater Model (GSFLOW) (2014)	$125,000
	• Los Padres Dam and Reservoir Acquisition: Long-Term Strategic and Short-Term Tactical Plan (2014)	$146,000	• Los Padros Dam Long-Term Plan Project (2015-16-17)	$500,000
			• Complete Instream Flow Incremental Method Study (IFIM) Study, 2017	up to $250,000
			• Carmel River Basin Surface-Groundwater Model (GSFLOW) (2015)	$50,000
			• Basin Study Plan Match (Staff resources)	$45,000
Monterey Regional Water Pollution Control Agency (MRWPCA)	• Pure Water Monterey Groundwater Replenishment Project (GWR) studies: - WaterSMART Feasibility Study - SGB Modeling - Indirect Potable Reuse - Agricultural Reuse - Seaside Basin Groundwater Flow Model	$1,960,000	• Basin Study Plan Match (Staff resources)	$120,000
San Luis Obispo County Public Works Department (SLOCPWD)	• Groundwater/Watershed Model Update and Mitigation Strategies Analysis, pre-April 2014	$357,000	• Groundwater/Watershed Model Update and Mitigation Strategies Analysis, post-April 30, 2014	$129,000
			• Water Supply Options Study	$657,000
			• Basin Study Plan Match (Staff resources)	$176,000
			- Model Runs	$30,000
Total	• **Past Studies (not included in cost share)**	**$3,070,000**	• **Applicable Studies/Staff Resources**	**$3,195,000**

Appendix B

LETTERS OF SUPPORT

EXHIBIT 3-B

United States Department of the Interior
U.S. GEOLOGICAL SURVEY
California Water Science Center
6000 J Street, Placer Hall
Sacramento, CA 95819

February 26, 2015

Mr. David Murillo, Regional Director
Bureau of Reclamation, DOI
Mid-Pacific Regional Office, Attn: MP-700
2800 Cottage Way
Sacramento, CA 95825

Dear Mr. Murillo,

This letter of interest is to express the USGS California Water Science Center's (CAWSC) desire to participate with the Bureau of Reclamation (Reclamation) and local partner agencies on the proposed Salinas and Carmel River Basins Study. As discussed at the February 20th meeting between our respective staff, CAWSC has a number of scientific projects and programs underway that could support the proposed basin study. The following paragraphs describe this ongoing work and possible future scientific study in the groundwater and climate change areas with potential benefit to the proposed basin study.

Groundwater Analyses:

In partnership with the California Water Resources Control Board, the USGS periodically assesses the groundwater quality in the Monterey Bay and Salinas Valley groundwater basins pursuant to the Groundwater Ambient Monitoring and Assessment (GAMA) Program's Priority Basin Project. This project focuses on drinking water quality. A number of reports have been published. The latest report, published in 2013 (web link: http://pubs.usgs.gov/fs/2011/3089/), concluded that nitrate is the constituent that most frequently exists at high concentrations in the primary aquifers.

It is our understanding from the Salinas-Carmel Basin Study Proposal submitted in 2014 that work is underway to develop a linked surface-groundwater model for the Carmel Basin using the USGS GSFLOW model. In addition, Brown and Caldwell consultants are working with the County of Monterey Resource Management Agency (with oversight by the Monterey County Water Resources Agency) on a comprehensive water resource assessment of Zone 2C of the Salinas River Groundwater Basin. Part of this assessment will be the development of an integrated hydrologic model. The CAWSC has developed and applied integrated surface-groundwater models for many coastal basins in California. Subject to funding availability, CAWSC staff are available to perform or assist with surface-groundwater modeling to assess impacts to groundwater supply under various land-use and climate change future scenarios and or code development or enhancement to better simulate the features of these systems (including reservoir operations). We could also assist with assessing potential seawater intrusion including computer simulations and geophysical mapping.

EXHIBIT 3-B

Climate Change Modeling:

The CAWSC has ongoing projects that assess the impact of climate change, population growth and land use change on future hydrology throughout the state. In order to evaluate the impact of climate change on hydrology, a number of future climate scenarios are developed from global climate models, such as CMIP5 (Coupled Model Intercomparison Project Phase 5), and then downscaled to 270-m resolution. This resolution allows for detailed modeling at the watershed level. An anticipated future product for California's 4th Climate Change Assessment is the spatial downscaling of daily projections that have been statistically downscaled to preserve extremes using the LOCA methodology. Subject to funding availability, CAWSC staff could develop hydrology associated with a number of climate future scenarios for the Salinas and Carmel basins.

The science support the CAWSC can provide to the Salinas and Carmel Basins Study could help Reclamation and its local partners quantitatively consider the impact of climate change and socio-economic factors on surface and groundwater resources and on water demands. We look forward to potentially working with Reclamation and the local partner agencies on this basin study to quantitatively assess the risks associated with climate change, population growth and land use changes on the eight Secure Water Act resource categories—water delivery, hydropower, recreation, flood control management, fish and wildlife habitat, endangered species, water quality and flow- and water-dependent ecological resiliency.

Sincerely,

Eric Reichard,
Director, USGS California Water Science Center

EXHIBIT 3-B

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0035
(916) 319-2035
FAX (916) 319-2135

DISTRICT OFFICE
1150 OSOS STREET SUITE 207
SAN LUIS OBISPO, CA 93401
(805) 549-3381
FAX (805) 549-3400

Assembly
California Legislature

KATCHO ACHADJIAN
ASSEMBLYMEMBER, THIRTY-FIFTH DISTRICT

COMMITTEES
VICE CHAIR: TRANSPORTATION
BANKING AND FINANCE
GOVERNMENTAL ORGANIZATION
UTILITIES AND COMMERCE

JOINT COMMITTEES
FAIRS, ALLOCATION AND CLASSIFICATION
FISHERIES AND AQUACULTURES
LEGISLATIVE AUDIT

April 27, 2015

Attn: David Murillo, Regional Director
U.S. Department of the Interior, Bureau of Reclamation
Mid-Pacific Regional Office, Federal Office Building
2800 Cottage Way
Sacramento, CA 95825-1898

Subject: **Monterey County Water Resources Agency & San Luis Obispo County Joint Proposal for USBR WaterSMART Salinas and Carmel River Basins Study**

Dear Sir:

Thank you for the opportunity to submit a letter of support on behalf of the joint proposal for a U.S. Department of the Interior Bureau of Reclamation (USBR) 2015 WaterSMART Basin Study for the Salinas and Carmel River Basins, with the Paso Robles Groundwater Basin as a sub-basin. This letter comes at a critical time when the "perfect storm" of drought, long-term groundwater level declines and water demand increases have elevated the need of rural residents and agricultural users who depend on these Basins.

Most areas within these basins have recently felt the direct and indirect impacts of changing environmental conditions on water supplies, hydropower, fish and wildlife habitats, water quality and implementing flood control policies. Your agency's assistance in understanding and quantifying the Salinas and Carmel River Basins over the long-term, including climate change considerations, would greatly contribute to and enhance our efforts of evaluating the feasibility of stabilizing the basins and mitigating flood hazards. The proposal is also submitted by the Monterey Peninsula Water Management District and the Monterey Regional Water Pollution Control Agency and will include areas within the service boundaries of each agency.

The Basin Study would assist the non-federal partners in collaborating with the Bureau to analyze the potential impacts of climate change to water supplies and demands; identify a broad spectrum of adaption strategies; identify funding opportunities for future projects; facilitate communication and collaboration between partner agencies and the Bureau of Reclamation, and utilize other basin study reports or documents to directly benefit the "in-kind" contributions of the partner agencies.

I am certain you will find the scope of work outlined in the WaterSMART Basin Study Proposal for the Salinas and Carmel River Basins are consistent with the USBR's goals associated with ensuring the people of California have access to clean, safe and reliable drinking water now and into the future. A Basin Study from the USBR will assist all who utilize the Salinas and Carmel River Basins in both Monterey and San Luis Obispo Counties.

Sincerely,

Khatchik H. "Katcho" Achadjian
35th Assembly District

EXHIBIT 3-B

April 28, 2015

Attn: David Murillo, Regional Director
U.S. Department of the Interior, Bureau of Reclamation
Mid-Pacific Regional Office, Federal Office Building
2800 Cottage Way
Sacramento, CA 95825-1898

Re: **Monterey County Water Resources Agency & San Luis Obispo County Joint Proposal for USBR WaterSMART Salinas and Carmel River Basins Study**

Dear Sir:

PRAAGS is a local organization of rural residents, farmers, ranchers and landowners pursuing the creation of a local water district covering the Paso Robles Groundwater Basin. We feel that local folks with interest in the health of a declining groundwater basin are in the best position to manage our water resource. The relationship between groundwater and surface water resources are closely tied together.

We encourage and support the joint proposal for a U.S. Department of the Interior Bureau of Reclamation (USBR) 2014 WaterSMART Basin Study for the Salinas and Carmel River Basins, with the Paso Robles Groundwater Basin as a sub-basin.

As with many areas in the State of California, the Paso Robles Groundwater Basin is in decline and our efforts to properly manage the basin can only be enhanced by your efforts to help analyze potential impacts of changing weather patterns, study of supply and demands on our water resources, and develop strategies for stabilizing our basin. Collaboration and funding are also key components for success.

Again, we encourage your efforts and look forward to your assistance in managing our important water resources.

Regards,

Jerry Reaugh
Viticulturist
Chairman PRAAGS
Paso Robles Agricultural Alliance for Groundwater Solutions

PO Box 1499 • Paso Robles, California 93447 • 805-465-6355

EXHIBIT 3-B

PRO Water Equity, Inc.

Paso Robles Groundwater Basin Overliers for Water Equity

www.prowaterequity.org
info.prowaterequity@gmail.com
www.facebook.com/ProWaterEquity
P.O. Box 255, Templeton, CA 93465

April 18, 2015

Attn: David Murillo, Regional Director
U.S. Department of the Interior, Bureau of Reclamation
Mid-Pacific Regional Office, Federal Office Building
2800 Cottage Way
Sacramento, CA 95825-1898

Subject: **Monterey County Water Resources Agency & San Luis Obispo County Joint Proposal for USBR WaterSMART Salinas and Carmel River Basins Study**

Dear Sir:

In a letter dated February 13, 2014, PRO Water Equity indicated our support of the joint proposal for a U.S. Department of the Interior Bureau of Reclamation (USBR) 2014 WaterSMART Basin Study for the Salinas and Carmel River Basins, with the Paso Robles Groundwater Basin as a sub-basin. We are hereby reiterating our support for this proposal.

We are continuing through a critical time when the "perfect storm" of drought, long-term groundwater level declines and water demand increases have elevated the needs of rural residents and agricultural users who depend on these basins.

Most areas within these basins have recently felt the direct and indirect impacts of changing environmental conditions on water supplies, hydropower, fish and wildlife habitats, water quality and implementing flood control policies. Your agency's assistance in understanding and quantifying the Salinas and Carmel River Basins over the long-term, including climate change considerations, would greatly contribute to and enhance our efforts to evaluate the feasibility of stabilizing the basins and mitigating flood hazards. The proposal is also submitted by the Monterey Peninsula Water Management District and the Monterey Regional Water Pollution Control Agency and will include areas within the service boundaries of each agency.

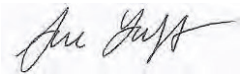
The Basin Study would assist the non-federal partners in collaborating with the Bureau to:

- Analyze the potential impacts of climate change to water supplies and demands
- Identify a broad spectrum of adaptation strategies
- Identify funding opportunities for future projects
- Facilitate communication and collaboration between partner agencies and the Bureau of Reclamation
- Utilize other basin study reports or documents to directly benefit the "in-kind" contributions of the partner agencies

Mission Statement: To promote the health, safety, common good and general welfare of the community by advocating for the stabilization and sustainability of the Paso Robles groundwater basin for the benefit of all overliers.

I am certain you will find the scope of work outlined in the WaterSMART Basin Study Proposal for the Salinas and Carmel River Basins is consistent with the USBR's goals associated with ensuring the people of California have access to clean, safe and reliable drinking water now and into the future. A Basin Study from the USBR will assist all who utilize the Salinas and Carmel River Basins in both Monterey and San Luis Obispo Counties.

Sincerely,



Sue Luft
President

EXHIBIT 3-B

STATE CAPITOL
SACRAMENTO, CA 95814
(916) 651-4017

California State Senate

SENATOR
BILL MONNING
SEVENTEENTH SENATE DISTRICT

SENATE CAPITOL OFFICE
STATE CAPITOL, ROOM 4066
SACRAMENTO, CA 95814
PHONE: (916) 651-4017

MONTEREY DISTRICT OFFICE
99 PACIFIC AVE., SUITE 575-F
MONTEREY, CA 93940
PHONE: (831) 657-6315

SAN LUIS OBISPO DISTRICT OFFICE
1026 PALM STREET, SUITE-201
SAN LUIS OBISPO, CA 93401
PHONE: (805) 549-3784

GILROY DISTRICT OFFICE
7800 ARROYO CIRCLE, SUITE-A
GILROY, CA 95020
PHONE: (408) 847-6101

SANTA CRUZ DISTRICT OFFICE
701 OCEAN STREET, SUITE 318-A
SANTA CRUZ, CA 95060
PHONE: (831) 425-0401

WEB: http://sd17.senate.ca.gov/

April 27, 2015

David Murrillo, Regional Director
Mid-Pacific Regional Office
Bureau of Reclamation
United States Department of the Interior
Federal Office Building
2800 Cottage Way
Sacramento, CA 95825-1898

Dear Director Murillo:

This letter is to express my support for the San Luis Obispo County Public Works Department and Monterey County Resources Agency's joint application for a United States Department of the Interior Bureau of Reclamation 2015 WaterSMART Basin Study for the Salinas and Carmel River Basins, with the Paso Robles Groundwater Basin as a sub-basin.

The water demands on the Salinas and Carmel River Basins, along with the Paso Robles Basin, have rapidly increased due to the growth in the use of water by rural residents and the agricultural industry. These water demands have created long-term groundwater declines that are being exacerbated by the drought in California.

A 2015 WaterSMART Basin Study would provide a better understanding of the direct and indirect impact of groundwater decline on hydropower, fish and wildlife habitats. Additionally, the Study will allow stakeholders to identify future water management strategies, as well as future projects that may be needed, and I ask that you give all due consideration to the San Luis Obispo County Public Works Department and Monterey County Resources Agency's joint application for a 2015 WaterSMART Basin Study.

Thank you for your time.

Sincerely,

WILLIAM W. MONNING
Senator, 17th District

WWM:kb

EXHIBIT 3-B

Carmel Valley Association

P.O. Box 157, Carmel Valley, California 93924

www.carmelvalleyassociation.org

Since 1949

April 24, 2015

Michelle H. Denning, Regional Planning Officer
U.S. Dept. of the Interior
Bureau of Reclamation
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

Subject: Letter of Support for the Salinas and Carmel River Basins Study

Dear Ms. Denning,

The Carmel Valley Association (CVA) has a deep and abiding concern for the capacity and health of the Carmel River and the valley groundwater basin that collectively make up the hydrologic Carmel Valley basin. On behalf of the CVA, I would like to express our support for the Salinas and Carmel River Basins Study proposal. It is our understanding that the intent of this study is to evaluate the effects of global climate change and future changes in population and land use on sustainable water supplies. This would include such factors as changing precipitation patterns, surface water runoff and basin recharge and sea level rise. Further, the basin study would develop appropriate adaptation strategies to close the gap between water supply and demand under the effects of climate change.

It is paramount that the Basin Study program reviews all of the water resources in each basin to help determine the availability of water and to develop a better understanding of the potential solutions for the long term sustainability of these resources.

As the California drought has strengthened its grip on the State, we are encouraged by the collaborative effort of the partner entities for submitting this proposal. These partner entities include: Monterey County Water Resource Agency, San Luis Obispo County Public Works, Monterey Peninsula Water Management District and the Monterey Regional Water Pollution Control Agency.

The Basin study partner agencies and other stakeholders that represent various interests in the respective service areas are keenly aware of the need to balance water supplies and demands for the environment, municipal, industrial, and agriculture uses. The deliverables from the Basin Study would have contributions from these entities and would assist in developing robust strategies for future considerations.

EXHIBIT 3-B

We strongly encourage the Bureau of Reclamation to consider funding this important Basin Study project. Please contact our Water Committee Chair, Roger Dolan, at r2dolan@gmail.com and/or 831-622-9016 if you have any questions or comments about our support of this proposal.

Sincerely,

Priscilla Walton
President, Carmel Valley Association

cc: Larry Hampson
Monterey Peninsula Water Management District

EXHIBIT 3-B

SAN LUIS OBISPO COUNTY FARM BUREAU

4875 MORABITO PLACE ♦ SAN LUIS OBISPO, CA 93401
PHONE (805) 543-3654 ♦ FAX (805) 543-3697 ♦ www.slofarmbureau.org

April 28, 2015

David G. Murillo, Regional Director
U.S. Dept. of the Interior
Bureau of Reclamation
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

Re: Support for the Salinas/Carmel River Basins Study

Dear Director Murillo:

San Luis Obispo County Farm Bureau is pleased to be able to join the many supporters of the WaterSMART collaborative Salinas and Carmel River Basins Study, which includes the Paso Robles Groundwater Basin as a sub-basin and is being proposed by the U.S. Bureau of Reclamation.

This is a critical time for all stakeholders, especially agriculture in light of the continuing historic drought and water declines in the Salinas Groundwater Basin, the Salinas and Carmel River Basins Study area as well as the whole of California. We support the need to consider the effects of the possible impacts of climate change on our watersheds. We look for the Basin Study to create a fuller understanding of the Basins' resources, as well as the effects of climate change on water supplies, water quality and habitat. It is our hope that the study to fill vital data gaps and look for potential long term management strategies that will create sustainability for all entities dependent on the Basins.

San Luis Obispo County Farm Bureau looks forward to participating as a stakeholder in the program and believe that the Basin Study will help all stakeholders to develop long term solutions to the many basin issues in both Monterey and San Luis Obispo Counties.

Sincerely,

Legislative Analyst

Mission Statement:
"To lead San Luis Obispo County in the protection, promotion and advocacy of agriculture for the benefit of our members and community."

EXHIBIT 3-B

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Monterey Bay National Marine Sanctuary
99 Pacific Street, Bldg 455a
Monterey, CA 93940

April 28, 2015

Michelle H. Denning, Regional Planning Officer
U.S. Dept. of the Interior
Bureau of Reclamation
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

Subject: Letter of Support for the Salinas and Carmel River Basins Study

Dear Ms. Denning,

On behalf of Monterey Bay National Marine Sanctuary, I would like to express our support for the Salinas and Carmel River Basins Study proposal. It is our understanding that the intent of this study is to evaluate the effects of global climate change and future changes in population and land use on sustainable water supplies. This would include such factors as changing precipitation patterns, surface water runoff and basin recharge and sea level rise. Further, the basin study would develop appropriate adaptation strategies to close the gap between water supply and demand under the effects of climate change.

It is paramount that the Basin Study program reviews all of the water resources in each basin to help determine the availability of water and to develop a better understanding of the potential solutions for the long term sustainability of these resources.

As the California drought has strengthened its grip on the State, we are encouraged by the collaborative effort of the partner entities for submitting this proposal. These partner entities include: Monterey County Water Resource Agency, San Luis Obispo County Public Works, Monterey Peninsula Water Management District and the Monterey Regional Water Pollution Control Agency.

The Basin study partner agencies and other stakeholders that represent various interests in the respective service areas are keenly aware of the need to balance water supplies and demands for the environment, municipal, industrial, and agriculture uses. The deliverables from the Basin Study would have contributions from these entities and would assist in developing robust strategies for future considerations.

We strongly encourage the Bureau of Reclamation to consider funding this important Basin Study project. Please contact Bridget Hoover at (831) 647-4217 you have any questions or comments regarding our support of this proposal.

Sincerely,

Paul Michel
Superintendent

EXHIBIT 3-B

Appendix C

SOURCES OF HISTORICAL DATA AND REPORTS

Sources of Historical Data and Reports

Basin Study Areas	Sources of Data/Reports
CRB/SGB	1983 Analysis of the Carmel Valley Alluvial Groundwater Basin 2002 Carmel River Basin Water Availability Analysis 2004 Physical and Hydrologic Assessment of the Carmel River Watershed 2005 Seaside Groundwater Basin Update 2006 Carmel River Flood Insurance Study Coastal Flooding Analysis 2008 Coastal Regional Sediment Management Plan in Southern Monterey Bay 2012 Evaluation of Erosion Mitigation Alternatives for Southern Monterey Bay 2013 Carmel River Lagoon and Scenic Road Protection Feasibility Report 2014 Los Padres Dam Long Term Plan 2014 Seaside Groundwater Basin Salt and Nutrient Management Plan 2014 Canyon Del Rey Drainage Plan Update
PRGB	2002 Basin Study 2005 Basin Model Report 2009 Master Water Report 2009 Projected Future Climatic and Ecological Conditions in San Luis Obispo County 2010 Integrated Climate Change Adaptation Planning in San Luis Obispo County 2011 Resource Capacity Study 2012 Groundwater Management Plan 2014 Computer Model Update Report 2014 Watershed Repository 2015 Supply Options Study Technical Memorandums
SVB	2001 Salinas Valley Water Project Draft/Final EIR/EIS 2007 Monterey County General Plan 2013 Greater Monterey County Integrated Regional Water Management Plan 2013 Protective Elevations to Control Sea Water Intrusion in the Salinas Valley 2015 Salinas River Groundwater Basin Investigation

EXHIBIT 3-B

Appendix D

STATE AND FEDERAL COORDINATED OPERATING AGREEMENT

SALINAS RESERVOIR EXPANSION PROJECT

EXHIBIT 3-B

State/Federal COA:

Coordinated Operations Agreement (COA)

Background

The Agreement between the United States of America and the State of California for Coordinated Operation of the Central Valley Project and the State Water Project was authorized by PL 99-546 in 1986. It superseded a 1960 agreement and annual coordination agreements that had been implemented since the SWP came on-line. The COA is both an operations agreement and a water rights settlement. Its history extends back to Reclamation protests of SWP water rights applications around 1960. The purpose of the COA is to ensure that the CVP and the SWP each obtains its share of water from the Delta and bears its share of obligations to protect the other beneficial uses of water in the Delta and Sacramento Valley. Coordinated operation by agreed-on criteria can increase the efficiency of both the CVP and the SWP.

The CVP and SWP (collectively, the projects) use a common water supply in California's Central Valley. The projects have built water conservation and water delivery facilities in the Central Valley to deliver water supplies to affected water rights holders as well as project contractors. The projects' water rights are conditioned by the SWRCB to protect the beneficial uses of water within each respective project and jointly for the protection of beneficial uses in the Sacramento Valley and Sacramento-San Joaquin Delta Estuary. The COA memorializes these facts and objectives into an agreement for which the projects can use the water resources for project purposes and meet the common beneficial uses in the Sacramento Valley and Sacramento-San Joaquin Delta Estuary.

In summary, the COA defines the project facilities and their water supplies, it sets forth procedures for coordination of operations, it identifies formulas for sharing joint responsibilities for meeting Delta standards and other legal uses of water, it identifies how unstored flow will be shared, it sets up a framework for exchange of water and services between the SWP and CVP, and, finally, it provides for periodic review every 5 years.

The CVP and SWP use the Sacramento River and the Delta as common conveyance facilities. Reservoir releases and Delta exports must be coordinated to ensure that each project achieves its share of benefit from shared water supplies and bears its share of joint obligations to protect beneficial uses.

alternative indicates that the available natural runoff into the reservoir is more than adequate to justify the full expansion project from a hydrologic standpoint. However, the intermediate expansion project may be more economical, depending on project costs.

The reason that the expansion project is so effective in providing additional water supply yield is indicated by the results in Table 6-2. Under existing conditions, the simulated operation of the CITY's two reservoirs in a coordinated fashion would result in average reservoir spill of about 12,430 AF/YR and net evaporation loss of about 2350 AF/YR. The other uses, including Whale Rock entitlements by State agencies and downstream release requirements for both reservoirs, are not altered by the expansion project. For the assumed proposed condition (maximum expansion), the average spill quantity is reduced to about 10,150 AF/YR while the net evaporation loss in increased to about 3110 AF/YR. The differences between the existing and proposed conditions reveal that reservoir spills are reduced by almost 2,300 AG/YR because of the additional storage capacity available to capture water during high flow periods. However, the net evaporation losses increase by about 760 AF/YR due to higher reservoir levels (i.e., greater surface area). Nevertheless, by capturing and later using a significant amount of water that would otherwise spill, the capability of the CITY's water supply system can be greatly enhanced by expansion of Salinas Reservoir.

newch6.rpt/ros

WATER SUPPLY PLANNING COMMITTEE

ITEM: ACTION ITEM

4. CONSIDER RECOMMENDATION TO THE BOARD REGARDING A FINANCE PLAN FOR UTILIZATION OF USER FEE AND WATER SUPPLY CHARGE FUNDS

Meeting Date:	**April 5, 2016**	**Budgeted:**	**N/A**
From:	**David J. Stoldt General Manager**	**Program/ Line Item No.:**	**N/A**
Prepared By:	**David J. Stoldt**	**Cost Estimate:**	**N/A**

General Counsel Approval: N/A
Committee Recommendation:
CEQA Compliance: N/A

SUMMARY: On January 25, 2016 the California Supreme Court filed its opinion in the suit the District brought against the California Public Utilities Commission (CPUC or PUC), determining "PUC Decision No. 11-03-035 (rejecting Cal-Am's application for authorization to collect the District's user fee, and also rejecting the settlement agreement entered into by Cal-Am, the District, and the Division of Ratepayer Advocates) and PUC Decision No. 13-01-040 (denying the District's application for rehearing) are set aside. The matter is remanded to the PUC for further proceedings consistent with the views expressed herein." A new Commissioner, Liane Randolph was assigned to the case on March 24, 2016. The Administrative Law Judge (ALJ) assigned by the CPUC remains Mary Beth Bushey. On March 30, 2016 the Commissioner and ALJ issued a ruling stating that the District's Water Supply Charge provides the relief sought by the 2010 application, hence rather than reinstating the User Fee we must now have to comment and demonstrate how that is not the case. The process could become protracted and last beyond the July 1 start of the fiscal year.

As discussed under "LEGAL AUTHORITY" below, On March 16, 2016 the law firm of Colantuono, Highsmith, Whatley PC issued the legal opinion (**Exhibit 4-A**, attached) answering four of the District's questions in the District's favor. Hence, the District will have great flexibility in assessing and using the User Fee going forward.

However, District Ordinance No. 152 which established the Water Supply Charge states in its Section 10.C(b) that the District shall not collect a Water Supply Charge "to the extent alternative funds are available via a charge collected on the California American Water Company bill." Therefore, it is incumbent upon the board to examine its needs and availability of its two primary funding sources and develop a plan for their use, including reductions or possible sunsets of either or both.

The General Manager and Chief Financial Officer have thoroughly examined the issue and makes the following recommended strategy:

- Collect both charges for at least 3 years. This would be done for 4 key reasons: (i) the User Fee would primarily fund programs already in Cal-Am surcharges (District conservation and river mitigation), so there is little "new" revenue; (ii) the Monterey Peninsula Taxpayers Association lawsuit over the Water Supply Charge remains unresolved, hence that revenue remains at risk; (iii) there are still large near-term expenditures required on water supply projects; and (iv) Cal-Am has a recent history of significant revenue undercollection, so the viability of the User Fee is at risk until the CPUC rules on a more stable rate design, and the predictability of the User Fee revenue is better known. After that time, begin to sunset or reduce collections of either or both, if possible.

- Have only a single MPWMD User Fee Surcharge on Cal-Am bill, instead of a mitigation surcharge, a conservation surcharge, and the User Fee.

- Remove the existing Conservation Surcharge and Mitigation Program expenses from the Cal-Am rates beginning July 1, 2016. Capture in MPWMD User Fee budget. Cal-Am to remain responsible for its rebate budget until the User Fee has capacity.

- Remove the same programs from the next GRC period (2018-2020).

- Calculate solely on "Total Water Service Related Charges" line on bill, ensuring that there is no "surcharge on a surcharge", rather the User Fee is based solely on Cal-Am water and meter revenues.

- Amount to be set after additional consultation with Cal-Am and at least 30 days prior to July 1, 2016.

- Cal-Am shall remit with regularity (monthly) and automatically.

- There should be a reporting requirement by Cal-Am in order for the District to audit its receipts.

- Undercollections should get added to the WRAM and remitted to the District when collected.

RECOMMENDATION:

BACKGROUND: The District is authorized, by law, to impose rates and charges for services, facilities, or water that it may furnish, as well costs of operations and activities related to the provision of water delivered by others. The District first implemented a User Fee in 1983 as a percentage of the California American Water (Cal-Am) bill to fund District activities and collected it continuously until temporarily suspended by the CPUC on May 24, 2011.

The District modified its User Fee by Ordinance sixteen times from 1983 through 2008. The proceeds of the User Fee have been used to support the District's environmental mitigation, conservation and rationing, water supply, and any other purposes throughout the history of its collection;

District Ordinance 61 adopted July 20, 1992 established a User Fee at 7.125 percent of the Cal-Am bill, an amount that was reinforced by Ordinance 67 in1992, Ordinance 78 in 1995, and Ordinance 82 in 1996 and all four ordinances preceded Proposition 218, the self-titled "Right to Vote on Taxes Act" approved by voters November 5, 1996 and which added Articles XIIIC and XIIID to the California Constitution, and made numerous changes to local government finance law, a defines a fee or charge subject to Proposition 218. District Ordinance 138 adopted December 8, 2008 reaffirmed the addition of a 1.20 percent to the User Fee after a Proposition 218 protest hearing, said amount to support the funding of the District's Aquifer Storage and Recovery (ASR) program, bringing the total amount of the User Fee to 8.325 percent of the Cal-Am bill.

The CPUC in Decision D.09-07-021 in July 2009 prohibited further regular collection and disbursement by Cal-Am to the District of its User Fee and directed such amounts to be recorded in a memorandum account until Cal-Am reapplies to the CPUC proposing a program to reinstate the User Fee. Such application was made January 5, 2010. A motion to approve an all-party settlement was made to the CPUC in May 2010 which would have allowed continued past practice of collection of the District User Fee on Cal-Am bills. CPUC decision D.11-03-035, issued March 24, 2011 rejected the joint settlement agreement. The CPUC halted collection of the User Fee and ordered the memorandum account closed May 24, 2011. On January 24, 2013 the CPUC issued decision D.13-01-040 modifying D.11-03-035 and denying any further rehearing of the matter.

The District on February 22, 2013 filed a Petition for Review of CPUC Decisions D.11-03-035 and D.13-01-040 with the California Supreme Court.

On January 25, 2016 the California Supreme Court filed its opinion in the matter, as described under "SUMMARY" above.

LEGAL AUTHORITY: On February 18, 2016 the general manager asked for outside counsel legal opinions on four matters:

1) The User Fee at an amount of 7.125% was in place prior to Proposition 218. Can we reinstate it on the Cal-Am bill without a Prop 218 protest hearing process? The theory being that the District never terminated the fee, rather was inappropriately barred from collecting it. Further, 7.125% was continuously collected from the Seaside municipal water distribution system and the Pebble Beach Reclamation project even during the time the CPUC barred its collection on the Cal-Am bills.

2) The 1.2% component was designated for Aquifer Storage and Recovery (ASR) by District Ordinances 123 and 138 and was established pursuant to Prop 218 with a protest hearing. Can we reinstate it without a Prop 218 protest hearing process for use on ASR?

3) The establishment of the District's User Fee dates back to 1983, but it has been changed by ordinance several times. The Ordinances have tended to describe the uses of the money, sometimes generally such as Section 5 of Ordinance 78, or sometimes more specifically, such as Section 6 of Ordinance 61. Then Section 3 of Ordinance 67 appears to give the Board broad authority to use the User Fee proceeds in any manner and was the last active ordinance which established the 7.125% level. Hence, if Question 1 is answered in the affirmative, does the District have the authority to allocate the revenues to any purpose of the District?

4) Can the District "establish" the User Fee at the total of 8.325% of the water bill, but then waive collection of all or a portion of it if not all the money is needed at that time? (e.g. use the grandfathered 7.125% amount but collect, for example, only 4.0% worth of it one year, 6.5% the next, and so on)

On March 16, 2016 the law firm of Colantuono, Highsmith, Whatley PC issued the legal opinion (**Exhibit 4-A**, attached) answering all four of the questions in the District's favor. Hence, the District will have great flexibility going forward.

AVAILABILITY AND USE: Potential collection from a User Fee on the Cal-Am bill will be dependent on the level of Cal-Am revenues. Using amounts approved for the current General Rate Case period, we estimate approximately $57 million in total Cal-Am revenue, as shown below:

2015 Revenue Requirement per CPUC General Rate Case A.13-07-002	$53,205,444
2016 allowed increase of 3.90%	$55,280,456
2017 allowed increase of 3.02%	$56,949,926

However, Cal-Am has experienced collection problems in its Monterey District, as shown here:

CALIFORNIA AMERICAN WATER COMPANY
MONTEREY RATE DESIGN AND RATIONING APPLICATION
FIVE YEAR COMPARISON OF AUTHORIZED/ACTUAL CONSUMPTION AND REVENUE

	Residential Consumption (AF)			Residential Quantity Revenue		
	Authorized	Actual	Percent Dif.	Authorized	Actual	Percent Dif.
2010[(1)]	7,755	7,140	-7.9%	$ 22,564,085	$ 14,764,965	-34.6%
2011	8,216	7,202	-12.3%	$ 24,165,312	$ 15,071,310	-37.6%
2012	7,315	7,392	1.0%	$ 27,672,417	$ 20,926,190	-24.4%
2013	8,433	6,865	-18.6%	$ 28,136,600	$ 18,954,319	-32.6%
2014	7,278	6,951	-4.5%	$ 28,846,295	$ 22,178,830	-23.1%
		Average	-8.5%		Average	-30.5%

Residential volumetric revenue is approximately 37% of the whole revenue requirement.

30.5% x 37% = 11.3% average undercollection of total revenues

Thus, 2017 assumed revenues of $56,949,926 minus 11.3% equals $50,523,127 of Cal-Am revenue. Assuming the approved levels of User Fee, this would result in the following amounts annually to the District.

1.2% ASR User Fee = $606,280 per year (2017 revenues)

7.125% User Fee = $3,599,770 per year (2017 revenues)

The 1.2% ASR amount would be assigned to ASR as shown in **Exhibit 4-B** and the 7.125% would be applied first to the District's mitigation and conservation programs. Doing so, leaves the District less than $700,000 dollars a year in revenues available for any other purpose as shown below:

Available from 7.125% User Fee	$3,599,770
Conservation Surcharge costs	-330,000
Mitigation Program Costs	-2,580,130
"Excess" Available for other uses	689,640

This assumes the undercollection rate calculated above. As demonstrated in Exhibit 4-B there are sufficient uses of the two fees for the near term without expanding the District's mission. The "excess" computed above would go towards water supply related activities.

EXHIBITS

4-A Colantuono, Highsmith, Whatley PC Legal Opinion

4-B Sources and Uses of User Fee and Water Supply Charge Revenue

420 Sierra College Drive, Suite 140
Grass Valley, CA 95945-5091
Main: (530) 432-7357
FAX: (530) 432-7356

EXHIBIT 4-A

COLANTUONO
HIGHSMITH
WHATLEY, PC

Michael G. Colantuono
(530) 432-7359
MColantuono@chwlaw.us

MEMORANDUM

TO:	Dave Stoldt, General Manager, Monterey Peninsula Water Management District	FILE NO:	43025.0005
FROM:	Michael G. Colantuono, Esq. Ryan Thomas Dunn, Esq.	DATE:	March 16, 2016
CC:	David C. Laredo, Esq. Heidi Quinn, Esq. David J. Ruderman, Esq.		
RE:	Legal Opinion — MPWMD User Fee		

SUMMARY

As you asked, we write to opine on four issues you identified in your February 18th email regarding the District's authority to assess an 8.325 percent user fee on retail water bills ("User Fee").

Issue 1: Because the 7.125 percent portion of the User Fee predates 1996's Proposition 218, and because the District has not increased it and instead has always expected Cal-Am to pay it, requiring Cal-Am to resume its collection would not require a Proposition 218 protest hearing because doing so is not "imposing" or "increasing" the fee. However, Cal-Am's ability to comply with the District's ordinance compelling it to raise the fee is impaired by the remaining litigation following the Supreme Court's remand in *Monterey Peninsula Water Management Dist. v. Public Utilities Com*. (2016) 62 Cal.4th 693.

Issue 2: When the District stopped receiving the User Fee from Cal-Am, it also stopped receiving the 1.2 percent component, but it did not repeal that portion. As such,

reinstituting it would not be increasing or imposing it. As is true of Issue 1 above, we conclude no new protest hearing is required.

Issue 3: The District has the authority to use the revenues from the 7.125 percent portion of the User Fee for any District purpose. The District is limited to using revenues from the 1.2 percent component for water supply projects, but it may also use these revenues for any project benefiting water users if its Board passes a resolution to do so.

Issue 4: The District can waive collection of a portion of the User Fee, in whole or part, without waiving its right to collect the entire User Fee at a later date, and it need not submit the User Fee to the voters before again beginning collection. We recommend it do so by a resolution suspending all or part of the fee that states a sunset date on the resolution. Thus, when the rate returns to its higher, previous level, no legislation action makes it so – the expiration of a temporary reduction does. Such temporary reductions can be renewed from year to year until the District requires additional revenue.

FACTS

Our opinions rest on the facts stated here. If these facts are incorrect or materially incomplete, please let us know as different facts may require us to alter our advice to you. We understand the list of ordinances in the "MPWMD User Fee History" chart provided for our review include every District Ordinance pertinent to the user fee. These are Ordinances 10, 12, 29, 32, 36, 37, 41, 51, 55, 58, 61, 67, 78, 82, 123, and 138.

We have also considered District Resolution No. 2011-09, dated May 27, 2011, which directed Cal-Am to continue to collect and remit the User Fee at a rate of 8.325 percent of charges to its customers, and we assume the facts stated in that Resolution are correct. We also understand Cal-Am last paid any portion of the user fee in June 2011, but that the District did not formally suspend Cal-Am's duty to collect the user fee or otherwise alter that duty since the District adopted Resolution 2011-09.

ANALYSIS

Issue 1. Voter approval is required to "impose or increase" property related fees, including fees for ongoing water service through an existing connection such as the user fees at issue here. (Cal. Const., art. XIII D, § 6, subd. (a); *Bighorn-Desert View Water Agency v. Verjil* (2006) 39 Cal.4th 205.) Neither Proposition 218 nor the Proposition 218

Omnibus Implementation Act of 1997 ("Omnibus Act") defines "impose," but the Court of Appeal has interpreted it to mean the initial enactment of a fee or charge. (*Citizens Ass'n of Sunset Beach v. Orange County LAFCO* (2012) 209 Cal.App.4th 1182, 1194 ["The word 'impose' usually refers to the first enactment of a tax[.]"].) Given that the District first enacted the 7.125 percent component in 1983 and gave it its current form in 1992, it has taken no action to "impose" the fee since the 1996 adoption of Proposition 218 and the fee does not yet trigger a duty to comply with that measure.

The Omnibus Act defines "increase" for purposes of Proposition 218 as a change in a fee that "[r]evises the methodology by which the tax, assessment, fee or charge is calculated, if that revision results in an increased amount being levied on any person or parcel." (Gov. Code, § 53750, subd. (h)(1)(B).) A levy is not increased for purposes of Proposition 218 if it "[i]mplements or collects a previously approved tax, or fee or charge so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved the agency is not revised so as to result in an increase[.]" (*Id*. at subd. (h)(2)(B).)

On the facts recited above, we conclude the District has not "increased" the fee since the July 1, 1997 effective date stated by Proposition 218's article XIII D, section 6, subdivision (d). In a Los Angeles case, the City imposed a utility users tax on both the call detail portion of cell phone bills and on minimum monthly charges. Carriers objected, claiming to lack technology to identify calls that originated or destinated in Los Angeles necessary to trigger its taxing authority under the Commerce Clause of the federal constitution as interpreted in *Goldberg v. Sweet* (1989) 488 U.S. 252. The City agreed by letter that carriers might tax only base monthly charges until technology to track the origin and destination of calls became available. Then Congress adopted the Mobile Telecommunications Sourcing Act of 2000 ("MTSA") to provide that a cellular call was presumed to originate or destinate in the city to which the carrier addressed bills for cellular service. The city then wrote carriers, directing them to commence collection of the tax on the entirety of cell phone bills. The carriers, refused and sued for declaratory relief that the City's new direction constituted a tax "increase" requiring voter approval under Proposition 218. The Court of Appeal agreed with the carriers, concluding the letters to carriers evidenced an "administrative methodology" to calculate the tax within the meaning of Government Code section 53750, subdivision (h)'s definition of "increase" and the City had changed that methodology by its post-MTSA letter. (*AB Cellular LA, LLC v. City of Los Angeles* (2007) 150 Cal.App.4th 747, 756–

757, 761–763.) Thus, even though Los Angeles never amended its utility users tax ordinance, it had established an administrative methodology that could not be changed without voter approval.

Here, we understand that there have been no changes relevant to the District's collection of, or methodology in calculating, the 7.125 percent component of the User Fee since Ordinance 67 in 1992. Cal-Am ceased complying with the District's ordinance under the force of an order of the California Public Utilities Commission, and the District promptly litigated the issue. The facts set out above identify no action of the District which can be characterized as acquiescing in the PUC's position or establishing a methodology to reduce or suspend the fee.

Moreover, *AB Cellular* recognized the District could choose to end or reduce collection for any reason without losing the right to begin collection of the full amount at a later date: "[A] local taxing entity can enforce less of a local tax than is due under a voter-approved methodology, or a grandfathered methodology, and later enforce the full amount of the local tax due under that methodology without transgressing Proposition 218." (*AB Cellular*, *supra*, 150 Cal.App.4th at p. 763.)

Accordingly, we conclude that Cal-Am's renewed collection of the User Fee does not "impose" or "increase" the User Fee so as to trigger Proposition 218 bur rather fits squarely within Government Code, section 53750, subdivision (h)(2)(B)'s exception to the definition of "increase" for collection of a "previously approved tax, fee, or charge" without change in its rate or the administrative methodology for calculating it. As such, no protest hearing is required.

Issue 2. The District adopted Ordinance 138 in 2008 to reaffirm the 1.2 percent component of the User Fee in compliance with Proposition 218. That ordinance explains that affected property owners were given opportunity to protest the 1.2 percent component pursuant to Proposition 218 and the Board found that majority protest occurred. (Ord. 138, p. 4 at ¶ 23.) Because we understand the District has not established an administrative methodology to reduce or eliminate the fee, it can collect it without new Proposition 218 compliance for the reasons stated under Issue 1 above.

Issue 3: 7.125 percent component. The proceeds of a property related fee may only be used for the purposes for which the fee was imposed. (Cal. Const., art. XIII D, § 6, subd. (b)(2).) However, the District has authority to interpret the ordinances which

establish its revenues and courts will give some deference to a reasonable construction. (E.g. *Sacks v. City of Oakland* (2010) 190 Cal.App.4th 1070, 1082 [review of city's expenditures of special parcel tax "limited to an inquiry into whether the action was arbitrary, capricious or entirely lacking in evidentiary support"].) A court would then apply standards of statutory interpretation to the ordinances, first looking at the language at issue, then the intent of the language. (*Ibid*.)

In addition, The District must construe the purpose of the fee in light of its statutory power and to defend the fee as a fee for services rendered by the District and not purely discretionary revenue, as taxes are. (Cf. Cal. Const., art. XIII C, § 1, subd. (e)(2) [exemption to Prop. 26's definition of "tax" for service fees]; *id*. at art. XIII A, § 4 [Prop. 13's two-thirds voter approval requirement for special taxes]; Gov. Code, § 50076 [defining "special tax" under Prop. 13 to exclude "any fee which does not exceed the reasonable cost of providing the service or regulatory activity for which the fee is charged and which is not levied for general revenue purposes"].)

Ordinance 55, enacted in May 1991, restructured the user fee. This ordinance authorized "immediate collection of a user fee in the aggregate amount of 6.824 percent of Cal-Am bills, replacing prior fees which amounted to 8.125 percent of that bill." (Ord. 55, § 2.) Thus, Ordinance 55 "replac[ed]" earlier user fee ordinances, making them irrelevant to analysis of allowable uses of the fee. Ordinance 55's recitals mention a need to "implement the mitigation measures under the five year plan to ease environmental impacts caused by water production" (*id*. at p. 3, ¶ 11) but do not otherwise limit the District's use of the fee. Similarly, Ordinance 55 refers to fees "to fund mandatory water rationing." That ordinance relabeled and decreased the "water rationing user fee" to "a water conservation user fee of 2.11 percent" of Cal-Am bills. (*Id*. at p. 2, ¶ 10.) Ordinance 55 does not otherwise explain the intended purposes of this "water conservation user fee" or identify specific limitations on its use.

In September 1991, the District enacted Ordinance 58, authorizing "a user fee in the aggregate amount of 8.125 percent" and "replacing prior fees authorized by Ordinance 55 which amounted to 6.824 percent" of customer bills. (Ord. 58, § 2.) Ordinance 58 states the fee's purpose "to fund mandated District water supply activities, including the five year mitigation program and the water conservation/rationing program caused by the water supply emergency" (*id*. at § 1) but does not more precisely limit use of the revenues. Thus, the District has the discretion to

use these funds as deems fit to accomplish the fee's purpose to fund water supply activities, including conservation, rationing and other similar efforts.

In July 1992, the District enacted Ordinance 61, to "amend the user fee established by Ordinance No. 58" to delete a surcharge to fund rationing. (Ord. 61, p. 1, ¶ 6.) Ordinance 61 refers to the "2.11 percent user fee established by Ordinance No. 55 to fund water conservation activities" and reduces it from 2.11 to 1.11 percent. (*Id*. at § 6.) The District adopted this 7.125 percent aggregate fee, "replacing prior fees," meaning the District could construe it as a completely new ordinance. (*Ibid*.) Again, there are no express limitations on the use of the revenues derived from the 7.125 percent fee in Ordinance 61, and thus the District has the power to use the revenues for the purpose for which the fee was imposed, again, water conservation.

Ordinance 67, enacted in December 1992, states an intent to "reallocate the existing user fee established by Ordinance No. 55 and modified by Ordinance No. 61, so as to increase user fee revenue available for the Five Year Mitigation Program." (Ord. 67, p. 1, ¶ 1.) A recital assumes the 1.11 percent fee discussed in Ordinance 61 was "exclusively dedicated to conservation activities." (*Id*. at p. 1, ¶ 2.) The same recital states the District could use the 1.11 percent fee "for District programs relating to conservation, rationing, irrigation, erosion control, mitigation, and/or water augmentation expenses, provided that all such expenses shall be required to confer benefit and or service to existing water users." (*Id*. at p. 1, ¶ 2.)

Ordinance 67's third section refers to the "aggregate user fee," understood to be "the present 7.125 percent user fee." (Ord. 67, § 2.) It reads in full:

> Section Three: User Fee Reallocation
>
> A. This ordinance shall modify the accounting and allocation of the aggregate user fee presently collected to fund water conservation programs of the District, and instead **allow the use, allocation and accounting of that same fee to District programs relating to conservation, rationing, irrigation, erosion control, mitigation, water planning, and/or water augmentation program expenses, provided that all such expenses must be [sic] confer benefit and/or service to existing water users**. This ordinance shall cause neither a reduction nor an increase in fees, but shall instead modify the means by which use of those fees are monitored and allocated.

> B. The amount of revenue reallocated shall be equal to 1.11 percent collected on the Cal-Am water bill as established by the District in Ordinance No. 55 and modified by Ordinance No. 61 in July 1992.
>
> C. This ordinance shall republish the authorization to collect user fees in the same manner and amounts as previously authorized by ordinance. This fee shall not be exclusively dedicated to a single activity or program, but instead **may be allocated at the discretion of the Board provided that all such expenses shall confer benefit and/or service to existing water users**. **These services may include, but shall not be limited to conservation, rationing, irrigation, erosion control, mitigation, water supply planning, and water augmentation program expenses**. **Unincumbered [sic] fee revenue in any single year may be placed in the capital project sinking fund and may later be used to fund expenses associated with planning for, acquiring and/or reserving augmented water supply capacity (including engineering, hydrologic, legal, geologic, fishery, appraisal, financial, and property acquisition endeavors)**.
>
> D. A similar reallocation shall be made to user fees collected from other district water distribution systems of fifty (50) connections or more.

Thus, Ordinance 67 assumes that the 1.11 percent portion of the user fee discussed in Ordinances 55 and 61 is limited to funding "water conservation programs." (Ord. 67, § 3, ¶ A.) It "reallocates" that 1.11 percent to be used as is the rest of the 7.125 percent fee. (*Id*. at § 3, ¶ C.) Ordinance 67 defines the purposes for which the fee may be used quite broadly and "allow[s]" the Board "discretion" to allocate the fee as it sees fit, as long as there is a "benefit and/or service to existing water users." (*Ibid*.) Finding 4 states Ordinance 67 was required "to permit continuation of mandated and essential District programs." (Id. at p. 1, ¶ 4.)

It bears noting that Ordinance 78, enacted in 1995 to finance the New Los Padres Dam, states the user fee was "established to fund costs of water conservation, and programs to ameliorate environmental impacts caused by water production." (Ord. 78, § 5). Ordinance 78 was repealed by 1996's Ordinance 82 when the voters rejected the dam proposal (Ord. 82, § 1), and Ordinance 82's findings state that the user fees in place on the date of Ordinance 78's approval "shall remain in force and be unaffected" because the measure failed. (*Id*. at p. 1, ¶ 5).

In sum, the District may use revenues from the 7.125 percent component of the fee to provide a benefit or service to water users due to the very broad language of Ordinance 78.

Issue 3: 1.2 percent component. The 1.2 percent component enacted by Ordinance 123 and affirmed in Ordinance 128 specifies what the proceeds of this component may fund. Ordinance 123's second section states the proceeds of the fee "shall fund District water supply activities, including Phase 1 of its Aquifer Storage & Recover (ASR) effort." Thus, the District must use these funds for water supply programs and services. (E.g., *Common Cause v. Board of Supervisors* (1989) 49 Cal.3d 432, 443 ["'shall' is ordinarily construed as mandatory"].)

Ordinance 123's Section Two also states the fee "may also be allocated, by resolution at the discretion of the District Board of Directors, provided that all such expenses shall confer benefit and/or service to existing Cal-Am … water users." (Ord. 123, § 2.) It provides an exemplary list of such services — "conservation, rationing, irrigation, erosion control, mitigation, water supply planning, and water augmentation program expenses" (*ibid*.) — but states services which may be funded "shall not be limited to" those specified. It also states unexpended fee revenue "may" be placed in a reserve for later use for water supply capacity projects. (*Ibid*.) Thus, the District has discretion to use the 1.2 percent revenues for any "water supply activity" activity but may also, by resolution, fund any lawful District program or service that benefits the water users who pay the fee.

Ordinance 138, enacted in 2008 (after the effective date of Proposition 218), states the District "shall use" the 1.2 percent fee "to fund ASR costs" (Ord. 138, p. 3, ¶ 15) and the fee "may not be used for any other purpose or to fund general governmental activities." (*Id*. at p. 3, ¶ 18.) It further states fee proceeds "shall fund District water supply activities, including capital acquisition and operational costs for present and future ASR purposes" including Phase 1 of the ASR and subsequent ASR activities. (*Id*. at § 2.) Ordinance 138 uses the same language as Ordinance 123 allowing the Board to approve, by resolution, the use of the fee for other purposes that benefit water users. (*Ibid*.)

Ordinance 138 does not state a sunset date, but does state that the District cannot collect the 1.2 percent fee if revenues "exceed funds required to maintain plant, equipment, facilities, supplies, personnel and reasonable reserves necessary to provide

water service." (Ord. 138, § 5.) This section also requires the Board to hold an annual hearing to review fee expenditures and requires the fee to sunset "unless the Board determines that the purpose of the fee is still required, and the amount of the fee is still appropriate." (*Ibid*.) The Board must also reduce the fee if "the amounts needed to fund that purpose are decreased." (*Ibid*.)

Thus, the District may use proceeds of the 1.2 percent component for "water supply activities" as it reasonably defines that term, including but not limited to ASR purposes. The District also has the power, by resolution, to use the proceeds of the 1.2 percent component for any other project benefiting water users.

Issue 4. *AB Cellular*, discussed above, expressly considered the authority of an agency to collect less than the approved amount of a tax, fee, or charge: "[A] local taxing entity can enforce less of a local tax than is due under a voter-approved methodology, or a grandfathered methodology, and later enforce the full amount of the local tax due under that methodology without transgressing Proposition 218." (*AB Cellular*, *supra*, 150 Cal.App.4th at p. 763.) Thus, because the District has established a total user fee in the amount of 8.325 percent consistently with Proposition 218, it may collect that entire amount, part of that amount, or none of that amount if the funds are not needed.

Notwithstanding the unqualified language of *AB Cellular*, we recommend the District reduce the fee by a resolution which includes a sunset date. In this way, the District can increase the fee without an action of its Board that can be characterized as an "increase" within the meaning of Government Code, section 53750, subdivision (h). The sunset date can be extended as necessary until the District determines more funds are needed, in which case the suspension or reduction resolution can be allowed to lapse, triggering Cal-Am's duty to collect the fee at the higher rate.

Conclusion

The District need not comply with Proposition 218 to resume collection of the user fee once the PUC litigation allows Cal-Am to do so. The ordinance history of the fee allows the District fairly wide discretion it the use of fee proceeds provided those uses provide benefit to the water users who pay the fee.

Thank you for the opportunity to assist. If we can provide further advice or assistance, contact Michael at (530) 432-7359 or MColantuono@chwlaw.us or Ryan at (213) 542-5717 or RDunn@chwlaw.us.

EXHIBIT 4-B

MPWMD
User Fee and Water Supply Charge
8 Year Forecast
Scenario: No attempt to reduce shortfalls

3/30/2016

	2017	2018	2019	2020	2021	2022	2023	2024
GENERAL USER FEE PROGRAMS								
Sources								
Estimated Cal-Am Revenue (Note 1)	57,000,000	58,710,000	60,471,300	103,285,439	106,384,002	109,575,522	112,862,788	116,248,672
Less Undercollection at 11%	50,730,000	52,251,900	53,819,457	91,924,041	94,681,762	97,522,215	100,447,881	103,461,318
Potential General (7.125%) User Fee	3,614,513	3,722,948	3,834,636	6,549,588	6,746,076	6,948,458	7,156,912	7,371,619
Uses								
Mitigation Program (Note 2)	2,580,129	2,631,732	2,684,366	2,738,054	2,792,815	2,848,671	2,905,644	2,963,757
Conservation Surcharge Program (Note 2)	300,000	306,000	312,120	318,362	324,730	331,224	337,849	344,606
Water Demand Database Replacement	600,000							
Drought Contingency Plan Grant	125,000	100,000						
Sleepy Hollow Intake Project	-	200,000	-	-	-	-	-	-
Total Uses	3,605,129	3,237,732	2,996,486	3,056,416	3,117,544	3,179,895	3,243,493	3,308,363
Excess/(Shortfall)	9,383	485,216	838,150	3,493,172	3,628,531	3,768,563	3,913,418	4,063,256
ASR USER FEE PROGRAMS								
Sources								
Potential ASR (1.20%) User Fee	608,760	627,023	645,833	1,103,088	1,136,181	1,170,267	1,205,375	1,241,536
Uses								
ASR - Phase 1 (Note 3)	505,000	22,000	11,680	11,914	12,152	12,395	12,643	12,896
ASR - Future Phases (Note 4)	50,000	50,000		260,000	260,000	520,000	520,000	520,000
Rabobank Loan Debt Service	230,000	230,000	230,000	230,000	230,000	230,000	230,000	
Rabobank Loan Sinking Fund (Note 5)			504,738	504,738	504,738	504,738	504,738	504,738
Total Uses	785,000	302,000	746,418	1,006,652	1,006,890	1,267,133	1,267,381	1,037,634
Excess/(Shortfall)	(176,240)	325,023	(100,585)	96,437	129,291	(96,866)	(62,006)	203,902
WATER SUPPLY PROGRAMS								
Sources								
Water Supply Charge	3,400,000	3,400,000	3,400,000	3,400,000	3,400,000	3,400,000	3,400,000	3,400,000
Uses								
Repay Reserves used for GWR	335,000	335,000	335,000					
Groundwater Replenishment Project	1,200,000	400,000						
GWR Operating Reserve (Note 6)			894,000	223,500	223,500	223,500		
GWR Drought Reserve (Note 7)				217,242	217,242	217,242	217,242	217,242
Cal-Am Desalination	510,000	400,000						
Local Water Projects	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Carmel River/Los Padres (Note 8)	400,000	500,000	350,000	100,000	50,000	50,000	50,000	50,000
Water Allocation Process		900,000	400,000					
Water Supply Staff	1,152,000	1,175,040	1,198,541	1,222,512	1,246,962	1,271,901	1,297,339	1,323,286
Services and Supplies	477,600	487,152	496,895	506,833	516,970	527,309	537,855	548,612
Total Uses	4,274,600	4,397,192	3,874,436	2,470,087	2,454,673	2,489,952	2,302,436	2,339,140
Excess/(Shortfall)	(874,600)	(997,192)	(474,436)	929,913	945,327	910,048	1,097,564	1,060,860
SUMMARY								
Total Revenues Available	7,623,273	7,749,971	7,880,470	11,052,676	11,282,257	11,518,724	11,762,286	12,013,155
Total Uses	8,664,729	7,936,924	7,617,340	6,533,154	6,579,108	6,936,980	6,813,310	6,685,137
Excess/(Shortfall)	(1,041,457)	(186,953)	263,130	4,519,522	4,703,149	4,581,744	4,948,976	5,328,018

NOTES:

(1) Assumes 3.0% annual growth and $41 million addition in 2020
(2) Assumes 2.0% annual growth
(3) Current draft of Seaside lease agreement
(4) 2 well pairs; 1 in 2019, 1 in 2021; Does not include Carmel Valley well capacity
(5) $3,105,159 due in 2023
(6) $894 per AF @1000 AF in year 1; @250 AF per year three years after
(7) $894 per AF @243 AF/yr for 5 years
(8) IFIM and GSFlow; Insurance; No capital included

WATER SUPPLY PLANNING COMMITTEE

ITEM: DISCUSSION ITEM

6. UPDATE ON SEASIDE BASIN BOUNDARY MODIFICATION APPLICATION FOR SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)

Meeting Date:	**April 5, 2016**	**Budgeted:**	**N/A**
From:	**David J. Stoldt General Manager**	**Program/ Line Item No.:**	**N/A**
Prepared By:	**David J. Stoldt**	**Cost Estimate:**	**N/A**

General Counsel Approval: N/A
Committee Recommendation:
CEQA Compliance: N/A

SUMMARY: The Sustainable Groundwater Management Act (SGMA) established a process for local agencies to request that the Department of Water Resources (DWR) revise the boundaries of existing groundwater basins or subbasins, including the establishment of a new subbasin. The Basin Boundary Emergency Regulation was developed through an extensive stakeholder outreach process and was adopted on October 21, 2015. The provisions of the emergency regulation go into effect on November 16, 2015.

On November 19, 2015 District staff met with representatives of the Seaside Basin Watermaster, California American Water Company, Marina Coast Water District, and Monterey County Water Resources Agency to discuss a proposal for boundary modification. Then on December 14, 2015 the District's Water Resources Division Manager sent out the proposal for comment from the same agencies.

The District submitted a formal Initial Notification to DWR on February 12, 2016 – notification intended to be preliminary to signal that a modification request *may* occur. It served to notify other local agencies, public, and the department.

The proposal can be summarized as follows: The Bulletin 118 boundary is shown in the first attachment (**Exhibit 6-A**) and is labeled "Salinas Valley Seaside Area". The modification that the group achieved consensus on is shown in the second attachment (**Exhibit 6-B**). This modification inserts the adjudicated Seaside Basin boundary and removes the remainder area in the southwest portion of the DWR boundary, as this area is not hydrogeologically linked to the aquifer system in the Seaside Basin. The remainder area to the north of the Seaside Basin has been renamed "Salinas Valley Marina Area", consistent with our discussion. The DWR's basin modification application requests that a map be provided to show the proposed basin boundary modification, which is depicted in Figure 1 (**Exhibit 6-B**). Note that the subbasin names are abbreviated on this map, but will be described with their full names per Bulletin 118 as part of the application. In addition, the DWR's application requests that a map showing all local agency

boundaries in the affected area of the boundary modification also be provided. Accordingly, we have prepared the map as depicted in Figure 2 (**Exhibit 6-C**). Figure 1 and Figure 2 were again distributed to the group of interested stakeholders for comment on March 15, 2016.

The District submitted the Basin Boundary Modification Request March 31, 2016. It will be deemed "**SUBMITTED"** signifying the submission is believed to be complete and the requesting agency is officially submitting the package to DWR for a completeness review. It will be deemed "**COMPLETE"** once DWR has reviewed the submission package for substantial compliance with the requirements and the 30-day Public Input Period begins. Public input must be made in compliance with the requirements of §343.12 of the regulation and submitted to the Basin Boundary Modification System as a "Comment" to the "Complete" modification request submission. All submitted information will be public accessible through DWR web site.

EXHIBITS

6-A Bulletin 118 Boundary
6-B Consensus Proposed Modification
6-C Local Agency Boundaries

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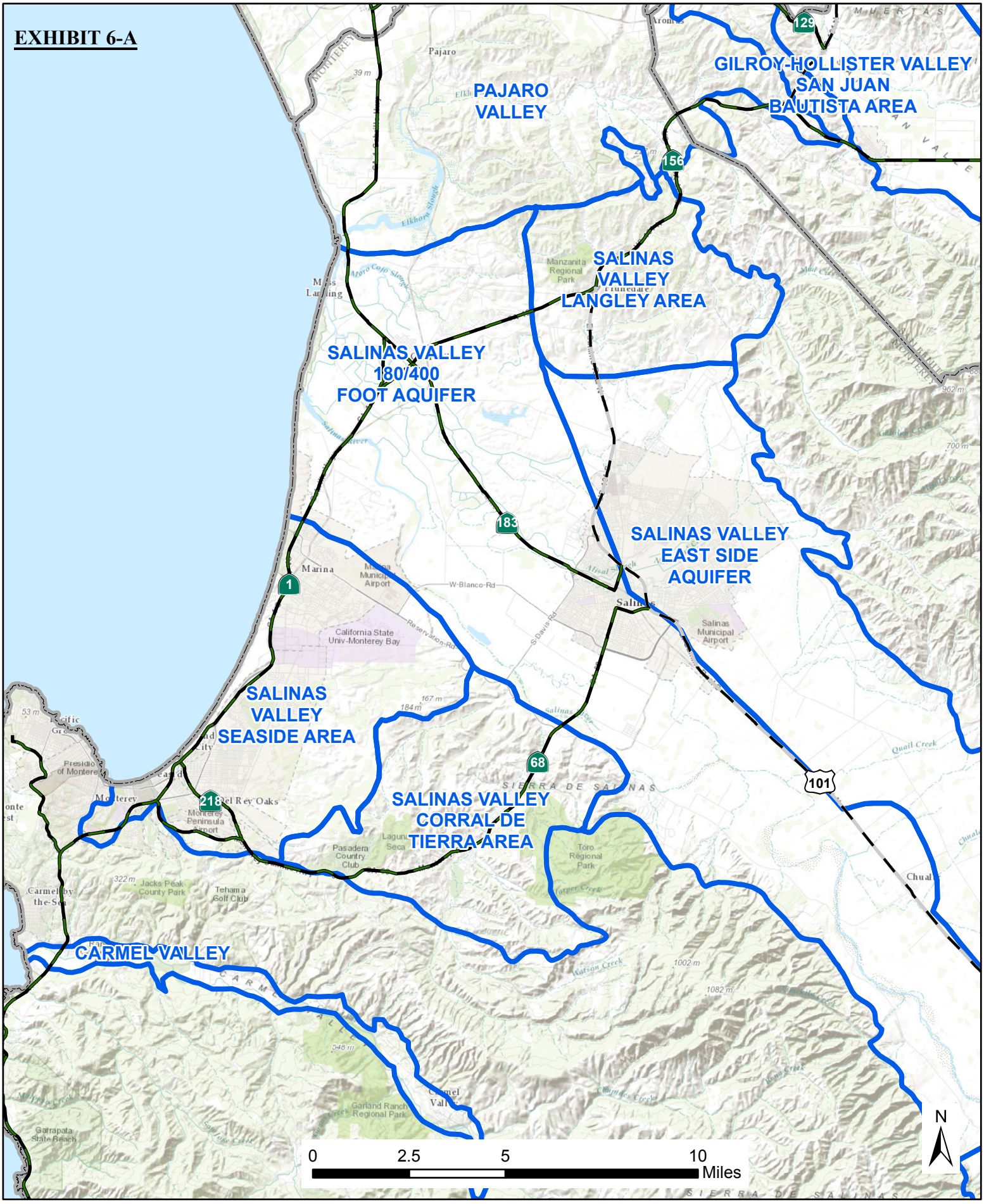
EXHIBIT 6-A



Seaside Area Sub Basin
and Adjacent Salinas Valley Groundwater Basins

Source: DWR Bullietin 118, 2004

Date: 10/27/2015

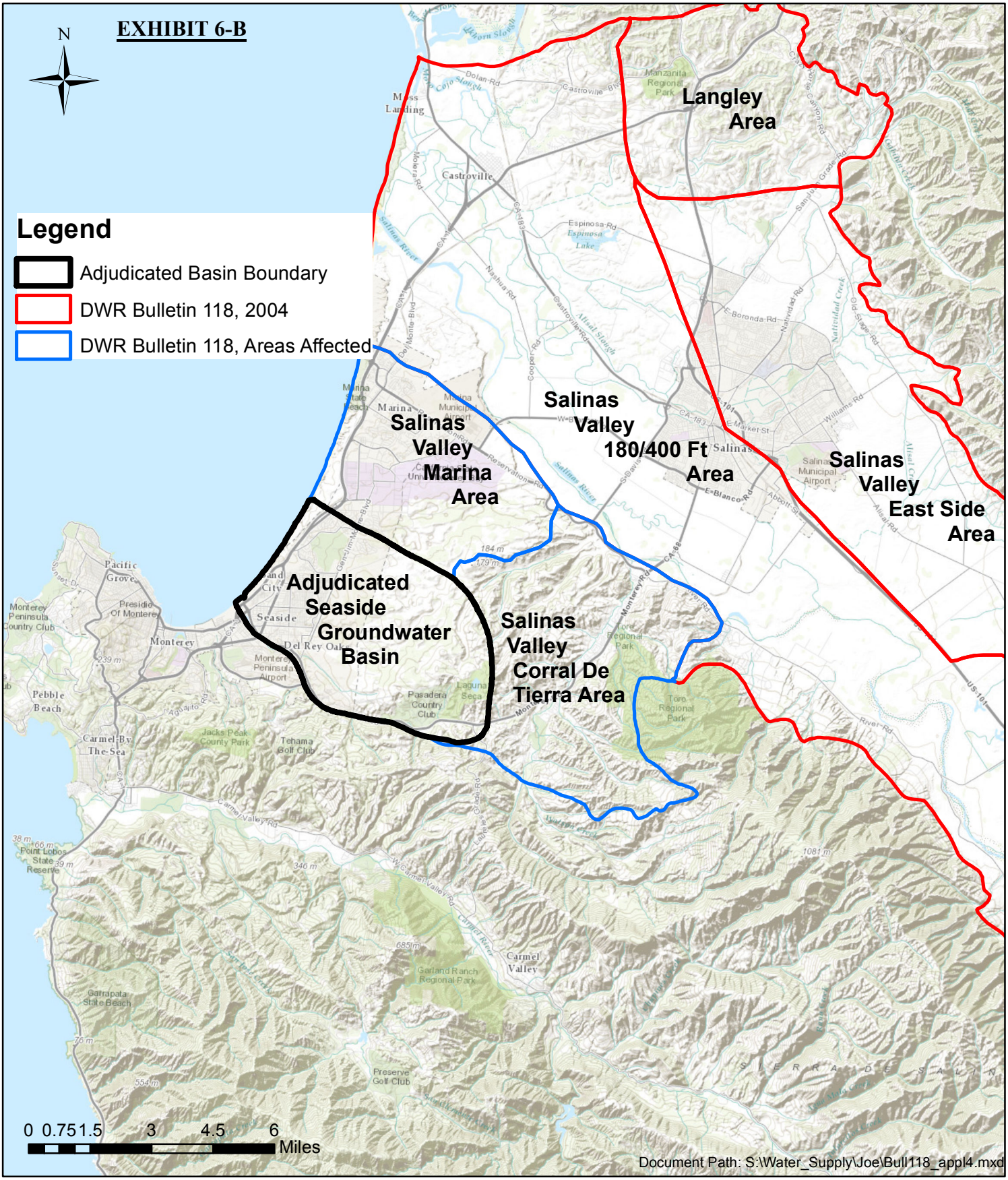
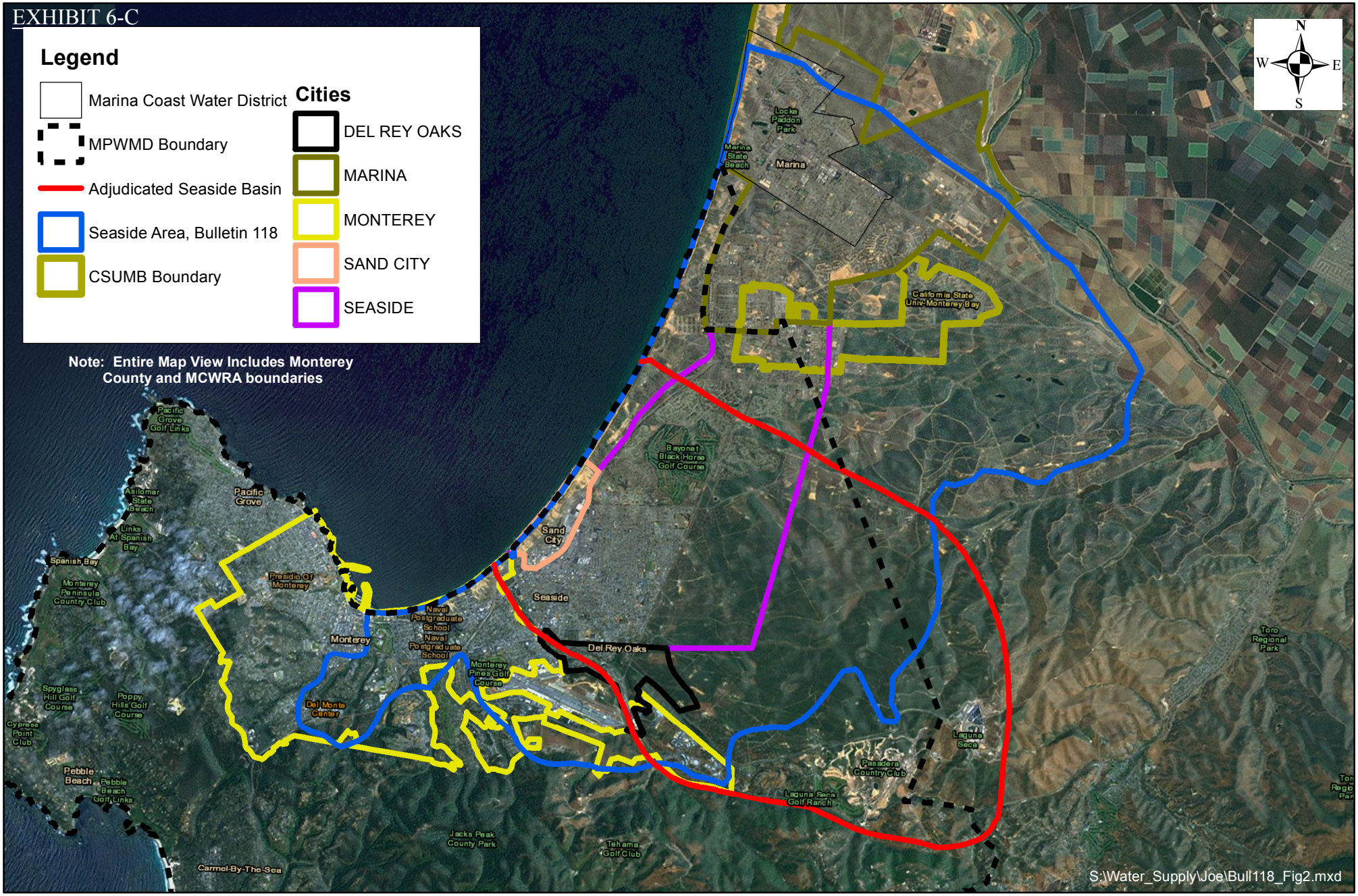


Figure 1: Regional Map showing location of Adjudicated Seaside Groundwater Basin & Affected DWR Bulletin 118 Basin Boundaries

Monterey Peninsula Water Management District

EXHIBIT 6-C



1.5 0.75 0 1.5 Miles

Figure 2: Proposed Modified Basin Boundary with Local Agencies

Monterey Peninsula Water Management District

WATER SUPPLY PLANNING COMMITTEE

ITEM: DISCUSSION ITEM

7. UPDATE ON CARMEL RIVER BASIN (CARMEL VALLEY ALLUVIAL AQUIFER) SGMA PROCESS

Meeting Date:	**April 5, 2016**	**Budgeted:**	**N/A**
From:	**David J. Stoldt General Manager**	**Program/ Line Item No.:**	**N/A**
Prepared By:	**David J. Stoldt**	**Cost Estimate:**	**N/A**

General Counsel Approval: N/A
Committee Recommendation:
CEQA Compliance: N/A

SUMMARY: On February 29th, the General Manager sent an inquiry jointly to California Department of Water Resources (DWR) and State Water Resources Control Board (SWRCB) staff, describing an inherent conflict in how DWR and SWRCB view the Carmel River Alluvial Aquifer and how it will be affected by the Sustainable Groundwater Management Act (SGMA). We had mentioned it briefly to DWR staff on a few occasions, but at this time summarized the issue in a single page, attached as **Exhibit 7-A**.

The Water Management District's conclusion is that what DWR refers to as the Carmel Valley Groundwater Basin in Bulletin 118 has been determined to be surface water by the SWRCB. This led to several questions:

- Should the Carmel River aquifer be exempt from SGMA?
- What is the best way to exempt it – by letter from DWR or by removal from Bulletin 118?
- If by removal from Bulletin 118, should it be done through the DWR Basin Boundary Modification Request System by formal request by March 31st, or some other method?
- Would a meeting between DWR, SWRCB, and the District (the GSA) be necessary to discuss this matter?

On March 16, 2016 DWR staff stated "I don't think Monterey would have to take any action. Although I doubt we will deal with this through a basin adjustment, DWR would have the ability to make any adjustments without having Monterey submit since this is a special technical issue." We also learned that there was one other basin in the State with a similar issue, and 4-5 others with similar problems for a portion of the basin.

We also informed DWR that their Bulletin 118 boundary for the Carmel River Basin were outdated and inconsistent with current knowledge. DWR indicated that it is currently updating the Department defined modifications to basin boundaries (Administrative Adjustments) and will include the District's changes as part of that set. On March 29th, the District forwarded GIS shapefiles and SWRCB Order 95-10 describing the geologic setting as surface water flowing in a known and definite channel underground.

We have been told to expect a letter or notification from DWR that the Carmel River Basin is exempt from SGMA and will not require a Groundwater Sustainability Plan.

EXHIBIT

7-A Summary of The Carmel Valley Alluvial Aquifer issues with SGMA

EXHIBIT 7-A

The Carmel Valley Alluvial Aquifer and the Sustainable Groundwater Management Act (SGMA)

There appears to be an inherent conflict between how the Department of Water Resources (DWR) and the State Water Resources Control Board (SWRCB) view the Carmel Valley Alluvial Aquifer, which affects how the aquifer must be viewed relative to SGMA.

> *Water Code Section 10722 states that a basin's boundaries shall be as identified in Bulletin 118 and Section 10722.4 sets that the Department of Water Resources (DWR) shall categorize the basins by priority, including medium- or high-priority.*

The Carmel Valley Groundwater Basin is an identified groundwater basin in Bulletin 118. DWR has ranked it a "high-priority" basin (Basin 3-7) under its CASGEM Basin Prioritization program. Hence, according to DWR the Carmel Valley Groundwater Basin is subject to SGMA.

> *Water Code Section 10727 states that a groundwater sustainability plan shall be developed for each medium- or high-priority basin.*

Therefore, the Carmel Valley Groundwater Basin would appear to need a groundwater sustainability plan (GSP) developed by a declared groundwater sustainability agency (GSA). The Monterey Peninsula Water Management District has already become the GSA for the Carmel Valley.

> *However, Water Code Section 10721 states "Groundwater" means water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated, but does not include water that flows in known and definite channels.*
>
> *State Water Resources Control Board (SWRCB) in Section 3.2 of its Order WR 95-10 (July 6, 1995) determined (a) "surface flow recharges river underflow and, consequently, causes a rise in Carmel Valley aquifer levels"; (b) "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 groundwater."; and (c) the SWRCB found 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."*

Since then, the aquifer has been subject to surface water rights and the jurisdiction of the SWRCB. Because of the determination of the SWRCB and SGMA's definition of "groundwater" excluding water that flows in known and definite channels, then the Carmel River Groundwater Basin identified in Bulletin 118 is not groundwater at all and should therefore be removed from the Bulletin and the requirements of SGMA.

WATER SUPPLY PLANNING COMMITTEE

ITEM: DISCUSSION ITEM

8. UPDATE ON ASR ACTIVITIES

Meeting Date:	**April 5, 2016**	**Budgeted:**	**N/A**
From:	**David J. Stoldt** **General Manager**	**Program/** **Line Item No.:**	**N/A**
Prepared By:	**David J. Stoldt**	**Cost Estimate:**	**N/A**

General Counsel Approval: N/A
Committee Recommendation:
CEQA Compliance: N/A

SUMMARY: Aquifer Storage and Recovery (ASR) injection began January 7, 2016. There have been four periods to date where conditions have allowed injection, the most recent of which has been 25 consecutive days through March 30th with additional days expected.

Performance through March 30, 2016 by well is summarized below:

Well	Amount
ASR 1	140.18
ASR 2	328.25
ASR 3	151.58
ASR 4	4.35
Total	**624.35**

The injection by permit is summarized below:

Permit	Amount
20808 A	183.14
20808 C	441.21
Total	**624.35**

EXHIBIT
None

WATER SUPPLY PLANNING COMMITTEE

ITEM: DISCUSSION ITEM

9. UPDATE ON PURE WATER MONTEREY PROJECT

Meeting Date:	**April 5, 2016**	**Budgeted:**	**N/A**
From:	**David J. Stoldt General Manager**	**Program/ Line Item No.:**	**N/A**
Prepared By:	**David J. Stoldt**	**Cost Estimate:**	**N/A**

General Counsel Approval: N/A
Committee Recommendation:
CEQA Compliance: N/A

SUMMARY:

California Public Utilities Commission (CPUC) proceeding – Rebuttal testimony was filed March 22, 2016. The CPUC Office of Ratepayer Advocates (ORA) provides the following findings regarding the GWR Determination:

A. Supplemental testimony demonstrates that GWR has met the first eight findings detailed in the Settlement Agreement.

B. Supplemental testimony demonstrates that GWR coupled with a 6.4 MGD desalination plant provides numerous positive benefits in comparison to a 9.6 MGD desalination plant.

C. The GWR Project and the Desalination Project currently have differing levels of certainty.

D. There is no projected debt equivalence associated with Cal Am entering into the WPA for GWR Project water.

E. There are inconsistencies in MPWMD and Cal Am cost analyses.

F. Cost analyses submitted in Supplemental Testimony indicate that, compared to the 9.6 MGD Desalination Plant, the 6.4 MGD Desalination Plant with GWR project would likely result in: 1) a small first year revenue requirement premium; and 2) either a small net present value (NPV) premium or small NPV benefit.

G. The ninth finding required by the Settlement Agreement has not been met. The ninth finding is that the revenue requirement for the combination of the GWR Project and the smaller desalination project is just and reasonable when compared to the revenue

requirement for a larger desalination project alone. ORA stated "given the existing terms of the WPA, the revenue requirement for the GWR/Small Desal Option is currently undefined, and unbounded."

H. The terms set forth in the Settlement Agreement as prerequisites for Cal Am entering into a Water Purchase Agreement (WPA) for GWR water have not yet been met, but could be met by modifying the WPA.

Based on these findings, ORA recommends that: The Commission should authorize Cal Am to enter into the WPA for GWR if and only if the WPA is modified such that: 1) the language deeming all costs just and reasonable is removed, and 2) a reasonable and prudent cost cap on the price of GWR purchased water is including in the WPA. The District believes that these two conditions can be met, and in fact included a proposed cost cap in its rebuttal testimony filed the same day. ORA testimony is attached as **Exhibit 9-A**.

The District's testimony included updated cost analyses shown below and proposed a cost cap of water equal to $1720 in the first year of operations.

Cost of Water Alternatives for Pure Water Monterey (GWR)

Variable	**Scenario A**	**Scenario B**	**Scenario C**	**Scenario D**
Cal-Am Revenue Requirement[1]	Updated	Updated	Updated	Updated
Outfall Rental	Same as Jan	Same as Jan	Same as Jan	Same as Jan
Replacement Costs	Same as Jan	Same as Jan	Same as Jan	Same as Jan
Energy Escalation	4.80%	4.80%@72%	4.80%@72%	4.80%@72%
Non-Labor Escalation	1.90%	1.90%	1.90%	1.90%
Labor Escalation	1.74%	1.74%	1.74%	1.74%
Project Cost (excl. Pipeline)	$57.53 mil	$57.53 mil	$57.53 mil	$57.53 mil
Project Cost General Contingency	29%	29%	20%	20%
SRF Loan Rate & Term	1.0% / 30 yr	1.0% / 30 yr	1.0% / 30 yr	1.0% / 30 yr
SRF Grants to Project	$0	$0	$0	$7.50 mil
Reimbursement of Pre- Costs	$5.00 mil	$5.00 mil	$5.00 mil	$5.00 mil
MCWRA Contribution	$3.90 mil	$3.90 mil	$3.90 mil	$3.90 mil
Pipeline Cost	$26.97 mil	$26.97 mil	$26.97 mil	$26.97 mil
Pipeline Cost Contingency	30%	30%	30%	30%
SRF Loan Rate & Term	1.8% / 30 yr	1.8% / 30 yr	1.8% / 30 yr	1.8% / 30 yr
SRF Grants to Pipeline	$0	$0	$0	$2.50 mil
FORA Grants to Pipeline	$4.62 mil	$4.62 mil	$4.62 mil	$4.62 mil
GWR NPV Advantage/(Disadvantage)	($7.77) mil	$1.14 mil	$3.02 mil	$8.69 mil
GWR Overall Advantage/(Disadvantage)	$2.14 mil	$22.72 mil	$26.39 mil	$37.4 mil
GWR Cost of Water – Yr 1	$1,802	$1,710	$1,675	$1,569
6.4 MGD Cost of Water[2] – Yr 1	$6,318	$6,318	$6,318	$6,318
9.6 MGD Cost of Water – Yr 1	$4,532	$4,532	$4,532	$4,532
6.4 MGD + GWR Cost of Water – Yr 1	$4,697	$4,664	$4,652	$4,614

Monterey Regional Water Pollution Control Agency (MRWPCA) submitted testimony (**Exhibit 9-C** and **Exhibit 9-D**) with new information on Pure Water Monterey Project costs, possible savings in the cost of the desalination alternatives, and water quality issues, as well as included letters of support from the following:

- Senator Diane Feinstein
- Congressman Sam Farr
- State Senator William Monning
- Assemblymember Mark Stone
- County Supervisor Dave Potter
- County Supervisor John Phillips
- State Water Resources Control Board Felicia Marcus, Chair
- Fort Ord Reuse Authority

Water Rights – Six letters were received from National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW) (dated February 16, 2016) that were protests to water rights applications A032263A (Blanco Drain Diversion), A032263B (Reclamation Ditch Diversion), and A032263C (Tembladero Slough Diversion). MRWPCA, MCWRA, and MPWMD staff and engineering consultants are working with Denise Duffy and Associates (DD&A) to review the letters submitted, determine assignments and technical studies and expertise needed to respond, and to make assignments to the technical team, agency/district staff, and various attorneys. DD&A will focus the technical consultants on key information and analyses needed, and coordinate with the team toward successful completion of the protest responses.

Response letters were prepared and delivered March 18, 2016. A technical team meeting has been scheduled on April 5th in Salinas. It is hoped that the parties can negotiate a resolution to the protests.

Energy Agreement – On March 28th, the MRWPCA Board approved an agreement for the purchase of energy to run Pure Water Monterey with the Monterey Regional Waste Management District (MRWMD.) MRWMD utilizes biogas produced by the decomposition of waste material in the landfill to produce electrical energy. MRWMD's biogas power generation facility contains four internal combustion engine-generators. MRWMD is currently in the process of replacing/repairing two of the four units. When this work is complete, MRWMD will have the capability to produce approximately 5,000 kilowatthours (kWh) of electrical energy. The estimated future electrical demand for MRWMD is approximately 3,000 kWh. Therefore, MRWMD will have approximately 2,000 kWh of surplus electrical energy available for export and sale.

MRWPCA is currently in the process of designing the Advanced Water Treatment Facility (AWTF) for the Pure Water Monterey project to be located at the Regional Treatment Plant (RTP), which is adjacent to the landfill and power generation facility operated by MRWMD. The projected electrical demand of the AWTF is approximately 2,000 kWh, which is similar to the amount of excess power that could be generated by MRWMD. Staff from MRWPCA and MRWMD has determined that it is to the benefit of both agencies for MRWMD to make the

surplus energy generated by their power generation facility available for sale to and use by MRWPCA to meet the increased electrical demand produced by the AWTF. Staff from both agencies met and drafted the electric power purchase agreement between MRWPCA and MRWMD.

The highlights of the agreement are as follows:

- MRWMD will produce for export and sale to MRWPCA a minimum of 1,800 kWh of electrical power with an availability rate of 90%.
- MRWPCA will take or pay for a minimum of 1,800 kWh of electricity to power the AWTF.
- MRWPCA will pay MRWMD a rate equal to Pacific Gas and Electric's Industrial Rate Schedule, E-20 Primary Firm, Winter Off-peak Energy Charge, to be adjusted each July 1. (This equates to $0.08053 per kWh at the current rate).
- The term of the agreement shall be for an initial term of 20 years to be extended for an agreed upon period or periods on the same terms.
- MRWMD will be responsible for the cost of the installation, operation, maintenance, and repair of all equipment and facilities up to, and including, the electrical usage meter used for billing MRWPCA.
- MRWPCA will be responsible for the cost of installation, operation, maintenance, and repair of all equipment after the electrical usage meter.
- MRWMD will provide MRWPCA an easement from the electrical usage meter to the fence line of the two agencies for the installation and maintenance of the conductors necessary to transport the power between the two agencies.
- The agreement will be terminated should the AWTF not be constructed.

Fort Ord Reuse Authority – Authorized Executive Officer to negotiate a Memorandum of Understanding with MCWD to designate up to $6M of the Capital Improvement Program's (CIP's) water augmentation budget ($24M) to the Regional Urban Water Augmentation Project's (RUWAP's) direct construction costs of the recycled water pipeline, dependent on Pure Water Monterey's project approval by the California Public Utilities Commission (CPUC) and the completion of milestones approved by the three agency boards.

Rec Ditch/Blanco Drain Project – The kickoff meeting with E2 was held on February 25, 2016. MRWPCA staff has initiated contact with property owners regarding access and Rights-of-Way. Regulatory activity includes follow-up on the water rights applications and applying for a Stream Bed Alteration agreement for work in the riparian corridor.

Advanced Water Treatment Facilities - The kickoff meeting with Kennedy Jenks (KJ) was held on February 4, 2016. KJ is well underway with the design work. Assumptions about the initial sizing of the plant have been agreed upon and we anticipate receiving the 30% design submittal for the end of April.

Injection Facilities –A pre-proposal meeting on the GWR Injection Well project took place on February 17. Several firms attended the mandatory meeting. On March 11th, two proposals were

received from E2 Consulting Engineers, Inc. (E2) and Kennedy/Jenks Consultants (KJ) for the GWR Injection Well Facilities Project.

The GWR Injection Well Facilities design has already been developed to the 10% design level by E2 Consulting Engineers. This contract will be performed in two phases with the successful Consultant expected to complete the Phase 1 Final Bid plans and specifications package, performing Phase 1 Bid Phase Services, and then continue on to provide Engineering Services During Construction for Phase 1 before repeating the same tasks for Phase 2, and finally As-Built Drawings. The initial phase of work will include the installation of one deep injection well and one monitoring well for testing to reduce the hydro geologic uncertainty associated with the GWR injection wells and to collect data needed for successful implementation of Phase 2. Phase 2 will include the installation of an additional deep injection well, a vadose zone well, and three monitoring well clusters. The results of the Phase 1 field testing will be used to modify the Technical Specifications for the Phase 2 wells. The Consultant will be required to request and obtain a Notice-to-Proceed for each task prior to proceeding with additional work.

A committee of five met on Monday, March 14, 2016 to select a firm to do the project. The committee unanimously selected Kennedy/Jenks for the depth of information included in their proposal, including several options for value engineering that will benefit the Agency and bring down overall cost. On March 28th, the MRWPCA board approved hiring KJ.

Water Conveyance Pipeline – The Recycled Water Committee and Board are well aware of the ongoing discussions with Marina Coast Water District on the pipeline agreement. Both entities are working through comments on the agreement. Substantial progress has been made on key issues. Upon finalization, an agreement will be brought before the Board pending MCWD approval. MRWPCA staff has been in contact with US Army real estate department to initiate the process of gaining approvals for rights-of-way through Fort Ord.

EXHIBITS

9-A Office of Ratepayer Advocates Rebuttal Testimony
9-B David Stoldt (MPWMD) Rebuttal Testimony
9-C Paul Sciuto (MRWPCA) Rebuttal Testimony
9-D Margaret Nellor (MRWPCA) Rebuttal Testimony

EXHIBIT 9-A

Docket:	A.12-04-019
Exhibit Number	ORA - ____
Commissioner	C. Sandoval
Administrative Law Judge	G. Weatherford
ORA Witness	Susie Rose

REBUTTAL TESTIMONY

Application 12-04-019

San Francisco, California
March 22, 2016

EXHIBIT 9-A

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EXHIBIT 9-A

I. BACKGROUND

California American Water Company ("Cal Am") filed Application ("A.") 12-04-019 on April 23, 2012, seeking a Certificate of Public Convenience and Necessity (CPCN) for the Monterey Peninsula Water Supply Project (MPWSP), and authorization to recover all present and future costs associated with the MPWSP in rates. Sixteen parties, including ORA, jointly filed a Settlement Agreement,[1] establishing nine findings for the Commission to consider in relation to the determination on whether Cal Am should construct a 6.4 MGD Plant with Ground Water Replenishment ("GWR") project or a 9.6 MGD Plant without GWR (collectively, "the GWR Determination").[2] The Settlement Agreement is still pending before the Commission.

On September 23, 2013, the Commission issued an Amended Scoping Memo and Assigned Commissioner Ruling, bifurcating the proceeding and setting the scope of Phase 2.[3] On November 17, 2015, the Administrative Law Judge (ALJ) issued a ruling that set the Phase 2 issues and schedule for evidentiary hearings to update cost estimates, provide current information concerning supply and demand, and do other things

[1] Settlement Agreement of California-American Water Company, Citizens for Public Water, City of Pacific Grove, Coalition of Peninsula Businesses, County of Monterey, Division of Ratepayer Advocates, Landwatch Monterey County, Monterey County Farm Bureau, Monterey County Water Resources Agency, Monterey Peninsula Regional Water Authority, Monterey Peninsula Water Management District, Monterey Regional Water Pollution Control Agency, Planning and Conservation League Foundation, Salinas Valley Water Coalition, Sierra Club, and Surfrider Foundation submitted on July 31, 2013.

[2] The Settling Parties' Motion to Approve the Settlement Agreement dated July 31, 2013 summarizes the nine findings at p. 5 as follows: "(1) the GWR Project receives approval pursuant to a Final EIR, (2) adequate progress was made and is expected to continue for obtaining permits for the GWR Project, (3) sufficient legal certainty exists concerning long-term viability for GWR source water, (4) there is a lack of evidence showing health and water quality regulators will deny permits or approval, (5) the GWR Project is on schedule for completion, (6) the GWR Project's design is at the required level, (7) a sufficiently detailed funding plan is in place, (8) terms to a Water Purchase Agreement ("WPA") have been agreed to, and (9) the revenue requirement for the combination smaller plant/GWR is just and reasonable compared with the larger plant. A revenue requirement premium for the combination smaller plant/GWR may be just and reasonable if the combination affords significant benefits (including scheduling, diversification of water supply, and environmental benefits) over the larger plant."

[3] The Amended Scoping Memo and Assigned Commissioner Ruling (September 23, 2013) states at p. 5: "Phase 2 will focus on whether various findings can be made regarding the viability of the GWR Project, whether a smaller desalination plant can be authorized, and whether a Water Purchase Agreement should be approved between Cal-Am and the relevant public agencies managing the GWR Project. The scope of Phase 2 will also consider the terms of any proposed WPA and the revenue requirement of the WPA, vis-a-vis the desalination plant, including any projected debt equivalence for the WPA."

necessary to complete the record for both Phases 1 and 2.[4] With regard to the GWR Determination, the Ruling states that "the nine criteria [in the settlement agreement] are important elements in the consideration of the GWR" and "the Commission's decision must rest on broader principles, including what is just, reasonable, and in the public interest."[5] The Ruling also set January 22, 2016 as the date for serving supplemental testimony on demand and supply, brine discharge, return water, and updated information necessary for the GWR Determination, and March 22, 2016 as the date for serving concurrent rebuttal testimony on the issues addressed in supplemental testimony.[6]

ORA filed supplemental testimony on January 22, 2016 supporting the concept of evaluating the nine findings listed in the Settlement Agreement, and providing specific issues the Commission should consider in evaluating those findings. ORA stated its intention to "review parties' supplemental testimony, including updated cost estimates for the two project alternatives, and submit more detailed recommendations in relation to the GWR Determination in rebuttal testimony."[7] ORA has since reviewed parties' supplemental testimony,[8] and accordingly provides this rebuttal testimony with recommendations regarding the GWR Determination.

Project updates filed in response to the November 17, 2015 ALJ Ruling provide important detail necessary to perform an up-to-date comparison of project status and costs for the GWR Determination. In regards to these cost updates, including costs related to return water and brine disposal, Cal Am has agreed to cost caps in the Settlement Agreement, with cost recovery subject to reasonableness review. Therefore, ORA will not assess the reasonableness of these updates herein, and instead makes use of these updates only as a means of evaluating the costs and uncertainties of the MPWSP in

[4] Administrative Law Judge's Ruling Setting Evidentiary Issues and Schedule to Complete the Record for Phases 1 and 2 (November 17, 2015) at p. 8.

[5] Ibid. at p. 8.

[6] Ibid. at p. 12.

[7] Supplemental Testimony of Suzie Rose at p. 3.

[8] Unless otherwise noted, references to "supplemental testimony" herein refer to testimony filed by parties on January 22, 2016.

relation to the GWR Determination. ORA reserves the right to contest the reasonableness of all MPWSP costs, including costs related to the updates provided in compliance with the ALJ Ruling, in future filings and cost recovery assessments.

II. SUMMARY OF FINDINGS AND RECOMMENDATIONS

Based on supplemental testimony submitted by parties on January 22, 2016, ORA provides the following findings regarding the GWR Determination:

A. Supplemental testimony demonstrates that GWR has met the first eight findings detailed in the Settlement Agreement.

B. Supplemental testimony demonstrates that GWR coupled with a 6.4 MGD desalination plant provides numerous positive benefits in comparison to a 9.6 MGD desalination plant.

C. The GWR Project and the Desalination Project currently have differing levels of certainty.

D. There is no projected debt equivalence associated with Cal Am entering into the WPA for GWR Project water.

E. There are inconsistencies in MPWMD and Cal Am cost analyses.

F. Cost analyses submitted in Supplemental Testimony indicate that, compared to the 9.6 MGD Desalination Plant, the 6.4 MGD Desalination Plant with GWR project would likely result in: 1) a small first year revenue requirement premium; and 2) either a small net present value (NPV) premium or small NPV benefit.

G. The ninth finding required by the Settlement Agreement has not been met.

H. The terms set forth in the Settlement Agreement as prerequisites for Cal Am entering into a Water Purchase Agreement (WPA) for GWR water have not yet been met, but could be met by modifying the WPA.

Based on these findings, ORA recommends that:

I. The Commission should authorize Cal Am to enter into the WPA for GWR if and only if the WPA is modified such that: 1) the language deeming all costs just and reasonable is removed, and 2) a reasonable and prudent cost cap is provided for the initial purchase price of the GWR water.

III. DISCUSSION OF FINDINGS

A. Supplemental testimony demonstrates that GWR has met the first eight findings of the Settlement Agreement.

In the MPWSP Settlement Agreement, the settling parties agreed that the Commission should base the GWR Determination on findings related to schedule, cost, benefits, and feasibility. Parties also agreed that that the GWR Determination requires information that was not available at the time of the signing of the Settlement Agreement, including more detailed information regarding the schedules and designs of the GWR Project and MPWSP desalination plant, and agreements for source and product water for the GWR Project. As a result, the Settlement Agreement sets forth nine findings in regards to the GWR Determination, stating that if all of the findings are made or addressed, then Cal Am should enter into a WPA to purchase GWR water, and build a smaller desalination plant; otherwise, Cal Am should proceed with the larger desalination plant.[9, 10]

Supplemental and opening testimony of multiple parties provide detailed information on the status of the nine findings required by the settlement agreement. After reviewing all filed testimony and attachments, ORA concludes that the first eight findings of the Settlement Agreement have been met at this time. The Supplemental Testimony of

[9] Settlement Agreement at pp. 5-9.

[10] The Settling Parties' Motion to Approve the Settlement Agreement dated July 31, 2013 summarizes the nine findings at p. 5 as follows: "(1) the GWR Project receives approval pursuant to a Final EIR, (2) adequate progress was made and is expected to continue for obtaining permits for the GWR Project, (3) sufficient legal certainty exists concerning long-term viability for GWR source water, (4) there is a lack of evidence showing health and water quality regulators will deny permits or approval, (5) the GWR Project is on schedule for completion, (6) the GWR Project's design is at the required level, (7) a sufficiently detailed funding plan is in place, (8) terms to a Water Purchase Agreement ("WPA") have been agreed to, and (9) the revenue requirement for the combination smaller plant/GWR is just and reasonable compared with the larger plant. A revenue requirement premium for the combination smaller plant/GWR may be just and reasonable if the combination affords significant benefits (including scheduling, diversification of water supply, and environmental benefits) over the larger plant."

Richard Svindland provides a list of these eight findings[11] with details on how each finding is satisfied. MRWPCA's Opening Testimony provide additional detail on findings number one through seven,[12] and the Supplemental Testimony of Robert MacLean and David Stoldt provide additional detail on finding number eight, including providing the agreed-upon WPA.[13]

B. Supplemental Testimony demonstrates that GWR coupled with a 6.4 MGD desalination plant provides numerous positive benefits in comparison to a 9.6 MGD desalination plant.

ORA's Supplemental Testimony recommended that the Commission evaluate and consider numerous non-monetary factors and externalities with regard to the GWR Determination. The Settlement Agreement states that parties agree that a revenue requirement premium for the combination of the GWR Project and a smaller MPWSP desalination project ("GWR/Small Desal Option") may be determined just and reasonable, if it affords significant net benefits in comparison to a larger desalination project ("Large Desal Option") when externalities are considered. The Settlement Agreement lists positive benefits that could support the Commission's approval of such a premium, including: (i) a material schedule advantage in that the GWR Project is anticipated to be operable sooner than the desalination plant; (ii) water supply resilience and reliability (benefit of the portfolio approach); and (iii) other positive externalities of the GWR Project, including, but not limited to reduced atmospheric carbon emissions, reduced brine discharge, and the implementation and encouragement of State policies regarding water recycling through early adoption of a water reuse project.[14]

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[11] Supplemental Testimony of Richard Svindland at pp. 3-5.

[12] Opening Testimony of Paul Sciuto addresses findings 1, 3, 5, and 7, Opening Testimony of Alison Imamura addresses finding 2, Opening Testimony of Margaret Nellor addresses finding 4, and Opening Testimony of Robert Holden addresses finding 6.

[13] Supplemental Testimony of Robert MacLean, Attachment 1; and Supplemental Testimony of David Stoldt, Attachment 4.

[14] Settlement Agreement at p. 7.

1. Positive Benefits Addressed in Parties' Testimony

Testimony of multiple parties address the positive benefits of the GWR/Small Desal option in comparison to the Large Desal Option. These benefits include:

- The material schedule advantage of the GWR Project. The GWR Project is anticipated to be operable significantly sooner than the desalination plant,[15] resulting in reduced withdrawals from the Carmel River at an earlier date,[16] and the possibility of more leniency from the State Water Resources Control Board regarding the Cease and Desist Order ("CDO") deadline.[17]

- The additional water supply resilience and reliability of the portfolio approach provided by inclusion of the GWR Project in the MPWSP.[18]

- Furthering State goals regarding recycled water.[19]

- Environmental benefits and other positive externalities, including reduction of pumping from the Salinas Groundwater Basin, reduction of runoff into the Monterey Bay, reduction of pollutant loads to the lower Salinas watershed, combatting seawater intrusion in the Seaside Groundwater Basin, reduced brine discharge, and reduced GHG emissions.[20] [21]

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[15] The Opening Testimony of Paul Sciuto states at p.11 that Cal Am should be able to start extraction of GWR Water in Q1 of 2018, and states at p.12 that the current projected in-service date for the MPWSP is Q2 of 2019. Attachment H of Scuito's testimony provides a detailed schedule for the GWR Project. The Supplemental Testimony of Richard Svindland states at p. 6 that the GWR Project is projected to be 4-10 months ahead of the current MPWSP schedule, assuming a CPCN is issued in 2016. However, a recent notice sent by Ken Lewis of the Commission's Energy Division updated the schedule, indicating that the EIR/EIS process will not be concluded until November 2017, so it is likely that a CPCN will not be issued until 2018.

[16] Ibid. at p. 6 and 12.

[17] Opening Testimony of Paul Sciuto at pp. 6-7, Supplemental Testimony of Jason Burnett at p.6.

[18] Opening Testimony of Paul Sciuto at p. 6

[19] Supplemental Testimony of David Stoldt at pp. 7-10, Supplemental Testimony of Jason Burnett at p. 7, and Attachment 3 to Burnett's testimony.

[20] Opening Testimony of Paul Sciuto at p. 6, GWR Final EIR.

[21] The Direct Testimony of Dennis Bruce, which presents HDR, Inc.'s economic evaluation of GWR externalities. While the positive externalities examined in the study do benefit Cal Am ratepayers, the financial benefits quantified in the HDR study would not accrue exclusively to Cal Am ratepayers. Because only a portion of the financial benefit associated with these externalities would accrue to Cal Am ratepayers, the quantification in the HDR study should not be viewed as a direct offset to a GWR premium. The benefits should be considered, but not as a direct offset.

ORA concurs that these are positive benefits of the GWR/Small Desal option in comparison to the Large Desal Option.

2. Positive Benefit with Regards to Return Water Uncertainty

In addition to the positive benefits discussed in parties' testimonies and summarized above, the GWR/Small Desal Option also reduces the uncertainties associated with the "return water" percentage. Return water is the amount of water, per the Agency Act, that that is required to remain in the Salinas River Groundwater Basin (SRGB). The volume of return water will be equal to the percentage of SRGB groundwater in the total MPWSP source water production, as determined by the Monterey County Water Resources Agency.[22]

As discussed in more detail in ORA's Supplemental Testimony,[23] the exact amount of return water necessary for the desalination projects remains uncertain. According to the Return Water Planning Term Sheet, Cal Am will sell the return water at a significantly reduced cost to the Castroville Community Services District (CCSD) for $110/acre-foot and to the Castroville Seawater Intrusion Project (CSIP) for "an amount equal to the CSIP ratepayers' marginal avoided cost for recycled water produced for use by the CSIP in lieu recharge project's ratepayers." The higher the return water percentage, the more return water will be provided to CCSD and CSIP at this significantly reduced cost.

While the return water *percentage* remains equally uncertain in the GWR/Small Desal Option as compared to the Large Desal Option, the *total amount* of return water would always be lower for the GWR/Small Desal Option. Therefore, the impact of the uncertainty of the return water percentage is reduced in the GWR/Small Desal project scenario.

[22] Supplemental Testimony of Richard Svindland, Attachment 4 - Return Water Planning Term Sheet, at p. 2.

[23] Supplemental Testimony of Suzie Rose, at pp. 6-8.

The impact of this uncertainty is demonstrated in tables provided in the Supplemental Testimony of Richard Svindland, which summarize the "excess supply" (or lack thereof) for various return water percentages and demand scenarios.[24] When the return water percentage increases and/or the demand increases, the excess supply decreases. In certain scenarios, there is a risk of a production shortfall for one or both project options. However, in each and every scenario, the GWR/Small Desal Option has a higher amount of "excess supply" than the Large Desal Option. As the tables show, the GWR/Small Desal Option is less impacted by return water percentage uncertainties, and provides reduced risk of production shortfall at higher demand scenarios compared to the Large Desal Option.

ORA specifically identified the return water percentage as an area of uncertainty in its Supplemental Testimony due to test well data showing higher salinity levels (and therefore a potentially greater return water requirement) than initially anticipated by Cal Am for the production wells.[25] However, the positive benefit discussed above in relation to return water uncertainty also applies to: 1) other issues that could impact the ability of the desalination plant and/or production wells to perform at currently anticipated levels, and 2) higher than anticipated demand. Essentially, the tables discussed above demonstrate that the diversified water supply portfolio associated with the GWR/Small Desal Option will provide additional resiliency in the event that the desalination plant or production wells do not perform as well as currently anticipated, and/or the event that future demand is higher than currently projected. This represents a significant positive benefit of the GWR/Small Desal Option in comparison to the Large Desal Option.

[24] Supplemental Testimony of Richard Svindland at p. 10 and Attachment 1.

[25] Supplemental Testimony of Suzie Rose at p. 9.

C. The GWR Project and the Desalination Project Currently have differing levels of certainty.

There are numerous uncertainties associated with both the desalination projects and the GWR project. These uncertainties could significantly impact the cost of the alternatives to ratepayers, and should therefore be considered when evaluating the GWR Determination. By definition, it is impossible to know if and how much the uncertainties will impact cost. However, for the purposes of the GWR Determination, it is important to consider the potential for some of these uncertainties to result in costs to ratepayers separate and significantly higher than the current estimated construction costs. Accordingly, it is important to compare the relative uncertainties associated with the GWR Project and the desalination project,[26] which include:

1. Schedule

The GWR Project has a certified and unchallenged EIR,[27] as opposed to the Desalination Project, for which the CPUC is currently preparing a DEIR. Unexpected delays due to legal challenge or other barriers in project construction are generally less likely to occur once a project has a certified and unchallenged EIR. The MPWSP has experienced significant delay regarding its environmental review, the latest being a delay of the completion of the environmental review process until November 2017.[28] Therefore, at this time the GWR Project has a higher level of schedule certainty than the desalination project. Unexpected delays could result in additional costs to ratepayers, particularly if penalties assessed by the SWRCB in relation to the CDO were levied on Cal Am ratepayers.

[26] Similar to the discussion of return water uncertainties above, uncertainties associated with the desalination plant apply to both the GWR/Small Desal Option and the Large Desal Option. However, the uncertainties associated with the desalination plant play a smaller role in the GWR/Small Desal Option than the Large Desal Option.

[27] Supplemental Testimony of Paul Sciuto at pp. 7-8.

[28] March 17, 2016 Energy Division Notice regarding the MPWSP EIR/EIS Schedule.

2. Unexpected Issues Necessitating Changes in Design

Unexpected issues such as legal challenge, return water issues, mitigation measures, and/or unexpected delays can necessitate potentially costly design changes. The likelihood of unexpected issues necessitating costly design changes is generally reduced with a certified and unchallenged EIR. Therefore, with regards to this issue, the GWR Project provides greater cost certainty than the desalination project.

3. Construction Costs

The GWR Project is currently at a 10% design level, and has not yet gone out to bid.[29] Cal Am has "final bids in hand for the components of the desalination plant and Cal-Am Only Facilities."[30] Therefore, GWR likely has less construction cost certainty associated with the existing design than the desalination project. Cal Am's pipeline bid amounts were significantly higher than the estimated amounts, as were the bid amounts for the 6.4 MGD desalination plant.[31] It is possible that bid prices for the GWR Project could also be higher than the estimated amounts. Based on information from Cal Am's bidding process for the MPWSP pipelines and plant, Rich Svindland evaluated similar components for the GWR project, and believes that the capital costs for the GWR Project may be understated by approximately $21 million.[32] This amount would represent a construction cost increase of 29% for the GWR Project.[33] At this point in time, the GWR Project has a lower level of cost certainty associated with the existing design compared to the desalination plant.

4. Cost Overruns

Despite the many advantages for GWR discussed above, the GWR/Small Desal Option poses significant risk and uncertainty to Cal Am ratepayers due to the structure of

[29] Opening Testimony of Robert Holden at pp. 2-3.

[30] Supplemental Testimony of Jeff Linam at p. 5.

[31] December 15, 2015 Supplemental Testimony of Rich Svindland at p. 4.

[32] Supplemental Testimony of Rich Svindland at p. 6.

[33] The Supplemental Testimony of David Stoldt lists a total project budget of $72,244,146 at p. 16.

the WPA agreement. The WPA currently does not provide a defined purchase price for GWR water. Rather, the WPA sets the cost of GWR water as the sum of the Fixed Project Costs[34] and Project Operation and Maintenance (O&M) Expenses[35] divided by the amount of water produced,[36] with no limit on the final cost that may be passed on to ratepayers. Additionally, the WPA states that *all* fixed and O&M costs incurred by MRWPCA and MPWMD in pursuit of the GWR project "shall be deemed reasonable and prudent and the CPUC, by its approval of this Agreement, shall be deemed to have agreed that such costs are reasonable and prudent."[37]

In contrast, the Large Desal Option has cost caps defined in the Settlement Agreement. While the cost of construction for the desalination plant may exceed the caps in the settlement agreement, the CPUC has jurisdiction over Cal Am's recovery of those costs from ratepayers, and can deny Cal Am recovery of costs incurred that are not just and reasonable.

The structure of the WPA in regards to the purchase price of the GWR water and the lack of a cost cap for that purchase price creates a significant and worrisome difference in the uncertainty of costs associated with the GWR Project when compared to the Large Desal Option.

D. There are inconsistencies in MPWMD and Cal Am cost analyses.

MPWMD and Cal Am each present comparative cost analyses for the GWR Determination, including analysis of the revenue requirement for each option, and the net

[34] Defined in the WPA at p. 4 as "all pre-construction, development, and capital costs of the Project, including debt service and reserves for the payment of debt service, incurred by the Agency or District."

[35] Defined in the WPA at p. 5 as "all expenses and costs of management, operation, maintenance, repair, replacement, renovation, or improvement of the Project incurred by the Agency and the District, including overhead costs, and properly chargeable to the Project in accordance with generally accepted accounting principles, including, without limitation (a) salaries, wages, and benefits of employees, contracts for professional services, power, chemicals, supplies, insurance, and taxes; (b) an allowance for depreciation, amortization, and obsolescence; (c) all administrative expenses; and (d) a reserve for contingencies, in each case incurred by the Agency or District with respect to the Project."

[36] The WPA details on how the purchase price will be calculated at p. 11.

[37] WPA at p. 11.

present value ("NPV") for each option.[38] In examining the analyses, assumptions, and cost model[39] used to generate the revenue requirement and NPV, ORA finds the following inconsistencies and oversights:

1. NPV Power Escalation

Cal Am's "baseline" analysis of NPV assumes a power cost escalation factor of 3%.[40] However, in performing the NPV analysis, Cal Am used a power cost escalation factor of 3% for the O&M costs associated with the 6.4 and 9.6 MGD desalination plants, but a 4.8% power cost escalation factor for the O&M costs associated with GWR.[41] Correcting this error results in a slightly lower NPV for the GWR/Small Desal Option.[42]

2. Version of Cost Model used in MPWMD Analysis

MPWMD's analysis was performed using the December version of the cost model, and does not yet include the model updates discussed in the Supplemental Testimony of Jeff Linam.[43] Including these updates slightly increases the cost of the GWR/Small Desal Option.

3. 6.4 MGD Capital Cost Scenarios

The cost model provides a "most probable capital scenario" and "high end capital scenario" for both the 6.4 MGD and 9.6 desalination plant options. The model refers to the "most probable" scenario as the "soft cap" and the "high end" scenario as the "hard cap" for each desalination plant option. The Settlement Agreement provides cost caps for each desalination plant option. Per the terms of the Settlement Agreement, Cal Am may

[38] Cal Am's analysis is presented in the Supplemental Testimony of Jeff Linam, and MPWMD's analysis is presented in the Supplemental Testimony of David Stoldt.

[39] 2015 Monterey Desalination Model v8.4.xls ("cost model"), provided via e-mail to ORA by Jeff Linam in response to ORA's informal request.

[40] Supplemental Testimony of Jeff Linam at p. 10.

[41] Cost model, "GWR O&M" tab, cell B38.

[42] This error likely exists for all the scenarios presented in Attachment 4 of the Supplemental Testimony of Jeff Linam.

[43] Supplemental Testimony of Jeff Linam at p.3.

seek recovery of reasonable and prudent costs above the caps by filing a Tier 2 advice letter for aggregate costs below specified amounts, and via a petition for modification for recovery above those specified amounts.[44] In the model, for the 9.6 MGD option, the aggregate "soft cap" scenario falls below the cost caps established in the Settlement Agreement, and the aggregate "hard cap" scenario falls below amount necessitating a petition for modification. However, for the 6.4 MGD option, the "soft cap" scenario exceeds the cost caps in the Settlement Agreement, and the "hard cap" scenario exceeds the amount necessitating a petition for modification.[45]

While it is possible that Cal Am would be able to recover reasonable and prudent costs above the cost caps from ratepayers, these costs would be subject to additional scrutiny, including the questions raised in the Supplemental Testimony of David Stoldt regarding the possibility that additional costs were incurred in constructing the 6.4 MGD plant as a result of sizing for future growth.[46] Because of this, it may not be accurate to compare the costs currently provided in the model for the 6.4 MGD scenario (which exceed the respective "soft" and "hard" caps in the Settlement Agreement) to the costs currently provided in the model for the 9.6 MGD scenario (which do not exceed the respective caps in the Settlement Agreement). Evaluating the 6.4 MGD desalination plant at the cost caps provided in the Settlement Agreement would decrease the estimated cost of the GWR/Small Desal Option.

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[44] Settlement Agreement, pp.12-13, provides aggregate cost caps for the 6.4 MGD plant and Cal Am Only Facilities as $295.66M, and for the 9.6 MGD plant and Cal Am Only Facilities as $338.40. Above these amounts, a Tier 2 Advice Letter would be necessary. Aggregate amounts above which a petition for modification would be necessary are $330.38M for the 6.4 MGD plant and $384.68M for the 9.6 MGD plant.

[45] The "soft cap" scenario in the cost model shows $102.60M for the Cal Am Only Facilities ("assumptions" tab, cell M8) and $219.30M for the 6.4 MGD plant ("assumptions" tab, cell M7), totaling $321.90M. The "hard cap" scenario in the cost model shows $115.4M for the Cal Am Only Facilities ("assumptions" tab, cell M8) and $234.4M for the 6.4 MGD plant ("assumptions" tab, cell M7), totaling $349.8M.

[46] Supplemental Testimony of David Stoldt at pp.12-13.

4. Debt Rate for MCWD Pipeline

The cost model lists the debt rate for the MCWD pipeline as 1.0%.[47] However, discussions with MPWMD[48] indicate that the debt rate for this pipeline would be 1.8%, at a minimum.[49] Correcting this slightly increases the estimated cost of the GWR/Small Desal Option.

5. Outfall Rental Costs

The terms of the WPA will only become binding once Cal Am and MRWPCA execute an agreement for a long term outfall capacity rights lease.[50] Cal Am and MRWPCA have "barely begun" negotiations for this agreement.[51] The NPV analysis in the cost model includes a line item for "outfall rental".[52] This outfall rental cost is included in the NPV analyses, however it is not included in the revenue requirements as calculated by the cost model. The Supplemental Testimony of David Stoldt lists this item as an omission in the revenue requirement calculations,[53] however the Supplemental Testimony of Richard Svindland indicates that this cost is covered in the O&M cost estimates.[54] It is unclear if the outfall rental is double-counted in the NPV analyses (as indicated by Svindland) or left out of the revenue requirement calculations (as indicated by Stoldt).

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[47] Cost Model, "assumptions" tab, cells F91 and G91.

[48] 2/24/16 ORA conference call with MPWMD.

[49] If the project qualifies for a State Revolving Fund loan. If the project does not qualify, the rate would likely be higher.

[50] Whereby MRWPCA leases a portion of the capacity in its ocean outfall to Cal Am for brine discharge from the desalination plant; WPA at p. 18.

[51] Supplemental Testimony of David Stoldt at p. 14.

[52] Cost Model, "GWR v Desal Comparison – CAW," "Project Variant (GWR+6.4 MGD)," and "9.6 MGD Desal" tabs.

[53] Supplemental Testimony of David Stoldt at p. 14.

[54] Supplemental Testimony of Richard Svindland at p. 14.

E. The WPA would not trigger debt equivalence for Cal Am.

The Supplemental Testimony of Jeff Linam contemplates the possibility that the WPA for the GWR project may trigger debt equivalence for Cal Am.[55] Due to the structure of the WPA, Linam concludes that "debt equivalence, if an issue, would appear to be significantly reduced and California American Water would not request a revenue offset at this time."[56] Accordingly, Cal Am does not include any projected debt equivalence in its cost projections for the GWR/Small Desal Option. The Supplemental Testimony of David Stoldt provides further detail and explanation as to why the WPA for the GWR project would not trigger debt equivalence for Cal Am.[57]

As both Linam and Stoldt discuss, the WPA is not a take-or-pay contract. Therefore, Cal Am does not have a fixed payment obligation. This fact alone is enough to conclude that the WPA should not trigger debt equivalence for Cal Am, and that no revenue requirement offset is needed in regards to the WPA at this time, or at any time in the future.

F. Cost analyses submitted in Supplemental Testimony indicate that, compared to the Large Desal Option, the GWR/Small Desal Option would likely result in: 1) a small first year revenue requirement premium; and 2) either a small NPV premium or small NPV benefit.

Cal Am and MPWMD provide comparative analyses for a variety of scenarios for the GWR Determination, including analyses of potential first year revenue requirement differentials, NPV differentials, and bill impacts.[58] Cal Am and MPWMD each provide sensitivity analyses for a variety of factors, including the assumed discount rate and energy escalation rate. The differential in first year revenue requirement and NPV for the two options differ by scenario. Cal Am primarily makes use of the MPWMD Median

[55] Supplemental Testimony of Jeff Linam at pp. 13-19.

[56] Supplemental Testimony of Jeff Linam at p. 19.

[57] Supplemental Testimony of David Stoldt at pp. 28-30.

[58] Cal Am's analysis is presented in the Supplemental Testimony of Jeff Linam, and MPWMD's analysis is presented in the Supplemental Testimony of David Stoldt.

Cost Scenario and the Cal Am Most Probable Capital Scenario, and provides a sensitivity analysis by varying one variable at a time based on this scenario.[59] MPWMD makes use of the Cal Am Most Probable Capital Scenario, comparing this to the NPV for the MPWMD Low and Median Cost Scenarios, and providing a sensitivity analyses when compared to the Median Cost Scenario.[60] Neither Cal Am nor MPWMD provide comparisons to the High End Cost Scenario for desalination, although Cal Am presents an analysis of its baseline scenarios with a slant well salinity of 92.5%,[61] which is the approximate current salinity of the existing test well.[62]

As noted by Jason Burnett,[63] most scenarios show a higher NPV, a higher first year revenue requirement, and a higher average residential bill with the inclusion of GWR. Some scenarios result in a lower NPV and/or lower average residential bill for the GWR/Small Desal Option, however none of the scenarios presented result in a lower first year revenue requirement.[64] The baseline scenario for Cal Am's analysis results in approximately a 5% NPV increase in 30-yr lifecycle costs for the GWR/Small Desal Option.[65] MPWMD's analysis of the GWR Low Cost Scenario shows a 0.5% NPV decrease in the 30-yr lifecycle costs for the GWR/Small Desal Option.[66] Cal Am's average residential bill analysis shows an increase of approximately $1 or 1% for the

[59] Supplemental Testimony of Jeff Linam, Attachment 4.

[60] Supplemental Testimony of David Stoldt at pp. 21-24.

[61] Supplemental Testimony of Jeff Linam, Attachment 5.

[62] Supplemental Testimony of Richard Svindland at p. 16.

[63] Supplemental Testimony of Jason Burnett at p. 5.

[64] Supplemental Testimony of Jeff Linam, Attachment 4. The Supplemental Testimony of David Stoldt refers to a 1% revenue requirement differential at p.24, but does not provide any additional details on how this number was calculated.

[65] Attachment 4 to the Supplemental Testimony of Jeff Linam shows a $33M NPV of the lifecycle differential, and a $687.3M NPV of the lifecycle costs for the Larger Desal Option.

[66] Supplemental Testimony of David Stoldt at p. 21 - lists a $3.4M NPV of the lifecycle savings for the GWR/Smaller Desal Option. The 0.5% savings calculation makes use of the $687.3M NPV of the lifecycle costs for the Larger Desal Option in the above footnote.

baseline scenario. Cal Am's baseline scenario makes use of the GWR Median Cost Scenario, which provides a purchase price of GWR water of $1,811/acre-ft.[67]

With a $1,600/acre-ft purchase price for the GWR water, Cal Am's analysis shows an average residential bill decrease for the GWR/Small Desal Option of $1.44 compared to the Large Desal Option.[68] A $1,600/acre-ft purchase price for the GWR water also results in a lower NPV for the GWR/Small Desal Option compared to the Large Desal Option, although the first year revenue requirement remains lower for the Large Desal Option.[69]

The GWR Low Cost Scenario provides a purchase price for GWR water of $1,379/acre-ft.[70] Neither MPWMD nor Cal Am provided a comparative analysis of the first year revenue requirement or the average residential bill for the GWR Low Cost Scenario in supplemental testimony. However, both of these fields would be lower in the GWR Low Cost Scenario than those associated with the $1,600/acre-ft scenario, for which Cal Am's analysis shows a lower NPV and lower average residential bill for the GWR/Small Desal Option compared to the Large Desal Option.[71] Table 1 summarizes the results of Cal Am and MPWMD's analyses for a few key scenarios.

[67] Supplemental Testimony of David Stoldt at p. 21.

[68] Supplemental Testimony of Jeff Linam, Attachment 4, shows an average residential bill of $93.23 for the GWR/Small Desal Option and $94.67 for the Large Desal Option.

[69] Supplemental Testimony of Jeff Linam, Attachment 4.

[70] Supplemental Testimony of David Stoldt at p. 21.

[71] The Supplemental Testimony of David Stoldt discusses the NPV associated with this GWR low cost scenario at p.21, as discussed previously in this section.

EXHIBIT 9-A

Table 1. Summary of Cal Am and MPWMD Analyses

Analysis	Purchase Price of GWR Water (/acre-ft)	NPV Increase (5) (6)	Revenue Requirement Increase (7)	Average Residential Bill Increase (7)
Cal Am - Baseline Scenario (1)	$1,811	4.8%	5.6%	1.1%
MPWMD - Median Cost (2)	$1,811	3.2%	1% (8)	1% (8)
Cal Am - Baseline with GWR Price Variance (3)	$1,600	-1.8%	3.9%	-1.5%
MPWMD - Low Cost Scenario (4)	$1,379	-0.5%	Not Discussed	Not Discussed

(1) Desal Plants at "most probable" scenario, GWR at "median" scenario, energy escalation at 3% for desal and 4.8% for GWR, January version of model
(2) Desal Plants at "most probable" scenario, GWR at "median" scenario, energy escalation at 3% for both, December version of model
(3) All assumptions same as Cal Am baseline except GWR purchase price
(4) Same as MPWMD median, with lower costs associated with GWR Project as described in Supplemental Testimony of David Stoldt at p. 20
(5) NPV of the cumulative NPV Increase for GWR/Small Desal Option over Large Desal Option over 30-yr lifecycle
(6) MPWMD values calculated using NPV increases discussed in the Supplemental Testomony of David Stoldt, divided by the total NPV of Cal Am's baseline scenario
(7) Increase for GWR/Small Desal Option over Large Desal Option
(8) Stated in Supplemental Testimony of David Stoldt at p. 24, with no corresponding calculations

Ultimately, the NPV, first year revenue requirement, and the average residential bill impact depend on a variety of factors, not all of which were assessed in Cal Am and MPWMD's analyses. Comparing the High End desalination costs to the Low Cost Scenario for GWR would provide favorable results for the GWR/Small Desal Option. If the GWR project receives grant funding,[72] negotiates more cost-effective energy sources than that which is available to the desalination plant,[73] and/or if energy escalation rates are on the higher side,[74] the GWR/Small Desal Option provides competitive costs, or cost savings, when compared to the Large Desal Option. Additionally, if the return water

[72] The Supplemental Testimony of Jeff Linam, Attachment 4, provides Cal Am's analysis of the impact of GWR grant funding on NPV, first year revenue requirement, and average residential bills. Grant funding assumptions for the GWR median and low cost scenarios are discussed in the Supplemental Testimony of David Stoldt at p. 20.

[73] Supplemental Testimony of David Stoldt at p. 23. This scenario was not assessed in the analyses presented in supplemental testimony.

[74] The Supplemental Testimony of Jeff Linam, Attachment 4, provides Cal Am's analysis of the impact of energy escalation rates on NPV, first year revenue requirement, and average residential bills. The Supplemental Testimony of David Stoldt at p. 23 provides MPWMD's analysis of the impact of energy escalation rates on NPV.

percentage is higher than expected,[75] or other uncertainties discussed above result in higher than estimated costs for Cal Am, the GWR/Small Desal Option remains competitive. While it is impossible to determine which of the multitude of scenarios will come to pass, given the cost estimates and range of scenarios presented, it appears likely that in comparison to the Large Desal Option, the GWR/Small Desal Option would result in: 1) a small first year revenue requirement premium; 2) either a small NPV premium or small NPV benefit.

As discussed above, there are numerous uncertainties associated with the Large Desal Option, and numerous positive benefits associated with the GWR/Small Desal Option. There is also the possibility that the GWR/Small Desal Option will provide a NPV and/or average residential bill net benefit in comparison to the Large Desal Option. Because of these factors, the possibility of a small first year revenue requirement premium for the GWR/Small Desal Option, such as that presented in supplemental testimony for the lower-end GWR cost scenarios, would likely be considered reasonable.

G. The ninth finding required by the settlement agreement has not been met absent a defined purchase price or price cap.

The ninth finding of the Settlement Agreement requires that:

> "The revenue requirement for the combination of the GWR Project and the smaller desalination project, including the projected debt equivalence for the GWR Project, if any, determined pursuant to Section 4.4, is just and reasonable when compared to the revenue requirement for a larger desalination project alone."

While, as discussed above, the cost analyses provided in the Supplemental Testimony of David Stoldt and Jeff Linam indicate that the revenue requirement of the GWR/Small Desal Option would likely be comparatively just and reasonable, the WPA does not provide a purchase price or a price cap for the GWR water. The purchase price of the water as specified in the WPA (and discussed in more detail above) would be set at the sum of the fixed project costs and the project O&M expenses, divided by the amount

[75] Supplemental Testimony of Jeff Linam, Attachment 5.

of water produced, with all costs deemed reasonable and prudent. With the GWR Project at just 10% design and no bids in hand, the costs that will be used to calculate the purchase price of the water remain uncertain. The structure of the WPA could burden Cal Am ratepayers with the full impact of all cost overruns, regardless of the amount or cause of the overrun. Given the existing terms of the WPA, the revenue requirement for the GWR/Small Desal Option is currently undefined, and unbounded. The Large Desal Option, in contrast, has cost control measures in place in the Settlement Agreement, and the CPUC maintains jurisdiction over all cost recovery.

An undefined and unbounded revenue requirement for the GWR/Small Desal Option cannot be found just and reasonable when compared with the revenue requirement for the Large Desal Option, which has cost caps and cost control measures in place. Therefore, the ninth finding of the Settlement Agreement has not yet been met absent a defined purchase price or price cap.

H. The terms set forth in the settlement agreement as prerequisites for Cal Am entering into a WPA for GWR water have not yet been met, but could be met with WPA modification.

The ninth finding discussed above is listed in the Settlement Agreement as a prerequisite for Cal Am entering into a WPA for GWR water. As discussed above, the ninth finding has not been met. Therefore, the terms set forth in the Settlement Agreement for Cal Am entering into a WPA have not been met.

Additionally, the Settlement Agreement states: "The Parties anticipate that the evidentiary hearings in the separate phase will support findings by the Commission of an upper range of reasonableness for the price of GWR Project water for inclusion in the WPA based upon consideration of all positive and negative externalities associated with the GWR Project."[76] While evidentiary hearings have not yet begun, no parties provided input to the Commission on an upper range of reasonableness for the price of GWR water in Supplemental Testimony. The Settlement Agreement indicates that this upper range of

[76] Settlement Agreement at p. 7.

reasonableness for the price of the GWR Project water will be included in the WPA, however, the WPA does not currently include this aspect. For this reason, also, the terms set forth in the settlement agreement for Cal Am entering into a WPA have not yet been met.

The ninth finding and the terms of the settlement agreement regarding GWR could be met if the WPA were modified such that:

1) Language deeming all costs just and reasonable is removed from the WPA.

2) A reasonable and prudent cost cap on the price of GWR purchased water is including in the WPA.

As discussed above, the WPA deems all costs incurred in relation to GWR reasonable and prudent. Specifically, this paragraph states:

> The Parties agree that, given the status of the Agency and the District as governmental agencies and the requirements under law that they incur only reasonable and prudent costs and expenses for purposes related to their governmental duties and the fact that such costs and expenses are subject to public review and scrutiny, all Fixed Project Costs and Project Operation and Maintenance Expenses incurred by the Agency and the District in compliance with the terms of this Agreement shall be deemed reasonable and prudent *and the CPUC, by its approval of this Agreement, shall be deemed to have agreed that such costs are reasonable and prudent*.[77]

This paragraph, in combination with the absence of a cap on the purchase price of the GWR water, provides for an undefined and unbounded revenue requirement, which cannot be found just and reasonable. Removing this language would help ensure that Cal Am ratepayers are not penalized for any unreasonable or imprudent costs incurred by MPWMD or MRWPCA in connection with the GWR project. Including a reasonable and prudent cost cap for the purchase price of GWR water in the WPA would also further this goal.

[77] WPA at p. 11, emphasis added.

Additionally, providing a cost cap in the WPA for the purchase price of GWR water would increase the certainty of cost for the GWR/Small Desal Option above and beyond that of the Large Desal Option. While the Settlement Agreement contains cost caps for both the small and the large desalination plant, these costs are "soft" cost caps not "hard" cost caps – meaning that if the construction costs exceed the caps in the Settlement Agreement, Cal Am can submit an advice letter or petition for modification to the Commission requesting that the additional costs above the cap be funded by ratepayers. While ratepayers might not necessarily shoulder costs above the caps - as the Commission would first need to determine the costs to be just and reasonable - the possibility remains that ratepayers could bear at least a portion of costs above the cost caps in the Settlement Agreement. If the GWR/Small Desal Option included a price cap on the GWR Water purchase price, then this option would provide a higher level of cost certainty than the Large Desal Option, adding another positive benefit that could help justify a revenue requirement and/or NPV premium.

The added certainty of cost, in combination with the positive externalities discussed in previous sections, would render a small revenue requirement and NPV premium reasonable for the GWR/Small Desal Option. Therefore, the ninth finding and the terms of the settlement agreement regarding GWR could be met if the language deeming all costs reasonable and prudent were removed from the WPA, and a reasonable and prudent cost cap was included in the WPA to ensure that the any premium was minimal.

IV. RECOMMENDATIONS

Based on the above findings, ORA recommends that the Commission authorize Cal Am to enter into the WPA agreement for GWR if and only if the WPA is modified as discussed below.

A. Removal of the "Reasonable and Prudent" Language from the WPA

The paragraph in the WPA related to all costs incurred being deemed reasonable and prudent[78] must be removed from the WPA. Costs cannot be deemed just and reasonable by the CPUC prior to review of those costs. This language must be removed to ensure that Cal Am ratepayers are not unduly burdened with the full impact of any potential cost overruns, regardless of the amount or cause of the overrun.

B. Cost Cap on Purchase Price must be Provided

A reasonable and prudent cap on the purchase price of the GWR water must be provided in the WPA, for the reasons discussed above. Before determining the appropriate cap on the purchase price, the inconsistencies in the cost analyses and in the cost model (discussed above) must be resolved to provide as accurate a comparison as possible.

There are positive benefits associated with the GWR/Small Desal Option in comparison to the Large Desal Option. If a reasonable and prudent cost cap is included for the purchase price of GWR water, there will be increased certainties with regards to the cost of the GWR/Small Desal Option compared to the Large Desal Option. Therefore, if the above conditions are met, a small, defined NPV and revenue requirement premium for the GWR/Small Desal Option above that of the Large Desal Option would be just and reasonable.

If the WPA is modified as discussed above, the Commission should authorize Cal Am to enter into the WPA for GWR water, due to lower levels of uncertainty and the significant positive benefits associated with the GWR/Small Desal Option as compared to the Large Desal Option.

If the WPA is not modified as recommended, the Commission should not authorize Cal Am to enter into the WPA for GWR water, as it poses too great a risk for Cal Am ratepayers.

[78] WPA at p. 11.

V. CONCLUSION

The Commission should require parties to correct inconsistencies in the cost analyses and in the cost model as discussed herein. Once these corrections are made, a reasonable and prudent cost cap should be established for the purchase price of GWR water. If the WPA is modified: (1) to eliminate language deeming all costs reasonable and prudent, and (2) to include a reasonable and prudent cost cap for the purchase price of GWR water, the Commission should authorize Cal Am to enter into the WPA agreement for GWR.

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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

In the Matter of the Application of California-American Water Company (U210W) for a Certificate of Public Convenience and Necessity to Construct and Operate its Monterey Water Supply Project to Resolve the Long-Term Water Supply Deficit in its Monterey District and to Recover All Present And Future Costs in connection Therewith in Rates	Application No. 12-04-019 (Filed April 23, 2013)

REBUTTAL TESTIMONY OF DAVID J. STOLDT

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March 22, 2016

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BEFORE THE PUBLIC UTILITIES COMMISSION
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REBUTTAL TESTIMONY OF DAVID J. STOLDT

I. INTRODUCTION

Q1. What is your name and address?

A1. My name is David Stoldt and my address is 5 Harris Court, Building G, Monterey, CA 93940.

Q2. By whom are you employed and in what capacity?

A2. I am employed by the Monterey Peninsula Water Management District ("MPWMD" or the "District") as its General Manager.

Q3. Have you provided testimony in this California Public Utilities Commission (Commission) proceeding where you have previously state your qualifications?

A3. Yes. I have submitted direct testimony in this proceeding January 22, 2016 where my qualifications and the role of the District were discussed.

Q4. What specific issues will you address in your testimony?

A4. I will provide rebuttal testimony to issues raised in the January 22, 2016 testimony of the following: Jeffrey T. Linam, the Office of Ratepayer Advocates, Jason Burnett, Robert G. MacLean, and Ron Weitzman.

PHASE 2 REBUTTAL TESTIMONY

II. REBUTTAL OF JEFFREY T. LINAM TESTIMONY

Q5. In his response A11, Mr. Linam states that the Large Settlement contemplates a comparison of the "Year 1" revenue requirement. Do you agree?

A5. No. I believe that all the parties have recognized that the significant difference in replacement costs and energy demands over time warrant a lifecycle comparison. In fact, during the December 11th and 12th 2012 cost and financial workshop conducted by the Commission on Application No. 12-04-019, the Commission's Department of Water and Audits ("DWA") determined that additional reporting should be done by Cal-Am and the project proponents on both energy costs and lifecycle net present value analysis. In their January 22, 2016 Supplemental Testimony, the Office of Ratepayer Advocates states "In this specific instance, in addition to evaluating the test-year revenue requirement and ratepayer bill impact, it is also necessary to consider life-cycle analysis of the two alternatives."[1]

The District has always understood the reference in Section 4.2(a)(ix) of the Large Settlement Agreement to mean the annual revenue requirement compared over the 30-year life cycle.

[1] ORA Supplemental Testimony in A.12-04-019, January 22, 2106 page 5.

Q6. How certain are the desalination project costs against which the GWR project is compared?

A6. In his testimony A12 on page 7, Mr. Linam states the financing for both the large and small desalination plants "includes the use of State Revolving Fund ("SRF") loans, surcharge during construction, securitized debt, and equity." This capital structure is presently uncertain as to cost – the SRF loan rate cannot be predicted, nor has the Company demonstrated that it will qualify for SRF loan funding, and the securitized debt has not been approved by a Commission financing order, nor can its interest rate be predicted to occur at the 3.60% interest rate assumed in the model. Small changes in the Company's borrowing rates can significantly change the comparison to GWR. Further, other presently unknown factors could affect the cost of the desalination facilities – litigation, amount of the "return water" requirement, environmental mitigations, etc. In other words, we are comparing GWR to uncertain costs of desalination alternatives. One element of certainty for GWR: the GWR facilities have now been approved for a 1.0% interest rate for 30 years.

Q7. In his A12 (page 8) of his Supplemental Testimony Mr. Linam cites the Year 1 cost for purchased water of $1,811 per AF for the GWR "Median Case." Has this value changed?

A7. Yes. The GWR costs continue to be updated, but presently projected GWR costs are in the range less than $1,500 per AF to a soft cap of $1,720 per AF. The proposed soft cap is discussed under A11 herein.

Q8. In his Supplemental Testimony A16 – A19, Mr. Linam discusses the Company's results for a variety of scenarios. Does the District agree with the results as presented?

A8. No. We found two errors in the model which makes all results as presented in Mr. Linam's responses incorrect. While we agree with the model's methodology, it is only as good as its inputs. Here, the two errors in the Company's analysis are (1) the energy

costs escalate at 3.0% per year for the desal plants of either size, but the Company inadvertently left the GWR energy costs escalating at 4.8% - an apples to oranges comparison; and (2) the energy rates used by the Company for the desal plants of either size appear to be from 2011 or 2012 and were not updated to current 2015 levels with the December 15, 2015 testimony submittal.

On this second point, in the actual Excel spreadsheet model, the Fuel & Power O&M Cost as of December 15, 2015 is found in cell B8 of the "O&M Summary" worksheet. From there it is escalated to the first year of service and then escalated annually thereafter. However, that amount is derived from cell F298 of the "O&M 9.6 MGD" worksheet or cell F288 of the "O&M 6.4 MGD" worksheet. The Fuel & Power O&M Cost for 2015 is based on $0.11334 per kWh summer rate and $0.08403 winter rate. I believe those rates are out of date. The September to December 2016 Pacific Gas and Electric E-20 secondary firm rates were $0.13916/kWh summer and $0.09739 winter. The Pure Water Monterey GWR assumption used in the comparisons was $0.132/kWh. The starting point for energy rates should be similar for an accurate comparison.

Once these two errors are corrected, the $33.0 million cost differential cited by Mr. Linam in line 15 of page 10 drops to $17.2 million. Further, as you may recall from my earlier testimony, we believe a 3.0% assumption in the escalation of energy is too low. If a 4.8% escalation is used, the net present value cost differential drops to $8.3 million and the overall (gross) difference is a positive savings by utilizing GWR and a 6.4MGD desal plant. All other results of the sensitivity analysis presented in Mr. Linam's testimony should be revisited and corrected for these two errors.

Q9. Have there been changes in Pure Water Monterey costs that affect the comparison?

A9. Since its submittal on January 22, 2016 the Pure Water Monterey team has affirmed that it will receive a 1.0% interest rate, 30-year SRF loan. The Monterey Regional Water

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Pollution Control Agency has also negotiated an energy purchase agreement with the Monterey Regional Waste Management District beginning at $0.0939/kWh which is a significant advantage to the Pacific Gas and Electric tariff schedules. Finally, the Fort Ord Reuse Authority Board authorized their Executive Director to negotiate terms to provide up to $6 million in funding for the conveyance pipeline, of which about 72-percent would be applied to the GWR pipeline costs. Further, some cost elements and contingencies have changed. These items were not known to the Company at the time of their Supplemental Testimony. Based on this information, the range of purchased water for GWR is shown below:

Cost of Water Alternatives for Pure Water Monterey (GWR)

Variable	Scenario A	Scenario B	Scenario C	Scenario D
Cal-Am Revenue Requirement[1]	Updated	Updated	Updated	Updated
Outfall Rental	Same as Jan	Same as Jan	Same as Jan	Same as Jan
Replacement Costs	Same as Jan	Same as Jan	Same as Jan	Same as Jan
Energy Escalation	4.80%	4.80%@72%	4.80%@72%	4.80%@72%
Non-Labor Escalation	1.90%	1.90%	1.90%	1.90%
Labor Escalation	1.74%	1.74%	1.74%	1.74%
Project Cost (excl. Pipeline)	$57.53 mil	$57.53 mil	$57.53 mil	$57.53 mil
Project Cost General Contingency	29%	29%	20%	20%
SRF Loan Rate & Term	1.0% / 30 yr	1.0% / 30 yr	1.0% / 30 yr	1.0% / 30 yr
SRF Grants to Project	$0	$0	$0	$7.50 mil
Reimbursement of Pre- Costs	$5.00 mil	$5.00 mil	$5.00 mil	$5.00 mil
MCWRA Contribution	$3.90 mil	$3.90 mil	$3.90 mil	$3.90 mil
Pipeline Cost	$26.97 mil	$26.97 mil	$26.97 mil	$26.97 mil
Pipeline Cost Contingency	30%	30%	30%	30%
SRF Loan Rate & Term	1.8% / 30 yr	1.8% / 30 yr	1.8% / 30 yr	1.8% / 30 yr
SRF Grants to Pipeline	$0	$0	$0	$2.50 mil
FORA Grants to Pipeline	$4.62 mil	$4.62 mil	$4.62 mil	$4.62 mil
GWR NPV Advantage/(Disadvantage)	($7.77) mil	$1.14 mil	$3.02 mil	$8.69 mil
GWR Overall Advantage/(Disadvantage)	$2.14 mil	$22.72 mil	$26.39 mil	$37.4 mil
GWR Cost of Water – Yr 1	$1,802	$1,710	$1,675	$1,569
6.4 MGD Cost of Water[2] – Yr 1	$6,318	$6,318	$6,318	$6,318
9.6 MGD Cost of Water – Yr 1	$4,532	$4,532	$4,532	$4,532
6.4 MGD + GWR Cost of Water – Yr 1	$4,697	$4,664	$4,652	$4,614

Q10. In his Supplemental Testimony, Section V "Water Purchase Agreement Rate Recovery Process & Debt Equivalence" it appears Mr. Linam believes debt equivalence could still be an issue, but its impacts minimized. Do you agree?

A10. No. I believe it is completely a non-issue. In a conversation I had with a Standard & Poor's rating analyst I learned that none of American Water Works water purchase agreements nationwide are treated as debt equivalent. Further, based on the fact that the Company has no obligation to make any payments if water is not delivered, the financial risk to the Company is zero, irrespective of the "practical reality" cited by Mr. Linam on page 18, line 18. By committing to a soft cap as discussed in A11 herein and allowing annual increases in variable cost to be recovered directly from ratepayers through the advice letter process, I believe Standard & Poor's would assign a risk factor of zero, hence no adjustment for debt equivalence.

III. REBUTTAL OF OFFICE OF RATEPAYER ADVOCATES TESTIMONY

Q11. The Office of Ratepayer Advocates (ORA) states on page 6 lines 26-28 that "A WPA with a purchase price or defined methodology for calculating prices for water from GWR with an associated price cap would provide significantly more cost certainty." Do you agree with that?

A11. Yes. And the District is willing at this time to establish a $1,720 per AF "soft cap" on the year 1 cost of water. However, should construction costs result in amortization of fixed costs resulting in a cost per acre foot higher than this soft cap, we respectfully request that the Company be given the opportunity to apply to the Commission for recovery of said costs through rates. If the first year GWR cost of water is under the proposed cap, then in subsequent years changes in the cost of water due to escalation in the variable costs would be passed on to ratepayers through the advice letter process.

Q12. ORA has suggested on page 9, line 1, that the water purchase agreement provide " 'most favored nation status', whereby prices ultimately borne by Cal Am ratepayers for GWR water are assured to be equal to or better than prices offered to other customers." Do you agree to such a condition?

A12. We can agree to it in principal, but ORA needs to recognize that another customer may have a different delivery point and use fewer of the GWR facilities, hence the price of water to another customer may be different based on amortization of facility costs.

IV. REBUTTAL OF JASON BURNETT TESTIMONY

Q13. Do you agree with Mr.Burnett's statement A10 that "the inclusion of GWR will likely result in a cost premium to the Cal-Am ratepayers in most years."

A13. No. This has not been proven. In fact, the testimony I have provided above, as well as that submitted on January 22, 2016 shows that there are outcomes where there will be ratepayer savings as a result of GWR. Furthermore, once replacement cycles begin in the future, GWR plus a 6.4 MGD desal plant is likely to be less expensive annually thereafter than a 9.6 MGD plant. It is in the long-term financial interest of the ratepayer to have a smaller desal plant coupled with GWR.

V. REBUTTAL OF ROBERT G. MACLEAN TESTIMONY

Q14. Mr. MacLean states on page 4, line 14 of his January 22, 2016 testimony that "GWR has received significant support from local elected officials", but he does not name any in particular. Can you name some of them here?

A14. The Pure Water Monterey project has received letters of support from the following:

Senator Diane Feinstein

Congressman Sam Farr

State Senator William Monning

Assemblymember Mark Stone

County Supervisor Dave Potter

County Supervisor John Phillips

State Water Resources Control Board Felicia Marcus, Chair

Fort Ord Reuse Authority Resolution

EXHIBIT 9-B

The Pure Water Monterey GWR project was specifically included as a listed project in Senator Feinstein's drought relief bill introduced in February 2016. I believe the letters of support are included as an exhibit to the testimony of Margaret Nellor submitted simultaneously with this testimony, March 22, 2016. The Felicia Marcus letter was submitted with the Jason Burnett testimony on January 22, 2016. There are many other local officials who have voiced public support for the project.

VI. REBUTTAL OF RON WEITZMAN TESTIMONY

Q15. Did you find factual errors in the testimony of Mr. Weitzman?

A15. Yes, two are enumerated below:

1) At line 124 Mr. Weitzman states the pollution control agency would "submit sewer water already treated for agricultural use to further treatment" and goes on to describe that the growers will not give permission to use it elsewhere. Mr. Weitzman is mistaken. The project is based upon newly identified source waters, does not treat any water already treated for agricultural use, and is not in conflict with the rights of others. A signed agreement between the Pollution Control Agency and the County Water Resources Agency describes all of this.

2) At line 145 Mr. Weitzman says the combined project could cost $1,000 per acre-foot more than the stand-alone desalination project. He cites a 2013 study which is woefully out of date. The testimony of Mr. Linam and myself submitted now and on January 22, 2016 show that at the worst the combined cost might be $82 to 165 per AF worse in the first year, and then outperforming the stand-alone desal plant every year later in the lifecycle. Mr. Weitzman also in lines 224 and 226 cites an old, no longer used value for the cost of GWR water.

Q16. Does that conclude your direct testimony?

A16. Yes, it does. Thank you.

EXHIBIT 9-C

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Application of California-American Water Company (U210W) for Approval of the Monterey Peninsula Water Supply Project and Authorization to Recover All Present and Future Costs in Rates.	Application 12-04-019 (Filed April 23, 2012)

REBUTTAL TESTIMONY OF PAUL SCIUTO

ON BEHALF OF

MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY

March 22, 2016

EXHIBIT 9-C

Q1: What is your name, occupation, and address?

A1: My name is Paul A. Sciuto, and I am the General Manager of the Monterey Regional Water Pollution Control Agency ("MRWPCA"). My business address is 5 Harris Court, Building D, Monterey, California 93940.

Q2: Did you previously submit testimony in this proceeding?

A2: Yes, I submitted opening testimony on January 22, 2016 in which I provided my professional qualifications and discussed MRWPCA's involvement in the Pure Water Monterey Groundwater Replenishment Project ("GWR Project").

Q3: What is the purpose of your rebuttal testimony?

A3: In this rebuttal testimony I provide additional information supporting a decision by the California Public Utilities Commission ("CPUC") to approve the Water Purchase Agreement ("WPA") for water produced by the GWR Project and issues raised in testimony served on January 22, 2016. Specifically, I address certain cost considerations related to the GWR Project and the Cal-Am desalination plant, as well as rebut testimony regarding the reliability of the GWR Project's source waters and MRWCPA's ocean outfall.

Q4: Do you have any general comments related to the opening testimony filed in this proceeding on January 22, 2016?

A4: Yes. In addition to the specific points addressed in this rebuttal testimony, I want to stress the very broad support that the GWR Project received from the other parties to this proceeding. Specifically, the GWR Project received support from Cal-Am (Testimony of Robert MacLean), Marina Coast Water District ("MCWD") (Testimony of Thomas Moore), Monterey Peninsula Regional Water Authority ("MPRWA") (Testimony of Jason Burnett), Monterey Peninsula Water Management District ("MPWMD") (Testimony of Dennis Bruce and David Stoldt), and the Planning and Conservation League Foundation (Testimony of Jonas Minton). Their support in this proceeding is in addition to the support of federal, state, and local elected officials and the State Water Resources Control Board ("SWRCB") discussed in Margaret Nellor's rebuttal testimony.

M. Nellor Rebuttal Testimony, Attachment A. This level of consensus about the GWR Project is striking and reflects a compelling reason for the CPUC to move forward as quickly as possible to approve the GWR Project's WPA.

Q5: Have recent developments related to Cal-Am's proposed desalination project reinforced the need for prompt action on the WPA?

A5: Yes. On March 17, 2016, Ken Lewis of the CPUC issued a notice to all parties in this proceeding setting forth a revised schedule for the release of the desalination project's Environmental Impact Report/Environmental Impact Statement ("EIR/EIS"). Under this revised schedule, the desalination project's EIR/EIS will not be completed until very late 2017. The delay could be even longer in the event litigation is filed challenging the CPUC's decision and/or the adequacy of the EIR/EIS. In contrast, the California Environmental Quality Act ("CEQA") review is already fully complete for the GWR Project, and no litigation was filed challenging the adequacy of the CEQA review. P. Sciuto Opening Testimony, pp. 7:14–8:14. In light of this revised schedule, the desalination project is far from being able to assist the Monterey area in meeting the SRWCB's Cease and Desist Order ("CDO"). This delay in the desalination project's development underscores the need for the CPUC to approve the WPA in a separate Phase 2 decision.

I.

Cost Estimates of the GWR Project

Q6: Did you review the supplemental testimony submitted by Mr. Jeffrey Linam and Mr. Richard Svindland on behalf of Cal-Am?

A6: Yes, I reviewed Mr. Svindland's and Mr. Linam's supplemental testimony served by Cal-Am on January 22, 2016.

Q7: Do you agree with Mr. Svindland's statement that the capital costs of the GWR Project may be understated by $21 million?

A7: No, I do not agree with Mr. Svindland's statement on p. 6:18–21 of his supplemental testimony regarding the accuracy of the GWR Project's capital cost estimates. As

Mr. Svindland acknowledges, he used information from Cal-Am's bidding process on the desalination plant components to estimate the potential costs of the GWR Project. R. Svindland Supplemental Testimony, p. 6:16–18. However, as Mr. Svindland also acknowledges, the cost estimates for the GWR Project are based on cost estimates performed by consultants and engineers heavily involved in the design of the GWR Project. *Id.*, p. 6:21–23. In addition, there have been several developments since the submittal of opening testimony in this proceeding on January 22, 2016, which will likely reduce the costs of the GWR Project.

Q8: What are those developments?

A8: Recent developments, occurring since the submission of my opening testimony, now allow a higher degree of certainty about the GWR Project's costs. In particular: (1) the SWRCB voted to extend the 1% interest rate for qualified Clean Water State Revolving Fund ("CWSRF") projects; (2) MRWPCA has now finalized negotiations for long-term, low-cost energy supply; and (3) the Fort Ord Reuse Authority ("FORA") Board has unanimously voted to support the GWR Project and authorized FORA's Executive Director to negotiate terms to provide funding for the conveyance pipeline.

Q9: Can you provide details about the SWRCB's decision to extend the 1% interest rate for CWSRF loans?

A9: Yes. As I noted in my January 22, 2016 testimony, the vast majority of the funds needed to construct the GWR Project will be financed through the CWSRF, administered by the SWRCB. P. Sciuto Opening Testimony, p. 13:3–6. SWRCB deemed the application complete as of December 2, 2015. *Id.*, p. 13:9–11. On February 16, 2016, the SWRCB voted to continue the use of a 1% interest rate on CWSRF loan applications that were submitted and deemed complete by December 2, 2015. **Attachment A** (SWCRB Board Meeting Session, Division of Financial Assistance, February 16, 2016). As reflected in Attachment A, the GWR Project is identified as a project that would qualify for this 1% interest rate for a CWSRF loan. *Id.* The use of the 1% interest rate would further reduce

costs of the GWR Project. I understand that Mr. Stoldt has incorporated these cost savings into his rebuttal testimony.

Q10: What is MRWPCA's arrangement for a long-term, low-cost energy supply?

A10: MRWPCA and the Monterey Regional Waste Management District ("MRWMD") have historically investigated shared opportunities for renewable energy generation and use. In that regard, a power purchase agreement ("PPA"), in a form that has been recommended to be presented to both entities' Boards for approval in March and April 2016, sets forth the terms for MRWPCA to purchase landfill gas generated electricity for the GWR Project's Advanced Water Treatment plant. A draft of the PPA is included as **Attachment B**. The PPA is mutually beneficial in that it provides MRWMD with a long-term, consistent buyer for power as early as the fourth quarter of 2017 and allows the GWR Project to purchase electricity at a rate generally lower than comparable PG&E rates throughout the year. If approved, this PPA will decrease the lifecycle cost of the GWR Project. I understand that such decrease is reflected in the cost modeling in Mr. Stoldt's rebuttal testimony.

Q11: What is the status of the FORA funding for the GWR Project?

A11: On Friday, March 11, 2016, the FORA Board unanimously voted to authorize its Executive Director to negotiate terms to provide up to $6 million in funding for the conveyance pipeline that would be used to deliver the GWR Project's product water, approximately 72% of which would be applied to the GWR Project's costs. This payment from FORA, if finalized and approved, will further reduce the GWR Project's costs. I understand that these cost reductions have also been reflected in Mr. Stoldt's rebuttal testimony.

II.

Cost Estimates for the Cal-Am Desalination Project

Q12: Have you reviewed Cal-Am's cost estimates for the two proposed configurations for the desalination plant provided in the testimony of Richard Svindland and Jeffrey Linam?

A12: Yes, I have reviewed Cal-Am's cost estimates in Mr. Svindland's and Mr. Linam's testimony served on January 22, 2016.

Q13: Do you have any concerns about Cal-Am's cost estimates for the desalination plant?

A13: Yes, I have two primary concerns: (1) the cost estimates do not accurately reflect the potential scope of costs associated with Cal-Am's use of MRWPCA's ocean outfall; and (2) the differential between Cal-Am's estimates for the large 9.6 millions of gallons per day ("mgd") desalination plant and the 6.4 mgd desalination plant appears to be artificially small.

Q14: Can you elaborate on your concerns about the cost estimates associated with Cal-Am's use of MRWPCA's ocean outfall?

A14: Cal-Am's cost estimates do not accurately characterize the potential scope of costs associated with Cal-Am's use of MRWPCA's ocean outfall to discharge the desalination plant's brine or the basis for determining those costs. In its testimony, Cal-Am currently estimates approximately $2.6 million in costs that would be associated with an upfront one-time capacity charge. *See* R. Svindland's Supplemental Testimony, p. 14:1–10; J. Linam Supplemental Testimony, p.8, n.5. However, MRWPCA and Cal-Am are presently in the initial stages of negotiations for a long-term lease (not a one-time capacity charge) for the use of MRWPCA's ocean outfall. Therefore, it is not possible at this time to give an accurate range of the costs associated with Cal-Am's use of MRWPCA's outfall. However, it is reasonably certain that the costs will substantially exceed the $2.6 million cost included in Cal-Am's most recent estimates.

Q15: What are your concerns about the differential in costs estimated by Cal-Am for the 9.6 mgd desalination plant as compared to the 6.4 mgd desalination plant?

A15: There should be a greater differential between Cal-Am's estimates for the proposed large 9.6 mgd desalination plant that has facilities designed to accommodate future expansion to 12.8 mgd versus the cost of a 6.4 mgd desalination plant, because there are components included in the 6.4 mgd desalination plant that could be reduced in size.

Q16: What is the basis for MRWPCA's position?

A16: There are cost savings that could be gained through appropriately sizing the design of the desalination plant. This opinion is based on my review of the Cal-Am cost estimates and review of a study conducted for MRWPCA by Hazen and Sawyer examining Cal-Am's cost estimates. MRWPCA, working with its consultant, has found that there are approximately $92 million (including contingencies) in cost savings if the design of the smaller 6.4 mgd desalination plant is sized appropriately. Examples of the cost savings include, but are not limited to: (1) reducing the number of slant wells and pumps (resulting in a potential cost savings of approximately $25.8 million); (2) changing the conveyance pipeline from 15.6 miles of 36-inch piping to 15.6 miles of 20-inch piping (resulting in a potential cost savings of approximately $37.9 million); and (3) reducing the raw water pipeline from 42-inch pipeline to 30-inch pipeline (resulting in a potential cost savings of approximately $3.0 million). While these estimates of the potential reductions to the desalination plant's cost estimates are not based on detailed engineering design, the sheer magnitude of the cost differential between the proposed configuration of the desalination plant and the facilities actually needed for a smaller 6.4 mgd desalination plant calls into question the appropriate scope of the proposed design of the desalination plant.

Q17: How is this relevant to the GWR Project's WPA at issue in Phase 2 of this proceeding?

A17: One of the issues being examined in this proceeding is the cost comparison between the GWR Project coupled with a smaller 6.4 mgd desalination plant and the larger 9.6 mgd desalination plant. The Office of Ratepayer Advocates ("ORA") understandably is concerned that ratepayers should not unnecessarily pay higher costs for a water supply under the WPA as compared to other options. By overstating the costs of the smaller 6.4 mgd plant, Cal-Am presents an unrealistic impression that a larger desalination plant is the lowest cost option overall.

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EXHIBIT 9-C

III.

MPWMD's Externality Study

Q18: Have you reviewed the opening testimony of Mr. Dennis Bruce, submitted on behalf of the Monterey Peninsula Water Management District?

A18: Yes, I have reviewed Mr. Bruce's testimony and his supporting analysis.

Q19: Do you agree with Mr. Bruce's analysis concerning the broader social and environmental effects of the GWR Project paired with the smaller desalination plant?

A19: Yes, I agree with the points made by Mr. Bruce in his opening testimony and in his supporting analysis. However, I think that Mr. Bruce's testimony may understate certain of the potential cost benefits of the GWR Project when paired with the smaller desalination plant. For instance, Mr. Bruce included the value of avoided groundwater pumping that will no longer be needed because of the GWR Project. *See* D. Bruce Opening Testimony, p. 6:17–22. However, Mr. Bruce's value for the avoided groundwater pumping is understated for two reasons. First, Mr. Bruce assumed that the GWR Project would deliver only 4,000 AFY of product water for agricultural uses. *See* D. Bruce, Opening Testimony, Attachment 1, p. 24. Yet, the GWR Project could provide up to 4,500 to 4,750 AFY in new water supplies for agricultural irrigation in normal and wet years.[1] In addition, in analyzing the benefits of the GWR Project combined with the smaller desalination plant, Mr. Bruce did not include the saved pumping costs associated with the reduced pumping related to the lower amount of "return water" to the Salinas Valley Groundwater Basin. Thus, Mr. Bruce's estimates for cost savings associated with the GWR Project combined with the smaller desalination plant may be understated by several million dollars.

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[1] GWR Project, Final Environmental Impact Report (EIR), pp. 1-3, 2-4, 2-5, and 2-18, *available at* http://purewatermonterey.org/reports-docs/cfeir/.

EXHIBIT 9-C

IV.

Reliability of Source Waters

Q20: Did you review the supplemental testimony of Ronald Weitzman submitted on behalf of Water Plus?

A20: Yes, I reviewed Mr. Weitzman's supplemental testimony submitted on January 22, 2016.

Q21: Do you agree with the concerns of Mr. Weitzman of Water Plus about the future reliability of the source waters needed for the GWR Project?

A21: No. Mr. Weitzman's concerns about the future reliability of the source waters is unfounded. *See* R. Weitzman Supplemental Testimony, pp. 5–6. Put simply, Mr. Weitzman's concerns about the future reliability of the source water are based on speculation about what may or may not occur in the future and are unsupported by any evidence. Rather, the evidence shows that there is and will be ample source water for the GWR Project.[2]

Mr. Weitzman is particularly focused on the availability of source water from agricultural activities in Salinas Valley and from Marina Coast Water District. As I discussed in my opening testimony, MRWPCA and the City of Salinas have entered into an agreement, which provides MRWPCA rights to use 4,045 acre-feet per year ("AFY") of wastewater from the City of Salinas. P. Sciuto Opening Testimony, p. 9:16–22. In addition, MRWPCA obtained first priority status to 4,321 AFY in an agreement with Monterey County Water Resources Agency ("MCWRA"). *Id.*, p. 10:5–14. Together, these two agreements alone provide more than ample source water for the GWR Project. *Id.*, p. 11:10–21. Also identified in the Water Recycling Agreement with MCWRA are certain water allocations for MCWD which are not included in the above totals and do not affect the GWR Project's source water.

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[2] *See* GWR Project Final EIR, Section 2.7, *available at* http://purewatermonterey.org/wp/wp-content/uploads/Volume-I-Consolidated-Final-EIR-Jan-2016.pdf; GWR Project Final EIR, Appendix B-Revised, *available at* http://purewatermonterey.org/wp/wp-content/uploads/Volume-II-Appendices-to-the-EIR-Jan-2016.pdf; Final EIR, Master Responses to Comments, pp. 3-4 to 3-6, *available at* http://purewatermonterey.org/wp/wp-content/uploads/Volume-III-September-2015-Final-EIR-Jan-2016.pdf.

EXHIBIT 9-C

V.

MCWD's Claim of Reserved Capacity in MRWPCA's Ocean Outfall

Q22: Did you review the testimony submitted by MCWD?

A22: Yes, I reviewed the testimony submitted by MCWD, including that by Mr. Thomas Moore.

Q23: Do you have any comments about Mr. Moore's testimony?

A23: Yes, I have one comment. In Mr. Moore's Supplemental Phase 1 Testimony, he incorrectly states that MCWD has reserved firm capacity in MRWPCA's ocean outfall. *See* Moore Direct Testimony, pp. 3:16–18, 6:1–5. While Mr. Moore's comment does not relate to whether the CPUC should approve the GWR Project's WPA, MRWPCA would like to correct this erroneous statement in the record.

Q24: Why is it incorrect to state that MCWD has a reserved firm capacity in MRWPCA's ocean outfall, as stated in Mr. Moore's testimony?

A24: The capacity referred to by MCWD in Mr. Moore's testimony is erroneously based on a 2010 outfall agreement between MRWPCA and MCWD. It is MRWPCA's position that this agreement is no longer in effect, as the agreement was solely related to the Regional Desalination Project ("RDP"), for which MCWD was one of the three partners/applicants. *See* A.04-09-019. Because the RDP water purchase agreement and other RDP-related agreements are no longer in effect, the RDP will not be constructed. As a result, the 2010 outfall agreement is no longer in effect, and MCWD no longer has a reserved firm capacity in MRWPCA's ocean outfall. MRWPCA remains open to negotiating with MCWD for any outfall capacity needs it may have with a future project, and has so advised MCWD in that regard on several occasions.

Q25: Does this conclude your testimony?

A25: Yes, although I reserve my right to update this testimony at the evidentiary hearing scheduled for this proceeding in April 2016.

Attachment A

Attachment A

EXHIBIT 9-C

STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION – DIVISION OF FINANCIAL ASSISTANCE
FEBRUARY 16, 2016

ITEM 3

SUBJECT

CONSIDERATION OF A RESOLUTION TO AMEND AND CLARIFY THE REDUCED INTEREST RATE INCENTIVE FOR RECYCLED WATER PROJECTS FUNDED THROUGH THE CLEAN WATER STATE REVOLVING FUND (CWSRF) IN RESPONSE TO THE DROUGHT

DISCUSSION

In response to the Governor's 2014 Drought Proclamation, the State Water Resources Control Board (State Water Board), on March 18, 2014, adopted Resolution No. 2014-0015 to provide a financial incentive to near-term recycled water projects funded through the CWSRF. The Resolution reduced the CWSRF's interest rate to 1.0 percent with a cap of $800 million for those water recycling applicants that submit a complete financial assistance application[1] by December 2, 2015.

Later that year, on November 4, 2014, the voters passed the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Prop. 1). Prop. 1 authorized $725 million for water recycling and desalinization project loan and grant funding. Water recycling funds from Prop. 1 have been appropriated in State Fiscal Year 2015/16, and are being provided by the State Water Board through the Division of Financial Assistance's (Division) Water Recycling Funding Program (WRFP).

By December 2, 2015, the Division received 36 complete WRFP project applications in response to Resolution No. 2014-0015. The total estimated cost of these 36 complete applications is approximately $1.2 billion. After accounting for WRFP grant funds and other funds available to the applicants, the complete applications would need approximately $963 million in CWSRF 1.0 percent financing[2].

In addition to the complete applications submitted by December 2, 2015, at least an additional $640 million in incomplete applications for 1.0 percent CWSRF financing were submitted.

Attachment A provides a list of all the complete and incomplete applications submitted by December 2, 2015, with the estimated eligible 1.0 percent CWSRF loan and WRFP grant funds.

The Division has evaluated the complete applications submitted by December 2, 2015, and they appear to follow the primary guidelines established in Resolution 2014-0015 for staff to follow while implementing the very low interest CWSRF financing. The projects meet the qualifications of the WRFP Guidelines and offset or augment State water supplies.

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[1] A "complete financial assistance application" means that all four completed application packages (general, technical, financial, and environmental), with all applicable attachments, have been submitted to the State Water Board.

[2] If no additional Prop. 1 grant funds are appropriated in State Fiscal Year 2016/17, approximately $1,057 million in 1.0 percent loan funds will be needed for the water recycling applications completed by December 2, 2015.

Given the successful response to the State Water Board's incentive, exceeding the original goal, the Board should evaluate whether to extend the program to encompass additional projects based on a newly established deadline or dollar target.

The State Water Board should consider that extending the reduced interest rate incentive delays the use of Prop. 1 WRFP loan funds, and thereby delays the use of Prop. 1 loan funds for future WRFP grants. The reason for this is that Prop. 1 loan funds can only be offered at the standard CWSRF interest rate, i.e., one-half the State's General Obligation bond rate. Therefore, if CWSRF loans continue to be available at 1.0 percent, WRFP loan applicants will decline the Prop. 1 WRFP loans. Since Prop. 1 WRFP loan repayments can be used for future WRFP grants on a 50/50 basis, as was done for Prop. 13, delaying the use of the WRFP loan funds will create a gap in the future availability of WRFP grants.

In addition, lowering the CWSRF interest rate, over and above the CWSRF's already substantial subsidized rate, also lowers the earnings needed to support future CWSRF leveraging. On January 5, 2015, the State Water Board approved a resolution authorizing the Division to sell up to $1.2 billion in revenue bonds for the CWSRF. Given the current high demand on the CWSRF, additional earnings reductions will further limit the CWSRF's ability to meet future demands for financing.

Since the cumulative cost of the complete applications submitted by the deadline is comparable to the Board's original dollar target, and the projects meet the overarching drought response goals of Resolution 2014-0015 to distribute the incentive as fairly as possible and distribute it in a manner that responds to the Governor's Drought Proclamation, the Division recommends that the State Water Board authorize the Deputy Director of the Division to approve 1.0 percent CWSRF financing for all water recycling applications determined complete as of December 2, 2015, and listed on Attachment A, regardless of the final cumulative project cost or the availability of future Prop. 1 WRFP grant funds. The Division also recommends that if a project is incapable of executing a CWSRF financing agreement, no substitute projects be allowed to make up the difference.

POLICY ISSUE(S)

Should the State Water Board rescind the $800 million cap on 1.0 percent CWSRF financing set forth in Resolution No. 2014-015?

Should the State Water Board authorize the Deputy Director of the Division to approve 1.0 percent CWSRF financing for any otherwise eligible water recycling project where a complete application, as determined by the Division, for that project was submitted on or before December 2, 2015?

Should the State Water Board limit 1.0 percent CWSRF financing to those projects with an application submitted on or before December 2, 2015, and listed on Attachment A, and not allow substitutions if any of those projects are unable to proceed for any reason?

FISCAL IMPACT

The Division evaluated the short term impacts and long-term revolving nature of the CWSRF Program. Interest earnings ensure that the CWSRF Program has sufficient repayment funds for future projects and future leveraging, and provide sufficient funds for CWSRF administration and the Small Community Wastewater Grant Program.

The effect of approving additional 1.0 percent water recycling funding on the CWSRF cash flow is presented in Table 1 below. Table 1 indicates that the CWSRF should have sufficient cash flow to support these additional commitments.

TABLE 1: "Fiscal Impact - Cash Flow Projections"

(as of 01/14/2016)	SFY 2015-16	SFY 2016-17	SFY 2017-18	SFY 2018-19	SFY 2019-20	SFY 2020-21
Beginning Balance:	$300,109,414	$439,570,298	$212,021,419	$101,063,958	($123,067,510)	($299,293,045)
Estimated Repayments	$237,748,058	$252,598,058	$267,448,058	$282,298,058	$297,148,058	$311,998,058
Debt Service on Revenue Bonds	($14,323,300)	($13,808,100)	($9,980,925)	($7,600,725)	$0	$0
Estimated Capitalization Grants	$95,772,480	$90,000,000	$28,800,000	$28,800,000	$0	$0
Anticipated Revenue Bond Sale[3]	$500,000,000	$350,000,000	$350,000,000	$0	$0	$0
Local Match Credits	$1,070,771	$1,241,537	$627,832	$0	$0	$0
Est. SMIF Interest:	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000
Estimated Disbursements	($568,408,780)	($470,362,495)	($261,888,846)	($118,952,178)	($63,888,211)	($2,394,048)
Subtotals	**$553,468,643**	**$650,739,298**	**$588,527,538**	**$287,109,114**	**$111,692,337**	**$11,810,965**
Commitments in Process	($113,898,345)	($301,771,833)	($350,517,533)	($273,230,578)	($274,039,336)	($91,090,548)
Future 1.0 Percent Commitment from Original $800 million		($99,446,043)	($99,446,043)	($99,446,043)	($99,446,043)	($99,446,043)
Future 1.0 Percent Commitments Pending Water Board Approval		($37,500,000)	($37,500,000)	($37,500,000)	($37,500,000)	($13,334,444)
Ending Balance	$439,570,298	$212,021,422	$101,063,961	($123,067,507)	($299,293,042)	($192,060,070)

Approving approximately $163 million more in 1.0 percent financing will further reduce future interest earnings, compared to the current, standard CWSRF loan rates, by an estimated $17 million over a 30 year period. This is in addition to the estimated $90 to $100 million of interest earnings lost as a result of the original $800 million in 1.0 percent financing.

REGIONAL BOARD IMPACT

To the extent that providing these financial incentives encourages additional water quality improvement projects and drought-relief, it will assist Regional Boards with achieving water quality goals, objectives and performance metrics.

STAFF RECOMMENDATION(S)

The State Water Board should rescind the $800 million cap on 1.0 percent CWSRF financing set forth in Resolution No. 2014-0015.

The State Water Board should authorize the Deputy Director of the Division to approve 1.0 percent CWSRF financing for any otherwise eligible water recycling project where a complete application, as determined by the Division, for that project was submitted on or before December 2, 2015.

[3] On January 4, 2016 the State Water Board approved the sale of 1.2 billion of revenue bonds.

EXHIBIT 9-C

The State Water Board should limit 1.0 percent CWSRF financing to those projects with an application submitted on or before December 2, 2015, and listed on Attachment A, and not allow substitutions if any of those projects are unable to proceed for any reason.

State Water Board action on this item will assist the Water Boards in reaching Goal 3 of the Strategic Plan Update: 2008-2012. In particular, approval of this item will (3) Increase sustainable local water supplies available for meeting existing and future beneficial uses by 1,725,000 acre-feet per year, in excess of 2002 levels, by 2015, and ensure adequate flows for fish and wildlife habitat.

EXHIBIT 9-C

D R A F T

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2016-

TO AMEND AND CLARIFY THE REDUCED INTEREST RATE INCENTIVE FOR RECYCLED WATER PROJECTS FUNDED THROUGH THE CLEAN WATER STATE REVOLVING FUND (CWSRF) IN RESPONSE TO THE DROUGHT

WHEREAS:

1. California has experienced record dry conditions for the last four years. These dry conditions can occur on a regular basis, and are projected to be exacerbated by climate change;

2. The Governor issued a "Proclamation of a State of Emergency" (2014 Drought Proclamation) on January 17, 2014;

3. Order Number 6 of the 2014 Drought Proclamation states *"The Department of Water Resources and the Water Board will accelerate funding for water supply enhancement projects that can break ground this year and will explore if any existing unspent funds can be repurposed to enable near-term water conservation projects";*

4. Among other activities taken, the State Water Board responded to the 2014 Drought Proclamation by offering financing incentives through its CWSRF program for the construction of recycled water facilities in its Resolution No. 2014-0015 adopted on March 18, 2014;

5. The State Water Board is required under both state and federal law to maintain the CWSRF in perpetuity;

6. Resolution No. 2014-0015 reduced the CWSRF's interest rate to 1.0 percent with a cap of $800 million for water recycling projects for which complete financial assistance applications had been submitted to the Division of Financial Assistance (Division) by December 2, 2015;

7. On November 4, 2014, the voters passed the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1);

8. Proposition 1 authorized the State Water Board to provide $725 million for water recycling project loan and grant funding, which program is also implemented by the Division; and

9. By December 2, 2015, the Division received complete applications for water recycling projects that exceeded the State Water Board's $800 million cap on 1.0 percent funding for CWSRF projects.

THEREFORE BE IT RESOLVED THAT:

The State Water Board amends and clarifies Resolution No. 2014-0015 as follows:

1. The $800 million cap on 1.0 percent CWSRF financing set forth in Resolution No. 2014-0015 is rescinded;

2. The Deputy Director of the Division is authorized to approve 1.0 percent CWSRF financing for any otherwise eligible water recycling project where a complete application, as determined by the Division, for that project was submitted on or before December 2, 2015;

3. The State Water Board shall limit 1.0 percent CWSRF financing to those projects with an application submitted on or before December 2, 2015, and listed on Attachment A, and not allow substitutions if any of those projects are unable to proceed for any reason.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on February 16, 2016.

Jeanine Townsend
Clerk to the Board

Division of Financial Assistance

Water Recycling Funding Program Applications Submitted in Response to Resolution 2014-0015

Projects Recommended for Receiving 1% Financing

Agency	Project Name	Estimated Project Cost[1]	Estimated CWSRF 1% Loan	Estimated Cumulative 1% Loan	Estimated WRFP Grant[2]
Applications with an Executed Agreement (Sorted by: Date Complete Application Received)					
Inland Empire Utilities Agency	Central Area Recycled Water Project	$ 30,500,000	$ 22,206,050	$ 22,206,050	$ 8,293,950
Victor Valley Wastewater Rec Authority	Apple Valley Subregional Wastewater Reclamation Plant	$ 40,254,600	$ 27,072,759	$ 49,278,809	$ 13,181,841
Victor Valley Wastewater Rec Authority	Hesperia Subregional Wastewater Reclamation Plant	$ 33,508,015	$ 33,508,015	$ 82,786,824	$ -
Napa County Department of Public Works	MST Recycled Water Project	$ 9,296,647	$ 6,352,304	$ 89,139,128	$ 2,944,343
Idyllwild Water District	Tertiary Recycled Water System	$ 1,022,608	$ 715,921	$ 89,855,049	$ 306,687
Carlsbad Municipal Water District	Phase III Recycled Water Project	$ 29,000,000	$ 22,150,000	$ 112,005,049	$ 7,350,000
Fresno, City of	Tertiary Treatment Facility	$ 49,043,336	$ 49,043,336	$ 161,048,385	$ -
Pleasanton, City of	City of Pleasanton Recycled Water Project	$ 17,359,925	$ 11,333,977	$ 172,382,362	$ 6,025,948
Los Carneros Water District	LCWD Recycled Water Pipeline Project	$ 12,934,726	$ 8,781,075	$ 181,163,437	$ 4,153,651
West County Wastewater District	Recycled Water Reliability Upgrades	$ 30,457,094	$ 21,100,764	$ 202,264,201	$ 9,356,330
San Benito County Water District	SBCWD Recycle Water Project	$ 413,424	$ -	$ 202,264,201	$ 413,424
Fresno, City of	Recycled Water Distribution System Southwest Quadrant	$ 67,475,049	$ 52,475,049	$ 254,739,250	$ 15,000,000
	Subtotals	**$ 321,265,424**	**$ 254,739,250**		**$ 67,026,174**
Applications without an Executed Agreement, but with a Complete Application Received by December 2, 2015 (Sorted by: Date Complete Application Received)					
Fresno, County of	Fresno County Monte Verdi CSA 44D Wastewater	$ 2,506,018	$ 1,773,937	$ 256,513,187	$ 732,081
Pacific Grove, City of	Pacific Grove Local Water Project	$ 7,700,000	$ 5,285,000	$ 261,798,187	$ 2,415,000
Malibu, City of	Malibu Civic Center Wasteater Treatment & Recycling Facility	$ 59,788,626	$ 23,192,297	$ 284,990,484	$ 8,900,000
Orange County Water District	La Palma Recharge Basin Project	$ 8,900,000	$ 5,785,000	$ 290,775,484	$ 3,115,000
Sacramento Regional County Santitation District	Regional San/SPA/City of Sacramento Water Recycling Pipeline Prc	$ 12,588,000	$ 8,182,200	$ 298,957,684	$ 4,405,800
Woodland, City of	City of Woodland Industrial Park Recycled Water Project	$ 4,499,900	$ 2,609,900	$ 301,567,584	$ 1,890,000
Pajaro Valley Water Management Agency	Recycled Water 1.5 MG Storage	$ 2,748,000	$ 1,069,000	$ 302,636,584	$ 1,679,000
Pajaro Valley Water Management Agency	Recycled Water Treatment Improvements	$ 5,210,000	$ 3,617,500	$ 306,254,084	$ 1,592,500
Pajaro Valley Water Management Agency	Recycled Water 0.5 MG Storage	$ 2,010,000	$ 1,355,500	$ 307,609,584	$ 654,500
Hesperia Water District	Reclaimed Water Pipeline Distribution System	$ 14,673,750	$ 9,946,413	$ 317,555,997	$ 4,727,337
Eastern Municipal Water District	Recycled Water Pond Expansion and Optimization	$ 11,246,300	$ 7,798,170	$ 325,354,167	$ 3,448,130
Water Replenishment District of Southern California	Groundwater Reliability Improvement Program Recycled Water Proje	$ 95,000,000	$ 80,000,000	$ 405,354,167	$ 15,000,000
Brentwood, City of	City of Brentwood Recycled Water Project (Phase A & B1)	$ 20,802,000	$ 14,596,500	$ 419,950,667	$ 6,205,500
West Basin Municipal Water District	Carson Regional Water Recycling Facility	$ 23,803,808	$ 15,472,475	$ 435,423,142	$ 8,331,333
Padre Dam Municipal Water District	Padre Dam Water Recycling Facility, Phase 1 Expansion	$ 116,200,000	$ 101,200,000	$ 536,623,142	$ 15,000,000
Hayward, City of	City of Hayward Recycled Water Project	$ 11,594,760	$ 8,083,560	$ 544,706,702	$ 3,511,200
Delta Diablo	Recycled Water Storage Tank Project	$ 16,000,000	$ 4,400,000	$ 549,106,702	$ 1,600,000
Modesto, City of	North Valley Recycled Water Program	$ 96,617,856	$ 81,617,856	$ 630,724,558	$ 15,000,000
North Marin Water District	Recycled Water Expansion to Central Service Area	$ 9,912,500	$ 7,028,686	$ 637,753,244	$ 2,883,814
San Francisco, Public Utilities Commission	San Francissco Westwide Recycled Water Project	$ 186,220,000	$ 171,220,000	$ 808,973,244	$ 15,000,000
Ukiah, City of	Recycled Water Pipeline Project- Phase 1 & 2	$ 17,152,000	$ 12,674,000	$ 821,647,244	$ 4,478,000
Monterey Regional Water Pollution Control Agency	Groundwater Replenishment Project	$ 113,000,000	$ 98,000,000	$ 919,647,244	$ 15,000,000
West Bay Sanitary District	West Bay Sanitary District Recycled Water Project	$ 17,288,000	$ 11,237,200	$ 930,884,444	$ 6,050,800
Santa Margarita Water District	Trampas Canyon Recycled Water Seasonal Storage Reservoir	$ 47,450,000	$ 32,450,000	$ 963,334,444	$ 15,000,000
	Subtotals	**$ 902,911,518**	**$ 708,595,194**		**$ 156,619,995**
		TOTAL 1% Loan	**$ 963,334,444**		
Projects Not Recommended for Receiving 1% Financing					
Applications without an Executed Agreement and Application Not Complete by December 2, 2015 (Sorted by: No Particular Order)					
Eastern Municipal Water District	Recycled Water Supply Optimization Programs	$ 114,031,280	$ 99,031,280	n/a	$ 15,000,000
Inland Empire Utilities Agency	2015 Drought Relief- RP-1158 Recycled Water	$ 4,659,816	$ 3,566,816	n/a	$ 1,093,000
Inland Empire Utilities Agency	2015 Drought Relief- RP-5 Recycled Water Project	$ 1,514,440	$ 1,162,440	n/a	$ 352,000
Inland Empire Utilities Agency	2015 Drought Relief- Recycled Water Pressure Project	$ 990,211	$ 713,211	n/a	$ 277,000
Inland Empire Utilities Agency	2015 Drought Relief - RP-1 Parallel Outfall Pipeline	$ 6,640,238	$ 5,092,238	n/a	$ 1,548,000

EXHIBIT 9-C

Agency	Project Name	Estimated Project Cost[1]	Estimated CWSRF 1% Loan	Estimated Cumulative 1% Loan	Estimated WRFP Grant[2]
Eastern Municipal Water District	Cottonwood Avenue Recycled Water Pipeline (West)	$ 2,050,000	$ 1,533,237	n/a	$ 516,763
El Toro Water District	Phase II Recycled Water Distribution System	$ 12,000,000	$ 8,640,000	n/a	$ 3,360,000
Upper San Gabriel Valley Municipal Water District	Indirect Reuse Replenishment Project	$ 65,000,000	$ 50,000,000	n/a	$ 15,000,000
Ventura County Waterworks District No. 8	West Simi Valley Recycled Water Project	$ 19,620,000	$ 14,120,000	n/a	$ 5,500,000
Inland Empire Utilities Agency	2015 Drought Relief- Napa Lateral	$ 5,824,770	$ 3,786,100	n/a	$ 2,038,670
La Puente Valley County Water District	LPVCWD Recycled Water Proejct	$ 950,000	$ 617,500	n/a	$ 332,500
Napa Sanitation District	Recycled Water Pump Station Expansion - North/South Split	$ 1,036,700	$ -	n/a	$ 1,036,700
Marin Municipal Water District	Peacock Gap Recycled Water Project Extension	$ 10,000,000	$ 6,500,000	n/a	$ 3,500,000
East Valley Water District	Recycled Water Center	$ 124,100,000	$ 109,100,000	n/a	$ 15,000,000
Cambria Community Services District	Cambria CSD IPR Wastewater Effluent Quality Project	$ 4,437,550	$ 2,884,408	n/a	$ 1,553,143
Pasadena, City of	Pasadena Non-Potable Water Project	$ 25,325,000	$ 16,811,250	n/a	$ 8,513,750
Eastern Municipal Water District		$ 1,196,200	$ 777,530	n/a	$ 418,670
Chino Basin Regional Financing Authority	Pamona, Monte Vista WD, and IEUA Intertie Project	$ 51,896,000	$ 36,896,000	n/a	$ 15,000,000
Kern-Tulare Water District		$ 7,000,000	$ 4,550,000	n/a	$ 2,450,000
San Gabriel Valley Water Company		$ 5,225,000	$ 3,396,250	n/a	$ 1,828,750
Sewer Authority Mid-Coastside		$ 4,260,000	$ 2,769,000	n/a	$ 1,491,000
San Gabriel Valley Water Company		$ 1,693,825	$ 1,100,986	n/a	$ 592,839
Anaheim, City of	Downtown Anaheim Recycled Water Expansion	$ 758,800	$ -	n/a	$ 758,800
Anaheim, City of	Anaheim South Recycled Water Project	$ 3,472,000	$ -	n/a	$ 3,472,000
Benicia, City of	Benicia Water Reuse Project	$ 27,101,543	$ 18,839,793	n/a	$ 8,261,750
West Basin Municipal Water District		$ 7,308,400	$ 4,750,460	n/a	$ 2,557,940
Eastern Municipal Water District	Downtown Anaheim Recycled Water Expansion	$ 2,250,300	$ 1,462,695	n/a	$ 787,605
Yucaipa Valley Water District	Anaheim South Recycled Water Project	$ 6,900,113	$ 4,485,073	n/a	$ 2,415,040
Chino Basin Regional Financing Authority	Joint IEUA-JCSD Regional Water Recycling Program	$ 52,460,000	$ 37,460,000	n/a	$ 15,000,000
San Diego, City of	Sorento Mesa Recycled Water Pipeline	$ 757,050	$ -	n/a	$ 757,050
Petaluma, City of		$ 4,305,995	$ -	n/a	$ 4,305,995
Irvine Ranch		$ 8,460,105	$ 255,750	n/a	$ 8,204,355
Paso Robles		$ 17,230,000	$ 12,022,000	n/a	$ 5,208,000
Eastern Municipal Water District		$ 18,956,200	$ 12,321,530	n/a	$ 6,634,670
West Basin Municipal Water District	Recycled Water Supply for Palos Verdes Golf Course		$ -	n/a	
San Luis Obispo, City of	San Luis Obispo Water Resource Recovery Facility		$ -	n/a	
Eastern Municipal Water District	La Piedra Recycled Water Pipeline Expansion		$ -	n/a	
Inland Empire Utilities Agency	2015 Drought Relief- San Savaine Basin Improvement	$ 7,525,603	$ 4,891,642	n/a	$ 2,633,961
Inland Empire Utilities Agency	2015 Drought Relief- Baseline Extension Project	$ 4,077,339	$ 2,650,270	n/a	$ 1,427,069
Inland Empire Utilities Agency	2015 Drought Relief- City of Ontario Euclid Project	$ 22,639,081	$ 15,460,781	n/a	$ 7,178,300
Escondido, City of	MFRO Facility		$ -	n/a	
Central Basin Municipal Water District	East Los Angeles Recycled Water Expansion		$ -	n/a	
Central Basin Municipal Water District	West San Gabriel Recycled Water Expansion		$ -	n/a	
	Subtotals	**$ 653,653,559**	**$ 487,648,240**		**$ 166,005,319**
	GRAND TOTALS	**$ 1,877,830,501**	**$ 1,450,982,684**		**$ 389,651,488**

Footnotes:

1) The "Estimated Project Cost" may not equal the combined loan and grant amounts because the Agency may apply other funding sources to the Project.

2) The "Estimated WRFP Grant" is $0 for the Victor Vally, Hesperia Plant and Fresno, Tertiary Facility projects because the Agencies are expected to receive the maximum WRFP grant amounts on other eligible WR projects.

Attachment B

EXHIBIT 9-C

[MRWMD/OP&CONST/agmtPCAbiogaspowerpurchase030116]

ELECTRIC POWER PURCHASE AGREEMENT

THIS AGREEMENT is made and entered into this _____ day of March, 2016, by and between the MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT (hereinafter sometimes referred to as "WMD"), a special district organized under the laws of the State of California, and the MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY (hereinafter sometimes referred to as ("PCA"), a joint powers authority organized under the laws of the State of California (WMD and PCA are also sometimes referred to hereinafter as "Party" and collectively as "Parties"), as follows:

RECITALS

A. WMD, a solid waste management recycling and disposal district, presently is repairing and replacing certain components of its biogas-fueled electric power generation facility ("Biogas Facility"), and when repair and replacement are complete the Biogas Facility will be capable of generating five megawatts (MW) of electricity consistent with its permitted capacity, an increase of approximately two MW over its current MW generating capability; and

B. PCA, a wastewater treatment agency sharing a property boundary with WMD, is currently planning, and intends to construct, an advanced water treatment facility ("AWT Facility") for injection of treated water into the Seaside Aquifer for purchase by California American Water Company, and ultimately for distribution and sale to that Company's customers on the Monterey Peninsula; and

C. Once the Biogas Facility repair and replacement work and the AWT Facility construction are complete, PCA desires to purchase and WMD is willing to sell, an amount of electric power generated by the Biogas Facility in approximately the full amount of the two MW increase described in Recital A, to power the AWT Facility.

TERMS AND CONDITIONS

In consideration of the mutual promises set out herein below, WMD and PCA hereby agree as follows:

EXHIBIT 9-C

1. Locations of Biogas Facility, AWT Facility, Conducting Facilities. The Biogas Facility, proposed AWT Facility, conducting facilities, electrical usage meter, and attendant features are located as depicted and described in Attachment A, consisting of ___ numbered pages, attached hereto and incorporated herein by this reference.

2. Generation, Sale, and Purchase of Power. Upon completion of both the Biogas Facility repair and replacement work and construction of the AWT Facility, and not before, WMD shall make available for sale to PCA, and PCA shall purchase, electric power generated by the Biogas Facility in amounts and for conduction and delivery to the AWT Facility as set out below. All such power shall be delivered by means of the conducting facilities depicted and described in Attachment A.

3. Required Availability and Amount.

    a. WMD shall generate for sale to PCA, and PCA shall take or pay for, a minimum of 1,800 kilowatt hours ("KWH") once production and delivery of electric power commences pursuant to Section 2, immediately above. By written agreement, the Parties may increase or reduce the minimum KWH required by this Section 3. WMD shall make the electrical power available 90% of the time as determined on a semi-annual basis. Electrical production, demand and availability pursuant to this paragraph shall be determined semiannually for the periods of July 1 to December 31 and January 1 to June 30 assuming a 24 hour day. In the event that WMD does not make electrical power at the agreed delivery amount 90% of the time, WMD shall reimburse PCA for the difference between the actual percentage delivered and the 90% delivery requirement herein designated as the Undelivered Power Quantity (UPQ). The amount of the reimbursement from MWD to PCA for the UPQ in any given period shall be determined by multiplying the UPQ by the Differential Rate (DR). The DR shall be defined as the average rate charged to PCA by its alternate utility provider minus the average rate of the Pacific Gas & Electric's ("PGE") Industrial Rate Schedule, E-20 Primary Firm, Winter Part-Peak Energy Charge rate only (i.e., Demand Charge rate excluded) in effect during the period of reduced electrical power delivery by WMD.

    b. Should the power demand for the AWT Facility increase and the WMD has additional power available, WMD and PCA may agree in writing to

increase the minimum required generation by WMD and the minimum amount PCA shall take.

c. Power shall be supplied by MWD at 4.16kV, 3 phase, 3 wire with 5% voltage tolerance; 60HZ with 0.05% tolerance; less than 5% harmonic distortion.

4. Rate of Payment. PCA shall pay WMD monthly for power delivered on a monthly basis pursuant to this Agreement at a rate equal to PG&E Industrial Rate Schedule, E-20 Primary Firm, Winter Part-Peak Energy Charge excluding Demand Charges plus a customer metering charge of $1,000 per month. The rate shall be adjusted at the time that the referenced PGE rate schedule is changed to the rate in effect on that date. In the event that the PGE Industrial Rate Schedule, E-20 Primary Firm, Winter Part-Peak Energy Charge, or an alternate rate basis if agreed to by the parties, exceeds $0.15/KWH at any time during the period of this agreement, the amount in excess of $0.15/KWH shall be reduced by 25% (e.g., a 0.75 multiplication factor) to determine the rate charge by MWD to PCA. At no time during the term of this agreement shall the rate be less than a base rate of $0.075/KWH. This base rate is defined in consideration of the significant capital and capital replacement costs borne by WMD for the Biogas Facility and the avoided PGE Meter Charge cost, Demand Charges, and Summer Energy Charge rates realized by PCA during the term of this agreement. In the event that the E-20 rate tariff is eliminated or no longer includes a Winter Part-Peak Energy Charge, the Parties shall agree on a different basis for rate payment. In the event the Parties cannot agree on a different basis for payment, this Agreement shall automatically terminate on the first following date of June 30th.

5. Capital Costs; Construction; Operation and Maintenance.
   a. MWD shall own, construct at its own cost, operate, and perform and pay for all operation, preventive maintenance, repair, and replacement parts on, the Biogas Facility and the conducting facilities extending from the Biogas Facility to and including the electrical usage meter, all as described and depicted on Attachment A. WMD shall keep all such facilities in this segment in good and efficient working order.
   b. PCA shall own, construct at its own cost, operate, and perform and pay for all operation, preventive maintenance, repair, and replacement parts on, the conducting facilities extending from the AWT Facility to, but not including, the electrical usage meter, as described and depicted on Attachment A. PCA shall keep such facilities in this segment in good and efficient working order.
   c. Nothing herein shall be construed to prevent the Parties, for cost-saving or other purposes, to enter into joint agreements to engage a single

contractor, maintenance or repair service, parts supplier, or similar service provider, to perform work on both WMD's and PCA's segments.

d. Nothing herein shall be construed to prevent the Parties from entering into an agreement that one Party shall perform such services on the other Party's segment.

6. Easement. No later than the date established in Section 8a for the completion of the design of the AWT Facility, WMD shall approve and execute a grant of easement to PCA to include a right-of-way for the installation, construction, operation, maintenance, repair and replacement, of all structures and fixtures necessary and incidental to the portion of the segment described in subsection b. of Section 5, above, located on WMD property, between the electrical usage meter and the property line shared by WMD and PCA contiguous properties, as described and depicted on Attachment A. Upon termination of this Agreement the Parties shall meet and confer regarding the continuing need, if any, for the easement. In the event no further need for the easement is identified, all actions necessary to extinguish the easement shall be taken as soon as practicable. Nothing herein shall be deemed to restrict the Parties' choice of determinations regarding the easement upon termination. This requirement to meet and confer shall survive the termination of this Agreement.

7. Failure to Construct AWT; Termination. The Parties acknowledge that as of the effective date of this Agreement there is a possibility that the AWT Facility will not be a part of the approvals for the project for which the AWT is proposed. In that event, and if the AWT is not to be constructed or if it is determined that the connection of electrical power from WMD Biogas Facility to AWT is not feasible, PCA shall provide immediate notice to WMD of that occurrence. This Agreement shall terminate on the date of receipt of such notice by WMD. Unless otherwise mutually agreed to in writing, in the event of termination as set out in this Section 7, neither Party shall be liable or responsible to the other Party for any expenses or costs in any manner, directly or indirectly, related to or in furtherance of this Agreement.

8. Term; Termination; Extensions.
   a. Before July 1, 2017, the parties shall agree in writing on the specifics of the physical electrical interconnection between the WMD Biogas Facility and AWT Facility. Should the parties not reach agreement on the specifics of the electrical interconnection prior to that time, this Agreement shall terminate. Unless otherwise mutually agreed to in writing, in the event of termination as set out in this Section 8a, neither Party shall be liable or responsible to the other Party for any expenses or

costs in any manner, directly or indirectly, related to or in furtherance of this Agreement.

b. The initial term of this Agreement is 20 years, from the first delivery of power to and including the same date 20 years following.
c. Either Party may terminate this Agreement, in writing, upon five years prior notice, provided no such notice may be given until, on or after the first day of the sixth year of the initial term.
d. The Parties may agree in writing at any time prior to termination to extend this Agreement for an agreed upon period or periods, on the same terms and conditions, or with modifications.

9. Hold Harmless and Indemnity.

a. WMD shall defend, indemnify and hold harmless PCA from any and all damages, liabilities, losses, claims and costs or expenses (collectively hereafter in this Section 9, "Claims") arising out of, relating to, resulting from or in conjunction with any activity or operation described in this Agreement, including without limitation planning, design, construction, use, maintenance, repair, replacement, and any other activities incidental or associated therewith, by WMD or any of its contractors, subcontractors, employees or agents, to the extent that such are determined to be caused by the negligence or willful misconduct of WMD, any of its contractors, subcontractors, employees or agents.
b. PCA shall defend, indemnify and hold harmless WMD from any and all Claims arising out of, relating to, resulting from or in conjunction with PCA's activities or operations under this Agreement or in the easement described in Section 6, to be performed by PCA, or any of its employees, contractors, subcontractors, or agents, to the extent that such are determined to be caused by the negligence or willful misconduct of PCA, its employees, contractors, subcontractors, or agents.
c. In the event of concurrent negligence of PCA and WMD, then the liability for any and all Claims which arise out of the terms and conditions of this Agreement shall be apportioned under the California principle of comparative negligence as presently established, or as may hereafter be modified.

10. Insurance/Self-Insurance. The Parties are either insured or self-insured as to any requirements under this Agreement. No policies or bonds are required of either Party as to any provisions of this Agreement. The Parties are aware of and shall comply with the requirements of Section 3700 of the California Labor Code at their own cost and expense and further, neither Party nor its carrier shall be entitled to recover from the other any costs, settlements, or expenses of Workers' Compensation claims arising out of this Agreement.

EXHIBIT 9-C

11. Independent Contractors. It is expressly understood that this Agreement is intended by the Parties to be between two independent contractors and that no agency, employee, partnership, joint venture, or other relationship is established by this Agreement.

12. Non-Waiver of Rights. The Parties agree that neither shall be considered or deemed to have waived, released, or altered in any manner any or all rights which it would otherwise have pursuant to law with regard to any other matter dealt with or affected by this Agreement.

13. Interpretation. It is agreed and understood by the Parties that this Agreement has been arrived at through negotiations and that neither Party is to be deemed the Party that prepared this Agreement within the meaning of California Civil Code Section 1654. The provisions of this Agreement shall be interpreted in a reasonable manner to effect the purpose of the Parties and this Agreement.

14. Attorney Fees. In the event of any controversy, claim, or dispute relating to this Agreement, or the breach thereof, the prevailing party shall be entitled to recover from the losing party reasonable expenses, attorney fees, and costs.

15. Counterparts. This Agreement may be executed in two counterparts, each of which shall be deemed an original, but each of which shall be deemed to constitute one and the same document.

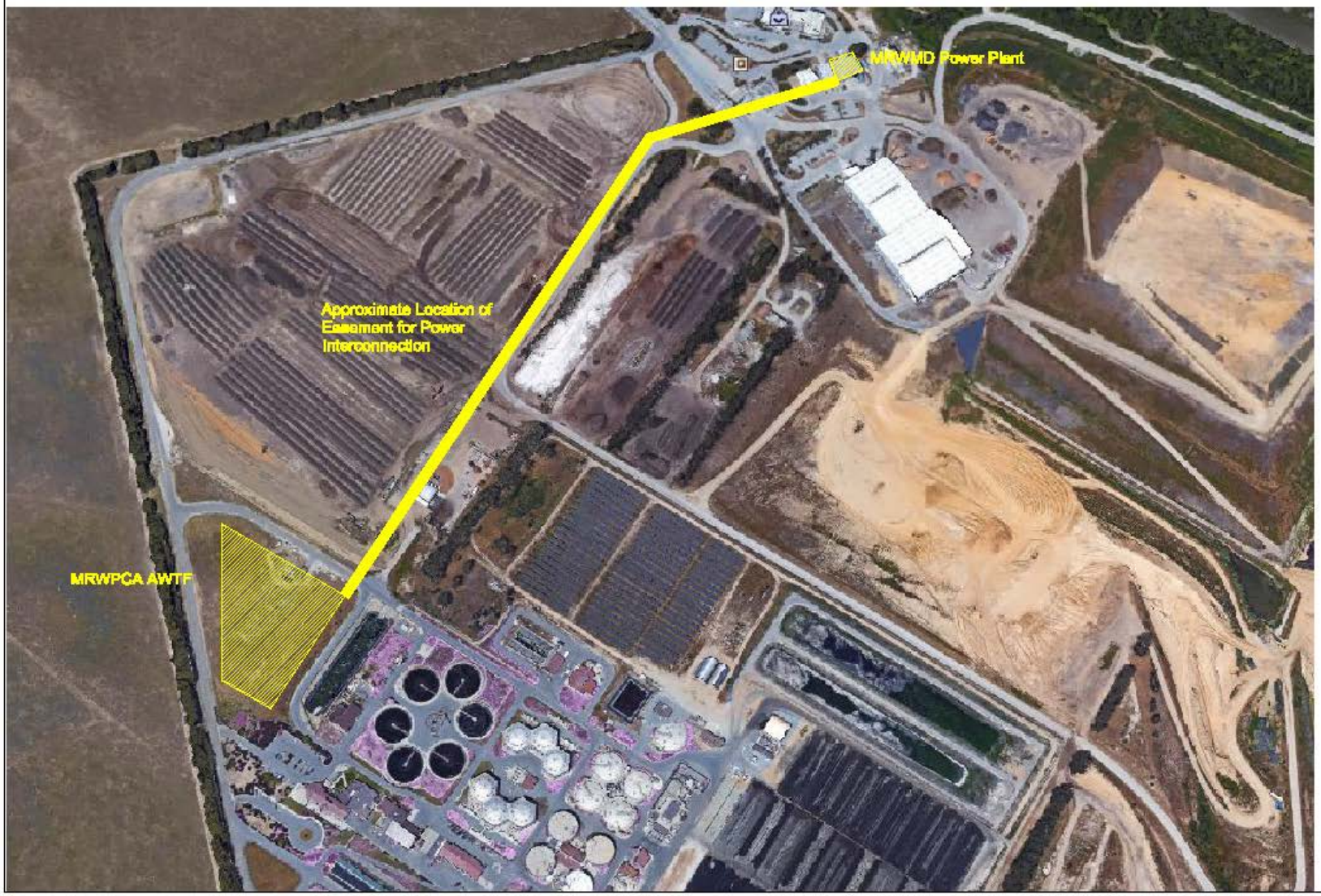
16. Entire Agreement. This Agreement, consisting of _____ ( ) pages, which includes Amendment A, constitutes the entire and complete agreement between the parties regarding the subject matter hereof, and supersedes all prior or contemporaneous negotiations, understandings, or agreements of the Parties, whether written or oral, with respect to such subject matter.

EXHIBIT 9-C

IN WITNESS WHEREOF, WMD and PCA, by their duly authorized representatives, have executed this Agreement on the date first written above, as authorized and directed by their respective Boards of Directors.

MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT	MONTEREY REGIONAL WATER POLLUTION CONTROL DISTRICT
By_____	By_____
Its_____	Its_____

EXHIBIT 9-C



Monterey Regional Water Pollution Control Agency
5 Harris Court, Bldg. D
Monterey, CA. 93940

PPA_Agreement.dwg

Attachment 1
PPA Agreement

EXHIBIT 9-D

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Application of California-American Water Company (U210W) for Approval of the Monterey Peninsula Water Supply Project and Authorization to Recover All Present and Future Costs in Rates.	Application 12-04-019 (Filed April 23, 2012)

REBUTTAL TESTIMONY OF MARGARET H. NELLOR

ON BEHALF OF

MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY

March 22, 2016

EXHIBIT 9-D

Q1: What is your name, occupation, and address?

A1: My name is Margaret H. Nellor, and I am the President of Nellor Environmental Associates, Inc., an environmental engineering consulting firm that specializes in water recycling policy and regulation. My business address is Nellor Environmental Associates, Inc., 4024 Walnut Clay Drive, Austin, Texas 78731.

Q2: Have you provided testimony in this California Public Utilities Commission ("CPUC") proceeding where you have previously stated your qualifications?

A2: Yes, I have submitted direct testimony in this proceeding on January 22, 2016, in which I discuss my professional qualifications and role on the Pure Water Monterey Groundwater Replenishment Project ("GWR Project").

Q3: What is the purpose of your rebuttal testimony?

A3: The purpose of my testimony is to rebut the allegations made in Mr. Weitzman's testimony regarding the safety of the highly purified recycled water ("product water") produced from the Advanced Water Treatment Facility that will be constructed as part of the GWR Project and the use of the product water for replenishment of the Seaside Groundwater Basin.

Q4: In your expert opinion, will the Seaside Basin Groundwater replenished using the GWR Project's product water be safe for Monterey residents and visitors to drink?

A4: Yes. After wastewater is treated at the MRWPCA Regional Treatment Plant, it will be diverted to the Advanced Water Treatment Facility where it will undergo a four-step state-of-the-art purification process consisting of pre-ozonation, membrane filtration, reverse osmosis, and advanced oxidation using ultraviolet light with hydrogen peroxide. GWR Project Final Environmental Impact Report ("EIR"), Appendix D, pp. 37–61.[1] The product water is near-distilled-quality, and it will meet or exceed federal and state drinking water safety standards. The water would then be injected into the Seaside Groundwater Basin.

[1] The GWR Project Final EIR is available at http://purewatermonterey.org/.

EXHIBIT 9-D

Before being allowed to begin operation, the GWR Project will be reviewed, approved and permitted by the California State Water Resources Control Board's Division of Drinking Water and the Central Coast Regional Water Quality Control Board to ensure public health, water quality, and environmental compliance. *See* M. Nellor, Opening Testimony, dated January 22, 2016, p. 3:3–p.8:20. The permit that would be issued for the GWR Project by the Regional Water Quality Control Board will require continuous water quality testing and sampling, including pesticides of local concern. If the product water does not meet water quality requirements, the Advanced Water Treatment Facility would be shut down immediately.

The reliability and safety of the product water was evaluated as part of the GWR Project's Final EIR. GWR Project Final EIR, Appendix D, pp. 37–61. Based on the analytical results of monitoring the source waters to be used for the GWR Project, the water quality results of the pilot plant testing conducted for three of the unit processes to be included as part of the Advanced Water Treatment Facility (pre-ozonation, membrane filtration, and reverse osmosis), information on the predicted performance and water quality of the Advanced Water Treatment Facility based on other existing groundwater replenishment projects and related research/studies:

- The GWR Project would comply with California's groundwater replenishment regulations, and would meet or exceed the Regional Water Quality Control Board's Water Quality Control Plan's ("Basin Plan's") standards, objectives, and guidelines.
- An expert panel and the Division of Drinking Water have reviewed the GWR Project Concept. The Division of Drinking Water has conditionally approved the GWR Project Concept, pending submittal of additional information per the groundwater replenishment regulations. M. Nellor Opening Testimony, p. 7:7–14.
- The GWR Project's Advanced Water Treatment Facility and replenishment of the Seaside Groundwater Basin with product water

would provide reliability and redundancy through the use of multiple treatment barriers and water quality monitoring.

Q5: Are there scientific studies available that analyze the safety of the replenishment of groundwater basins with recycled water?

A5: Yes, studies have been conducted for similar potable reuse projects, including epidemiology studies, risk assessments, and investigations that analyze and compare the toxicological properties of recycled water to those of drinking water. These studies, which were discussed in the GWR Project's Final EIR, have shown that: (1) there is no association between the use of recycled water and adverse health outcomes in individuals consuming groundwater containing recycled water; and (2) purified recycled water used for groundwater replenishment from an appropriately designed and operated advanced treatment facility, such as will be used for the GWR Project, presents less risk in terms of regulated chemicals, pathogens, and trace organics compared to the risk from conventional drinking water sources. GWR Project Final EIR, Appendix D, pp. 27–35.

Q6: Turning to specific points raised by Mr. Weitzman, is the technology that will be used by the GWR Project new or experimental?

A6: No. The technology is not new and has been used in water recycling projects elsewhere in California. For example, reverse osmosis technology has been used to produce recycled water for groundwater replenishment since the mid-1970s as part of the Orange County Water District's original Water Factory 21 Project.

In California, there are six operational groundwater replenishment projects, four of which use advanced treated recycled water for injection and/or spreading into a groundwater basin and two projects that use tertiary recycled water for groundwater replenishment via surface application (one of which has been in operation since 1962). These projects are located in urban areas and thus do not use source water from agricultural uses.

The use of agricultural wash water as source water for the GWR Project is immaterial because most pesticides are below levels of detection or at very low

concentrations in untreated agricultural drainage or will be removed to safe levels or below detection through treatment at the Regional Treatment Plant and the Advanced Water Treatment Facility. Further, California has comprehensive state laws, regulations, and policies governing the use of recycled water for groundwater replenishment to protect groundwater quality and the health of individuals who drink groundwater that is replenished with recycled water.

An example of such a project is the Orange County Water District's Groundwater Replenishment System ("GWRS"), which began operation in 2008. The GWRS replaced the original Water Factory 21 Project, which ceased operation in 2004. The GWRS produces up to 100 million gallons per day of purified recycled water used for nearly 850,000 residents in north and central Orange County. The GWR Project will use the same advanced treatment system as the GWRS, plus an additional purification process.

The outreach program and data collected for the GWRS have received broad support from the health, scientific, environmental, and water quality communities. The GWRS has also gained support from educational leaders, as well as federal, state, and local leaders and policy makers. For additional information about the broad support of the GWRS, *see* http://www.ocwd.com/gwrs/project-supporters/.

The GWR Project has also received broad support from local leaders on the Monterey Peninsula, state and federal legislators, the Fort Ord Reuse Authority, and the State Water Resources Control Board. This support acknowledges the importance of the GWR Project to create a sustainable, resilient water supply to meet the urban, agricultural, and environmental needs of Monterey County. See **Attachment A** (compilation of documents supporting the GWR Project).

Q7: Do you agree with Mr. Weitzman that the GWR Project would impact Monterey's tourism industry?

A7: No. The Orange County Water District's GWRS and data regarding tourism in Orange County provide evidence to rebut Mr. Weitzman's unsupported claims. As noted above, the Water Factory 21 Project, a smaller version of the GWRS, began operations in the

mid-1970s. It was replaced by the larger GWRS, which began operations in 2008. Similar to Monterey County, Orange County is a major tourism destination, including beach areas along the coast and Disneyland in Anaheim. The water supply for these tourist destinations includes groundwater that has been replenished by Water Factory 21 and now the GWRS:

> Groundwater withdrawals make up about 70 percent of the water supply in the Orange County Water District's service area, with the remaining demand being met by imported water from the Colorado River and Northern California. Historically, imported water from the Colorado River and Northern California and water from the Santa Ana River have been the source waters for groundwater recharge in Orange County. Seawater intrusion has been a problem since the 1930s as a consequence of groundwater basin overdraft. Injection of reclaimed water from an advanced wastewater treatment facility (Water Factory 21) to form a seawater intrusion barrier in the Talbert Gap area of the groundwater basin began in 1976. ***The project served the dual purpose of seawater intrusion barrier and potable supply augmentation***. Agency leaders acknowledged both of these purposes and did not encounter public opposition to the potable augmentation.
>
> A recharge project called the Groundwater Replenishment (GWR) System was conceived in the 1990s to replace Water Factory 21 and ***provide additional water to recharge the Orange County Groundwater Basin.*** The GWR System consists of three major components: the Advanced Water Purification Facility (AWPF); the Talbert Gap Seawater Intrusion Barrier; and the Miller and Kraemer spreading basins. The AWPF began producing reclaimed water in January 2008 for injection at the Talbert Gap and spreading at Kraemer and Miller basins. The source water for the 70-MGD (260,000-m3/d) advanced treatment facility is

secondary effluent from the adjacent Orange County Sanitation District Plant No. 1. The AWPF provides further treatment by microfiltration, reverse osmosis, and advanced oxidation.

National Research Council (NRC), 2012, *Water Reuse: Potential for Expanding the Nation's Water Supply through Reuse of Municipal Wastewater*, Washington, D.C., The National Academies Press, p. 59 (emphasis added); personal communication from Eleanor Torres, Director of Public Affairs, Orange County Water District, March 9, 2016.

There is no evidence that the use of product water from the GWRS has impacted Orange County's tourism industry. Rather, during the time period that recycled water has been used to replenish the Orange County Groundwater Basin:

- Statistics from the *2009 Orange County Community Indicators Report* indicate that Orange County is second among its California peers in total visitor spending, with an average annual growth rate of 7% between 2002 and 2006. See *2009 Orange County Community Indicators Report,* p. 17, *available at* http://www.ocbc.org/wp-content/uploads/2009_Orange_County_Community_Indicators_Report.pdf.
- Statistics from the *2015 Orange County Community Indicators Report* indicate that based on employment, Orange County tourism has grown by approximately 11% between 2006 and 2014, despite the national recession. See *2015 Orange County Community Indicators Report,* p. 16, *available at* http://www.ocbc.org/wp-content/uploads/OC-Community-Indicators-report_2015.pdf.

Q8: Does the GWR Project's use of source water from agricultural drainages impact the safety of the product water, as suggested by Mr. Weitzman?

A8: No. Use of source water from agricultural drainages does *not* impact the safety of the product water. Mr. Weitzman erroneously asserts that two pesticides, diazinon and chlorpyrifos, allegedly present in the agricultural drainage would be present in the

product water at unsafe levels. Mr. Weitzman's concerns are unfounded for a number of reasons.

As a preliminary matter, Mr. Weitzman relies on a study that is not relevant. *See* R. Weitzman, Supplemental Testimony on behalf of Water Plus Concerning Phases 1 and 2 of the Monterey Peninsula Water Supply Project, p. 8 (citing Anderson, B. S., et al., *Integrated Assessment of the Impacts of Agricultural Drainwater in the Salinas River* (California, USA), Environ. Pollut. 2003; 124(3):523–32). The study evaluated laboratory measured toxicity in the Salinas River to assess the link between the presence of pesticides and other factors that impact the macroinvertebrate community. It did *not* address human toxicity, but rather toxicity to macroinvertebrates in the river. *Id.*, pp. 523–24. The U.S. Environmental Protection Agency ("EPA") defines macroinvertebrates as: "small aquatic animals and the aquatic larval stages of insects. They include dragonfly and stonefly larvae, snails, worms, and beetles. They lack a backbone, are visible without the aid of a microscope and are found in and around water bodies during some period of their lives." EPA, *National Aquatic Resource Surveys, Indicators: Benthic Macroinvertebrates*, *available at* https://www.epa.gov/national-aquatic-resource-surveys/indicators-benthic-macroinvertebrates. It is not appropriate to apply the results of this study to extrapolate the potential impacts to human health.

Turning to the pesticides discussed by Mr. Weitzman in his testimony, neither pesticide will be present in levels that present a risk to human health and safety. With regard to diazinon, the EPA has determined that: (1) exposure to diazinon in drinking water at a concentration of 20 migrograms per liter ("µg/L") for up to 10 days is not expected to cause any harmful effects in a child (the most sensitive human receptor); and (2) lifetime exposure to 1 µg/L diazinon in drinking water is not expected to create any harmful effects. EPA, *2012 Edition of the Drinking Water Standards and Health Advisories*, EPA 822-S-12-001, Office of Water U.S. Environmental Protection Agency Washington, D.C., *available at* http://www.epa.gov/dwstandardsregulations/drinking-water-contaminant-human-health-effects-information#dw-standards. In addition, the

State of California has established an advisory level for diazinon of 1.2 µg/L. *See* DDW, *Drinking Water Notification Levels and Response Levels: An Overview*, *available at* http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/notificationlevels/notificationlevels.pdf.

As discussed in the GWR Project's Final EIR, MRWPCA collected untreated samples of the source waters for the GWR Project, including 11 samples from agricultural drainage water. *See* GWR Project Final EIR, Appendix D, Section 13.2. The analytical detection level used for diazinon was 0.1 µg/L, orders of magnitude below the drinking water thresholds set by EPA. EPA, *2012 Edition of the Drinking Water Standards and Health Advisories*, EPA 822-S-12-001, Office of Water U.S. Environmental Protection Agency Washington, DC, *available at* http://www.epa.gov/dwstandardsregulations/drinking-water-contaminant-human-health-effects-information#dw-standards.

Diazinon was *not* detected in any source waters, including agricultural drainage water. *See id.* Even if diazinon were to be detected in the agricultural wash water, it would be removed to levels below detection by processes the source water would undergo at the Regional Treatment Plant and the Advanced Water Treatment Facility. Monitoring of local pesticides of concern is expected to be included in the permit issued by the Regional Water Quality Control Board for the GWR Project.

With respect to chlorpyrifos, the EPA recommends that children (the most sensitive human receptor) not drink water with chlorpyrifos levels greater than 30 µg/L for periods of 1 to 10 days. EPA, *2012 Edition of the Drinking Water Standards and Health Advisories*, EPA 822-S-12-001, Office of Water U.S. Environmental Protection Agency Washington, DC, *available at* http://www.epa.gov/dwstandardsregulations/drinking-water-contaminant-human-health-effects-information#dw-standards. The analytical detection level used for chlorpyrifos for the evaluation of the source waters was 0.06 µg/L, more than two orders of magnitude below the EPA advisory level.

EXHIBIT 9-D

As noted above, MRWPCA collected untreated samples of the source waters, including 11 samples of agricultural drainage water. *See* GWR Project Final EIR, Appendix D, Section 13.2. Chlorpyrifos was *not* detected in any of the 11 agricultural drainage water samples collected. *Id.* If chlorpyrifos is ever detected in the agricultural drainage water used as source waters for the GWR Project, it would be removed to levels below detection by the processes applied to the source waters by the Regional Treatment Plant and the Advanced Water Treatment Facility. Monitoring of local pesticides of concern is expected to be included in the permit issued by the Regional Water Quality Control Board for the GWR Project.

Mr. Weitzman also raises false concerns regarding the presence of DDT in the source water. *See* R. Weitzman Supplemental Testimony, p. 8. During the review of the GWR Project under the California Environmental Quality Act ("CEQA"), some commenters expressed concerned about the presence DDT in the agricultural drainage water and if the purified water would be safe to drink. DDT (dichlorodiphenyltrichloroethane) is an insecticide developed in the 1940s. DDT was initially used with great effect to combat malaria, typhus, and the other insect-borne human diseases among both military and civilian populations. It also was effective for insect control in crop and livestock production, institutions, homes, and gardens. DDT persists in the environment and can cause adverse health effects on wildlife. As a result, the State of California banned the sale and use of DDT in December 1970 (the national ban was enacted in 1972). Despite being out of use for more than 40 years, DDT and its related breakdown products (DDD and DDE) are highly persistent in the environment and thus are found the world over, including soils in the Salinas Valley. The soil half-life for DDT is from 2 to 15 years (meaning the time required for half of the compound to degrade).

Sampling conducted for source waters for the GWR Project did not find DDT in untreated agricultural drainage water samples. DDE was found in one sample at a concentration of 21 nanograms per liter ("ng/L"). To put this amount into perspective,

21 ng/L is like a single drop of water in an Olympic sized swimming pool. This pesticide was present in the untreated agricultural drainage water at concentrations 50 times less than the World Health Organization's drinking water guidance value of 1,000 ng/L. World Health Organization, *Guidelines for Drinking-water Quality*, Fourth Edition, ISBN 978 92 4 154815 1, 2011, *available at* http://apps.who.int/iris/bitstream/10665/44584/1/9789241548151_eng.pdf. There are no EPA standards or advisory levels for DDT and its breakdown products in drinking water. Any DDT or its breakdown chemicals coming into the Regional Treatment Plant and the Advanced Water Treatment Facility will be removed or destroyed to levels below detection as demonstrated by the pilot testing conducted by MRWPCA.

Q9: Does that conclude your rebuttal testimony?

A9: Yes, although I reserve my right to update this testimony at the evidentiary hearing scheduled for this proceeding in April 2016.

Attachment A

Attachment A

EXHIBIT 9-D

COMMITTEES
BANKING AND FINANCE
HUMAN SERVICES
NATURAL RESOURCES

SELECT COMMITTEES
CHAIR: COASTAL PROTECTION
CHAIR: EXPANDING ACCESS TO
CALIFORNIA'S NATURAL RESOURCES

Assembly
California Legislature

MARK STONE
CHAIR, JUDICIARY
ASSEMBLYMEMBER, TWENTY-NINTH DISTRICT

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Santa Clara County: (408) 782-0647

March 22, 2016

Commissioner Catherine J.K. Sandoval
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Dear Commissioner Sandoval:

I am writing in support of Pure Water Monterey, a project developed jointly by the Monterey Peninsula Water Management District and the Monterey Regional Water Pollution Control Agency.

This multi-region, multi-benefit project seeks to augment the highly limited potable water supply for Monterey County. With the December 2016 deadline from the State Water Board's Cease and Desist Order fast approaching, California-American Water must cease unlawful diversions from the Carmel River, dramatically reducing the available water supply for the area. The loss of this water combined with the ongoing drought in California poses a substantial threat to the tourism and agriculture sectors which drive economic health in the County.

Pure Water Monterey is a key element in the portfolio of proposed water supply solutions Monterey County is considering to address this shortage. This system of advanced water recycling and purification presents an innovative approach which will take wastewater as well as agricultural produce wash water, storm water, and used irrigation water and purify it through a process which complies with or exceeds strict state and federal standards. The purified potable water will then be delivered to the Monterey Peninsula and irrigation water delivered to agricultural operations in North Monterey County.

With Pure Water Monterey in operation, the region will be able to pursue a smaller desalination plant, reduce potentially polluted discharge into the National Marine Sanctuary, and clean up discharge to the Salinas River. The project presents a legal, environmentally preferable regional replacement water supply solution on a timeline anticipated to be faster than the proposed desalination plant.

Thank you for your consideration of this worthy project. If you have any questions, please feel free to contact me at (831) 649-2832.

Sincerely,

Mark Stone
Assemblymember
Twenty-Ninth District

EXHIBIT 9-D

SAM FARR
20TH DISTRICT, CALIFORNIA

COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEES:
AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES
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www.farr.house.gov

March 14, 2016

Catherine J. K. Sandoval
Commissioner
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Re: Pure Water Monterey water recycling and purification project

Dear Commissioner Sandoval:

I have been proud to serve the vibrant municipalities, fertile agricultural community, and outstanding natural resources of the Central Coast's 20th Congressional District since 1993. As a coastal region not connected to the State Water Project or reliant on Sierra snowmelt, our communities have to depend on development of local water supplies to meet their needs. I am writing to call your attention to one such project – Pure Water Monterey.

Pure Water Monterey is an advanced water recycling and purification project which brings multiple benefits to more than one region. The project will bring a new source of agricultural irrigation water to the growers in the northern Salinas Valley, one of the State's largest and most diverse agricultural regions. Highly purified drinking water will be made available to the cities of the Monterey Peninsula, which have faced chronic water shortages since the 1990s, and have become leaders in water conservation.

Furthermore, the environmental benefits of the project are many: Pure Water Monterey will allow the desalination plant being proposed for the region to be downsized, reducing its carbon footprint and decreasing brine discharged to the National Marine Sanctuary. The project will also divert and clean wastewater, stormwater, and high-nitrate spent agricultural irrigation water removing them from our river, estuary, and National Marine Sanctuary.

I strongly support this project and encourage the California Public Utilities Commission to consider the facility's multi-region benefits in evaluating and approving the project.

Thank you very much for your attention to this innovative approach to water independence.

Sincerely,

Sam Farr

SAM FARR
Member of Congress

EXHIBIT 9-D

MONTEREY COUNTY

Monterey County Board of Supervisors

John M. Phillips
Supervisor District 2

Josh Stratton
Aide to the Supervisor

Claudia J. Link
Aide to the Supervisor

P.O. Box 787
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District2@co.monterey.ca.us

Commissioner Catherine J.K. Sandoval
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Dear Commissioner Sandoval,

Monterey County and the entire state of California face a historic drought resulting from lack of rainfall and the draining of our rivers and lakes. In the face of this challenge, Pure Water Monterey is an innovative project which is a critical element to finding a solution to our water challenges.

I am writing in fervent support of the Pure Water Monterey project and to urge the California Public Utilities Commission to consider approval of the project.

The Pure Water Project is a key element towards Monterey County complying with the State Water Board's Recycled Water Policy to encourage the substitution of recycled water for potable water by 2030. We have a problem not only of water insufficiency, but also of capturing the water when we have it. This project will capture not just wastewater, but also agricultural produce wash water, storm water and used irrigation water to be converted into potable drinking water and irrigation water for our farmers.

This collaborative effort to capture, transport, process and deliver water from multiple sources, through multiple jurisdictions, is a model for other counties in the state to follow. I strongly offer my full support for the project and encourage you to support this innovative, efficient water recycling and purification project as well.

Sincerely,

John M. Phillips
Supervisor, Second District
County of Monterey

EXHIBIT 9-D

MONTEREY COUNTY

Board of Supervisors

Supervisor Dave Potter
Monterey County, Fifth District Supervisor

Kathleen Lee, Chief of Staff
Jayne Mohammadi, Aide
Bryan Flores, Administrative Assistant

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February 25, 2016

Commissioner Catherine J.K. Sandoval
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Re: Support Letter for Monterey Peninsula Water Management District (MPWMD)
Pure Water Monterey water recycling and purification project

Dear Commissioner Sandoval,

For decades, the County of Monterey has led the state in water conservation efforts for both residential and commercial uses. Given the worsening drought conditions in California, it is imperative that communities and public agencies continue to work together to create viable solutions to our current and historic water challenges and plan for the future. The Monterey Peninsula Water Management District Pure Water Monterey project would further bolster our efforts to successfully navigate through this difficult time, not only on the Monterey Peninsula but also in the Salinas Valley and throughout the County of Monterey.

Pure Water Monterey is an advanced water recycling and purification project to deliver potable water to the Peninsula and to gather and deliver irrigation water to the growers in North Monterey County. It is a multi-region, multi-benefit project. What makes it unique is that it gathers not just wastewater, but also agricultural produce wash water, storm water, and used irrigation water. The project is environmentally preferred to a larger desalination plant because of lower carbon footprint, reduced discharges to the Monterey Bay National Marine Sanctuary, and it helps to exacerbate some of the issues regarding discharges to the Salinas River. The project was referenced in Senator Feinstein's drought bill introduced earlier this month.

Planning for a sustainable, resilient water supply to meet the urban, agricultural and environmental needs of Monterey County will take consistent coordination, cooperation and focused planning and management. To this end, I strongly support the Monterey Peninsula Water Management District's Pure Water Monterey water recycling and purification project.

Sincerely,

Dave Potter

Dave Potter
Supervisor, Fifth District
County of Monterey

DIANNE FEINSTEIN
CALIFORNIA

EXHIBIT 9-D

United States Senate

WASHINGTON, DC 20510-0504
http://feinstein.senate.gov

March 7, 2016

Catherine J.K. Sandoval
Commissioner
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Dear Commissioner Sandoval:

I write in support of Pure Water Monterey, the innovative water recycling project developed by the Monterey Peninsula Water Management District (District) and the Monterey Regional Water Pollution Control Agency (Agency)

Pure Water Monterey uses a four step water recycling process to treat water before it is injected into the groundwater basin using injection wells. This unique project utilizes water sources such as produce wash run-off, storm water, and agricultural irrigation run-off in addition to traditional wastewater. California is facing a historic drought, and the extraordinary lack of water limits our options. The District and Agency endeavor to make sure no drop is wasted with this exciting project.

Projects like Pure Water Monterey will help improve water supplies for local communities both in the short- and long-terms. Pure Water Monterey will serve as a model for other communities throughout California and I am pleased to offer it my full support.

Thank you in advance for your time and attention. If you have any questions regarding this project, please contact Katie Gross in my San Francisco office at (415) 393-0707.

Sincerely,

Dianne Feinstein
United States Senator

DF/kg

EXHIBIT 9-D

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California State Senate

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TEL (408) 847-6101

March 7, 2016

Catherine J.K. Sandoval, Commissioner
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Dear Commissioner Sandoval:

This letter is to express my support for the Monterey Peninsula Water Management District's Pure Water Monterey (MPWMD) water recycling and purification project.

As you know, the Monterey Peninsula receives its water supply from surface and sub-surface water in the Carmel River, as well as water from the Seaside Groundwater Basin. In 2009, the State Water Resources Control Board issued a Cease and Desist Order to California American Water (Cal-Am) that prescribed a series of significant cutbacks to the Monterey Peninsula's access to water from the Carmel River.

The MPWMD and the Monterey Regional Water Pollution Control Agency have jointly developed Pure Water Monterey in order to deliver potable water to the Monterey Peninsula. This multi-region, multi-benefit project is supported by Cal-Am and will gather wastewater, agricultural produce wash water, storm water, and used irrigation water for regional re-use. The project is environmentally preferable to a larger desalination plant because of its smaller carbon footprint and its reduction in discharge in the National Marine Sanctuary.

Pure Water Monterey is an advanced water recycling and purification public project, and a critical component of the region's water portfolio. The project is a collaborative effort to develop an environmentally sustainable water supply in the Monterey region and I urge your support of the Monterey Peninsula Water Management District's Pure Water Monterey project.

Sincerely,

WILLIAM W. MONNING
Senator, 17th District

WWM:nc

cc: Michael Picker, President
California Public Utilities Commission

EXHIBIT 9-D

CALIFORNIA Water Boards

EDMUND G. BROWN JR. GOVERNOR

MATTHEW RODRIQUEZ SECRETARY FOR ENVIRONMENTAL PROTECTION

State Water Resources Control Board

January 22, 2016

Commissioner Catherine J.K. Sandoval
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Via U.S. Postal Service and Email: catherine.sandoval@cpuc.ca.gov

Subject: Letter of Support for Pure Water Monterey, Application No. 12-04-019 (filed April 23, 2013)

Dear Commissioner Sandoval:

The State Water Resources Control Board (State Water Board) is both very concerned about and interested in a sustainable water supply for the Monterey Peninsula to eliminate existing unlawful pumping from the Carmel River consistent with the State Water Board's Cease and Desist Order (CDO), State Water Board Order WR 2009-0060. I understand that several public agencies and Cal-Am have chosen to support water recycling (Pure Water Monterey) as part of the portfolio of water supplies under consideration by the California Public Utilities Commission.

On November 30, 2015, the State Water Board approved a wastewater change petition for the City of Salinas, that allows up to 4.67 million gallons per day (5,235 acre-feet per year) of wastewater to be recycled and applied to two potential uses, one of which is municipal use in the Cal-Am service area. This water must be used to offset deliveries of unlawful diversions from the Carmel River by Cal-Am, unless the Executive Director of the State Water Board grants permission to use the water for new uses in the service area. Additionally, it is my understanding that the project will use wastewater that would not be subject to State Water Board water right permitting requirements, because it is currently discharged directly to the ocean.

Allowing this water to be used in the Cal-Am service area by adding this portion of Pure Water Monterey to the area's water portfolio makes sense because it would provide a lawful alternative to illegal diversions from the Carmel River on a timeline anticipated to be faster than that anticipated for the proposed desalination plant. State Water Board Order WR 2009-0060 requires that Cal-Am cease unlawful diversions at the end of December 2016. Cal-Am has requested an extension of this deadline until December 31, 2020 that is currently under consideration by the State Water Board. Any potential extension of the deadline, however, will not solve the issue of continued impacts to the Carmel River.

Approval of this portion of Pure Water Monterey adds to the region's development of a diverse water portfolio. The current drought emergency has underscored the pitfalls of relying on too

few sources of water supply in many communities across the state. The project is in alignment with the State Water Board's Recycled Water Policy, which encourages the maximum substitution of recycled water for potable water by 2030.

Water rights for other portions of the Pure Water Monterrey Project are currently under review at the State Water Board, and I can therefore not comment on them. The portion of Pure Water Monterey Project approved by the State Water Board, however, advances state mandates and policy objectives. If successful, it also demonstrates how multiple agencies can work together to develop a water supply project that provides benefits to multiple stakeholders and enhances environmental considerations.

I appreciate the opportunity to comment on the proceedings.

Sincerely,

Felicia Marcus
Chair

cc. Administrative Law Judge Gary Weatherford.
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298
Via U.S. Postal Service and Email: gw2@cpuc.ca.gov

Monterey Peninsula Regional Water Authority
Attn: President Jason Burnett
735 Pacific Street
Monterey, CA 93940
Via U.S. Postal Service and Email: jason.burnett@gmail.com

Monterey Peninsula Water Management District
Attn: David Stoldt, General Manager
5 Harris Court, Building G, P.O. Box 85
Monterey, CA 93942

Monterey Regional Water Pollution Control Agency
Attn: Paul Sciuto, General Manager
5 Harris Court, Bldg D
Monterey, CA 93940

California American Water Company
Attn: President Robert MacLean
1033 B Ave Ste 200
Coronado, CA 92118

Office of Ratepayer Advocates
Attn: Linda Serizawa, Deputy Director
505 Van Ness Avenue
San Francisco, CA 94102

EXHIBIT 9-D

RESOLUTION 16-07

A RESOLUTION OF THE GOVERNING BODY OF THE FORT ORD REUSE AUTHORITY TO RECOMMEND THE PURE WATER MONTEREY GROUNDWATER REPLENISHMENT PROJECT TO THE CALIFORNIA PUBLIC UTILITIES COMMISSION.

THIS RESOLUTION is adopted with reference to the following facts and circumstances:

A. The U.S. Army entered into agreement with Monterey County Water Resource Agency to allow up to 6600 acre feet per year (AFY) of pumping from the Salinas Valley Ground Water Basin; and,

B. The 1997 Fort Ord Base Reuse Plan (BRP) identified water availability as a resource constraint estimating approximately 2,400 AFY of additional water resource to augment the existing groundwater supply would likely be needed to achieve the replacement reuse activity outlined in the BRP (Volume 3, figure PFIP 2-7); and,

C. FORA transferred ownership of all of the then existing Ord water and sewer facilities to the Marina Coast Water District (MCWD) under the 1998 Water/Wastewater Facilities Agreement (1998 Agreement); title was transferred in 2001; and,

D. Under Section 3.2.2 of the 1998 Agreement, FORA has the responsibility to determine, in consultation with MCWD, what additional water and sewer facilities are necessary for MCWD's Ord Community service area in order to meet the BRP requirements, and that, once FORA determines that additional water supply and/or sewer conveyance capacity is needed, under Section 3.2.1, it is MCWD's responsibility to plan, design, and construct such additional water and sewer facilities. Section 7.1.2 requires FORA to insure that MCWD recovers all of its costs for the new facilities and their operation; and,

E. In 2002, MCWD, in cooperation with FORA, initiated the Regional Urban Water Augmentation Project (RUWAP) to explore water supply alternatives to provide the additional 2,400 AFY of water supply needed under the BRP; and,

F. After completing environmental review, FORA and MCWD agreed to adopt a modified hybrid plan, which would provide recycled and desalinated water to the Ord Community and this in turn resulted in the FORA Board adopting Resolution 07-10 (May 2007), which allocated 1,427 AFY of RUWAP recycled water to its land use jurisdiction; and,

G. In June 2009, MCWD and the Monterey Regional Water Pollution Control Agency (MRWPCA) entered into a 50-year RUWAP Memorandum of Understanding, in which (a) MRWPCA committed 650 AFY of summer recycled water to MCWD for the Ord Community; (b) MCWD affirmed its commitment of 300 AFY of summer recycled water to the Ord Community; and (c) MRWPCA and MCWD committed to supply 477 AFY of recycled water during other months to the Ord Community - for a total of 1,427 AFY; and,

H. MCWD continues to work collaboratively with FORA and with MRWPCA to carry out MCWD's obligation to provide 1,427 AFY of recycled water for the Ord Community; and,

I. On September 8, 2015, MCWD and MRWPCA tentatively agreed to work together on the Pure Water Monterey Project as described in that certain draft Environmental Impact Report (EIR) dated April 22, 2015, to provide advanced treated water for recharge water

into the Seaside groundwater basin and to serve MCWD, existing, and future recycled water customers as part of the recycled component of RUWAP; and,

J. FORA Board of Directors unanimously resolved to endorse the PCA Pure Water Monterey Project as a potential supplier of augmented water on October 9, 2015; and,

K. FORA Board of Directors unanimously endorsed a joint planning process between FORA, PCA, and MCWD on November 13, 2015; and,

L. In December 2015, MCWD's and MRWPCA's Board have mutually agreed in principle on terms regarding cost sharing, ownership, operations, maintenance, funding, and completion of work for the Pure Water Monterey Project. MRWPCA will supply Advanced Treated Water to MCWD, who will then provide it to the Ord Community in place of Tertiary Water; and,

M. Advanced treated water is better quality water than Tertiary Water and MRWPCA currently estimates that the Pure Water Monterey Project will provide water to the Ord Community that costs less per acre foot of Tertiary Water; and,

N. Based on these facts and FORA's position in its CIP report that MCWD is already contractually obligated to provide the recycled water, FORA's approval of changing the recycled water project from tertiary treated recycled water to advanced treated recycled water will clarify FORA's support for the Pure Water Monterey Project.

NOW THEREFORE the Board hereby resolves that:

1. FORA recommends MRWPCA Pure Water Project to the California Public Utilities Commission as a project able to support FORA's Water Augmentation mitigation requirements, and whose Product Conveyance Facilities will decrease long term costs to the end user through economies of scale in conjunction with Marina Coast Water District.

2. $3-7M of the total CIP Budget for Water Augmentation ($24M) may be used to assist in funding a 'Pipeline' if the project moves ahead and can deliver the substituted water resource.

ADOPTED this 12th day of February, 2016 by the Fort Ord Reuse Authority by the following roll call votes listed by name:

AYES:	BEACH, HAFFA, GUNTER, KAMPE, MORTON, O'CONNELL, OGLESBY, RUBIO, PARKER, PENDERGRASS, PHILLIPS
NOES:	NONE
ABSTENTIONS:	NONE
ABSENT:	CLARK, POTTER

ATTEST:

Michael A. Houlemard, Jr.,
Clerk

APPROVED:

Frank O'Connell, FORA Board Chair