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)

THE CITY OF PACIFIC GROVE PUBLIC PARTICIPATION PROPOSALS FOR THE CALIFORNIA AMERICAN WATER COMPANY'S MONTEREY PENINSULA WATER SUPPLY PROJECT THROUGH THE IMPLEMENTATION OF ONE OR MORE SMALL WATER PROJECTS

Thomas Frutchey
City Manager
City of Pacific Grove
300 Forest Avenue
Pacific Grove, CA 93950
Telephone: (831) 648-3181
Facsimile: (831) 657-9361
Email: tfrutchey@ci.pg.ca.us

CITY OF PACIFIC GROVE

October 1, 2012

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)

THE CITY OF PACIFIC GROVE PUBLIC PARTICIPATION PROPOSALS FOR THE CALIFORNIA AMERICAN WATER COMPANY'S MONTEREY PENINSULA WATER SUPPLY PROJECT THROUGH THE IMPLEMENTATION OF ONE OR MORE SMALL WATER PROJECTS

Introduction

On August 29, 2012, Administrative Law Judge Weatherford issued a ruling in this proceeding titled "Administrative Law Judge's Directives to Applicant and Ruling on Motions Concerning Scope, Schedule and Official Notice." Section 3.2.1 of that ruling invited proposals to California American Water Company ("Cal Am"), by October 1, 2012, concerning public participation in the Monterey Peninsula Water Supply Project.

Public Participation Proposals

The City of Pacific Grove (City) hereby submits this Filing to inform the California Public Utilities Commission ("Commission") of the City's proposals to Cal Am concerning several small water projects that can reduce the target demand on the proposed Monterey Peninsula Water Supply Project desalination plant and allow the City to stop irrigating its golf course, cemetery, and other parks, playfields and school yards

with potable water. These projects could also reduce the use of even more potable water on the Presidio of Monterey. The materials submitted to Cal Am, by the October 1, 2012 deadline as specified by ALJ Weatherford, and attached hereto as Exhibit A, detail the City's proposed projects, the proposed roles for Cal Am in those projects, and the reasons the City is proposing that Cal Am seriously consider including these small projects as public components of its overall Monterey Peninsula Water Supply Project.

The City and Cal Am have discussed similar proposals over the past several years, and have previously identified the mutual advantages that successful implementation of such proposals could offer.

Conclusion

The City values its ongoing relationship with Cal Am and looks forward to working with Cal Am and other interested parties to integrate these proposals into the Monterey Peninsula Water Supply Project. These projects are proposed for the benefit of Cal Am, the ratepayers on the Monterey Peninsula, and the environment.

Dated: October 1, 2012

Respectfully submitted,

/s/Thomas Frutchey
Thomas Frutchey
City Manager
City of Pacific Grove
300 Forest Avenue
Pacific Grove, CA 93950

CITY OF PACIFIC GROVE
300 FOREST AVENUE
PACIFIC GROVE, CALIFORNIA 93950
TELEPHONE (831) 648-3100
FAX (831) 375-9863

October 1, 2012

via Hand Delivery and E-Mail

Rob MacLean, President
California-American Water Company
c/o 511 Forest Lodge Road, Suite 100
Pacific Grove, California 93950

RE: Proposal to Cal-Am for Public Participation by the City of Pacific Grove in the Monterey Peninsula Water Supply Project

Dear Rob,

The City of Pacific Grove appreciates the magnitude of the challenge that California American Water faces over the next 52 months to develop a replacement for approximately 70 percent of its water supply for the Monterey Peninsula. We also appreciate the extremely harmful consequences for California-American Water, its customers, and the Peninsula economy that would result from a failure of the entire community to come together to meet this deadline. And finally, we appreciate the efforts being taken by you and your staff to successfully resolve these challenges.

The City seeks to provide any assistance it can to Cal-Am, the CPUC, and other parties working to develop and implement needed solutions. To that end, under separate cover, the City and the Moss Landing Commercial Park, LLC are submitting an independent proposal for participation by Cal-Am in an alternative main desalination project, the People's Moss Landing Water Desal Project ("The People's Project").

In addition, the City is filing this separate and distinct proposal, which stands wholly on its own and will be cost effective, no matter which desal project is completed, to augment our water supply. To that end, we are hereby proposing a series of small water projects that can augment or replace water that would otherwise be required to be produced by a desalination plant. Implementation of these small water projects will reduce the need for potable water in Pacific Grove and surrounding areas for outdoor irrigation, toilet flushing, and other uses that are compatible with recycled water.

Advantages of this series of projects include, but are not limited to:

- No need to transfer or modify existing water rights;

- Technical feasibility, based on the use of proven technologies;
- Relatively straightforward permitting processes;
- Short project schedules, virtually ensuring the availability of the resulting water prior to January 1, 2017;
- Affordable cost;
- Availability of low-cost financing, government-subsidized loans, and tax benefits;
- Complete independence from the three desal projects, the ground water recharge (GWR) project, and the Aquifer Storage Recovery (ASR) seasonal storage project; there is no footprint in common with any of these other projects;
- Use of dry and wet weather urban runoff, as well as sewage flows, that are now treated as wastes;
- No new waste discharges; and
- Low energy consumption.

In addition, these projects assist the community in meeting stringent storm water regulations and recently adopted Special Protections for the Pacific Grove Area of Special Biological Significance (ASBS). Although neither of these two sets of requirements are the domain of Cal-Am or the CPUC, the City believes that they are important considerations nonetheless, since the small water projects can assist the community in simultaneously meeting another series of environmental challenges and regulatory requirements that have recently been imposed.

The Pacific Grove City Council unanimously approved and authorized the submission of this filing by resolution on September 29, 2012 (attached).

We would appreciate the opportunity to meet with you and your staff to discuss these projects further over the next few weeks. We are desirous of upgrading the proposals, based on your feedback, prior to your October 26 compliance report to the CPUC.

Sincerely,

Carmelita Garcia

Carmelita Garcia, Mayor
City of Pacific Grove

Attachments
Resolution
Small Water Projects Proposal

RESOLUTION NO. 12-067
RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PACIFIC GROVE AUTHORIZING THE MAYOR TO SUBMIT THE "SMALL WATER SUPPLY PROJECTS PROPOSAL FOR l'UBLIC I'ARTICII'ATION" TO CALIFORNIA AMERICAN WATER

FINDINGS

1. California American Water must find a replacement for approximately 70 percent of its water supply to the Monterey Peninsula before the end of December 2016. Failure to meet this deadline could have severe consequences for California American Water, its customers, and the peninsula economy.

2. As part of the California Public Utilities Commission's (CPUC) consideration of California American Water Company's (Cal-Am) April 23, 2012 desalination project proposal, Administrative Law Judge Gary Weatherford, acting on behalf of the Commission, ruled on August 29 that:

   "California American Water Company is directed to seriously consider in goodfaith any public agency proposa/for direct participation in the Monterey Peninsula Water Supply Project (MPWSP) that is feasible and sufficiently developed to allow implementation in a timely manner and that is made by October 1, 2012. Cal-Am shall file a compliance progress report on the status o.f such deliberation by October 26, 2012."

3. California American Water provides potable water to the City of Pacific Grove. The City currently uses up to 125 acre-feet per year (AFY) of potable water for irrigation of its Municipal Golf Links and the adjacent El Carn1elo Cemetery. The Pacific Grove Golf Links is one of only two golf courses on the peninsula that uses potable water.

4. The City captures significant volumes of dry weather storn1 system flows through its urban runoff diversion project for compliance with the Area of Special Biological Significance (ASBS) storm water discharge prohibitions. Diverted water is pumped to the Monterey Regional Water Pollution Control Agency (MRWPCA) in Marina. The diverted flows receive treatment at the regional treatment plant.

5. Replacement of irrigation demand at the Municipal Golf Links and the adjacent El Carmelo Cemetery with non-potable supplies could create a new offset of 125 AFY of potable water for use by the City.

6. The City of Pacific Grove seeks public participation in California American Water's proposed water supply project to create 125 AFY or more of reclaimed or recycled water from municipal wastewater and/or urban runoff diversion flows for.. irtigation of the Municipal Golf Links and the El Carmelo Cemetery through the implementation of one or more small water projects. This Small Water Supply Projects Proposal for Public Participation would directly reduce the production capacity, size, and operational

requirements of the California American Water Proposal, and increase the likelihood that water is available by January 1, 2017.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PACIFIC GROVE:

1. The Council determines that each of the Findings set forth above is true and correct, and by this reference incorporates those Findings as an integral part of this Resolution.

2. The Council hereby authorizes the Mayor to submit the "Small Water Supply Projects Proposal for Public Participation" to California American Water by October I, 2012.

3. This Resolution shall become effective immediately following passage and adoption thereof.

PASSED AND ADOPTED BY THE COUNCIL OF THE CITY OF PACIFIC GROVE this 29'" day of September, 2012, by the following vote:

AYES: Mayor Garcia, Councilmember's Kampe, Cohen, Cuneo, Fischer, Huitt and Miller

NOES: None

ABSENT: None

APPROVED:

CARMELITA GARCIA, Mayor

ATTEST:

DAVID CONCEPCION, City Clerk

APPROVED AS TO FORM:

DAVID C. LAREDO, City Attorney

CITY OF PACIFIC GROVE
PROPOSAL FOR PUBLIC PARTICIPATION:
SMALL WATER SUPPLY PROJECTS

Pacific Grove Satellite Recycled Water Treatment Project
Pacific Grove Recycled Water Project
Pacific Grove Storm Water Recycling Project

California American Water Company, Monterey Peninsula Water Supply Project, Commission Docket A.12-04-019

October 1, 2012

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

SUMMARY of PROPOSED PROJECTS 1
Proposed Project Goals and Objectives 2
Benefits of Proposed Project as Compared with California American Water's Pending Proposal and Other Proposals 3
Summary of Public Agency Role and Responsibilities 3
Relationship to Other Pending and Proposed Water Supply Projects 4
Relationship to pending California American Water Proposal in A.12-04-019 4
Relationship to Other Pending or Proposed Projects 5
Potential for Project Expansion and Likely Additional Project Benefits 5
Roles and Relationships of Participating Public and Private Parties 6
Role of Public Agency Participant 6
Role of Private Party Participants 7
Proposed Role and Responsibility of California American Water 7
Proposed Role for Other Private Party Participants 8
Organizational Plan and Structure 8
Conclusion 8

PARTICIPATION PROJECTS SETTING 10
Potable Water Supply and Use 11
Wastewater Collection and Treatment Systems 11
Storm Water 11
Irrigation Demand 12
Environmental Compliance 14
CEQA Compliance Plan 14

PROJECT 1: PACIFIC GROVE SATELLITE RECYCLED WATER TREATMENT 17
Technical/Engineering Detail 17
Water, Property & Rights of Way 20
Permitting 21
Consistency with State and Local Zoning and Land Use Policies 21
Estimated Cost 22
Schedule 22

PROJECT 2: PACIFIC GROVE RECYCLED WATER 24
Water, Property, and Rights of Way 26
Permitting 26
Consistency with State and Local Zoning and Land Use Policies 27
Projected Costs 27
Schedule 28

PROJECT 3: PACIFIC GROVE STORM WATER RECYCLING 29
Water, Property, and Rights of Way 33
Permitting 34
Consistency with State and Local Zoning and Land Use Policies 34
Estimated Cost 34
Schedule 35

APPENDICIES

A: Additional Details - Pacific Grove Satellite Recycled Water Treatment Facility 37
B: Additional Details - Pacific Grove Recycled Water Project 47
C: Additional Details - Pacific Grove Storm Water Recycling Project 53
Proposed Project Schedule 59

LIST OF FIGURES

Figure 1 - Regional Location Map 10
Figure 2 - Pacific Grove Satellite Recycled Water Treatment Plant (SRWTP) 17
Figure 3 - Satellite Recycled Water Treatment Facility Process Flow Diagram 19
Figure 4 - Pacific Grove Recycled Water Project Facility Map 24
Figure 5 - Storm Water Recycling Facility Project 29
Figure 6 - Storm Water Recycling Project Facilities 32
Figure 7 - David Avenue Site Plan 32
Figure 11 - Storm Water Recycling Project Facilities 57
Figure 12 - David Avenue Site Plan 57

LIST OF TABLES

Table 1 - Irrigation Sites 13
Table 2 - Average ETo Report 13
Table 3 - Calculated Irrigation Demand 14
Table 4 - Satellite Recycled Water Treatment Facility Unit Cost 22
Table 5 - Pacific Grove Recycled Water Project Estimated Unit Cost 28
Table 6 - Pacific Grove Storm Water Recycling Project Unit Cost 35
Table 7 - Assumed Wastewater Quality Parameters 42
Table 8 - Satellite Recycled Water Treatment Facility Capital Cost 46
Table 9 - Pacific Grove Recycled Water Project Capital Cost Estimate Detail 51
Table 10 - Storm Water Recycling Estimated Capital Cost 58

LIST OF ABBREVIATIONS

AFY	Acre Feet per Year
ASBS	Area of Special Biological Significance
CAWD	Carmel Area Wastewater District
CCR	California Code of Regulations
CDP	Coastal Development Permit
CDS	Continuous Deflection Separator
CEQA	California Environmental Quality Act
CIMIS	California Irrigation Management Information System
CPCN	Certificate of Public Convenience and Necessity
CSIP	Castroville Seawater Intrusion Project
CWC	California Water Code
EIR	Environmental Impact Report
ETo	Evapotranspiration (base)
gpm	gallons per minute
I/I	Infiltration and Inflow
LF	Linear Feet
MBR	Membrane Bio Reactor
MF	Micro Filtration
MF/RO	Micro Filtration/Reverse Osmosis
MG	Million Gallons
MGD	Million Gallons per Day
MPWMD	Monterey Peninsula Water Management District
MPWSP	Monterey Peninsula Water Supply Project
MRWPCA	Monterey Regional Water Pollution Control Agency
NEPA	National Environmental Policy Act
NOD	Notice of Determination
OPR	Office of Planning and Research
PBCSD	Pebble Beach Community Services District
RTP	Regional Treatment Plant
SRF	State Revolving Fund
SRWTP	Satellite Recycled Water Treatment Plant
SWRCB	State Water Resources Control Board
UV	Ultraviolet
WWTP	Wastewater Treatment Plant

SUMMARY of PROPOSED PROJECTS

The City of Pacific Grove (City), similar to other jurisdictions in the California American Water Monterey District service area, has a shortage of potable water for domestic residential and commercial uses due to limitations on existing water supplies from the Carmel River Aquifer and Seaside Groundwater Basin. The City currently uses approximately 100 to 125 acre-feet per year (AFY) of potable water for irrigation of the Pacific Grove Municipal Golf Links and the adjacent El Carmelo Cemetery. Additional potable water is used for public irrigation in other areas throughout the city and in nearby areas, including the Presidio of Monterey.

The City's initiation of these projects, its proposal to have them constitute public agency participation in Cal Am's proposed Monterey Peninsula Water Supply Project, and the resultant public-private collaboration will have several major direct and indirect benefits. Most directly, replacement of this irrigation demand with non-potable supplies will create a new offset of at least 100 to 125 AFY of potable water per project, for use by California American Water in meeting its obligations to find a replacement to its use of water from the Carmel River. Given the risk that the proposed desalination project may not be fully operational by the January 1, 2017 cut-off date, the ability of these projects to be up and running well in advance assumes greater significance to the total water supply portfolio.

Projects included in this proposal for public agency participation will individually or jointly result in the creation of a minimum of100 to 125 AFY of recycled water from municipal wastewater and treated urban runoff for irrigation of the Municipal Golf Links, the El Carmelo Cemetery, and other irrigation demands within the City. The proposed projects can be expanded beyond this capacity to meet other local non-potable demands or can be combined with each other to provide expanded benefits.

The following three projects are proposed:

- **Project 1: Pacific Grove Satellite Recycled Water Treatment Project.** A new satellite recycled water treatment facility will be constructed at the former Point Pinos Wastewater Treatment Plant and deliver recycled water to irrigation sites throughout the City. Raw wastewater will be captured and diverted from the City's sanitary sewer Basin 1 and conveyed to the new satellite recycled water treatment plant via 1,100 lineal feet of new 8-inch diameter sewer pipeline constructed within the golf links. Approximately 1,300 lineal feet of new 12-inch diameter recycled water pipeline will be constructed to deliver water to the golf links, cemetery, and other irrigation demands. Costs of water are between $2,624 and $3,042/AF, depending on the final annual volume of water produced.

- **Project 2: Pacific Grove Recycled Water Project.** Recycled water will be obtained from the Pebble Beach Community Services District (PBCSD). Raw wastewater from 500 homes in the Del Monte Park area of Pacific Grove will be captured and diverted to the existing Carmel Area Wastewater District (CAWD) reclamation facility for treatment. The wastewater diversion will flow through the

existing wastewater collection system owned by the PBCSD. Recycled water from CAWD will be stored in the Forest Lake Reservoir and returned to the City through existing CAWD and PBCSD recycled water systems to a delivery point near the Spanish Bay Golf Course in Pebble Beach. Approximately 10,000 to 13,500 lineal feet of new 12-inch diameter recycled water pipeline will be required to be constructed to deliver water to the golf links, cemetery and other irrigation demands. Costs of water are $2,105/AF produced.

- **Project 3: Pacific Grove Storm Water Recycling Project.** Storm water from the City's Congress Avenue or Greenwood Park Storm Drain Watersheds will be retained during the fall-winter wet period to be recycled to meet irrigation demands during the spring-summer season. Storm water will be diverted from the Congress Avenue or Greenwood Park storm drainage systems in a new storm water diversion structure, treated to remove trash and debris, and pumped to storage. A new 15-million gallon (MG) concrete reservoir or open storage reservoir will be constructed at the California American Water Company's David Avenue property. The storm water will be treated to meet aesthetic requirements and to comply with Title 22 Regulations for irrigation with non-potable water. Treatment will include a constructed wetland, microfiltration, ultraviolet radiation, and disinfection. Approximately 8,800 lineal feet of new 12-inch diameter recycled water pipeline will be required to deliver water to the golf links, cemetery irrigation and other irrigation demands. Costs of water are $8,977/AF, depending on the final annual volume of water produced.

Proposed Project Goals and Objectives

The goal of the projects proposed herein is to develop new small water supply projects that can feasibly and sufficiently contribute to the Monterey Peninsula Water Supply Project (MPWSP) and can be implemented in a timely manner.

The objectives of each of these three projects are as follow:

- To preserve available potable water supplies for domestic uses and to maximize the recycling and reuse of non-potable reclaimed municipal wastewater and storm water in the most cost effective manner possible.

- To offset the existing use of 100 to 125 AFY of potable water obtained from California American Water that is being used for irrigation by the City.

- To divert sufficient quantities of raw sewage, dry and wet weather urban runoff from the City's collection systems for reclamation at the CAWD, at a new David Avenue or Point Pinos facility.

- To maximize the use of existing storm water, wastewater collection, treatment, reclamation and reclaimed water distribution infrastructure for the development of

irrigation water supplies to the City's Municipal Golf Links, the El Carmelo Cemetery and other non-potable demands.

Benefits of Proposed Project as Compared with California American Water's Pending Proposal and Other Proposals

The proposed projects provide the following benefits:

- Maximize the use of feasibly available reclaimed water resources, in conformance with statewide goals.
- Use existing infrastructure for the collection of storm water, and wastewater with minimal new facilitates and low capital costs for diversion to reclamation and reuse.
- Produce minimal operating expenses.
- Use existing capacity at the CAWD reclamation plant for the treatment and production of reclaimed water.
- Maximize the use of existing reclaimed water distribution facilities to move the reclaimed water from its sources to its end uses.
- Minimize the need for new construction to single points of wastewater flow diversion and the extension of existing reclaimed water distribution facilities.
- Do not require any new discharge permits, new treatment facilities, or water rights.
- Allow regulatory permits for construction and operations to be obtained with certainty and in a relatively brief period.
- Produce no new discharges to waters of the state or waters of the United States.
- Can be constructed with only minimal temporary environmental impacts.
- Produce only minimal operational impacts, including: no significant new demand for power; no significant new discharges of air pollutants; and, no significant new greenhouse gas emissions.

Summary of Public Agency Role and Responsibilities

The City of Pacific Grove is the public agency responsible for the development of this proposal. The City's responsibilities for these projects include the following:

1. Development of this initial project proposal and submittal to California American Water and the Commission for Preliminary Review by October 1, 2012.

2. Provision of additional technical, environmental, and financial development of the project proposals; updating of this initial proposal and resubmittal to the Commission for inclusion by California American Water into a compliance progress report by October 26, 2012.

3. Preparation of project-related technical studies that describe the potential construction-related and operational environmental effects for each of the proposed projects.

4. Provide ongoing coordination and collaboration with Commission and California American Water to ensure that the potential environmental effects of the proposed project and the cumulative environmental effects of the MPWSP are accurately addressed.

5. Provide review and comment on the Draft Environmental Impact Report (EIR).

6. Negotiate and sign agreements to obtain recycled water from PBCSD from the treatment capacity available to them from CAWD. Obtain concurrence from the MRWPCA on the diversion of wastewater from the RTP for use in the proposed project.

Relationship to Other Pending and Proposed Water Supply Projects

Relationship to pending California American Water Proposal in A.12-04-019

This Small Water Supply Project Proposal for Public Participation may be able to directly reduce the production capacity, size and operational requirements of the California-American Water Proposal by 100 to 125 AFY at the unit cost of approximately $2,105 to $3,042 /AF for Projects 1 and 2. Project 3 has a higher unit cost of approximately $8,977/AF.

This proposal provides the description and analysis of three water supply projects that will reduce the City of Pacific Grove's potable water demand for landscape irrigation on the only public, municipally owned, low-priced, high-value, recreational golf links in the region, a highly valued cemetery serving Pacific Grove, and nearby areas, (including the Presidio of Monterey), City parks, and other irrigation demands throughout the community.

None of the projects in this proposal is within the footprint of any of the facilities proposed as a part of the California American Water MPWSP. They therefore produce no conflict with any of the facilities or operations of California American Water's proposed facilities. Additionally, the complementary proposed projects for the MPWSP (groundwater replenishment and injection / extraction) are outside of the physical locations of these projects and produce no conflicts.

The City has produced several studies investigating alternative water supplies. The projects defined in this proposal rely upon analysis completed in previous water supply studies, the City's Sewer System Asset Management Plan, and the City's Storm Drainage Master Plan, among other documents.

Relationship to Other Pending or Proposed Projects

The City of Pacific Grove has identified the following three proposed Small Water Supply Project Proposals for Public Participation that will each produce an estimated 100 to 125 AFY of water for the irrigation of the City golf links, cemetery, and other irrigation demands. If these projects are all to be implemented they can be done in a coordinated fashion to meet the 100 to 125 AFY of irrigation demand currently identified. Expansion of the capacities of these projects beyond the 100 to 125 AFY demand to meet is also likely.

1. **Pacific Grove Satellite Recycled Water Treatment Project:** By diverting raw wastewater that will otherwise be treated at the MRWPCA RTP, the City and surrounding areas will offset the current use of 100 to 125 AFY of potable water used for irrigation.

2. **Pacific Grove Recycled Water Project:** By diverting raw wastewater that will otherwise be treated at the MRWPCA RTP for treatment at the CAWD/PBCSD treatment plant, the City and surrounding areas will offset the use of 100 to 125 AFY of potable water used for irrigation.

3. **Pacific Grove Storm Water Recycling Project:** By diverting, treating and storing dry weather storm water flows, the City and surrounding areas will offset the use of 100 to 125 AFY of potable water used for irrigation.

Potential for Project Expansion and Likely Additional Project Benefits

Implementation of more than one of the three projects will allow additional irrigation uses to replace potable water with non-potable water. In addition, given the volumes of sewage flows and stormwater flows in the City, expansion of the capacities of these projects beyond 100 to 125 AFY is also likely. All three of the projects can be expanded beyond their proposed capacity to meet other local non-potable demands; in addition, they can be combined with each other to provide additional benefits.

The following is a summary of the justification for the Commission and California American Water continuing to investigate this proposal:

1. This proposal presents projects for which the recycled and urban runoff water are available, can be provided at a reasonable cost, are not detrimental to public health, and will not negatively affect downstream water rights or the environment.

2. Pursuant to California Water Code (CWC) section 13550(a) the Legislature has determined that the use of potable domestic water for non-potable uses, including, but not limited to, cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available which meets all of the following conditions: (1) the source of recycled water is of adequate quality for these uses and is available for these uses, (2) the recycled water may be furnished for these uses at a reasonable cost to the user; (3) the use of recycled water from the proposed source will not be

detrimental to public health; (4) the use of recycled water for these uses will not adversely affect downstream water rights, will not degrade water quality, and is determined not to be injurious to plant life, fish, and wildlife.

3. The projects in this proposal will reasonably produce and reliably sustain the development of a new non-potable water supply of at least 100 to 125 AFY. This new water supply will not be subject to drought cutbacks and will therefore provide a reliable irrigation source for the economic and aesthetic benefit of the community. Additionally, this water supply will be sustainable since its source is the treated wastewater from local domestic water use and urban runoff.
4. The City has prepared itself for the potential availability of reclaimed water by its construction of Title 22 compliant irrigation facilities when the golf links irrigation system was last upgraded. This will significantly reduce onsite retrofit and conversion costs otherwise required for the use of reclaimed water.
5. There is a long-standing history of the safe and effective use of recycled municipal wastewater at the local, regional, state, national and international levels.
6. There is local precedent for the safe and effective use of recycled water for golf links and turf irrigation. The projects in this proposal will effectively expand one such project that has been successfully operated by the CAWD and PBCSD for the last 18 years.
7. The existing CAWD/PBCSD wastewater reclamation project is an existing example of the precise project type that is proposed herein. The CAWD/PBCSD project was constructed to provide an alternative non-potable water supply and to create a new in-lieu offset. The CAWD/PBCSD project has been a success at the technical, administrative and environmental levels.
8. With further investigation, this project proposal can be expanded beyond the currently identified 100 to 125 AFY benefit. Expansion may be possible to cost effectively double this capacity to approximately 200 to 250 AFY or more.

Roles and Relationships of Participating Public and Private Parties

Role of Public Agency Participant

The City of Pacific Grove will serve as the Public Agency Participant in these projects. As such, the City will have a number of roles and responsibilities, including the following:

1. Continue to provide ongoing collaboration with California American Water in the planning, analysis, design, construction, inspection and operation of facilities identified in this proposal.
2. Conduct identified technical studies, as needed, for the environmental assessment of the potential construction related and operational environmental effects of the proposed facilities. The City anticipates that California American Water will reimburse its participation.

3. Provide sanitary sewer flows from the Del Monte Park area and the Asilomar gravity main through the existing City sanitary sewer collection system.

4. Coordinate with the MRWPCA for the use of raw wastewater to the project proposal in lieu of its diversion to and treatment at the RTP in Marina, including potential offset through the City's urban diversion system of dry and wet weather storm water flows.

5. Participate in the development, review and comment to the MPWSP Environmental Impact Report (EIR).

6. Participate in the project proposals as the site manager for the intended end use of recycled water at the City Golf Links, cemetery and other municipal irrigation demands.

7. Coordinate with California American Water in the identification of additional recycled water end uses throughout the City and their conversion to the use of recycled water.

8. Coordinate with the Monterey Peninsula Water Management District (MPWMD) for the permanent disconnection from the existing potable water distribution system.

Role of Private Party Participants

Proposed Role and Responsibility of California American Water

California American Water is currently seeking a Certificate of Public Convenience and Necessity (CPCN) from the Commission to construct a new 5.4 to 9.0 MGD desalination plant as a portion of the MPWSP. The City is seeking through these proposed projects to participate directly in California American Water's proposed project through the development and submittal of this Public Agency Participation Proposal. The Commission will determine if California American Water includes the projects in this proposal into the MPWSP.

Additionally, California American Water will have the following roles and responsibilities specific to the development, analysis, planning, design, construction and operation of these proposed projects:

1. Environmental assessment of the potential construction-related and operational impacts of the proposed project facilities.
2. Development of mitigation measures necessary to reduce the level of environmental impacts of proposed facilities to less than significant levels.
3. Prepare, apply and coordinate for necessary regulatory agency permits.
4. Construct, manage and operate the facilities identified in this proposal.
5. Collaborate with the City throughout the conduct of the above roles.

Proposed Role for Other Private Party Participants

No private parties are included in this Public Agency Participation Proposal by the City of Pacific Grove.

Organizational Plan and Structure

Legal Organization

The two lead organizations are the City of Pacific Grove and the California American Water Company.

The City of Pacific Grove was incorporated in the state of California in 1889. The City of Pacific Grove is a charter city that operates under the Council-Manager form of government. Over 300 cities in California operate under this form of government, which is in use worldwide. Under the system, the City Council appoints a City Manager, City Attorney, and members of the City's boards and commissions.

The City Manager is the professional administrator for the City, serving as its "CEO" while advising the City Council. Responsibilities include operations of the City, administration, personnel relations, risk management, administration, preparation of the City budget, and implementation of the Council's policies.

California American Water's legal name is California-American Water Company. California American Water's corporate office and post office address is 1033 B Avenue, Suite 200 Coronado, California 92118.

California American Water is a California corporation organized under the laws of the State of California on December 7, 1965. California American Water is a Class A regulated water utility organized and operating under the laws of the State of California. California American Water provides water and wastewater service in various areas in the following California counties: Los Angeles, Monterey, Placer, Sacramento, San Diego, Sonoma, and Ventura.

Conclusion

The City of Pacific Grove has developed three projects within this Public Agency Participation Proposal that will each produce 100 to 125 AFY of highly sustainable and reliable non-potable, local water supplies. These projects will be developed and implemented individually or in conjunction with one another. Each is expandable beyond the identified minimal supply benefits. Each project will benefit California American Water by assisting in meeting the requirements of the State Water Board Cease and Desist Order for withdrawals from the Carmel River Aquifer, the Seaside Groundwater Basin Adjudication, and the California Water Conservation Act (Senate Bill SB X7-7 2009) by positively contributing to mandated water supply and demand reductions.

The following is a summary of the attributes of the City's proposals:

1. New non-potable water supplies will be locally developed to offset current uses of potable water. The offset produced by these proposed projects will reserve potable water resources for potable purposes.
2. Resulting new water supplies will be reliable and sustainable, as their source water is existing wastewater flows, and the dry and wet weather diversions from urban runoff. The treatment of locally available wastewaters eliminates the need for regional transmission and distribution facilities, reducing construction schedules and minimizing environmental effects.
3. Flexibility results from the ability to implement one or more of these proposed projects as options that can be operated in conjunction with one another.
4. The integration, treatment and reuse of urban runoff produce a net water quality improvement for the City, the Pacific Grove Area of Special Biological Significance, and the Monterey Bay National Marine Sanctuary.
5. These proposed projects will be implemented without any infringement, transfer or modification to existing water rights. This will reduce the potential for public controversy and speed project development.
6. The proposed projects will not trigger the National Environmental Policy Act (NEPA) compliance unless direct federal funding is obtained. California Environmental Quality Act (CEQA) -Plus has been determined to be sufficient for the analysis and mitigation of all potential environmental effects to less than significant levels.
7. The proposed projects rely heavily on the use of existing infrastructure and available capacities. Therefore, they require minimal construction of new facilities, minimizing construction disturbances.
8. No new discharges of any wastes will be produced. This will maintain protections of the environment and eliminate the need for WDR and NPDES permitting.
9. The energy consumption for all of the City of Pacific Grove's proposed projects will be less than the energy demand for an equal volume of desalinated water. Therefore, the proposed projects will all reduce the total and net greenhouse gas emissions that will otherwise be produced.
10. Recycling of existing dry and wet weather urban runoff will eliminate it from the discharge to the Pacific Grove ASBS and the Monterey Bay National Marine Sanctuary.
11. Production of a minimum of 100 to 125 AFY of new potable water will result by the development of non-potable treated storm and/or recycled municipal wastewater.
12. Use of proven technologies and techniques for the development of non-potable water supplies.
13. Planning, analysis, design and construction on a timeline that will not alter or slow the CPUC process for the MPWSP.

PARTICIPATION PROJECTS SETTING

The City of Pacific Grove is located on the tip of the Monterey Peninsula on the Central California Coast (figure 1). The City is bound on the north by Monterey Bay, on the east by the City of Monterey, on the south by the unincorporated Pebble Beach community and the Del Monte Forest, and on the west by the Pacific Ocean.

The City is approximately 2.9 square miles in area with a population of approximately 15,500 residents. The City has a mild climate with an average temperature of 57 degrees Fahrenheit and an average annual rainfall of 19 inches.

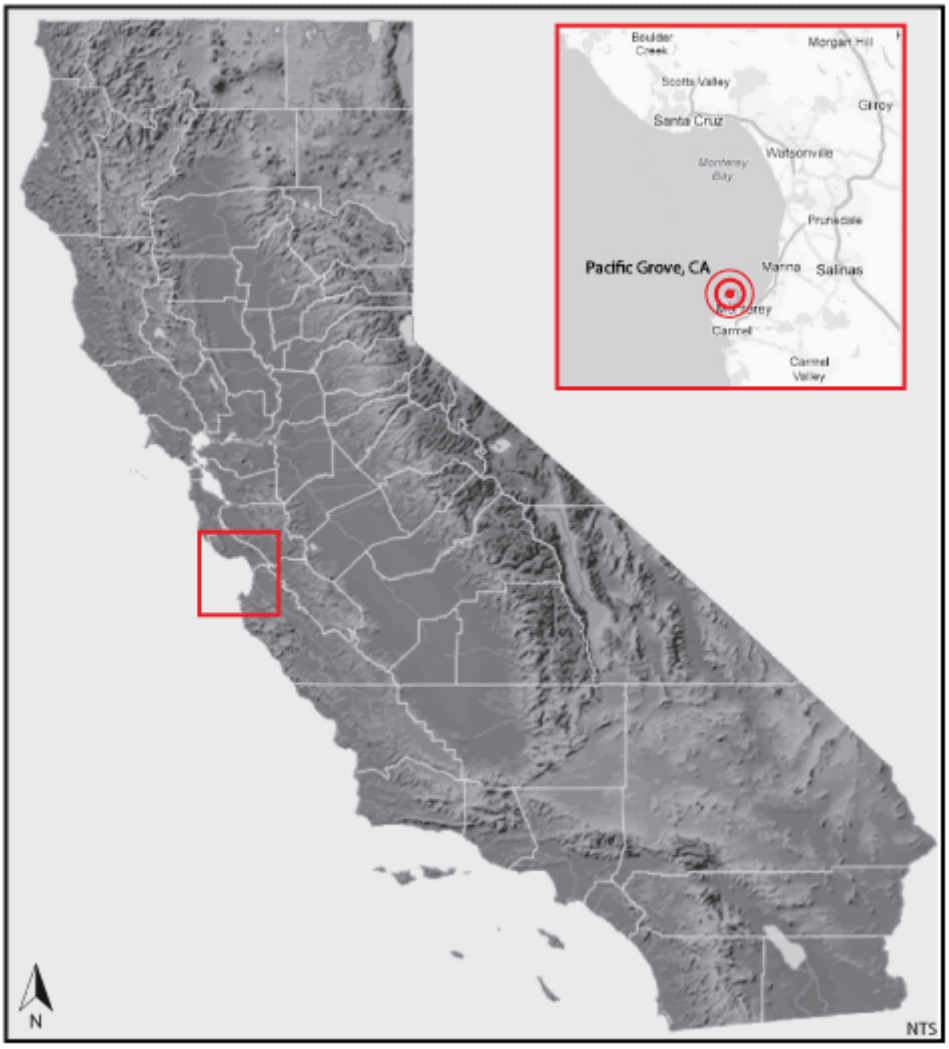

Figure 1 - Regional Location Map

Potable Water Supply and Use

California American Water provides potable water service to the City. The water supply is presently derived from wells in the Carmel River Aquifer and wells in the Seaside Groundwater Basin.

Approximately 100 to 125 AFY of potable water is used by the City for the following non-potable demands:

- Pacific Grove Municipal Golf Links Irrigation
- El Carmelo Cemetery Irrigation

Areas adjacent to the City also use potable water for non-potable demands, including:

- Irrigation of parks, schools, playfields throughout the City
- Other non-potable water demand that can be cost effectively converted to the use of recycled water according to existing state laws and requirements.

Wastewater Collection and Treatment Systems

The City owns and operates the wastewater collection system consisting of approximately 58 miles of pipelines, 900 manholes, and 7 pump stations. Two pump stations serving the City are owned by MRWPCA. The collected wastewater is conveyed for treatment to the MRWPCA RTP in the City of Marina by an interceptor pipeline that is located along the coast of the Cities of Monterey, Seaside, and Marina. MRWPCA's treated wastewater is recycled for reuse by agricultural irrigators through the Monterey County Water Resources Agency's Castroville Seawater Intrusion Project (CSIP).

Prior to construction of MRWPCA's RTP, City wastewater was treated at the Point Pinos Wastewater Treatment Plant (WWTP). The Point Pinos WWTP had a treatment capacity of 2 million gallons per day (mgd). Treated wastewater was discharged through an outfall to the Pacific Ocean. The Point Pinos WWTP was decommissioned in 1980; however, the City maintains ownership of the land and facilities. The City uses the site as a maintenance and storage facility for its public works field operations.

Storm Water

The City owns and operates a municipal separate storm sewer system (MS4). The City has over thirty storm water outfalls larger than ten inches in size that discharge to Monterey Bay and the Pacific Ocean. The State Water Resources Control Board (SWRCB) has designated 34 areas of water off the coast of California as ASBS. The waters off the coast of the City, generally from the Lighthouse to the Monterey/Pacific Grove city limits, and extending approximately 2,500 feet out to sea are designated as the Pacific Grove ASBS.

The City's existing storm water discharges to the Pacific Grove ASBS and to the Monterey Bay National Marine Sanctuary. ASBS are accorded special protection under

the Marine Managed Areas Improvement Act (Act), Public Resources Code §36600 et seq. Under the Act, ASBS are a subset of state water quality protection areas and, as such, "require special protection as determined by the [State Water Board]" pursuant to the Ocean Plan (Pub. Resources Code §36700(f)). In all state water quality protection areas, waste discharges must be prohibited or limited by special conditions, in accordance with state water quality law, including the Ocean Plan (Id. §36710(f)). On March 20, 2012, the State Water Resources Control Board (SWRCB) adopted the "General Exception and Special Protections for the California Ocean Plan Waste Discharge Prohibition for Storm Water and Nonpoint Source Discharges" into the ASBS.

The Special Protections prohibit dry weather flows into the ASBS, and mandate a number of requirements for continued discharge of wet weather flows. The "Special Protections" state, "Waste shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas." Therefore, the proposed diversion of dry weather, non-storm water from the ASBS will be considered the elimination of non-point waste discharge, and may be eligible for additional funding from the SRF program.

The City already captures significant volumes of dry weather storm system flows through its urban runoff diversion project for compliance with the Area of Special Biological Significance (ASBS) discharge prohibitions.

The City has obtained an Industrial Water Discharge Permit from the MRWPCA that allows the diversion of dry weather urban runoff from certain portions of the City storm drain system into the MRWPCA wastewater collection and treatment system. No rights to the diverted waters are included or implied as a part of the diversion permit.

The City has already installed two phases of a dry season flow diversion to convey dry season runoff for the outfalls from Lover's Point to First Street to the MRWPCA RTP. A third diversion project is expected to be complete in 2013 that will redirect runoff from an additional 66 acres of the watershed to the dry weather diversion system. The SWRCB has indicated in a number of recent actions that storm water reuse should become considered and actively pursued, as a potential water supply to serve California's future water needs.

The City's un-diverted dry and wet weather storm water flows do not support or maintain listed critical habitat or endangered species. Therefore, no regulatory prohibition for their use in the proposed projects is anticipated.

Irrigation Demand

Two potential large irrigation sites are considered as recycled water customers. The Pacific Grove Golf Links and El Carmelo Cemetery were selected due to their high irrigation requirements and proximity to source waters, eliminating the need for an extended recycled water distribution system. Table 1 presents the irrigation sites and the respective irrigation area requirements. Additionally, several local schools, playfields, and parks, as well as significant portions of the Presidio of Monterey, have been

identified as having significant irrigation demands that could also be converted to the use of recycled water. The Presidio of Monterey represents a significant additional demand for non-potable irrigation. The Presidio covers an area of approximately 400 acres (including the non-irrigated Huckleberry Hill Nature Preserve).

Table 1 - Irrigation Sites

Irrigation Site	Irrigation Area
	Acres
Pacific Grove Golf Course	79.6
El Carmelo Cemetery	11.4
Additional Irrigation Demands	9 to 34
SUB-TOTAL	100 to 125
Presidio of Monterey	Sufficient for irrigation of existing & planned landscapes

Based on a review of City's 2007 irrigation water usage, the Pacific Grove Golf Course and El Carmelo Cemetery used approximately 91 AF, corresponding to a unit water demand of approximately 1 AF/Acre. Due to the escalating cost of water, the golf links and cemetery have significantly reduced irrigation at the sites over the past five years. Site supervisors have indicated that additional water for irrigation will provide benefits to the site landscaping and golf play. The City has been actively implementing conservation best management practices and limited water use to the great extent feasible. However, water demand for outdoor irrigation is weather dependent and has considerable impacts on the aesthetics and conditions of these vital open space areas within Pacific Grove.

Table 2 presents the average monthly and annual evapotranspiration (ETo) rate as calculated from the local California Irrigation Management Information System (CIMIS) station #193, Pacific Grove. The ETo is used to calculate the irrigation requirement for turf and crops.

Table 2 - Average ETo Report

Value	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Eto, CIMIS Station 193, Pacific Grove	1.44	1.71	2.96	4.19	4.63	4.81	4.03	3.81	2.98	2.63	1.62	1.39	36.2
Precipitation, NOAA Monterey Station 045795	4.19	3.75	3.53	1.48	0.5	0.2	0.09	0.11	0.28	1.06	2.43	2.73	20.35

Irrigation requirements are calculated based upon the following equation:

Irrigation demand = (Evapotranspiration X Crop Coefficient)/Distribution Uniformity

Table 3 - Calculated Irrigation Demand

								Pacific Grove Golf Course	El Carmelo Cemetery	Pacific Grove Golf Course	El Carmelo Cemetery	Pacific Grove Golf Course	El Carmelo Cemetery	
	Eto	Precipitation	Kc	Plant Requirement (in)	DU	Irrigation Requirement (in)	Irrigation Requirement (ft)	Irrigation Requirement (AF)		Precipitation (AF)		Irrigation Demand (AF)		TOTAL (AF)
Jan	1.44	4.19	0.6	0.86	0.90	0.96	0.08	6.37	0.91	27.79	3.98	0.00	0.00	0.00
Feb	1.71	3.75	0.6	1.03	0.90	1.14	0.10	7.56	1.08	24.88	3.56	0.00	0.00	0.00
Mar	2.96	3.53	0.6	1.78	0.90	1.97	0.16	13.09	1.87	23.42	3.35	0.00	0.00	0.00
Apr	4.19	1.48	0.6	2.51	0.90	2.79	0.23	18.53	2.65	9.82	1.41	8.71	1.25	9.96
May	4.63	0.5	0.6	2.78	0.90	3.09	0.26	20.47	2.93	3.32	0.48	17.16	2.46	19.62
Jun	4.81	0.2	0.6	2.89	0.90	3.21	0.27	21.27	3.05	1.33	0.19	19.94	2.86	22.80
Jul	4.03	0.09	0.6	2.42	0.90	2.69	0.22	17.82	2.55	0.60	0.09	17.22	2.47	19.69
Aug	3.81	0.11	0.6	2.29	0.90	2.54	0.21	16.85	2.41	0.73	0.10	16.12	2.31	18.43
Sep	2.98	0.28	0.6	1.79	0.90	1.99	0.17	13.18	1.89	1.86	0.27	11.32	1.62	12.94
Oct	2.63	1.06	0.6	1.58	0.90	1.75	0.15	11.63	1.67	7.03	1.01	4.60	0.66	5.26
Nov	1.62	2.43	0.6	0.97	0.90	1.08	0.09	7.16	1.03	16.12	2.31	0.00	0.00	0.00
Dec	1.39	2.73	0.6	0.83	0.90	0.93	0.08	6.15	0.88	18.11	2.59	0.00	0.00	0.00
Total	36.2	20.35	0.6	21.72		24.13	2.01	160.08	22.93	134.99	19.33	95.08	13.62	108.69

For purposes of this proposal, an irrigation demand of 100 to 125 AFY will be used. Additional non-potable demands including street sweeping, truck fill for sewer flushing and construction, landscape irrigation, and toilet and urinal flushing are located throughout the City. Service of additional non-potable demands will decrease the unit cost of the proposed Projects. Street sweeping and truck fill operations occur daily throughout the City, consuming approximately 8 AFY of potable water. The Presidio of Monterey has additional non-potable water demands that may be met by the proposed Projects. The required coordination with the Presidio and the City of Monterey is already being initiated

Environmental Compliance

CEQA Compliance Plan

The CEQA Compliance Plan identifies the proposed approach to support the incorporation of one or more of the proposed water supply project proposals into the Commission's CEQA process for the MPWSP. Potential impacts of this proposed project are included in the appendices of this report.

The following steps provide an overview of the CEQA Compliance Plan that the City will implement.

1. Prepare a Detailed Description of the Water Supply Project

The first task under the CEQA Compliance Plan will be to prepare a detailed project description for the proposed water supply project. Per CEQA, the description of the project shall contain the following information but should not supply extensive detail beyond that needed for evaluation and review of the environmental impact.

a) The precise location and boundaries of the proposed project shall be shown on a detailed map, preferably topographic. The location of the project shall also appear on a regional map.

b) A statement of objectives sought by the proposed project.

c) A general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities.

The City anticipates meeting a significant amount of the above requirements with the contents from this Public Agency Participation Proposal.

2. Coordination Meeting with California American Water and Commission

The coordination meeting will provide an opportunity for the City of Pacific Grove' staff to meet with California American Water and Commission staff to: define the project, discuss the coordination with the Commission's CEQA process, identify potential environmental issues and surveys/studies that will be required, discuss permit requirements, establish a project schedule, and identify points of contact. The City anticipates discussing and resolving conflicts between the MPWSP and this proposal.

3. Conduct Technical Studies/Surveys

Based on the project description, information and guidance from the Coordination Meeting, and input received during the Commission Scoping Process, environmental studies/surveys will be initiated. Potential studies and surveys that may be required to assess the environmental effects of the proposed water supply projects include:

- Visual and Aesthetic Resource Impact Assessment
- Biological Survey
- Geotechnical Survey
- Cultural/Historical Survey
- Noise Study
- Traffic Study

The studies will include the specification of significance criteria, evaluation of the types and degree of impact and possible mitigation.

4. Prepare Project Proposal Public Agency Partnership Environmental Review

The City will prepare a Draft Public Agency Partnership Environmental Review (ER). The Draft ER will provide an evaluation of the environmental effects of the proposed water supply projects in a format agreed upon at the Coordination Meeting. The Draft ER will include:

- A description of the project including the location of the project;
- An identification of the environmental setting;
- An identification of the potential environmental effects,
- A detailed discussion of any significant effects,
- A discussion of the ways to mitigate the potentially adverse significant effects identified.

In addition, the Draft ER will likely include any additional information agreed to during the Coordination Meeting.

5. Support Commission's CEQA Process

The Commission has primary discretionary decision-making responsibility with respect to California American Water's proposed construction of and participation in the MPWSP and is the Lead Agency under CEQA for this project.

The City will support the Commission during the CEQA Process by providing information related to the proposed water supply project proposals, as needed, to support the preparation and circulation of the Draft EIR for the MPWSP. In addition, the City will support the Commission during the preparation of the Final EIR by providing information in response to any question or comments received on the Final EIR related to the proposed water supply project proposals.

Given the City's proposed roles in the completion of the additional small water projects set forth in this proposal, the City would normally be considered the Lead Agency. However, since these projects are closely related to and part of a broader plan to address the severe water shortages on the Monterey Peninsula, the City believes that an alternative approach worthy of consideration and consistent with the intent and purpose of CEQA, would be to conduct the review of the small water projects in a coordinated and consistent manner in one environmental review under CEQA, rather through separate piecemeal reviews.

Since the Commission and the City are both qualified to serve as Lead Agency with respect to different portions of such a consolidated environmental review, the City believes it would be appropriate for the two agencies to consider entering into a memorandum of understanding (MOU) providing for preparation of a joint environmental document as Co-Lead Agencies under CEQA. Such agreements are specifically provided for by CEQA Guidelines Section 15051(d). Moreover, the City understands that the Commission has often entered into similar MOUs with other state and federal agencies for cooperative preparation of environmental assessments of projects under both CEQA and NEPA. The City is therefore prepared to support the Commission through such an MOU in the preparation of a Draft EIR for the MPWSP that also includes consideration of the small water projects recommended in this proposal.

PROJECT 1: PACIFIC GROVE SATELLITE RECYCLED WATER TREATMENT

Summary: Provide treatment of Pacific Grove wastewater at a new local satellite recycled water treatment plant (SRWTP) at the former Point Pinos Wastewater Treatment Plant and deliver recycled water to irrigation sites in the City. Additional detail regarding specific project components is included in the Appendices of this report.

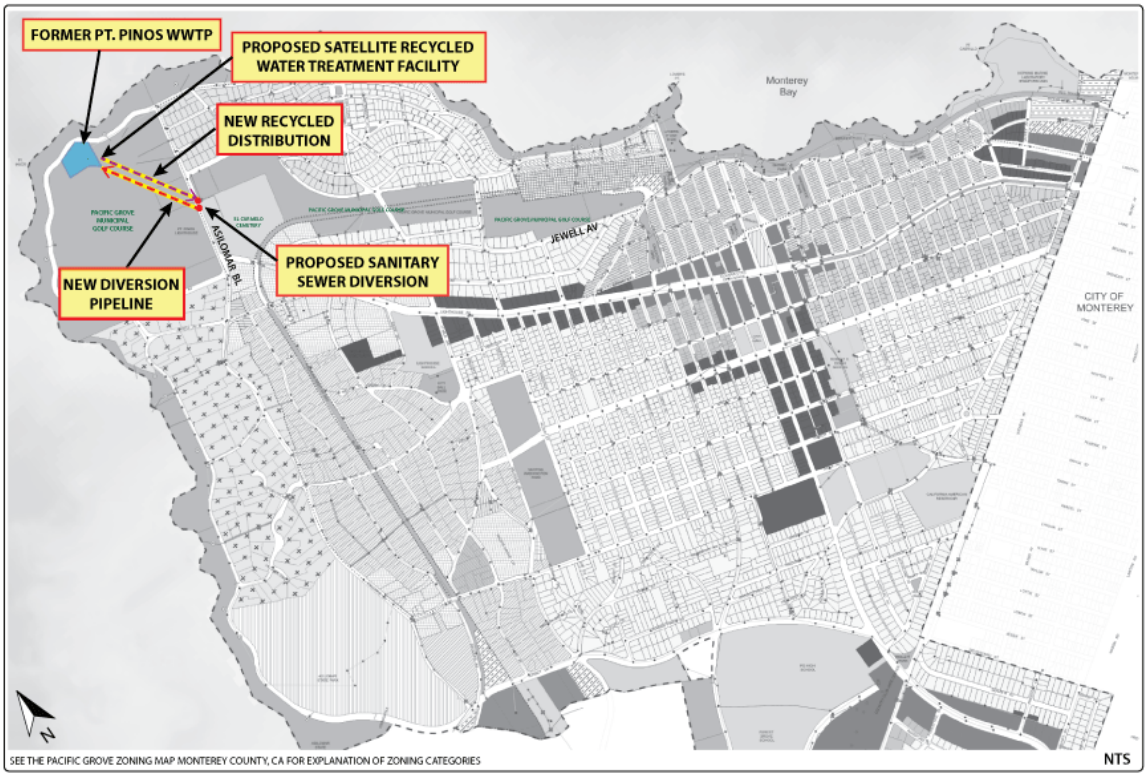

Figure 2 - Pacific Grove Satellite Recycled Water Treatment Plant (SRWTP)

Technical/Engineering Detail

Source Water: Capture sanitary sewer flows from the west side of Pacific Grove (Sanitary Sewer Basin 1) and divert them to a new satellite recycled water facility located at the former Point Pinos Wastewater Treatment Plant.

The City owns and operates the sewer collection system consisting of approximately 58 miles of pipeline, 900 manholes, and seven pump stations. Two pump stations serving the City are owned by MRWPCA. The collected wastewater is conveyed for treatment to the MRWPCA treatment plant north of the City of Marina by an interceptor pipeline that is located along the coast of the Cities of Pacific Grove, Monterey, Seaside, and Marina.

Prior to connection to MRWPCA's RTP, wastewater was treated at the Point Pinos WWTP. The Point Pinos WWTP had a capacity of 2 million gallons per day (mgd). Treated wastewater was discharged through an outfall to the Pacific Ocean. The Point Pinos WWTP was decommissioned in 1980.

Source water quality to the SRWTP is expected to be that of typical municipal wastewater. Additional data to verify the raw wastewater quality will be collected prior to final design.

The wastewater to be recycled will be diverted from the collection system, owned by the City. The wastewater diversion will be capable of supplying a recycled water flow equal to the total irrigation demand, an average of 0.12 mgd and a peak daily flow of 0.30 mgd.

The former sewage diversion in Asilomar Drive will be reconstructed with a new controllable diversion valve. The diversion is located at Manhole 802 on Asilomar Drive between Lighthouse Avenue and Del Monte Boulevard. The diversion location is approximately 1,160 feet from the Point Pinos WWTP. Average sanitary sewer flows at this location are approximately 0.41 MGD (459 AFY). Flows at this location are sufficient to meet the City's peak irrigation demands without additional storage of recycled water.

Diversion of sanitary sewer flows from Manhole 802 to the Point Pinos WWTP will be accomplished by connecting the existing manhole to a new manhole adjacent to the golf links. A new 8-inch diversion pipeline will be constructed in the alignment of the former wastewater diversion pipeline to the Point Pinos WWTP. The new diversion pipeline will be constructed with pipe bursting technology. Valves will be installed to connect manholes to allow wet weather flows to remain in the Pacific Grove sewer system, while dry weather sanitary flows will be diverted to the SRWTP.

Treatment: The new SRWTP will be located at the former Point Pinos WWTP. The SRWTP will be sized to provide the peak demand of 0.30 mgd. During the winter, when there is little or no irrigation demand, the SRWTP will continue to operate at a reduced rate to maintain biomass performance.

The former Point Pinos WWTP is surrounded by mature vegetation and trees and is screened from visibility from the Golf Links, Oceanview Boulevard, and the Bay. To minimize environmental impacts such as odors, noise, vibration, and aesthetic impacts, the SRWTP will be enclosed in structures with adequate ventilation, air scrubbers, and architectural designs compatible with surrounding structures. The SRWTP will make use of the existing structures storage at the former Point Pinos WWTP for diurnal and operational storage if feasible. A footprint of approximately 18,000 square feet is needed for the treatment facilities.

The SRWTP will be designed to produce recycled water compliant with the California Code of Regulations (CCR) Title 22 requirements for unrestricted use. The following components are included:

- Fine screen headworks
- Membrane Bioreactor (MBR) treatment
- Ultraviolet (UV) disinfection
- Clearwell for diurnal storage.

Flow from the sewage collection system will be diverted and pumped from the sewage diversion station to the SRWTP and will be split into two separate treatment trains. Two trains are required for system redundancy. Figure 3 presents a process flow diagram of the SRWTP.

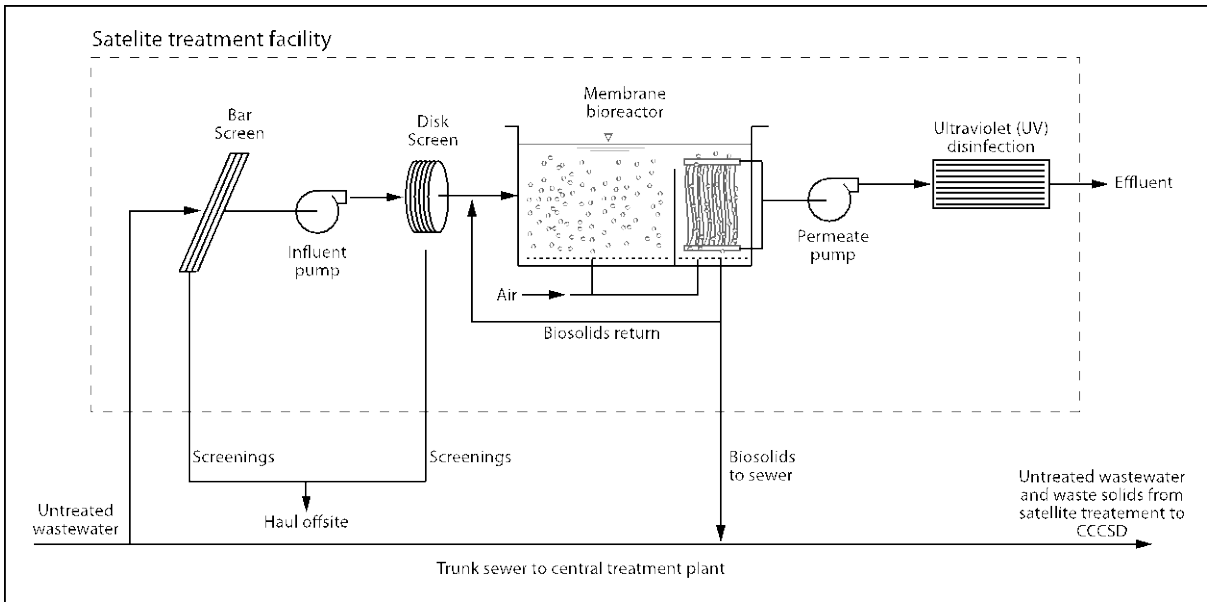

Figure 3 - Satellite Recycled Water Treatment Facility Process Flow Diagram

Sewage will be pumped to the fine screen headworks. Screened wastewater will be routed to the biological process in anoxic and aeration basins. Filtration membrane tanks will house the membranes. Permeate from the membranes will be conveyed to a disinfection system. After disinfection, the finished irrigation water will be pumped to the onsite storage tank and then to distribution for use.

The MBR treatment process has been selected for several reasons. The compact size, ability to expand, minimal odor generation, reliable operations, plant automation, effluent quality and treatment efficiency of MBR facilities make them particularly well suited for satellite treatment applications. MBRs combine biological treatment with a membrane system to provide organic and suspended solid removal, reducing space requirements and treatment costs. Pretreatment by a fine screen is required to prevent clogging of the membranes.

UV radiation is recommended as the preferred method for disinfection at the SRWTP to reduce risk of upset and simplify operations. UV radiation does not require chemical storage and forms no disinfection byproducts in comparison to ozone.

The SRWTP will produce the following wastes that will require disposal:

- Screenings
- Waste sludge

- Fine screen washwater
- Membrane Cleaning Solution.

Debris from the fine screens will be processed through a compactor to remove organics and minimize odors. The fine screens will be regularly collected and hauled off-site for disposal.

Waste sludge is the biomass produced from the biological tanks. Solids from the SRWTP will be returned to the sewer collection system for conveyance to the MRWPCA RTP. The solids will be conveyed to the existing Pump Station 15.5 located adjacent to the Point Pinos WWTP. Discharges to the wastewater collection system will be made at night to avoid peak impacts on the hydraulic capacity of the collection system.

Distribution: Treated effluent from the SRWTP will be pumped to recycled water demands. The following facilities are anticipated:

- 500 gallon per minute (gpm) pump station
- 1,300 linear feet (LF) of 8-inch force main
- Onsite retrofit of irrigation system.

The force main will be constructed along the same alignment as the diversion sewer pipeline through the golf links to Asilomar Avenue.

Trenchless construction technology will be used when possible to avoid traffic impacts and impacts to the golf links. Service turnouts will be provided to the Pacific Grove Golf Links, the El Carmelo Cemetery and other demand sites.

The irrigation system of the Municipal Golf Links has already been retrofit for recycled water use. Onsite retrofit of the El Carmelo Cemetery irrigation system is required to meet Department of Public Health requirements.

An optional element of this proposed Project will expand the SRWTP to recycle dry weather urban runoff flows currently diverted to MRWPCA via the City's Dry Weather Diversion. Dry weather flows will be pumped back the SRWTP for recycling and reuse.

Another optional element of this proposed Project will deliver excess recycled water produced at the SRWTP to CAWD/PBCSD via a new10,000 LF12-inch pipeline. Recycled water will meet demands along the pipeline route and be stored in the Forest Lake Reservoir for use in the CAWD/PBCSD system.

Water, Property & Rights of Way

The proposed project does not require the acquisition, transfer, or modification of any new or existing water rights.

Wastewater that will be diverted from the sewer to the proposed new satellite reclamation plant at Point Pinos will be from residences in the City of Pacific Grove. While the MRWPCA has agreements in place for the use of that water at the RTP, ongoing coordination between the City and MRWPCA representatives has identified a willingness to collaborate on the making that sewage available to the proposed project. The reclaimed water that will be produced at Point Pinos will become a new water supply to California American Water.

The potential expansion of this project proposal will involve the diversion of dry weather storm drain flows into the satellite reclamation plant and does not have any associated water rights issues.

Permitting

The following regulatory permits have been identified as required for the proposed project:

1. Coastal Development Permit (CDP): may be required because of the “change in the intensity of use of water” that will occur as a result of the project. “Development" as defined within the Coastal Act means, on land, in or under water, the placement or erection of any solid material or structure. Further "structure" includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line. Therefore, it is anticipated that a CDP will be required for the construction of the wastewater pipeline diversion and the reclaimed water pipeline extension, and upgrades to the former Point Pinos WWTP.

2. CEQA Document Adoption & Filing of a Notice of Determination (NOD): The Commission, as the lead agency for the MPWSP will be required to adopt the project EIR and to file a NOD with the State of California Office of Planning and Research (OPR).

3. Regional Water Quality Control Board and the State Department of Public Health: An Engineering Report will be required to be prepared by the recycled water purveyor. The Engineering Report provides a description of the proposed uses of recycled water and conformance with Title 22 requirements. The Engineering Report will be approved by the Department of Public Health.

Consistency with State and Local Zoning and Land Use Policies

The proposed SRWTP Site will be located at the Former Pt. Pinos WWTP Site. This site has a land use designation of open space (O). Public facilities, to the degree that they are pertinent to and compatible with open land uses, are allowed with a use permit.

The proposed Project facilities are located within the Coastal Zone.

Estimated Cost

Estimated capital costs for the proposed project are approximately $2,383,000. Contingency costs are estimated as 30% of the capital cost. Engineering, Construction Management, Administrative costs are estimated to be 15% of the capital costs. Additional incremental costs for permitting and environmental compliance are estimated to be $25,000 each. Detailed tables of estimated capital costs are provided in the Appendices of this report.

Annual financing is estimated at 2% over 30 years.

Operations and maintenance costs will primarily be for operating labor, energy consumption, and cleaning chemicals. Annual energy use is estimated to be 5 kwH/1000 gallons for similar plants. Assuming an energy rate of $0.15/kwH, annual energy costs are approximately $66,984 Annual labor requirements are expected to be approximately 1000 hours per year at a rate of $100/hour, or $100,000 annually.

Additionally, the treatment plant will require replacement of membranes every 10 years due to normal deterioration. Membrane replacement is approximately $120,000 every ten years, or $12,000 per year. Costs for regulatory compliance monitoring are approximately $20,000 per year. Annual general housekeeping costs are approximately $20,000.

Total annual operations and maintenance costs, including electricity, chemicals, labor, general upkeep, membrane replacement, and regulatory requirements are estimated to be $218,985.

A summary of the total project costs and unit cost of recycled water produced is presented in Table 4.

Table 4 - Satellite Recycled Water Treatment Facility Unit Cost

Item	Cost	Units
Annualized Capital Cost (2% @ 30 years)	$161,301	$/year
Operations and Maintenance	$218,985	$/year
Required Irrigation Demand	125 to 150	AFY
Unit Cost of Irrigation Demand	$2,624 to $3,042	$/AF

Schedule

The following project milestones are anticipated for this proposed Project:

- Proposal For Public Participation — October 2012
- Detailed Project Description — November 2012
- Coordination Meeting — December 2012

- Secure Institutional Agreements — January 2013
- Preliminary Engineering Design (50%) — March 2013
- Final Technical Studies and Surveys — April 2013
- Environmental Review — May 2013
- Support the Commission's CEQA Process — November 2013
- Final Engineering Design — February 2014
- Construction Commencement — April 2014
- Construction End — May 2016

PROJECT 2: PACIFIC GROVE RECYCLED WATER

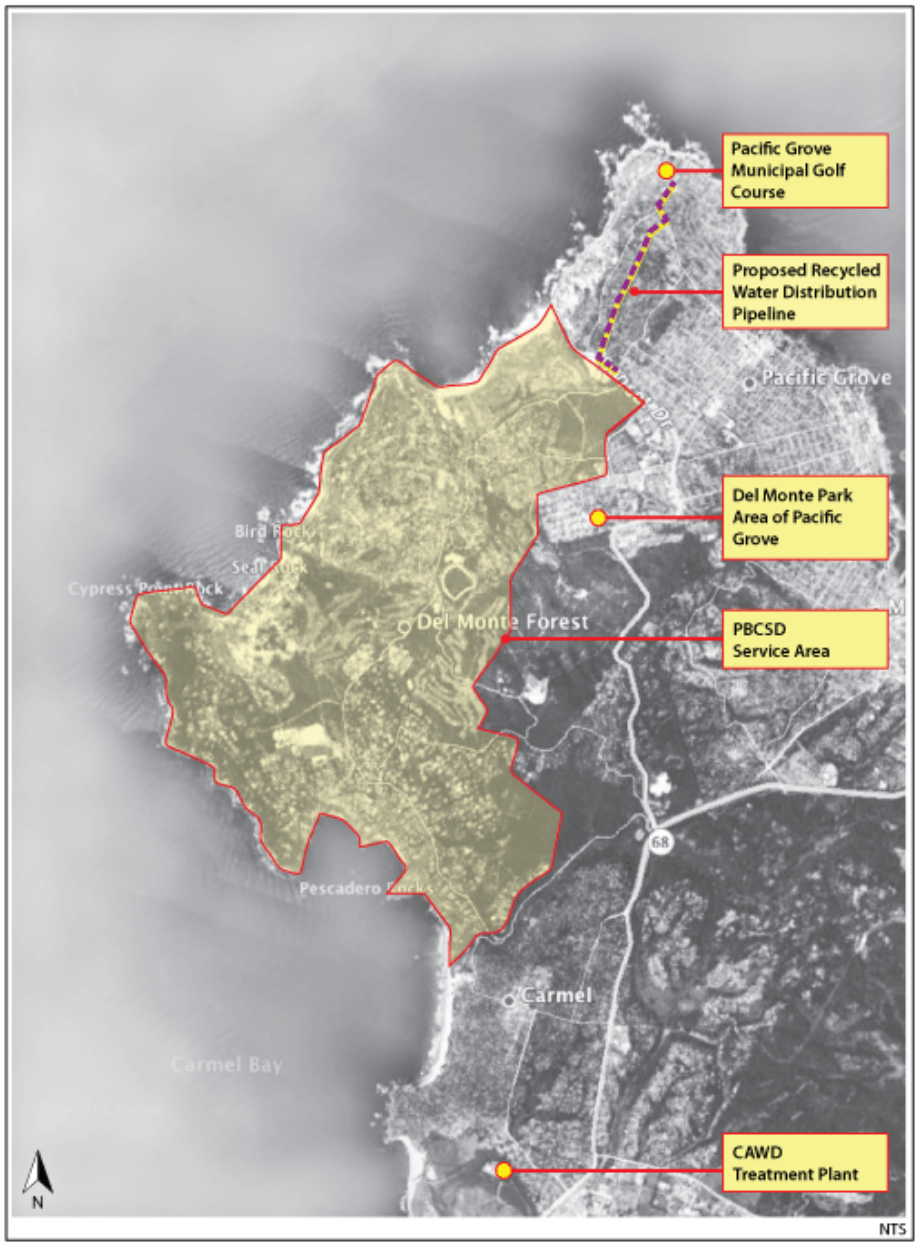

Figure 4 - Pacific Grove Recycled Water Project Facility Map

Source Water: Sanitary sewer flows are a reliable source of water supply. Average supplies of sanitary sewer flows are consistent throughout the year, with some peaks

during winter months due to rainfall related infiltration/inflow (I/I). Sanitary sewer flows from the Del Monte Park area of Pacific Grove are concentrated in a single pipeline running through Pebble Beach in Majella Road to 17-Mile Drive, and re-enters Pacific Grove through the Pacific Grove corporation yard.

Diversion: Diversion of sanitary sewer flows to CAWD will be accomplished by connecting Pacific Grove wastewater manholes to PBCSD manholes. Valves will connect manholes to allow for wet weather flows to remain in the Pacific Grove sewer system, while dry weather sanitary flows are diverted to CAWD. The proposed connection points are in Pebble Beach at Majella Road and at Ortega Road near the intersections with Old Congress Road.

Seasonal Storage: The volume of sanitary sewer flows from Pacific Grove to the PBCSD system is greater than the irrigation requirements for City facilities in all seasons. Therefore, no additional seasonal storage is required. Recycled water will be produced as demands for irrigation.

Produced Water: Recycled water from treated municipal wastewater is a reliable and sustainable source of water supply. CAWD produces tertiary recycled water suitable for unrestricted use as required by Title 22 of the CCR.

The CAWD/PBCSD Reclamation Project is a cooperative effort between CAWD, PBCSD, the Pebble Beach Company, and MPWMD to provide treated wastewater to irrigate golf courses and open space areas in Pebble Beach, to free up potable water previously used for irrigation. The CAWD secondary wastewater treatment plant was upgraded to a tertiary treatment plant in 1994. The tertiary treatment plant produces water that meets Title 22 standards and is a quality acceptable for human contact.

The CAWD wastewater treatment plant added Microfiltration/Reverse Osmosis Treatment (MF/RO) in 2009 to reduce the sodium content in the recycled water to reduce stress on the golf course greens and eliminate the need for flushing with potable water.

It is assumed that approximately 75% of the inflow to the treatment plant can be recovered for recycled water use. Approximately 18.5 Acre-feet per month or 220 AFY are expected to be produced at CAWD and available for use by Pacific Grove from diverted flows from the City.

Distribution: Treated effluent from CAWD will be returned through existing recycled water systems to a delivery point near the Spanish Bay Golf Course in Pebble Beach. The CAWD/PBSCD recycled water system consists of recycled water distribution pipelines, pump stations, and storage reservoirs. From this point Spanish Bay Golf Course, approximately 10,000 lineal feet of 12-inch diameter recycled water pipeline will be required to deliver the water to the City's golf links irrigation system. The proposed new recycled water pipeline alignment will begin at the intersection of 17-Mile Drive and Navajo Road and be constructed within the Southern Pacific Rail right-of-way to avoid road construction impacts. Recycled water turnouts will convey recycled water to the El Carmelo Cemetery the Municipal Golf Links and other irrigation demands along this pipeline.

The irrigation system of the Municipal Golf Links has already been retrofit for recycled water use. On-site retrofit of the El Carmelo Cemetery irrigation system is required to meet Department of Public Health requirements.

The expected amount of recycled water form CAWD is 18.5 acre-ft per month or 220 AFY. On-site retrofit of existing irrigation systems will also be required.

Water, Property, and Rights of Way

The proposed project does not require the acquisition, transfer, or modification of any new or existing water rights.

Wastewater that will be diverted from the Pacific Grove sewer system to PBCSD and CAWD will be from residences in the City. While the MRWPCA has agreements in place for the use of that water at the RTP, ongoing coordination between the City and MRWPCA representatives has identified a willingness to collaborate on making that sewage available to the proposed project. The reclaimed water that will be produced will require agreements between the City, CAWD and the PBCSD for the treatment and conveyance capacity in those systems.

The potential exists for the expansion of this project by the diversion of additional wastewater flows from more homes and or the diversion of dry weather storm drain flows into the wastewater stream.

Inclusion of dry weather storm drain flows into the project does not have any associated water rights issues.

The following additional Rights of Way will also be required for the proposed Project:

- Encroachment permits or easements for facilities in the public right of way outside of the City.

- Easement from Southern Pacific Railroad (for shortest alignment).

The City and California American Water have previously coordinated with CAWD and PBCSD regarding the agreements and rights necessary to be acquired for this project. It is anticipated that the required agreements and Rights-of-Way can be obtained in a timely manner.

Permitting

The following regulatory permits have been identified as required for the proposed project:

1. Coastal Development Permit (CDP): may be required because of the “change in the intensity of use of water” that will occur as a result of the project. “Development" as defined within the Coastal Act means, on land, in or under water, the placement or erection of any solid material or structure. Further "structure" includes, but is not limited to, any building, road, pipe, flume,

conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line. Therefore, it is anticipated that a CDP will be required for the construction of the wastewater pipeline diversion and the reclaimed water pipeline extension in the Coastal Zone.

2. CEQA Document Adoption & Filing of a Notice of Determination: The Commission, as the lead agency for the MPWSP will be required to adopt the project EIR and to file a NOD with the State of California Office of Planning and Research.

3. Regional Water Quality Control Board and the State Department of Public Health. Amendment to the existing recycled water permit.

4. Easement for the construction of pipelines within roadways throughout the PBCSD.

Consistency with State and Local Zoning and Land Use Policies

The proposed project is consistent with the existing state and local zoning and land use policies. The only new facilities required by the project are pipelines in existing streets.

Projected Costs

Projected capital costs for the proposed project are approximately $2,223,300. Contingency costs are estimated as 30% of the capital cost. Engineering, Construction Management, Administrative costs are estimated to be 15% of the capital costs. Incremental additional costs for permitting and environmental compliance are estimated to be $50,000 each. Detailed tables of estimated capital costs are provided in the Appendices of this report.

Annual financing is estimated at 2% over 30 years.

Operations and maintenance costs will primarily be for operating labor, energy consumption, and cleaning chemicals for the treatment of the wastewater and distribution of the recycled water. Energy costs are estimated to be approximately $85,000 per year based upon annual energy use at similar plants and pump stations. Annual labor requirements are expected to be approximately 250 hours per year at a rate of $100/hour, or $25,000 annually.

A summary of the total project costs and unit cost of recycled water produced is presented in Table 5.

Table 5 - Pacific Grove Recycled Water Project Estimated Unit Cost

Item	Cost	Units
Annualized Capital Cost (2% @ 30 years)	$152,874	$/year
Operations and Maintenance	$110,200	$/year
Recycled Water Production (Available to Cal-Am)	220	AFY
Required Irrigation Demand	125	AFY
Unit Cost of Recycled Water Production	$1,196	$/AF
Unit Cost of Irrigation Demand	$2,105	$/AF

Schedule

The following project milestones are anticipated for this proposed Project:

- Proposal For Public Participation — October 2012
- Detailed Project Description — November 2012
- Coordination Meeting — December 2012
- Secure Institutional Agreements — January 2013
- Preliminary Engineering Design (50%) — March 2013
- Final Technical Studies and Surveys — April 2013
- Environmental Review — May 2013
- Support the Commission's CEQA Process — November 2013
- Final Engineering Design — February 2014
- Construction Commencement — April 2014
- Construction End — May 2016

PROJECT 3: PACIFIC GROVE STORM WATER RECYCLING

Summary: Divert storm water from the Congress Storm Drain Watershed to the David Avenue Reservoir site, provide treatment, and deliver recycled water to irrigation sites throughout the City.

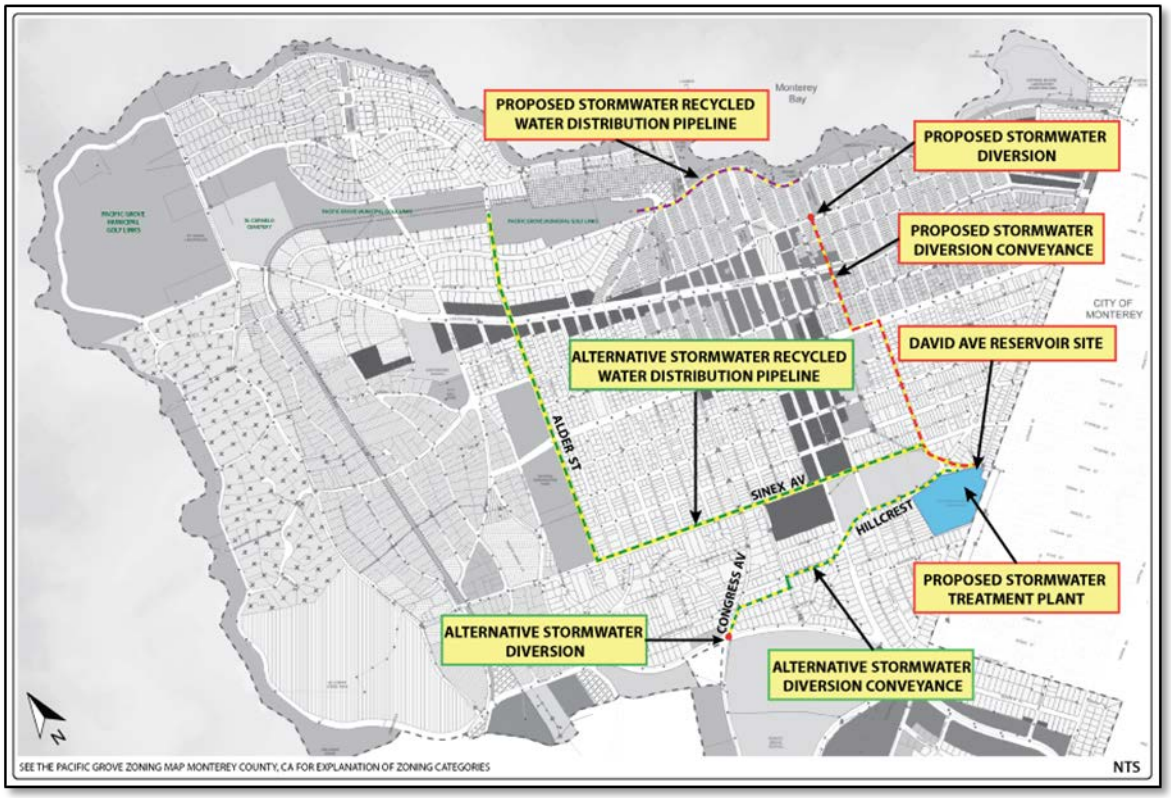

Figure 5 - Storm Water Recycling Facility Project

Source Water: The City of Pacific Grove Municipal Storm Drain system (MS4) is the storm water supply source for the project. The Congress and Greenwood Park storm drains can be intercepted at diversion points at the intersection of Central Avenue and 13th Street and near the Pacific Grove High School

Pacific Grove's Urban Watch Monitoring Program measures storm water quality at select outfalls belonging to the City's storm drain system. Water quality data is presented in the Appendices of the report. Treatment is required to meet standards for the following constituents:

- Ammonia
- Phosphate
- Turbidity
- Suspended Solids
- Trash

- Urea
- Detergents
- Color
- Heavy Metals
- Oil and Grease
- Bacteria
- Virus.

Blending with other water sources could be utilized to reduce levels of total dissolved solids, conductivity, and hardness.

A hydraulic structure will be installed to divert dry weather and storm runoff from the Congress Avenue or Greenwood Park storm drains to the proposed storage and treatment plant site at the California American Water David Avenue site. The diversion locations are proposed at the intersection of 13th Street and Central Avenue, at the rear of Greenwood Park, and at Congress Avenue crossing of the storm drain and upstream of the culvert discharge, at the rear of the Pacific Grove High School athletic field. The diversion structure will include a trash removal unit and a storm water pump station.

Pretreatment screening is required to remove trash and debris and to avoid clogging of pumps and treatment equipment. A continuous deflection separator (CDS) has been used successfully on other runoff projects for this purpose. The trash and debris will be collected in a hopper and periodically conveyed to a landfill for disposal.

From the diversion structure and pump station, approximately 4,000 LF of 8-inch force main. The 8-inch force main will be constructed on the following alignment:

- South of 13th Street
- East on Pine Avenue
- South of Carmel Avenue into David Avenue site.

Trenchless technology will be used when possible to minimize traffic disruptions.

Alternatively, a storm water diversion from the Congress Street storm drain may be used as the source water or as additional source of supply for the project. The Congress Street storm drain will be diverted near Pacific Grove High School. A pump station will be required to convey flows from Congress Street storm drain to the David Avenue site. This alternative will require approximately 6,100 linear feet of 10-inch pipeline. The force main will be constructed on the following alignment:

- North on Congress Avenue
- East in Marino Pine Road, Hillcrest Avenue and Carmel Avenue in to David Avenue site.

Storage: A 15 million gallon (325-feet diameter, 24-feet high) concrete reservoir will be constructed at the David Avenue property for run off storage. The reservoir will be

constructed with pre-stressed concreted and will be covered with an earthen top deck and sloping berms. The structure will be designed to facilitate potential future use of the roof from recreational facilities. To prevent water quality degradation, two solar-powered reservoir-mixing devices will be installed for water circulation.

Alternatively, the use of an open surface water reservoir will be used to store the diverted water. An open reservoir will benefit the local community by the provision of a passive recreational facility.

Treatment: A treatment plant will be located adjacent to the storage reservoir and sized for a 150-gpm flow. The estimated footprint of the treatment facilities is 15,000 square-feet (0.3 acres). The following components are included for treatment at the David Avenue site:

- Constructed wetlands
- A submerged microfiltration (MF) unit, with a vacuum pump,
- UV facility,
- Disinfection system with onsite generation of sodium hypochlorite,
- 0.5 MG clearwell for diurnal storage.

Constructed wetlands are incorporated for the effective removal of heavy metals, periodic oil and grease, and phosphate.

Suspended solids and turbidity removal is accomplished by a MF unit. The MF will also remove some coliform. Waste backwash from the MF unit could be recycled to the wetlands or discharged to the sanitary sewer.

UV light radiation facility will provide runoff pathogen destruction, primary disinfection, and organics removal. Sodium hypochlorite will provide a chlorine residual in the recycled water.

Figure 6 presents a schematic of the diversion, treatment, storage, and recycled water distribution system. Figure 7 presents the proposed David Avenue Site facilities.

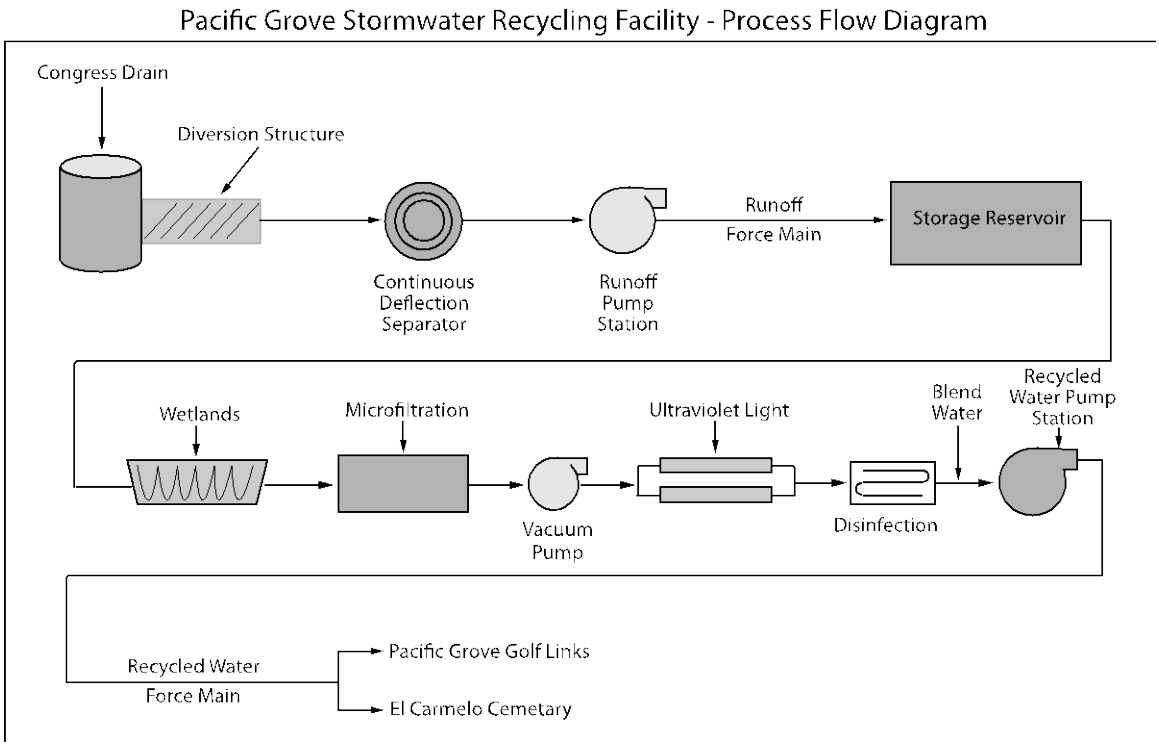

Figure 6 - Storm Water Recycling Project Facilities

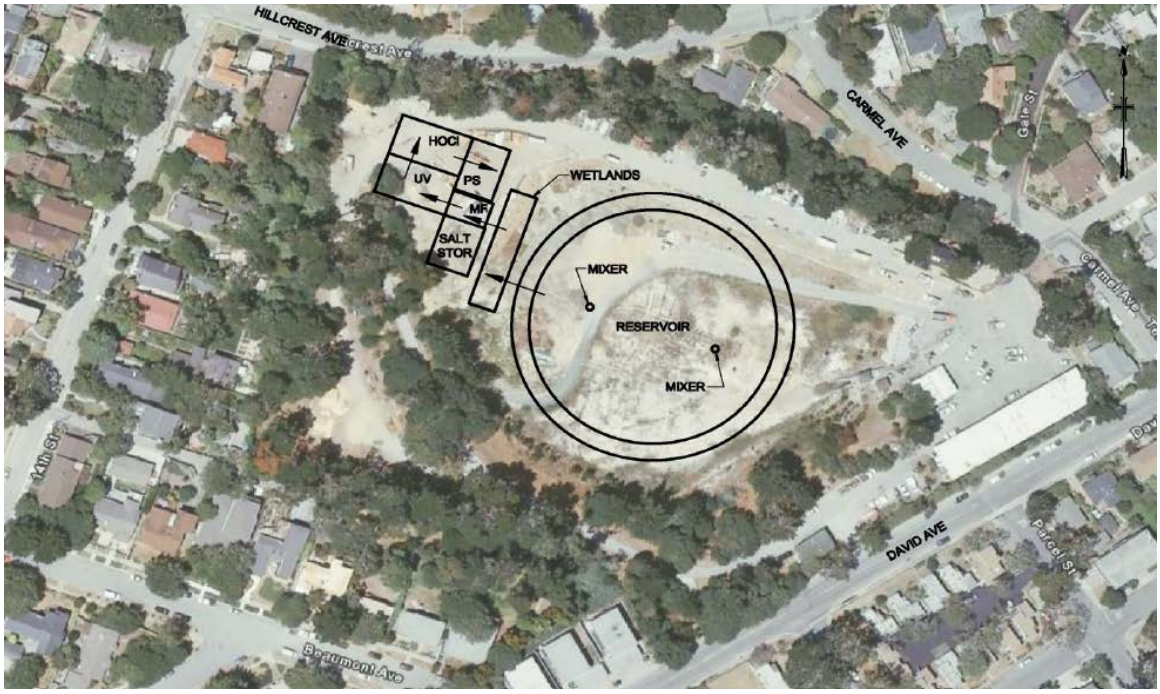

Figure 7 - David Avenue Site Plan

Distribution: The treated effluent from the storm water recycling facility will discharge to the existing storm drainage system that conveys storm water to the existing dry weather diversion system. The recycled water distribution system will be sized to convey peak flows to the reuse sites with a residual pressure between 40-50 psi. The following facilities are anticipated:

- 500 gpm pump station
- 8,800 LF of 8-inch force main
- On-site retrofit of irrigation system.

A new 500-gpm pump station will be constructed to replace the existing dry weather diversion system's two 200-gpm pumps at Fountain Avenue and Lovers Point Park that will convey recycled water to the golf links and the cemetery via a 2,000 LF 8-inch force main located within the existing Recreation Trail.

Trenchless construction technology will be used when possible to avoid traffic impacts.

Service turnouts will be provided to the Pacific Grove Golf Links, the El Carmelo Cemetery and other irrigation demands along the pipeline route. The irrigation system of the Municipal Golf Links has already been retrofit for recycled water use. On-site retrofit of the El Carmelo Cemetery irrigation system is required to meet Department of Public Health requirements.

Alternatively, recycled water will be pumped to recycled water customers directly from the David Avenue facilities. The following facilities are anticipated:

- 500 gpm pump station
- 8,800 LF of 8-inch force main
- On-site retrofit of irrigation system.

The force main would be constructed along the following alignment:

- From the David Avenue Site north in Carmel Avenue
- West in Sinex Avenue
- North in Alder Place, terminating at the golf links.

This alternative requires approximately 8,800 linear feet 8-inch pipeline.

Water, Property, and Rights of Way

The proposed project does not require the acquisition, transfer, or modification of any new or existing water rights.

The diversion of dry weather storm drain flows into the project proposal does not have any associated water rights issues.

Additionally, since the City's un-diverted dry and wet weather storm water flows do not support or maintain listed critical habitat or endangered species, there will be no regulatory prohibition for their use in the project proposal.

Permitting

The following regulatory permits have been identified as required for the proposed project:

1. Coastal Development Permit (CDP): may be required because of the "change in the intensity of use of water" that will occur as a result of the project. "Development" as defined within the Coastal Act means, on land, in or under water, the placement or erection of any solid material or structure. Further "structure" includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line. Therefore, it is anticipated that a CDP will be required for the construction of the wastewater pipeline diversion and the reclaimed water pipeline extension located in the Coastal Zone.

2. CEQA Document Adoption & Filing of a Notice of Determination: The Commission, as the lead agency for the MPWSP will be required to adopt the project EIR and to file a NOD with the State of California Office of Planning and Research.

3. Regional Water Quality Control Board and the State Department of Public Health. Amendment to the existing recycled water permit.

Consistency with State and Local Zoning and Land Use Policies

- Portions of the proposed Project facilities are located within the Coastal Zone.

Estimated Cost

Estimated capital costs for the proposed project are approximately $17,018,800. Contingency costs are estimated as 30% of the capital cost. Engineering, Construction Management, Administrative costs are estimated to be 15% of the capital costs. Incremental additional costs for permitting and environmental compliance are estimated to be $50,000 each. Detailed tables of estimated capital costs are provided in the Appendices of this report.

Annual financing is estimated at 2% over 30 years.

Operations and maintenance costs will primarily be for operating labor, energy consumption, and cleaning chemicals for the diversion and treatment of the storm water and distribution of the recycled water. Energy costs and maintenance are estimated to be approximately $147,000 per year based upon annual energy use at similar plants and pump stations. Annual labor requirements are expected to be approximately 100 hours per year at a rate of $62/hour, or $62,000 annually.

A summary of the total project costs and unit cost of recycled water produced is presented in Table 8.

Table 6 - Pacific Grove Storm Water Recycling Project Unit Cost

Item	Cost	Units
Annualized Capital Cost (2% @ 30 years)	$912,554	$/year
Operations and Maintenance	$209,600	$/year
Required Irrigation Demand	125	AFY
Unit Cost of Irrigation Demand	$8,977	$/AF

Schedule

The following project milestones are anticipated for this proposed Project:

- Proposal For Public Participation — October 2012
- Detailed Project Description — November 2012
- Coordination Meeting — December 2012
- Secure Institutional Agreements — January 2013
- Preliminary Engineering Design (50%) — March 2013
- Final Technical Studies and Surveys — April 2013
- Environmental Review — May 2013
- Support the Commission's CEQA Process — November 2013
- Final Engineering Design — February 2014
- Construction Commencement — April 2014
- Construction End — May 2016

THIS PAGE INTENTIONALLY LEFT BLANK

A: ADDITIONAL DETAILS - PACIFIC GROVE SATELLITE RECYCLED WATER TREATMENT FACILITY

Potential Environmental Impacts of Project 1 **Pacific Grove Satellite Recycled Water Treatment**		
Resource Categories	Potential Impacts	Significance
Aesthetic	Ground disturbing activities associated with the proposed satellite recycled water treatment facility, the proposed new diversion and recycled distribution pipelines, and the proposed sanitary sewer diversion could temporarily impact scenic vistas or temporarily degrade the existing visual character or quality of the project sites and their surroundings.	Less than significant with mitigation
Agriculture and Forestry Resources	The project will not have any adverse affects on agriculture and forestry resources. There are no agriculture or forestry resources within the pipeline rights-of-way or at the satellite facility site.	No impact
Air Quality	Ground disturbing activities associated with the proposed satellite recycled water treatment facility, the proposed new diversion and recycled distribution pipelines, and the proposed sanitary sewer diversion will generate dust during construction. To minimize air quality impacts during construction of the project, appropriate BMPs will be implemented.	Less than significant with mitigation
Biological Resources	While no special-status plant or wildlife species have the potential to occur within the project limits, sensitive species could be present in adjacent areas. To mitigate potential impacts to special-status plant or wildlife species a biological survey of the project area will be conducted and mitigation identified, if necessary.	Less than significant with mitigation
Cultural Resources	Historic resources are not anticipated to be found within the proposed satellite recycled water treatment facility, the proposed new diversion and recycled distribution pipelines, and the proposed sanitary sewer diversion rights-of-way. A cultural survey will be conducted prior to construction at the site to confirm this assumption. However, there is a remote possibility that human remains could be uncovered during construction activities. If encountered, such resources could be damaged or destroyed. Adherence to Section 7050.5(b) of the California Health and Safety Code will protect any previously unidentified buried human remains. In accordance with these codified requirements, in the event that human bone or bone of unknown origin is found during construction, all work	Less than significant with mitigation

Potential Environmental Impacts of Project 1 Pacific Grove Satellite Recycled Water Treatment		
Resource Categories	Potential Impacts	Significance
	is required to stop in the vicinity of the find and the County Coroner must be contacted immediately.	
Geology/Soils	Despite the presence of active and potentially active fault zones near Pacific Grove, no active fault crosses the project area. In addition, the project site is not within a fault zone as mapped under the Alquist-Priolo Earthquake Fault Zoning Act (www.quake.ca.gove/gmaps/ap/ap_maps.htm). Therefore, there will be no impact relating to fault rupture at the project site. Because the proposed storm water diversion conveyance, the proposed storm water treatment plant, and the proposed storm water recycled water distribution pipeline will be constructed within existing road rights-of-way no impacts to soils are anticipated.	No impact
Greenhouse Gas Emissions	Construction and increased energy use due to the proposed project will be expected to generate GHGs. However, the energy consumption for all of the City of Pacific Grove's Public Agency Participation Proposals will be less than the energy demand for an equal volume of desalinated water. Therefore, the project proposals will all reduce the total and net GHG emissions that will otherwise be produced.	Less than significant
Hazards & Hazardous Materials	A review of the DTSC Cortese List which lists documented hazardous materials release sites did not reveal any sites within the recycled water pipeline right-of-way. BMPs will be utilized to minimize worker exposure and impacts from typical hazardous materials found on construction sites including gasoline, diesel fuel, and paint, and other materials during construction.	Less than significant with mitigation
Hydrology/Water Quality	There is a potential for minor temporary water quality impacts during trenching and other soil disturbing activities during the construction of the project. In addition, construction materials, if not properly stored and protected, could contribute to water quality impacts. However, the City of Pacific Grove Storm Water Management and Discharge Control Ordinance (Section 9.30 of the Municipal Code) permits the City Public Works Department to identify construction BMPs. These construction BMPs require that every	Less than significant with mitigation

Potential Environmental Impacts of Project 1 **Pacific Grove Satellite Recycled Water Treatment**		
Resource Categories	Potential Impacts	Significance
	construction project have an erosion and sediment control plan to prevent soil and materials from leaving the site. Construction activities must be scheduled so that soil is not exposed for long periods, and key sediment control practices must be installed.	
Land Use/Planning	The proposed new diversion and recycled distribution pipelines and the proposed sanitary sewer diversion are located within existing road rights-of-way and will not physically divide an established community or conflict with any land use plans1 or policies. The proposed storm water treatment plant is located in an area with a land use designation of open space (O). Public facilities, to the degree that they are pertinent to and compatible with open land uses, are allowed with a use permit.	Less than significant with mitigation
Mineral Resources	The proposed project involves the installation of a proposed storm water diversion conveyance, the proposed storm water treatment plant, and the proposed storm water recycled water distribution pipeline and will not interfere with the availability of a known or locally important mineral resource. Therefore, impacts will be less than significant.	Less than significant
Noise	Construction activities associated with the proposed project will likely have short-term noise and ground borne vibration impacts on nearby residences and other sensitive receptors (i.e., Pacific Grove Ball Park and Pacific Grove Adult Education Center). Implementation of the standard BMP will reduce impacts to construction related noise and vibration to a less than significant level.	Less than significant
Population/Housing	The proposed project will create a new offset of 125 AFY of potable water for use by the city; however, growth will be regulated by the General Plan under these circumstances.	Less than significant
Public Services	The proposed project will be not increase the demand for public services (e.g., Fire and police protection, schools, and Parks); therefore, new or additional public facilities will not be required.	Less than significant

[1] As transportation infrastructure, 17-Mile Drive and Lighthouse Avenue do not carry a General Plan designation.

Potential Environmental Impacts of Project 1 **Pacific Grove Satellite Recycled Water Treatment**		
Resource Categories	Potential Impacts	Significance
Recreation	The proposed project will not increase the use of, or require the construction or expansion of, existing neighborhood and regional parks or other recreational facilities.	No impact
Transportation/Traffic	Transportation/Traffic impacts are temporary resulting from construction of facilities and will be mitigated through traffic plans and similar measures.	Less than significant with mitigation
Utilities/Service Systems	No significant impacts are anticipated on utilities and service systems due to construction and operation of the project.	Less than significant
Mandatory Findings of Significance	As discussed above, potential adverse impacts will be reduced to a less than significant with mitigation. Because all impacts will be reduced to a less than significant level with the appropriate mitigation measures, the project's contribution to cumulative impacts will be less than significant with mitigation incorporated.	Less than significant with mitigation

Assumed wastewater quality parameters are presented in Table 7.

Table 7 - Assumed Wastewater Quality Parameters

Parameter	Value
Biochemical Oxygen Demand (BOD)	250 mg/l
Total Suspended Solids (TSS)	250 mg/l
Total Kjeldahl Nitrogen (TKN)	40 mg/l
Minimum temperature	12 ºC
Maximum temperature	25 ºC

Title 22 Tertiary Treatment Requirements

Title 22 Disinfected Tertiary recycled water must meet following requirements:

- The filtered wastewater has been disinfected by either:

  (1) A chlorine disinfection process following filtration that provides a CT value (the product of total chlorine residual and modal contact time measured at the same point) of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or

  (2) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as the polio virus may be used for purposes of the demonstration.

- The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters using the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

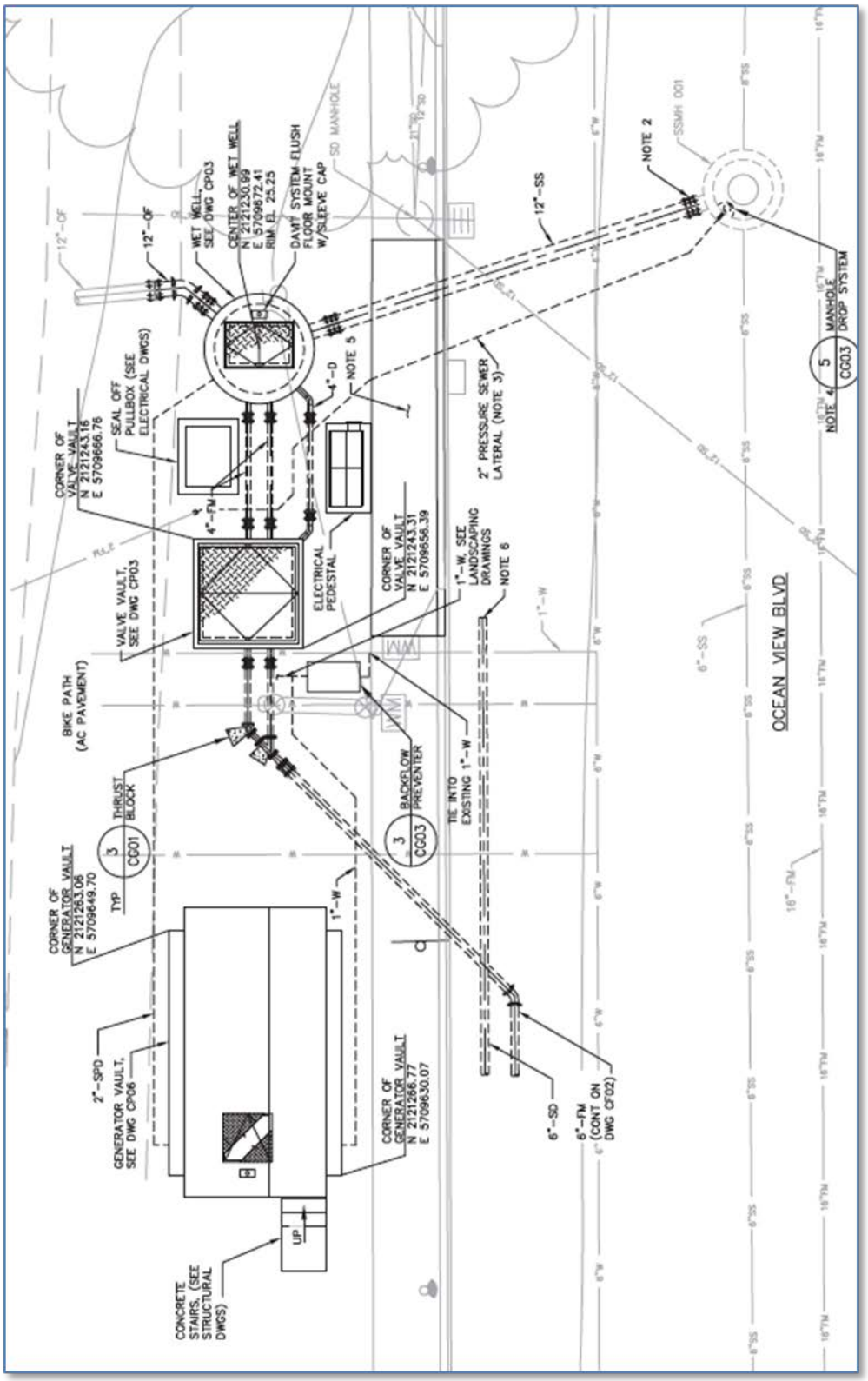

Figure 8 - Example Diversion Facility

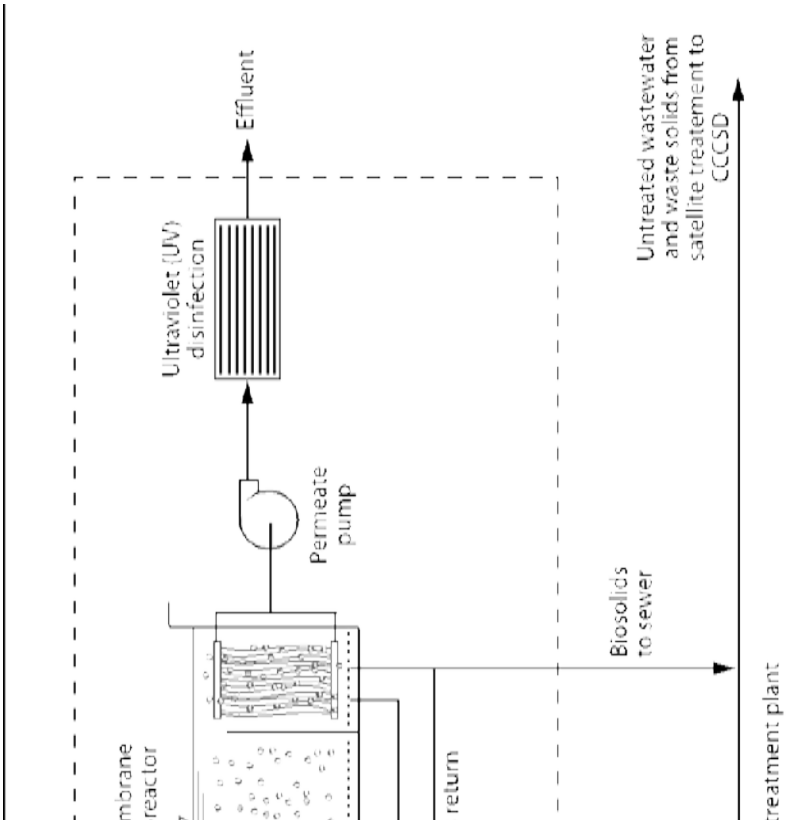
Effluent
Ultraviolet (UV) disinfection
Permeate pump
Biosolids to sewer
Untreated wastewater and waste solids from satellite treatement to CCCSD
return
membrane reactor
treatment plant

Figure 9 - Satellite Recycled Water Treatment

Table 8 - Satellite Recycled Water Treatment Facility Capital Cost

Item	Quantity	Unit	Unit Cost ($)	Cost
Sewer Diversion Structure	1	LS	$30,000.00	$30,000.00
Site Preparation	1	LS	$60,000.00	$60,000.00
Treatment Process	1	LS	$1,700,000.00	$1,700,000.00
Disinfection	1	LS	$600,000.00	$600,000.00
Pipelines				
8" Pipeline	1,300.00	LF	$110.00	$143,000.00
Return Solids	200	LF	$100.00	$20,000.00
Pump Station 15.5 Improvements	1	LS	$30,000.00	$30,000.00
SUBTOTAL				***$2,583,000.00***
Contingencies			30%	$774,900.00
TOTAL CONSTRUCTION COSTS				***$3,357,900.00***
Construction Management			5%	$167,895.00
Engineering			5%	$167,895.00
Legal/Admin			5%	$167,895.00
Permitting				$25,000.00
Environmental				$25,000.00
TOTAL PROJECT COSTS				***$3,911,585.00***
Annualized capital Cost				$174,651.97

B: ADDITIONAL DETAILS - PACIFIC GROVE RECYCLED WATER PROJECT

Potential Environmental Impacts of Project 2 Pacific Grove Recycled Water		
Resource Categories	**Potential Impacts**	**Significance**
Aesthetic	Ground disturbing activities associated with the recycled water pipeline could temporarily impact scenic vistas or temporarily degrade the existing visual character or quality of the project sites and their surroundings.	Less than significant with mitigation
Agriculture and Forestry Resources	The project will not have any adverse affects on agriculture and forestry resources. The recycled water pipeline will be located within the rights-of-way of 17-Mile Drive and Lighthouse Avenue.	No impact
Air Quality	Ground disturbing activities associated with the construction of the recycled water pipeline will generate dust during construction. To minimize air quality impacts during construction of the project, appropriate BMPs will be implemented.	Less than significant with mitigation
Biological Resources	While no special-status plant or wildlife species have the potential to occur within the project limits, sensitive species could be present in adjacent areas. To mitigate potential impacts to special-status plant or wildlife species a biological survey of the project area will be conducted and mitigation identified, if necessary.	Less than significant with mitigation
Cultural Resources	Historic resources are not anticipated to be found within the recycled water pipeline right-of-way. A cultural survey will be conducted prior to construction at the site to confirm this assumption. However, there is a remote possibility that human remains could be uncovered during construction activities. If encountered, such resources could be damaged or destroyed. Adherence to Section 7050.5(b) of the California Health and Safety Code will protect any previously unidentified buried human remains. In accordance with these codified requirements, in the event that human bone or bone of unknown origin is found during construction, all work is required to stop in the vicinity of the find and the County Coroner must be contacted immediately.	Less than significant with mitigation

Geology/Soils	Despite the presence of active and potentially active fault zones near Pacific Grove, no active fault crosses the project area. In addition, the project site is not within a fault zone as mapped under the Alquist-Priolo Earthquake Fault Zoning Act (www.quake.ca.gove/gmaps/ap/ap_maps.htm). Therefore, there will be no impact relating to fault rupture at the project site. Because the recycled water pipeline will be constructed within existing road rights-of-way, no impacts to soils are anticipated.	No impact
Greenhouse Gas Emissions	Construction and increased energy use due to the proposed project will be expected to generate GHGs. However, the energy consumption for all of the City of Pacific Grove's Public Agency Participation Proposals will be less than the energy demand for an equal volume of desalinated water. Therefore, the project proposals will all reduce the total and net GHG emissions that will otherwise be produced.	Less than significant
Hazards & Hazardous Materials	A review of the DTSC Cortese List which lists documented hazardous materials release sites did not reveal any sites within the recycled water pipeline right-of-way. BMPs will be utilized to minimize worker exposure and impacts from typical hazardous materials found on construction sites including gasoline, diesel fuel, and paint, and other materials during construction.	Less than significant with mitigation
Hydrology/Water Quality	There is a potential for minor temporary water quality impacts during trenching and other soil disturbing activities during the construction of the project. In addition, construction materials, if not properly stored and protected, could contribute to water quality impacts. However, the City of Pacific Grove Storm Water Management and Discharge Control Ordinance (Section 9.30 of the Municipal Code) permits the City Public Works Department to identify construction BMPs. These construction BMPs require that every construction project have an erosion and sediment control plan to prevent soil and materials from leaving the site. Construction activities must be scheduled so that soil is not exposed for long periods of time, and key sediment control practices must be installed.	Less than significant with mitigation
Land Use/Planning	The project is located within the 17-Mile Drive and Lighthouse Avenue rights-of-way and will not physically divide an established community or conflict with any land use plans2 or policies.	No Impact

[2] As transportation infrastructure, 17-Mile Drive and Lighthouse Avenue do not carry a General Plan designation.

Mineral Resources	The proposed project involves the installation of a recycled water pipeline and will not interfere with the availability of a known or locally important mineral resource. Therefore, impacts will be less than significant.	Less than significant
Noise	Construction activities associated with the proposed project will likely have short-term noise and ground borne vibration impacts on nearby residences and other sensitive receptors (i.e., Pacific Grove Ball Park and Pacific Grove Adult Education Center). Implementation of the standard BMP will reduce impacts to construction related noise and vibration to a less than significant level.	Less than significant
Population/Housing	The proposed project will create a new offset of 125 AFY of potable water for use by the city; however, growth will be regulated by the General Plan under these circumstances.	Less than significant
Public Services	The proposed project will be not increase the demand for public services (e.g., fire and police protection, schools, and parks); therefore, new or additional public facilities will not be required.	Less than significant
Recreation	The proposed project will not increase the use of, or require the construction or expansion of, existing neighborhood and regional parks or other recreational facilities.	No impact
Transportation/Traffic	Transportation/Traffic impacts are temporary resulting from construction of facilities and will be mitigated through traffic plans and similar measures.	Less than significant with mitigation
Utilities/Service Systems	No significant impacts are anticipated on utilities and service systems due to construction and operation of the project.	Less than significant
Mandatory Findings of Significance	As discussed above, potential adverse impacts will be reduced to a less than significant with mitigation. Because all impacts will be reduced to a less than significant level with the appropriate mitigation measures, the project's contribution to cumulative impacts will be less than significant with mitigation incorporated.	Less than significant with mitigation

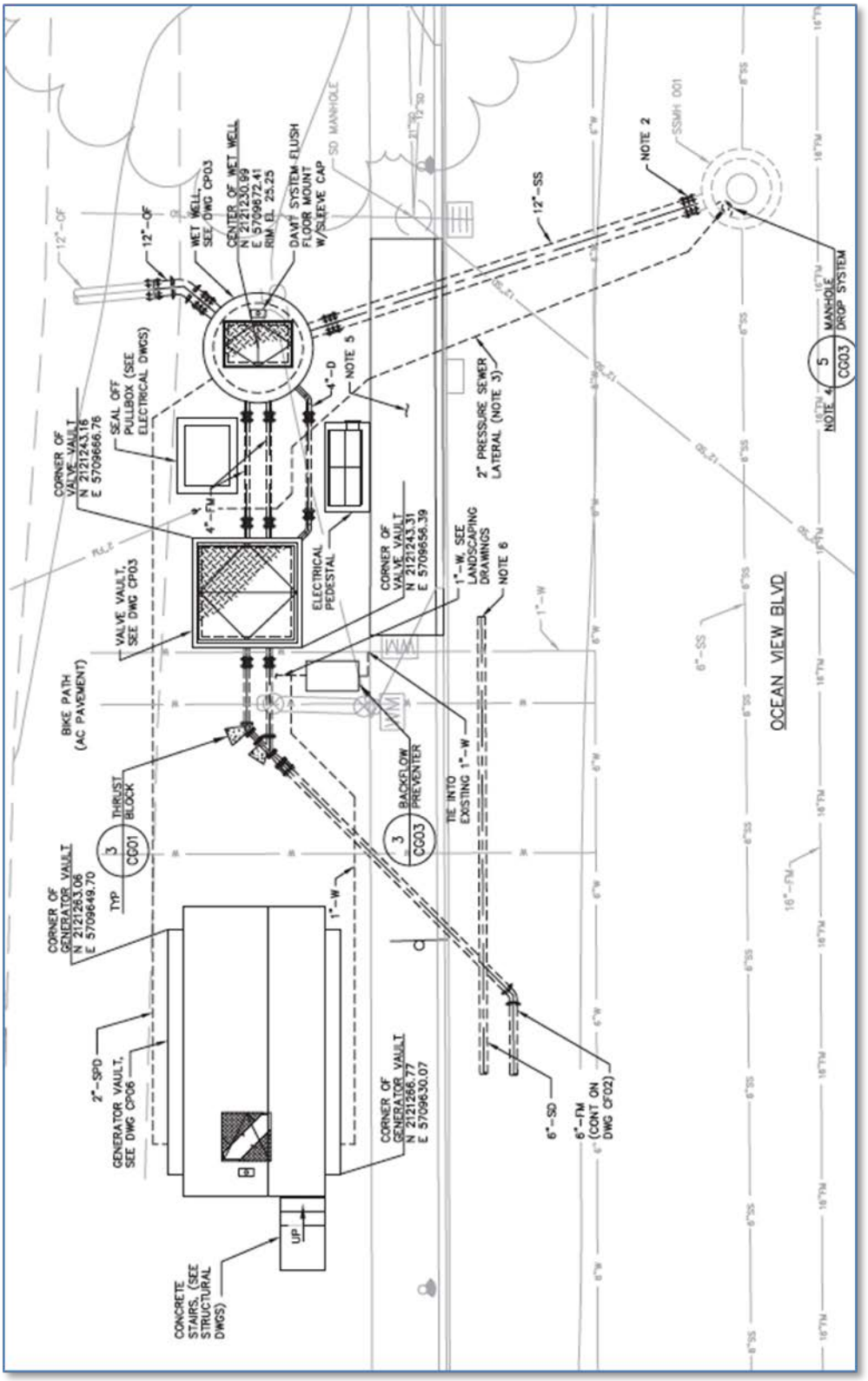

Figure 10 - Example Diversion Structure

Table 9 - Pacific Grove Recycled Water Project Capital Cost Estimate Detail

Item	Quantity	Unit	Unit Cost ($)	Cost
12-inch Recycled Water Pipeline	13,500	LF	$155.00	$2,092,500.00
Sewer Connection to PBCSD	2	EA	$20,400.00	$40,800.00
Onsite Irrigation System Retrofit	1	LS	$40,000.00	$40,000.00
Misc. Improvements	1	LS	$50,000.00	$50,000.00
SUBTOTAL				***$2,223,300.00***
Contingencies			30%	$666,990.00
TOTAL CONSTRUCTION COSTS				***$2,890,290.00***
Construction Management			5%	$144,514.50
Engineering			5%	$144,514.50
Legal/Admin			5%	$144,514.50
Permitting				$50,000.00
Environmental				$50,000.00
TOTAL PROJECT COSTS				***$3,423,833.50***
Annualized capital Cost				$152,873.90

THIS PAGE INTENTIONALLY LEFT BLANK

C: ADDITIONAL DETAILS - PACIFIC GROVE STORM WATER RECYCLING PROJECT

Potential Environmental Impacts of Project 3 **Pacific Grove Storm Water Recycling Facility**		
Resource Categories	Potential Impacts	Significance
Aesthetic	Construction activities associated with the proposed storm water diversion conveyance, the storm water treatment plant, and the proposed storm water recycled water distribution pipeline could temporarily impact scenic vistas or temporarily degrade the existing visual character or quality of the project sites and their surroundings.	Less than significant with mitigation
Agriculture and Forestry Resources	The project will not have any adverse affects on agriculture and forestry resources. There are no agriculture or forestry resources within the pipeline rights-of-way or at the treatment plant site.	No impact
Air Quality	Ground disturbing activities associated with the proposed storm water diversion conveyance, the proposed storm water treatment plant, and the proposed storm water recycled water distribution pipeline will generate dust during construction. To minimize air quality impacts during construction of the project, appropriate BMPs will be implemented.	Less than significant with mitigation
Biological Resources	While no special-status plant or wildlife species have the potential to occur within the project limits, sensitive species could be present in adjacent areas. To mitigate potential impacts to special-status plant or wildlife species a biological survey of the project area will be conducted and mitigation identified, if necessary.	Less than significant with mitigation
Cultural Resources	Historic resources are not anticipated to be found within the proposed storm water diversion conveyance, the proposed storm water treatment plant, and the proposed storm water recycled water distribution pipeline rights-of-way. A cultural survey will be conducted prior to construction at the site to confirm this assumption. However, there is a remote possibility that human remains could be uncovered during construction activities. If encountered, such resources	Less than significant with mitigation

Potential Environmental Impacts of Project 3 Pacific Grove Storm Water Recycling Facility		
Resource Categories	Potential Impacts	Significance
	could be damaged or destroyed. Adherence to Section 7050.5(b) of the California Health and Safety Code will protect any previously unidentified buried human remains. In accordance with these codified requirements, in the event that human bone or bone of unknown origin is found during construction, all work is required to stop in the vicinity of the find and the County Coroner must be contacted immediately.	
Geology/Soils	Despite the presence of active and potentially active fault zones near Pacific Grove, no active fault crosses the project area. In addition, the project site is not within a fault zone as mapped under the Alquist-Priolo Earthquake Fault Zoning Act (www.quake.ca.gove/gmaps/ap/ap_maps.htm). Therefore, there will be no impact relating to fault rupture at the project site. Because the proposed storm water diversion conveyance, the proposed storm water treatment plant, and the proposed storm water recycled water distribution pipeline will be constructed within existing road rights-of-way no impacts to soils are anticipated.	No impact
Greenhouse Gas Emissions	Construction and increased energy use due to the proposed project will be expected to generate GHGs. However, the energy consumption for all of the City of Pacific Grove's Public Agency Participation Proposals will be less than the energy demand for an equal volume of desalinated water. Therefore, the project proposals will all reduce the total and net GHG emissions that will otherwise be produced.	Less than significant
Hazards & Hazardous Materials	A review of the DTSC Cortese List which lists documented hazardous materials release sites did not reveal any sites within the recycled water pipeline right-of-way. BMPs will be utilized to minimize worker exposure and impacts from typical hazardous materials found on construction sites including gasoline, diesel fuel, and paint, and other materials during construction.	Less than significant with mitigation
Hydrology/Water Quality	There is a potential for minor temporary water quality impacts during trenching and other soil disturbing activities during the construction of the project. In addition, construction materials, if not properly stored	Less than significant with mitigation

Potential Environmental Impacts of Project 3 Pacific Grove Storm Water Recycling Facility		
Resource Categories	Potential Impacts	Significance
	and protected, could contribute to water quality impacts. However, the City of Pacific Grove Storm Water Management and Discharge Control Ordinance (Section 9.30 of the Municipal Code) permits the City Public Works Department to identify construction BMPs. These construction BMPs require that every construction project have an erosion and sediment control plan to prevent soil and materials from leaving the site. Construction activities must be scheduled so that soil is not exposed for long periods of time, and key sediment control practices must be installed.	
Land Use/Planning	The proposed storm water diversion conveyance and the proposed storm water recycled water distribution pipeline are located within existing road rights-of-way and will not physically divide an established community or conflict with any land use plans3 or policies. The proposed storm water treatment plant is located in an area with a land use designation of open space (O). Public facilities, to the degree that they are pertinent to and compatible with open land uses, are allowed with a use permit.	Less than significant with mitigation
Mineral Resources	The proposed project involves the installation of a proposed storm water diversion conveyance, the proposed storm water treatment plant, and the proposed storm water recycled water distribution pipeline and will not interfere with the availability of a known or locally important mineral resource. Therefore, impacts will be less than significant.	Less than significant
Noise	Construction activities associated with the proposed project will likely have short-term noise and ground borne vibration impacts on nearby residences and other sensitive receptors (i.e., Pacific Grove Ball Park and Pacific Grove Adult Education Center). Implementation of the standard BMP will reduce impacts to construction related noise and vibration to a less than significant level.	Less than significant
Population/Housing	The proposed project will create a new offset of 125 AFY of potable water for use by the city; however, growth will be regulated by the General Plan under	Less than significant

[3] As transportation infrastructure, 17-Mile Drive and Lighthouse Avenue do not carry a General Plan designation.

Potential Environmental Impacts of Project 3 Pacific Grove Storm Water Recycling Facility		
Resource Categories	Potential Impacts	Significance
	these circumstances.	
Public Services	The proposed project will be not increase the demand for public services (e.g., Fire and police protection, schools, and Parks); therefore, new or additional public facilities will not be required.	Less than significant
Recreation	The proposed project will not increase the use of, or require the construction or expansion of, existing neighborhood and regional parks or other recreational facilities.	No impact
Transportation/Traffic	Transportation/Traffic impacts are temporary resulting from construction of facilities and will be mitigated through traffic plans and similar measures.	Less than significant with mitigation
Utilities/Service Systems	No significant impacts are anticipated on utilities and service systems due to construction and operation of the project.	Less than significant
Mandatory Findings of Significance	As discussed above, potential adverse impacts will be reduced to a less than significant with mitigation. Because all impacts will be reduced to a less than significant level with the appropriate mitigation measures, the project's contribution to cumulative impacts will be less than significant with mitigation incorporated.	Less than significant with mitigation

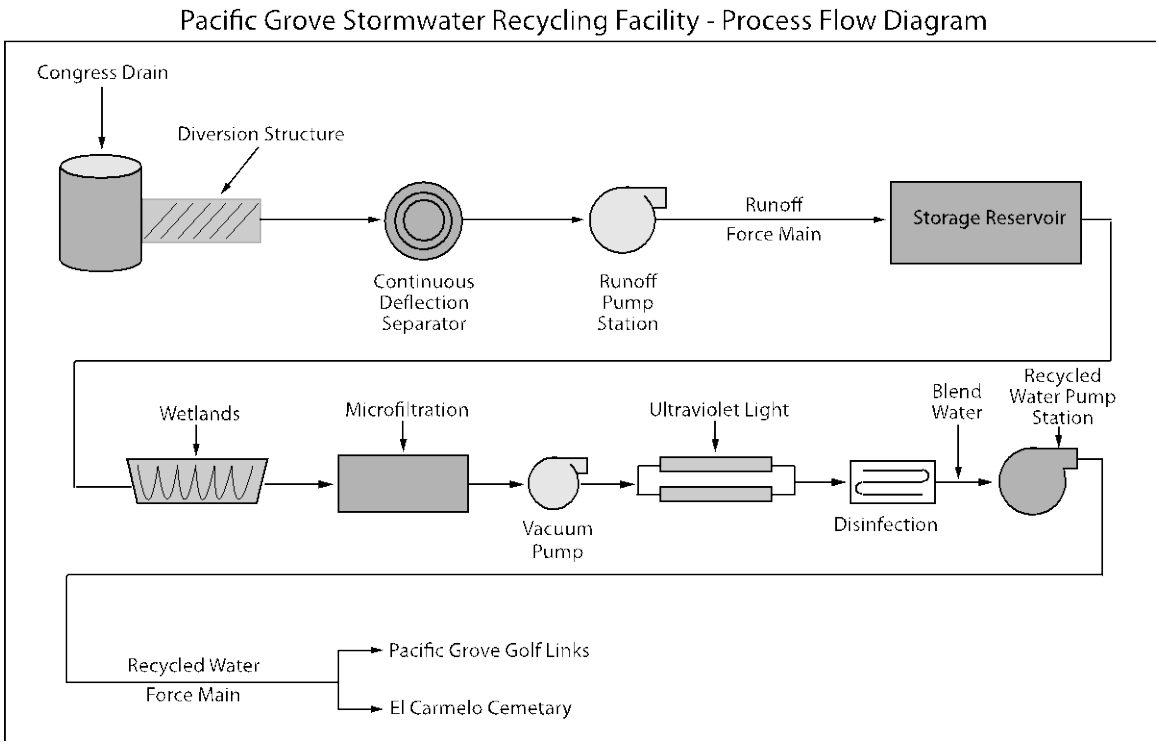

Figure 11 - Storm Water Recycling Project Facilities

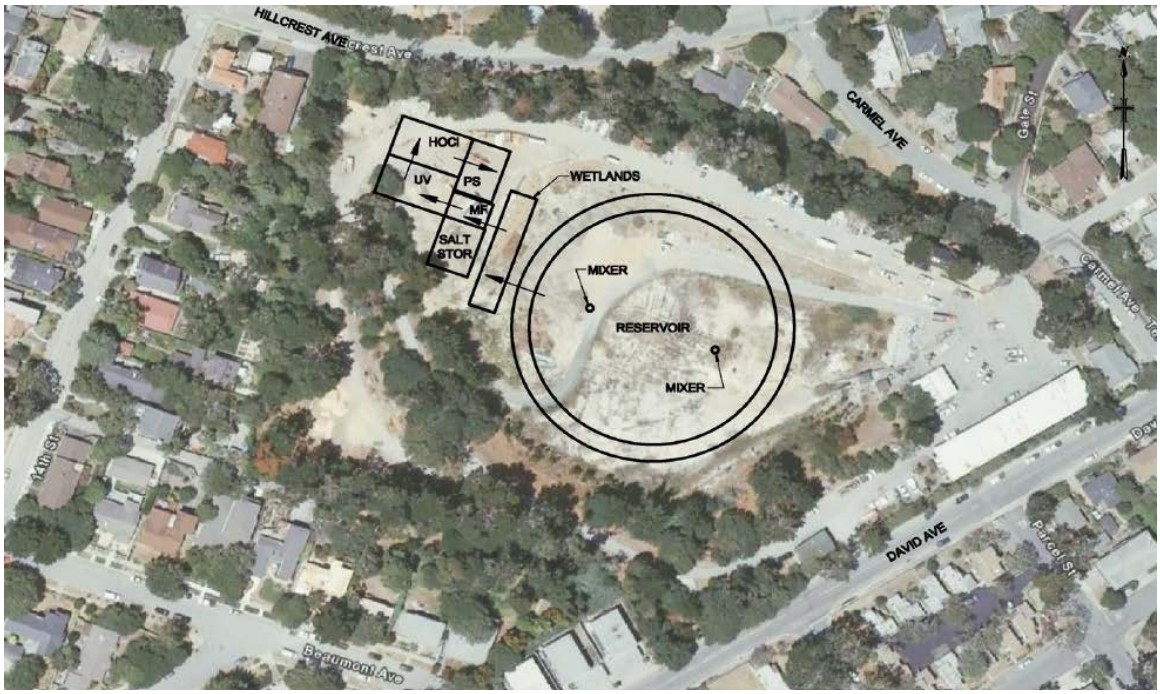

Figure 12 - David Avenue Site Plan

Table 10 - Storm Water Recycling Estimated Capital Cost

Item	Quantity	Unit	Unit Cost ($)	Cost
Runoff Diversion Structure (1,000 gpm)	1	LS	$400,000	$400,000
Runoff Collection System				
10" Pipeline	4,400	LF	$110.00	$484,000.00
Pumping Station (250 gpm)	1	LS	$170,000.00	$170,000.00
Runoff Storage				
Pre-Cast Concrete Reservoir (15 MG)	15,000,000	Gallons	$0.60	$9,000,000.00
Sitework	1	LS	$110,000.00	$110,000.00
Mixing System	1	LS	$110,000.00	$110,000.00
Treatment Plant (150 gpm) and Clearwell	1	LS	$2,750,000.00	$2,750,000.00
Distribution System				
Pump Station (500 gpm)	1	LS	$320,000.00	$320,000.00
8 Pipeline	2,000	LF	$110.00	$220,000.00
Onsite Improvements	1		$40,000.00	$40,000.00
SUBTOTAL				***$13,604,000.00***
Contingencies			30%	$4,081,200.00
TOTAL CONSTRUCTION COSTS				***$17,685,000.00***
Construction Management			5%	$884,260.00
Engineering			5%	$884,260.00
Legal/Admin			5%	$884,260.00
Permitting				$50,000.00
Environmental				$50,000.00
TOTAL PROJECT COSTS				***$20,437,980.00***
Annualized capital Cost				$912,554.00

PROPOSED PROJECT SCHEDULE