DRAFT

Supplemental Environmental Impact Report

for the

Proposed Modifications to the Pure Water Monterey Groundwater Replenishment Project

November 2019

Lead Agency:



In Partnership with: MONTEREY PENINSULA TER MANAGEMENT DISTRICT

SUMMARY OF THE SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

S.1 INTRODUCTION

Monterey One Water (M1W; formerly Monterey Regional Water Pollution Control Agency) prepared this Draft Supplemental Environmental Impact Report (Draft Supplemental EIR) to analyze and disclose the potentially significant environmental effects associated with the construction, operation, and maintenance of M1W's Proposed Modifications to expand the water supply yield of the approved Pure Water Monterey Groundwater Replenishment Project (PWM/GWR Project). The Proposed Modifications would result in an "Expanded PWM/GWR Project" as further described below. These modifications are proposed as a backup to California American Water (CalAm's) Monterey Peninsula Water Supply Project (MPWSP). This Draft Supplemental EIR is a supplement to the PWM/GWR Project Final Environmental Impact Report (PWM/GWR Project Final EIR), certified by M1W on October 8, 2015, with Addenda approved on June 20, 2016 and March 6, 2017 by the Monterey Peninsula Water Management District (MPWMD) and M1W on October 30, 2017 to address prior project changes. To submit comments on this Draft Supplemental EIR or if you have any questions, please contact:

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S.2 PROJECT OBJECTIVES

The primary objectives of the Proposed Modifications are to reduce discharges of secondary effluent to Monterey Bay and to replenish the Seaside Groundwater Basin with 2,250 AFY of additional purified recycled water to replace Cal-Am's use of existing water sources. To accomplish this primary objective, the Proposed Modifications would need to meet the following objectives:

- Be capable of commencing operation, or of being substantially complete, by the end of 2021 or as necessary to meet Cal-Am's replacement water needs;
- Be cost-effective such that the Proposed Modifications would be capable of supplying reasonably-priced water; and
- Be capable of complying with applicable water quality regulations intended to protect public health.

S.3 SUMMARY OF THE PROPOSED MODIFICATIONS

The Proposed Modifications would result in an Expanded PWM/GWR Project that would provide an additional 2,250 AFY of purified recycled water for injection into the Seaside Groundwater Basin and subsequent extraction to replace CalAm's existing potable water supplies. In order to provide an additional 2,250 AFY of treated water, the Proposed Modifications would require new and expanded facilities, including improvements at the existing Advanced Water Purification Facility to increase peak capacity; additional product water conveyance facilities; additional injection well facilities, including the relocation of previously approved facilities into an expanded injection well area; additional monitoring wells, including the relocation of a previously approved monitoring well; and new potable water facilities consisting of four new extraction wells, related pipelines, and treatment facilities.

The Expanded PWM/GWR Project would recycle and reuse water from the same sources as the approved PWM/GWR Project. The Proposed Modifications would not change the maximum amount of source waters to be conveyed to the Regional Treatment Plant as described and evaluated in the PWM/GWR Project Final EIR.

As under the approved PWM/GWR Project, the source water flows would be treated using the existing Regional Treatment Plant processes and would then be further treated and recycled by the Salinas Valley Reclamation Plant for agricultural irrigation or by the Advanced Water Purification Facility for urban irrigation or for groundwater replenishment in the Seaside Basin to replace urban potable demands.

The Pure Water Monterey Groundwater Replenishment Project would require modifications to existing facilities, briefly listed below:

- Modifications to the Advanced Water Purification Facility. The Expanded PWM/GWR Project would expand the capacity of the Advanced Water Purification Facility from 5.0 mgd to 7.6 mgd. Expanding the Advanced Water Purification Facility to produce up to 7.6 mgd will require installation of additional treatment and pumping equipment, chemical storage, pipelines and facility appurtenances within the 3.5-acre existing building area. The Advanced Water Purification Facility would be modified by installing additional equipment in the locations designated and shown in the current Advanced Water Purification Facility site plan drawings as shown on Figure 2-4 of this Draft Supplemental EIR. The additions to the Advanced Water Purification Facility include additional equipment, piping, and electrical/instrumentation that would be installed at the site within each sub-component. Items identified as optional equipment would provide additional system redundancy but would not be required to achieve the production rate of 7.6 mgd. For this Draft Supplemental EIR, all of the analyses assume that the optional components would be installed, but that they would operate only if the other like process equipment were not operating for an extended period of time.
- Modifications to Product Water Conveyance Pipeline. These modifications include the construction of a new product water conveyance pipeline extending from the existing Blackhorse Reservoir to the Expanded Injection Well Area. See Figure 2-5 for more detail. In total, the pipeline would be approximately 1 mile to the first injection well (at Well Site #5) and an additional 2,000 feet from Well Site #5 to Well Site #7. An additional 2,000 feet of pipeline for backflushing wells also be located generally along the same alignment as the product water pipeline between Well Site #5 and Well Site #7. The existing product water pump station at the M1W Regional Treatment Plant would need to be upgraded in order to efficiently convey water produced at the Advanced Water Purification Facility to the new portion of the Product Water Conveyance Pipeline.
- Modifications to Injection Well Facilities. The approved PWM/GWR Project included four well sites; however, only two of the four approved well sites have been constructed based on final design of the approved PWM/GWR Project. The two

remaining well sites would be relocated as part of the Proposed Modifications. In addition, the Proposed Modifications also include the construction of an additional well site. The Proposed Modifications include an increase in the amount of injection to achieve an additional 2,250 AFY of yield; 90% of the project yield will be injected into the confined Santa Margarita Aquifer of the Seaside Groundwater Basin using deep injection wells. Under the Proposed Modifications, 5,750 AFY on average would be injected into the Seaside Groundwater Basin (and a maximum of up to 5,950 AFY when the maximum drought reserve injections are occurring and less when the Castroville Seawater Intrusion Project area is using the drought reserve).

- Modifications to CalAm Facilities Extraction Wells. The Proposed Modifications include a total of four new extraction wells; two at the Seaside Middle School Property (Extraction Wells EW-1 and EW-2) and two near the Fitch Park Community (Extraction Wells EW-3 and EW-4), located southeast of the intersection of General Jim Moore Bouvard and Ardennes Circle, as shown on Figure 2-7 of this Draft Supplemental EIR. All extraction wells would be constructed with associated appurtenances, electrical works, pipeline tie-ins, access roads, and other site works including grading and fencing. Extracted raw water from all four new wells would be conveyed in new raw water pipelines within General Jim Moore Boulevard for treatment using new water treatment facilities, including disinfection, located at Extraction Well EW-3. The treatment at Extraction Well EW-3 would include a building measuring approximately 24-feet by 30-feet and 15-feet tall with raw and treated water pipelines and appurtenances, chemical delivery, storage, metering, feed/injection systems, SCADA/electrical instrumentation and controls, and safety and climate control equipment.
- Modifications to CalAm Facilities Conveyance Facilities. The Proposed Modifications would require construction of new segments of the CalAm Distribution System pipeline. It is anticipated that construction of the CalAm Distribution System Improvements would occur using open trench construction methods.

S.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table S-1 summarizes the impacts of the Proposed Modifications. A summary of the cumulative impacts and the Proposed Modifications' contribution to those impacts, as applicable, is presented in **Table S-2**. For each impact considered to be significant or potentially significant, the table summarizes the required mitigations. **Tables S-1** and **S-2** are intended to provide a summary of the Proposed Modifications impacts and mitigation measures that are described in detail in **Chapter 4, Environmental Impacts and Mitigation Measures**; please refer to that section for complete discussion.

S.5 ALTERNATIVES TO THE PROPOSED PROJECT

Environmentally Superior Alternative

Chapter 6, Alternatives to the Proposed Modifications presents a comparison of impacts between the Proposed Modifications, the No Project/ No Modifications Alternative, and the Elimination of Extraction Wells EW-3 and EW-4 Alternative. Of the alternatives considered, the No Project/ No Modifications Alternative would eliminate the adverse impacts of the Proposed Modifications but would not achieve the primary objectives of the Project Modifications. The

Elimination of Extraction Wells EW-3 and EW-4 Alternative would reduce the identified significant impacts of the Project Modifications, and in particular would eliminate the new significant and unavoidable noise impact associated with nighttime construction of Extraction Wells EW-3 and EW-4 and the new significant, but mitigatable noise impact associated with operation of Extraction Wells EW-3 and EW-4. The Elimination of Extraction Wells EW-3 and EW-4 potentially may meet the objectives of the Proposed Modifications; however, extraction operations may be less reliable because these wells were intended to provide redundancy to improve reliability. The Environmentally Superior Alternative would be the No Project/ No Modifications Alternative followed by the Elimination of Extraction Wells EW-3 and EW-4 Alternative.

S.6 AREAS OF CONTROVERSY

Based on the comments received during the Notice of Preparation scoping periods, the following key topics and areas of controversy have been identified:

- alternatives to the proposed project;
- recycled water for human use safety;
- relationship of the Proposed Modifications to the Monterey Peninsula Water Supply Project;
- source water adequacy;
- quality and quantities of purified recycled water;
- water supply, demand, and growth;
- location of injection well facilities;
- impacts to Seaside Groundwater basin; and,
- facility siting and impacts.

Table S-1

Summary of Project-Level Impacts of the Proposed Modifications and Mitigation Measures

	acility	peline		CalAm D Sys	istribution stem	=	
Impact Statement	Advanced Water Purification F	Product Water Conveyance Pi	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overa	Mitigation Measures
KEY TO ACRONYM	S: NI – No	Impact; L	S – Less tha	an Signific	ant; LSM -	- Less than S	Significant with Mitigation; SU – Significant and Unavoidable
Aesthetics (AE)							
AE-1: Construction Impacts on Scenic Views, Scenic Resources and Visual Quality of the Surrounding Areas. Construction of the Proposed Modifications would not result in substantial effects on scenic views, scenic resources, or the visual character or quality of public views of the areas surrounding the Proposed Modifications facilities.	NI	LS	LS	LS	LS	LS	None required.
AE-2: Construction Impacts due to Temporary Light and Glare. Construction of the Proposed Modifications could result in substantial, temporary sources of light or glare.	LS	NI	LS	LSM	LSM	LSM	Mitigation Measure AE-2: Minimize Construction Nighttime Lighting. (Ap
AE-3: Degradation of Visual Quality of Sites and Surrounding Areas. Proposed Modifications would not result in a substantial degradation of the visual character of the project area and its surroundings.	LS	NI	LS	LSM	NI	LSM	Mitigation Measure AE-3: Provide Aesthetic Screening for New Above-G Extraction Wells).
AE-4: Impacts due to Permanent Light and Glare during Operations. Operation of Proposed Modifications may result in a substantial new source of light or glare that would adversely affect day or nighttime views in the area.	LS	NI	LSM	LSM	NI	LSM	Mitigation Measure AE-4: Exterior Lighting Minimization. (Applies to the Wells).
Air Quality and Greenhouse Gas (AQ)							
AQ-1: Construction Criteria Pollutant Emissions. Construction of the Proposed Modifications would result in emissions of criteria pollutants, specifically PM10, that may result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard.	LSM*	LSM*	LSM*	LSM*	LSM*	LSM	Mitigation Measure AQ-1: Construction Fugitive Dust Control Plan. (App
AQ-2: Construction Exposure of Sensitive Receptors to Pollutant Emissions. Construction of the Proposed Modifications would not expose sensitive receptors to substantial pollutant concentrations.	LS	LS	LS	LS	LS	LS	None required.
AQ-3: Construction Odors. Construction of the Proposed Modifications would not result in other emissions (e.g., odors) that would adversely affect a substantial number of people.	LS	LS	LS	LS	LS	LS	None required.
AQ-4: Construction Greenhouse Gas Emissions. Construction of the Proposed Modifications would generate greenhouse gas emissions, either directly or indirectly, but would not cause the Project with the Proposed Modifications to make a considerable contribution to significant cumulative impacts due to greenhouse gas emissions and the related global climate change impacts.	LS: The considerabl gas	e constructior e contribution emissions a	n of the Propos n to significant nd the related	sed Modifica cumulative global clima	tions would n impacts due t te change im	ot make a o greenhouse pacts.	None required.
AQ-5: Operational Criteria Pollutant Emissions. Operation of the Project with the Proposed Modifications would not expose sensitive receptors to substantial pollutant concentrations.	LS	LS	LS	LS	LS	LS	None required.
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pplies to the CalAm Extraction Wells and Conveyance Pipelines).

Ground Structures. (Applies to the following project components: CalAm

following project components: Injection Well Facilities and CalAm Extraction

blies to All Proposed Modifications).

Table S-1 Summary of Project-Level Impacts of the Proposed Modifications and Mitigation Measures

	acility	peline		CalAm Di Sys	istribution stem	=	
Impact Statement	Advanced Water Purification F	Product Water Conveyance Pi	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overa	Mitigation Measures
KEY TO ACRONYM	IS: NI – No	Impact; LS	S – Less th	an Signific	ant; LSM -	– Less than	Significant with Mitigation; SU – Significant and Unavoidable
AQ-6: Operational Greenhouse Gas Emissions. Operation of the Proposed Modifications would generate GHG emissions, either directly or indirectly. These emissions would not cause the Project with the Proposed Modifications to exceed significance thresholds such that they would result in a considerable contribution to significant cumulative impacts of GHG emissions. In addition, the Proposed Modifications would not conflict with applicable plan, policy or regulation adopted for the purpose of reducing greenhouse gas emissions.	LS: The Pro significant	posed Modifi cumulative ir g	cations would npacts of gree lobal climate o	not make a enhouse gas change impa	considerable emissions ar cts.	contribution to nd the related	None required.
BIOIOGICAL Resources: FISheries (BF) BE-1: Habitat Modification Due to Construction of Diversion							
Facilities.	NI	NI	NI	NI	NI	NI	None required.
BF-2: Interference with Fish Migration Due to Project Operations. BF-3: Reduction in Fish Habitat or Fish Populations Due to Project Operations.	NI	NI	NI	NI	NI	BI	None required.
Biological Resources: Terrestrial (BT)							
BIOIOGICAI Resources: Terrestrial (BT) BT-1: Construction Impacts to Special-Status Species and Habitat. Construction of the Proposed Modifications may adversely affect, either directly or through habitat modification, special-status plant and wildlife species and their habitat within the Biological Study Area.	NI	LSM	LSM	NI	NI	LSM	 Mitigation Measure BT-1a: Implement Construction Best Management Preprint Preprint Present Pr
BT-2: Construction Impacts to Sensitive Habitats. Proposed Modifications construction may adversely affect sensitive habitats	NI	LS	LS	NI	NI	LS	None required.

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Practices. (Applies to all Proposed Modifications, except the Advanced Water Applies to all Proposed Modifications, except the Advanced Water Purification ontrols. (Applies to all Proposed Modifications, except the Advanced Water hilfornia Legless Lizard. (Applies to Product Water Conveyance Pipelines, tion Plan to Mitigate Impacts to Kellogg's Horkelia. (Applies to Product Water otanical Surveys within the remaining portion of the Biological Study Area. cation Facility) I-1a and BT-1b to Mitigate Impacts to the Monterey Ornate Shrew, Coast as Harvest Mouse. (Applies to Injection Well Facilities and Extraction Wells) rey Dusky-Footed Woodrat. (Applies to Injection Well Facilities and Extraction can Badger. (Applies to Injection Well Facilities and Extraction Wells) otected Avian Species, including, but not limited to, white-tailed kite and Advanced Water Purification Facility) ghting. (Applies to Injection Well Facilities and Extraction Wells)

Table S-1 Summary of Project-Level Impacts of the Proposed Modifications and Mitigation Measures

	acility peline		CalAm Di Sys	m Distribution System ⊒			
Impact Statement	Advanced Water Purification F	Product Water Conveyance Pi	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overa	Mitigation Measures
KEY TO ACRONYM	S: NI – No	Impact; LS	S – Less th	an Signific	ant; LSM -	- Less than	Significant with Mitigation; SU – Significant and Unavoidable
(including riparian, wetlands, and/or other sensitive natural communities) within the Biological Study Area							
BT-3: Construction Conflicts with Local Policies, Ordinances, or Approved Habitat Conservation Plan. Construction of the Proposed Modifications would potentially conflict with local policies or ordinances protecting biological resources. A potential conflict may occur if the Fort Ord HMP plant species on the former Fort Ord that do not require a take authorization from the Service or CDFW are impacted, and salvage is not conducted. There are no approved HCPs applicable to the Proposed Modifications.	NI	LSM	LSM	LSM	LSM	LSM	Mitigation Measure BT-4: Fort Ord HMP Plant Species Salvage. (Applie: Extraction Wells, and CalAm Conveyance Pipelines)
Cultural and Paleontological Resources (CR)							
CR-1: Construction Impacts on Archaeological Resources or Human Remains. Construction of the Proposed Modifications may result in a substantial adverse change in the significance to unknown archaeological resources during construction and/or encounter unknown human remains.	LSM	LSM	LSM	LSM	LSM	LSM	Mitigation Measure CR-2b: Discovery of Archaeological Resources or H Mitigation Measure CR-2c: Native American Notification (Applies to all F
CR-2: Construction Impacts on Unknown Paleontological Resources. Construction of the Proposed Modifications would not result in damage to or destruction of unknown paleontological resources.	LS	LS	LS	LS	LS	LS	None required.
Energy and Mineral Resources (EN)							
EN-1: Construction Impacts due to Temporary Energy Use. Proposed Project and Project Modifications construction could result in wasteful or inefficient use of energy if construction equipment is not maintained or if haul trips are not planned efficiently. The Proposed Project and Project Modifications would not conflict with existing energy standards.	LSM	LSM	LSM	LSM	LSM	LSM	Mitigation Measure EN-1: Construction Equipment Efficiency Plan. (App
EN-2: Operational Impacts due to Energy Use. Proposed Project operations would not result in the consumption of energy such that existing supplies would be substantially constrained nor would the Project result in the unnecessary, wasteful, or inefficient use of energy resources.	LS	LS	LS	LS	LS	LS	None required.
Geology, Soils, and Seismicity (GS)							
GS-1: Construction-Related Erosion or Loss of Topsoil. Construction of the Proposed Modifications would not result in substantial soil erosion or the loss of topsoil.	LS	LS	LS	LS	LS	LS	None required.
GS-2: Construction-Related Soil Collapse and Soil Constraints during Pipeline Trenching. Construction of some Proposed Modifications pipeline components would be located on geologic units or soils that are unstable, or that may become unstable during project construction, and potentially result in soil instability or collapse; however, this exposure would not result in a substantial risk to people or structures.	LS	LS	LS	LS	LS	LS	None required.

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es to Product Water Conveyance Pipeline, Expanded Injection Well Facilities,

luman Remains. (Applies to all Proposed Modifications components). Proposed Modifications)

lies to all Proposed Modification components).

Table S-1Summary of Project-Level Impacts of the Proposed Modifications and Mitigation Measures

	acility	beline		CalAm Di Sys	CalAm Distribution System		
Impact Statement	Advanced Water Purification F	Product Water Conveyance Pi	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overa	Mitigation Measures
KEY TO ACRONYM	S: NI – No	Impact; L	S – Less th	an Signific	ant; LSM -	- Less than a	Significant with Mitigation; SU – Significant and Unavoidable;
GS-3: Exposure to Seismic Ground Shaking and Liquefaction. The Proposed Modifications would be located in a seismically active area; however, operations of the Proposed Modifications would not expose people or structures to a substantial risk of loss, injury, or death involving exposure to seismic groundshaking and liquefaction.	LS	LS	LS	LS	LS	LS	None required.
GS-4: Hydro-Collapse of Soils from Well Injection. Operation of the Proposed Modifications would not create a substantial risk to life or property due to its facilities being located on a geologic unit or soils that are unstable, or that would become unstable as a result of hydro-collapse.	NI	NI	LS	NI	NI	LS	None required.
Hazards and Hazardous Matorials (HH)							
HH-1: Use and Disposal of Hazardous Materials During Construction. Construction of the Proposed Modifications would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction.	LS	LS	LS	LS	LS	LS	None required.
HH-2: Accidental Release of Hazardous Materials During Construction. Construction of the Proposed Modifications would not create a significant hazard due to upset and accident conditions involving the release of hazardous materials into the environment.	LS	LS	LS	LS	LS	LS	None required.
HH-3: Construction of Facilities on Known Hazardous Materials Site. Construction of the Proposed Modifications would occur on a known hazardous materials site pursuant to Government Code Sec. 65962.5; however, the Proposed Modifications would not result in a significant hazard to people or the environment.	LS	LS	LS	LS	LS	LS	None required.
HH-4: Use of Hazardous Materials During Construction Within 0.25- Miles of Schools. Construction of the Proposed Modifications would not result in nor create a significant hazard to the public or the environment due to handling of hazardous materials or hazardous emissions within 0.25 mile of a school during construction.	LS	LS	LS	LS	LS	LS	None required.
HH-5: Wildland Fire Hazard during Construction. Construction of the Proposed Modifications would not increase the risk of wildland fires in high fire hazard areas.	LS	LS	LS	LS	LS	LS	None required.
HH-6: Use and Disposal of Hazardous Materials During Operation. Operations of the Proposed Modifications would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LS	LS	LS	LS	LS	LS	None required.
HH-7: Operation of Facilities on Known Hazardous Materials Site. Proposed Modifications facilities would be located on a known hazardous materials site; however, the Proposed Modifications would not result in a significant hazard to people or the environment.	LS	LS	LS	LS	LS	LS	None required.

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Table S-1 Summary of Project-Level Impacts of the Proposed Modifications and Mitigation Measures

	acility	peline		CalAm Di Sys	istribution stem	=	
Impact Statement	Advanced Water Purification F	Product Water Conveyance Pi	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overa	Mitigation Measures
KEY TO ACRONYM	S: NI - NO	Impact; LS	S – Less the	an Signific	ant; LSM -	- Less than	Significant with Mitigation; SU – Significant and Unavoidable; E
GW-1: Construction Groundwater Depletion, Levels, and Recharge. Construction of the Proposed Modifications components would not deplete groundwater supplies nor interfere substantially with groundwater recharge such that there would be a net deficit in aquifer	NI NI	LS	LS	LS	LS	LS	None required.
GW-2: Construction Groundwater Quality. Construction of the Proposed Modifications would not violate any water quality standards or otherwise degrade water quality.	NI	LS	LS	LS	LS	LS	None required.
GW-3: Operational Groundwater Depletion and Levels: Salinas Valley Groundwater Basin. Operation of the Project with the Proposed Modifications would not deplete groundwater supplies in the Salinas Valley Groundwater Basin nor interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater levels in the Salinas Valley Groundwater Basin	NI	NI	NI	NI	NI	BI	None required.
GW-4: Operational Groundwater Depletion and Levels: Seaside Basin. Operation of the Project with the Proposed Modifications would not deplete groundwater supplies in the Seaside Basin nor interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater levels in the Seaside Basin.	LS	LS	LS	LS	LS	LS	None required.
GW-5: Operational Groundwater Quality: Salinas Valley. Operation of the Proposed Project would not degrade groundwater quality in the Salinas Valley.	NI	NI	NI	NI	NI	BI	None required.
GW-6: Operational Groundwater Quality: Seaside Basin. Operations of the Project with the Proposed Modifications would not degrade groundwater quality in the Seaside Basin, including due to injection of purified recycled water into the basin.	NI	NI	BI/LS*	LS	LS	BI/LS*	None required.
Hydrology and Water Quality: Surface Water	(HS)						
HS-1: Construction Impacts to Surface Water Quality due to Discharges. Construction of the Proposed Modifications involve well drilling and development. Dewatering of shallow groundwater during excavation would generate water requiring disposal. Compliance with existing regulatory requirements would ensure that water disposal during construction would not violate any water quality standards or waste discharge requirements or substantially degrade surface water quality, would not cause substantial erosion or siltation, and would not otherwise substantially degrade surface water quality.	LS	LS	LS	LS	LS	LS	None required.

Table S-1 Summary of Project-Level Impacts of the Proposed Modifications and Mitigation Measures

	Deline Tacility		CalAm Di Sys	istribution stem	E		
Impact Statement	Advanced Water Purification F	Product Water Conveyance Pi	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overa	Mitigation Measures
KEY TO ACRONYM	S: INI – INO	Impact; L	S – Less tha	an Signific	ant; LSM -	- Less than a	Significant with Mitigation; SU – Significant and Unavoidable
HS-2: Construction Impacts to Surface Water Quality due to Earthmoving and Drainage Alterations. Construction of the Proposed Modifications would not violate any water quality standards or waste discharge requirements, would not cause substantial erosion or siltation, and would not otherwise substantially degrade surface water quality including marine water quality, due to earthmoving, drainage alterations, and use of hazardous chemicals.	LS	LS	LS	LS	LS	LS	None required.
HS-3: Operational Impacts to Surface Water Quality due to Well Maintenance Discharges. Operation of the Proposed Modifications would not violate any water quality standards or waste discharge requirements, would not cause substantial erosion or siltation, and would not otherwise substantially degrade surface water quality due to well maintenance discharges.	NI	NI	LS	LS	NI	LS	None required.
HS-4: Operational Marine Water Quality due to Ocean Discharges. The Proposed Modifications' operational discharges of reverse osmosis concentrate to the ocean through the M1W outfall would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.	LS	NI	NI	NI	NI	LS	None required.
HS-5: Operational Drainage Pattern Alterations. The Proposed Modifications would alter existing drainage patterns by increasing impervious surfaces, but would not substantially increase the rate or amount of runoff such that it would: (1) cause erosion or siltation on- or off-site, (2) cause flooding on- or offsite, (3) exceed the existing storm drainage system capacity, or (4) impede or redirect flood flows.	LS	LS	LS	LS	LS	LS	None required.
HS-6: Operational Carmel River Flows. Operations of the Proposed Modifications would result in reduced pumping of the Carmel River alluvial aquifer resulting in increased flows in Carmel River that would benefit habitat for aquatic and terrestrial species.	BI	BI	BI	BI	BI	BI	None required.
Land Use Agriculture and Forest Resources	/110						
LU-1: Operational Consistency with Plans, Policies, and Regulations. The Proposed Modifications would have one or more components that would potentially conflict, or be inconsistent with, applicable land use plans, policies, and regulations without implementation of mitigation measures identified in this Supplemental EIR.	LSM	LSM	LSM	LSM	LSM	LSM	All other mitigation measures (see Table 4.12-4 in Section 4.12, Land Us
Marine Biological Resources (MR) MR-1: Operational Impacts on Marine Biological Resources. Operation of the Proposed Modifications would not result in substantial adverse effects on candidate, sensitive, or special-status species and would not interfere substantially with the movement of any native resident or migratory fish or wildlife species.	LS	NI	NI	NI	NI	LS	None required.
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se, Agriculture, and Forest Resources).

Table S-1 Summary of Project-Level Impacts of the Proposed Modifications and Mitigation Measures

	Facility	ipeline		CalAm Di Sys	istribution stem						
Impact Statement	Advanced Water Purification I	Product Water Conveyance Pi	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Over	Mitigation Measures				
KEY TO ACRONYMS: NI – No Impact; LS – Less than Significant; LSM – Less than Significant with Mitigation; SU – Significant and Unavoidabl											
Noise and Vibration (NV)											
NV-1: Construction Noise. Construction would result in a temporary increase in ambient noise levels in the vicinity of all Proposed Modifications sites. Temporary construction noise would not be substantial at most construction sites, except at the CalAm Extraction Wells.	LS	LSM	LS	SU	LSM	SU	Mitigation Measure NV-1a: Drilling Contractor Noise Measures. (Applies Mitigation Measure NV-1c: Neighborhood Notice. (Applies to Expanded Mitigation Measure NV-1e: Additional Noise Controls for Nighttime Cons Mitigation Measure NV-1f: Offsite Accommodations for Substantially Affe				
NV-2: Operational Noise. Operation of the Proposed Modifications would potentially increase existing noise levels, but would not exceed noise level standards except at CalAm Extraction Wells.	LS	LS	LS	LSM	LS	LSM	Mitigation Measure NV-2: Stationary-Source Noise Controls. (EW-3 and				
Population and Housing (PH)											
PH-1: Construction-Related Growth Inducement. Construction of the Proposed Modifications would result in temporary increases in construction employment but would not induce substantial population growth.	-	-	-	-	-	LS	None required.				
PH-2: Operations-Related Growth Inducement. Operation of the Proposed Modifications would not result in substantial population growth directly during project operations.	-	-	-	-	-	LS	None required.				
Public Services, Utilities, and Recreation (PS)											
PS-1: Construction Public Services Demand. Construction of the Proposed Modifications would not result in increased demands for fire and police protection services, schools, or parks that would result in the need for new or physically altered facilities to maintain service capacity or performance objectives.	LS	LS	LS	LS	LS	LS	None required.				
PS-2: Construction Landfill Capacity. Construction of the Proposed Modifications would result in generation of solid waste; however, the solid waste would be disposed at a landfill with sufficient permitted daily and overall capacity to accommodate the project's solid waste disposal needs.	LS	LS	LS	LS	LS	LS	None required.				
PS-3: Construction Solid Waste Policies and Regulations. Construction of the Proposed Modifications would potentially conflict with State and local statutes, policies and regulations related to solid waste.	LSM	LSM	LSM	LSM	LSM	LSM	Mitigation Measure PS-3: Construction Waste Reduction and Recycling				
PS-4: Public Services Demand During Operation. Operation of the Proposed Modifications would not result in increased demands for fire and police protection services, schools, or parks that would result in the need for new or physically altered facilities to maintain service capacity or performance objectives.	LS	LS	LS	LS	LS	LS	None required.				
PS-5: Landfill Capacity for Operations. Operation of the Proposed Modifications would not result in adverse effects on landfill capacity or be out of compliance with Federal, State, and local statutes and regulations related to solid waste.	LS	LS	LS	LS	LS	LS	None required.				

e; BI- Beneficial Impact

s to Expanded Injection Well Facilities, CalAm Extraction Wells) Injection Well Facilities, CalAm Extraction Wells) struction of Wells. (Applies to CalAm Extraction Wells)

fected Nighttime Receptors near Wells. (Applies to CalAm Extraction Wells)

I EW-4)

Plan. (Applies to all Proposed Modifications).

Table S-1 Summary of Project-Level Impacts of the Proposed Modifications and Mitigation Measures

	acility	peline		CalAm Di Sys	stribution tem	=	
Impact Statement	Advanced Water Purification F	Product Water Conveyance Pi	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overa	Mitigation Measures
KEY TO ACRONYM	'S: NI – No	Impact; L	S – Less th	an Signific	ant; LSM -	- Less than	Significant with Mitigation; SU – Significant and Unavoidable
Traffic and Transportation (TR)							
TR-1: Construction Traffic. Construction of the Proposed Modifications would result in a temporary increase in traffic volumes on regional and local roadways due to construction-related vehicle trips, which would not result in conflicts with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	LS	LS	LS	LS	LS	LS	None required.
TR-2: Construction-Related Traffic Increases, Safety and Access Limitations. Construction activities could result in temporary traffic increases, safety hazards, and/or disruption of access.	LS	LS	LS	LS	LSM	LSM	Mitigation Measure TR-2: Traffic Control and Safety Assurance Plan. (A
TR-3: Construction-Related Roadway Deterioration. Construction truck trips could result in increased wear-and-tear on the designated haul routes, which could result in temporary impacts to performance of the regional circulation system.	LSM	LSM	LSM	LSM	LSM	LSM	Mitigation Measure TR-3: Roadway Rehabilitation Program (Applies to A
TR-4: Construction Parking Interference. Construction activities may temporarily affect parking availability.	LS	LS	LS	LS	LSM	LSM	Mitigation Measure TR-4: Construction Parking Requirement (CalAm Co
TR-5: Operational Traffic. Operation and maintenance of the Proposed Modifications would result in small traffic increases on regional and local roadways, but would not substantially affect the performance of the regional circulation system or result in a significant increase in VMT.	LS	LS	LS	LS	LS	LS	None required.
Water Supply and Wastewater Systems (WW)							
WW-1: Construction-Related Water Demand. The Proposed Modifications would result in a temporary increase in water use due to construction-related demand. Existing water supplies would be sufficient to serve this construction-related demand. No new or expanded water supply sources are warranted.	LS	LS	LS	LS	LS	LS	None required.
WW-2: Construction-Related Wastewater Generation. The Proposed Modifications would result in a temporary increase in wastewater generation due to demand from construction workers, but existing wastewater treatment facilities have sufficient capacity to serve construction-related demands.	LS	LS	LS	LS	LS	LS	None required.
WW-3: Operational Water Supply. Sufficient water supplies are available for operation of the Proposed Modifications.	LS	LS	LS	LS	LS	LS	None required.
WW-4: Operational Wastewater Treatment Capacity. Operation of the Proposed Modifications would not result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the Proposed Modifications' projected demand in addition to M1W's existing commitments.	LS	LS	LS	LS	LS	LS	None required.
WW-5: Operational Need for New Water or Wastewater Treatment Facilities or Expansion. Operation of the Proposed Modifications would not result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities beyond those evaluated in this Supplemental Draft EIR.	LS	LS	LS	LS	LS	LS	None required.

e; BI- Beneficial Impact

pplies to CalAm Conveyance Pipeline).

All Proposed Modifications).

onveyance Pipeline).

Table S-2

Summary of Cumulative Impacts and Mitigation Measures

#	Topical Section/ (Impact Issue	Cumulative	Determination of Significance and Discussion of Contribution of the Proposed Modifications to Cumulative Impacts (if applicable)								
4.2	Aesthetics		LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to significant cumulative construction or operational aesthetic impacts.								
4.3	Air Quality and Gre Gas	eenhouse	LSM: The Proposed Modifications would potentially make a considerable contribution to significant cumulative regional emissions of PM ₁₀ ; however, with implementation of Mitigation Measure AQ-1, the impact would be reduced to less than significant.								
4.4	Biological Resourc Fisheries	es:	NI: The Proposed Modifications would make no contribution to a cumulative impact on fishery biological resources.								
4.5	Biological Resourc Terrestrial	es:	LS: The Proposed Modifications would not cause the Project to make a considerable contribution to significant cumulative impacts to terrestrial biological resources.								
4.6	Cultural and Paleo Resources	ntological	LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative construction or operational cultural resources impacts.								
4.7	Energy		LS: The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to a cumulative impact to energy resources.								
4.8	Geology, Soils, an	d Seismicity	LS: The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to construction or operational cumulative geology, seismicity or soils impacts.								
4.9	Hazards and Haza Materials	rdous	LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to construction or operational cumulative impacts related to hazards or hazardous materials.								
4.10	Hydrology/Water G Groundwater	Quality:	LS: The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative impacts to hydrology and water quality of groundwater resources.								
4.11	Hydrology/Water Quality: Surface Water	Inland Surface Waters	LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative construction or operational impacts to hydrology or water quality of inland surface waters.								
		Marine Surface Waters	LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative construction or operational impacts to hydrology or water quality of marine waters.								
4.12	Land Use		LS: The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to a cumulative land use impact.								
4.13	Marine Biological F	Resources	LS: The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative impacts to marine biological resources.								
4.14	Noise and Vibratio	n	LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to construction or operational cumulative noise and vibration impacts.								
4.15	Population and Ho	using	LS: The Proposed Modifications would not cause the Project to make a considerable contribution to significant cumulative impacts related to population and housing								
4.16	Public Services, R and Utilities	ecreation,	LS: The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative impacts related to schools, parks, recreational facilities or other public services and utilities (fire and police protection, solid waste).								
4.17	Traffic and Transp	ortation	LS: The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to significant cumulative traffic and transportation impact.								

Table S-2

Summary of Cumulative Impacts and Mitigation Measures

#	Topical Section/ Cumulative	Determination of Significance and Discussion of Contribution of the Proposed Modifications to Cumulative Impacts
	Impact Issue	(if applicable)
4.18	Water Supply and Wastewater	LS: The Proposed Modifications would not cause the project as a whole to contribute to a new significant cumulative impact
	Systems	or substantially increase the severity of the project's contribution to a significant cumulative impact on water supply or
	-	wastewater system

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LIST OF ACRONYMS

Definition	Acronym	
Assembly Bill 52	AB 52	
average daily traffic	ADT	
accessory dwelling units	ADUs	
acre-feet	AF	
acre-feet per year	AFY	
North Central Coast Air	a in her a in	
Basin Air Basin	air basin	
advanced oxidation	AOP	
Area of Potential Effect	APE	
Air Quality Management		
Plan	AQME	
U.S. Army	Army	
Amended and Restated		
Water Recycling	ARWRA	
Agreement		
aquifer storage and	ASR	
recovery		
Advanced Water	AWTF	
American water works	AWWA	
Association Regin Research		
Associatos	Basin	
Water Quality Control		
Plan for the Central Coast	Basin Plan	
Basin	Dasin han	
below ground surface	bas	
Beneficial Impacts	BI	
Best Management	2112	
Practices	BMPs	
British thermal units	BTUs	
California American	CalAra	
Water	CalAm	
California Department of	Caltrans	
Transportation	Califalis	
California Air Resources	CARB	
Board	0,110	
Carmel Area Wastewater		
District/Pebble Beach	CAWD/PBCSD	
Community Services		
District California Casatal		
Campiagian	CCC	
California Department of		
Food and Agriculture	CDFA	
chemicals of emerging		
concern	CECs	
California Environmental	0701	
Quality Act	CEQA	
California Environmental	0500	
Reporting System	UEKO	
California Endangered	CESA	
Species Act		
California Historical		
Resources Information	CHRIS	
System		
California Native Plant	CNPS	
Society		
carbon monoxide		
carbon dioxide equivalent	CO2e	
	CRCN	
Nocossity	GEGN	
INCOUSSILY		

Definition	Acronym
California Public Utilities	CDUC
Commission	CPUC
Covenant to Restrict Use	CRUP
of Property	
Castroville Seawater	CSIP
Intrusion Project	
Montorov Bay	CSUMB
OU carbon tetrachloride	
plume	CTP
Clean Water Act	CWA
Clean Water State	OWODE
Revolving Find	CWSRF
California State Water	
Resources Control Board	DDW
Division of Drinking Water	
Department of Toxic	DTSC
Substances Control	
Assessment	EA
Environmental Impact	
Statement	EIS
Executive Order	EO
United States	
Environmental Protection	EPA
Agency	
Federal Endangered	FSA
Species Act	
Environmental Services	ESCA
Cooperative Agreement	-
Environmental Sensitive	ESHA
	EW/
Fort Ord Community	
Advisory Group	FOCAG
Fort Ord Reuse Authority	FORA
greenhouse gas	GHG
gallons per minute	GPM
Groundwater	GSAs
Sustainability Agencies	0043
millions of kWh	GWh
State Department of	
Development	
Habitat Management	
Plan	HMP
Information Technology	
and Communications	ITCD
Design	
kilowatt hours	kWh
level of service	LOS
liquid oxygen	LOX
Less-than-Significant	LS
Less-than-Significant with	LSM
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Larry Warker Associates	LVVA M1W/: formarky Mantaray
Monterey One Water	Regional Water Pollution
	Control Agency
Monterey Bav Air	
Resources District	MBARD
Monterey Bay National	MENIME
Marine Sanctuary	CIVINICIWI

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Definition	Acronym
maximum contaminant	
levels	MCLs
Marina Coast Water	
District	MCWD
Monterey County –	
Water Resources Agency	MCWRA
Membrane Filtration	MF
million gallon per day	mgd
Memorandum of	МОА
Agreement	MOA
Metropolitan Planning	MPO
Organization	
Monterey Peninsula	
Water Management	MPWMD
District Menterey Deningula	
Monterey Peninsula	MPWSP
Mothod Reporting Limit	MDI
Method Reporting Limit	MRL
Management District	MRWMD
mean sea level	MSI
metric tons	MT
National Ambient Air	
Quality Standards	NAAQS
Native American Heritage	
Commission	NAHC
National Environmental	
Policy Act	NEPA
National Historic	
Preservation Act	NHPA
No Impact	NI
Notification Level	NL
National Marine Fisheries	NIMES
Services	NWF3
Notice of Availability	NOA
National Oceanic and	
Atmospheric	NOAA
Administration	
Notice of Determination	NOD
Notice of Preparation	NOP
Nitrogen oxides	NOX
National Pollutant	
Discharge Elimination	NPDE5
National Priorition List	NDI
Natural Resources	
Conservation Service	NRCS
Northwest Information	
Center	NWIC
ozone	O3
Office of National Marine	0, 110
Sanctuaries	ONMS
Operable Unit	OU
Perfluorooctanoic acid	PFOA
Perfluorooctane sulfonate	PFOS
Pacific Gas & Electric	PG&E
inhalable Particulate	BM
Matter	г IVI ₁₀
Final EIR	PWM/GWR Final EIR
Roadway Construction	RCNM
Noise Model	
Regional Housing Needs	RHNA
Allocation	
Reverse Osmosis	RO
reverse osmosis	RO concentrate
concentrate	
Reactive Organic Gases	ROG

Definition	Acronym
right-of-way	ROW
Regional Urban Water Augmentation Project	RUWAP
Central Coast Regional Water Quality Control	RWQCB or Regional
Board	Board
Senate Bill 18	SB 18
electrical and	SCADA
Seaside Groundwater	Seaside Basin
Basin	
Sustainable Groundwater Management Act	SGMA
State Implementation Plan	SIP
Salt and Nutrient Management Plan	SNMP
sulfur dioxide	SO2
Operation and Maintenance of the Salinas River Diversion Facility	SRDF Agreement
State Water Resources Control Board	State Board or SWRCB
Significant Unavoidable	SU
Draft Supplemental Environmental Impact Report	Supplemental EIR or SEIR
Salinas Valley Reclamation Plant	SVRP
Stormwater Pollution Prevention Plans	SWPPP
Technical Advisory Committee	TAC
Transportation Agency for Monterey County	TAMC
trichloroethylene	TCE
Total Dissolved Solids	TDS
United States Army Corps of Engineers	USACOE
U.S. Fish and Wildlife	USFWS
volume to capacity	V/C
vehicle miles traveled	VMT
vehicle miles traveled	VMT
volatile organic	VOC
compound	
volatile organic compounds	VOCs
water year	WY
zone of initial dilution	ZID

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CHAPTER 1 INTRODUCTION

Sections

1.1	Introduction
1.2	Project Background
1.3	Overview of the Proposed Modifications
1.4	Purpose of the Supplemental EIR
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1.6	CEQA-Plus
1.7	Intended Use of the Supplemental EIR
1.8	Incorporation by Reference
1.9	Organization of the Supplemental EIR

1.1 INTRODUCTION

Monterey One Water (M1W; formerly Monterey Regional Water Pollution Control Agency) prepared this Draft Supplemental Environmental Impact Report (Supplemental EIR or SEIR) to analyze and disclose the potentially significant environmental effects associated with the construction, operation, and maintenance of M1W's Proposed Modifications to expand the water supply yield of the Pure Water Monterey Groundwater Replenishment Project (Proposed Modifications). The Proposed Modifications would result in an "Expanded PWM/GWR Project" as further described below. This EIR is a Supplemental EIR to the PWM/GWR Project Final EIR (October 2015) certified by M1W on October 8, 2015, with Addenda approved on June 20, 2016 and March 6, 2017 by the Monterey Peninsula Water Management District (MPWMD) and M1W on October 30, 2017 to address prior project changes.

This chapter includes the following:

- 1. PWM/GWR Project background information, including prior approvals and environmental review;
- 2. relationship of the PWM/GWR Project and the Proposed Modifications to the Monterey Peninsula Water Supply Project (MPWSP) desalination project;
- 3. summary of the Proposed Modifications;
- 4. purpose of this Supplemental EIR;
- 5. summary of the environmental review process for the Proposed Modifications and intended use of this Supplemental EIR;
- 6. overview of the public review process; and,
- 7. overview of relevant requirements of the California Environmental Quality Act (CEQA).

1.2 **PROJECT BACKGROUND**

On October 8, 2015, the Board of Directors of M1W approved the PWM/GWR Project as modified by the Alternative Monterey Pipeline and the Regional Urban Water Augmentation Project¹ (RUWAP) alignment, and certified the Final EIR (PWM/GWR Final EIR) (State Clearinghouse No. 2013051094). The primary objective of the PWM/GWR Project was to replenish the Seaside Groundwater Basin (Seaside Basin) with 3,500 acre-feet per year (AFY) of purified recycled water to replace a portion of California American Water's (CalAm) water supply as required by State Water Resources Control Board (State Board or SWRCB) orders. The PWM/GWR Project as approved in 2015, included a 4.0 million gallon per day (mgd) capacity Advanced Water Purification Facility² for treatment and production of purified recycled water for conveyance and injection into the Seaside Basin using conveyance pipelines, a booster pump station, and a series of shallow and deep Injection Wells. The injected water would then mix with the existing groundwater and be stored for extraction and urban use by CalAm.

Subsequent to the approval of the PWM/GWR Project, minor changes to components of the PWM/GWR Project were subject to discretionary action by responsible agencies. These actions included approval of a water distribution system permit by MPWMD, including the addition of the Hilby Pump Station and minor re-alignments to the Monterey Pipeline. The effects of these minor modifications were evaluated in Addendum No. 1 and Addendum No. 2 to the PWM/GWR Project Final EIR. These actions did not require discretionary approval by M1W; thus, the Addenda were prepared for consideration and approval by MPWMD's Board of Directors (acting as responsible agency) on June 20, 2016 and March 6, 2017, respectively.

On October 30, 2017, the M1W Board approved modifications to the PWM/GWR Project (Addendum No. 3 to the PWM/GWR Project, "Addendum No. 3") to increase the operational capacity (peak or maximum flowrate) of the approved Advanced Water Purification Facility from 4.0 mgd to 5.0 mgd. The purposes of the 2017 modifications were to enable delivery of 600 AFY of purified recycled water to Marina Coast Water District (MCWD) for urban landscape irrigation by MCWD customers and to allow the shared use of existing pipelines and new pipelines and storage facilities for this irrigation use and for conveyance of purified recycled water to Injection Wells in the Seaside Basin.³ The PWM/GWR Project, as approved in 2015 and modified by MPWMD and M1W in 2016 and 2017, is referred to in this Supplemental EIR collectively as the approved PWM/GWR Project. Components thereof, are described as "approved" when differentiating how the Proposed Modifications would change the approved PWM/GWR Project and components, respectively.

CalAm is separately pursuing the MPWSP, which includes construction and operation of a 6.4 mgd desalination project to further reduce pumping from the Carmel River system and meet requirements of the Seaside Basin's court-ordered adjudication (California Superior Court,

¹ The RUWAP is a recycled water project developed by MCWD in cooperation with M1W. RUWAP was originally developed to help MCWD meet the overall needs of its service area, delivering tertiary-treated and disinfected recycled water produced at the existing Salinas Valley Reclamation Plant (SVRP) to urban users in the MCWD service area and former Fort Ord.

² In prior planning, environmental, and permitting documents, the Advanced Water Purification Facility was

previously referred to as the Advanced Water Treatment Facility. The terms are interchangeable. ³ Note: the combined RUWAP-PWM conveyance system, also termed the Shared Product Water Conveyance Facilities, was also approved by MCWD in March 2016 (RUWAP Addendum No. 3).

California American Water, Plaintiff, vs. City of Seaside et al., Case No. M66343, Decision, Hon. Roger D. Randall, Ret., Filed March 27, 2006). Under the MPWSP, a series of slant wells at the CEMEX plant located in the City of Marina would supply influent flows to operate a 6.4 mgd desalination facility located north of the City of Marina in unincorporated Monterey County. Desalinated water would then be conveyed through a series of pipelines to CalAm customers in CalAm's Monterey District. The California Public Utilities Commission (CPUC) and Monterey Bay National Marine Sanctuary (MBNMS) prepared a joint EIR/Environmental Impact Statement (EIS) that evaluated the potential environmental effects associated with the construction and operation of the MPWSP. The CPUC, as CEQA Lead Agency, adopted the project alternative under which a 6.4 mgd desalination facility would be constructed, and certified the EIR on September 13, 2018. The MBNMS has not yet issued a Record of Decision.

CalAm is actively pursuing local, State and Federal approvals to construct the MPWSP. Due to concerns regarding the timing of completion of the MPWSP desalination facility, M1W and MPWMD, in coordination with CalAm, elected to collaborate on this Supplemental EIR for the Proposed Modifications. The Proposed Modifications would be implemented if the MPWSP encounters obstacles that prevent its timely, feasible implementation to satisfy the requirements SWRCB orders related to unauthorized diversions from the Carmel River system.

1.3 OVERVIEW OF THE PROPOSED MODIFICATIONS

The Proposed Modifications would expand the Advanced Water Purification Facility peak capacity from 5.0 mgd to 7.6 mgd and increase recharge of the Seaside Groundwater Basin by an additional 2,250 AFY (for an average annual yield for the Expanded PWM/GWR Project of 5,750 AFY). As explained above, the Expanded PWM/GWR Project is considered a "back-up plan" to the MPWSP desalination project.

The Proposed Modifications include the following new or modified M1W facilities:

- Improvements to the existing Advanced Water Purification Facility (adding equipment, pipelines, and storage within the approved and constructed facility buildings and paved areas);
- addition of up to two miles of new product water conveyance pipelines;
- addition of one new Injection Well in the Expanded Injection Well Area and associated infrastructure;
- relocation of two approved Injection Well Sites and associated infrastructure to the Injection Well Area; and,
- relocation of previously approved monitoring Well Sites to the area between the Injection Well Area and the closest Extraction Wells located along General Jim Moore Boulevard.

In order for CalAm to extract additional groundwater injected by the Proposed Modifications into the Seaside Groundwater Basin and deliver it to meet its system demands and to provide for redundancy and back-up, the following CalAm improvements would be required:

 Addition of four new Extraction Wells and associated infrastructure (e.g., treatment facilities, electrical buildings, and pipelines), including two new Extraction Wells located at Seaside Middle School, and two new Extraction Wells located near General Jim Moore Boulevard⁴; and,

 addition of potable and raw water pipelines along General Jim Moore Boulevard and at the Seaside Middle School site (referred to as CalAm Conveyance Pipelines).

For a complete description, please refer to Chapter 2.0, Project Description.

1.4 PURPOSE OF THE SUPPLEMENTAL EIR

M1W prepared this Supplemental EIR in accordance with CEQA and the State CEQA Guidelines, which are found in Title 14 of the California Code of Regulations commencing with Sec. 15000. As stated in the CEQA Guidelines Sec. 15002, the basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and,
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Pursuant to State CEQA Guidelines Sec. 15121, an EIR is an informational document which will inform public agency decision-makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. Any public agency considering approval of the Proposed Modifications, or components thereof, shall consider the information in the EIR along with other information that may be presented to the agency. While the information in the EIR does not control the ultimate decision on the project, the Lead Agency must consider the information in the EIR and respond to each significant effect identified in the EIR by making findings at the time of project approval.

This Supplemental EIR identifies changes in impacts that result from the Proposed Modifications compared to the impacts that were previously disclosed in the PWM/GWR Project Final EIR and Addenda. Under CEQA Guidelines Sec. 15162, a subsequent or supplemental EIR is needed when substantial changes are proposed to the project which will require major revisions to the previous EIR due to the involvement of new significant effects or a substantial change in the severity of previously identified significant effects.

The issuance of a Supplemental EIR is governed by CEQA Guidelines Sec. 15163, which states:

- a. The Lead or Responsible Agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:
 - 1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and

⁴ The two of the four new Extraction Wells located near General Jim Moore Boulevard are located at the sites of proposed ASR Wells 5 and 6. The potential environmental effects associated with the construction and operation of ASR wells 5 and 6 are considered in the MPWSP EIS/EIR.

- 2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.
- b. The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.
- c. A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087.
- d. A supplement to an EIR may be circulated by itself without recirculating the previous draft or final EIR.
- e. When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR. A finding under Section 15091 shall be made for each significant effect shown in the previous EIR as revised.

The focus of the environmental review process is upon significant environmental effects. As defined in the CEQA Guidelines, a "significant effect on the environment" is:

...a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether a physical change is significant.

CEQA Guidelines Sec. 15064(e) further indicates that economic and social changes resulting from a project shall not be treated as significant effects on the environment, although they may be used to determine that a physical change shall be regarded as a significant effect on the environment. Where a physical change is caused by economic or social effects of a project, the physical change may result in a significant effect in the same manner as any other physical change resulting from the project.

1.5 CEQA REVIEW

1.5.1 Prior Environmental Review

This section summarizes the prior environmental review of the PWM/GWR Project. On May 30, 2013, M1W distributed a Notice of Preparation (NOP) to commence the environmental review process. A second NOP was released on December 9, 2014. M1W subsequently prepared a Draft EIR, which was distributed for public review on April 22, 2015 for a 45-day public review period. As required pursuant to CEQA Guidelines Sec. 15088, M1W prepared responses to comments received during the public review period and prepared a Final EIR. The M1W Board of Directors approved the PWM/GWR Project (as modified) and certified the Final EIR (PWM/GWR Project Final EIR) (State Clearinghouse No. 2013051094) on October 8, 2015.

Subsequent to the approval of the PWM/GWR Project, minor changes to components of the PWM/GWR Project were subject to discretionary action by responsible agencies. These actions included approval of a water distribution system permit by the MPWMD, including addition of the Hilby Pump Station and minor re-alignments to the Monterey Pipeline. The effects of these minor

modifications were evaluated in Addendum No. 1 and Addendum No. 2 to the PWM/GWR Project Final EIR. The analyses determined that the modifications would not result in any additional environmental effects beyond those previously identified in the PWM/GWR Final EIR. These actions did not require discretionary approval by M1W; thus, the Addenda were prepared for consideration and approval by MPWMD's Board of Directors (acting as responsible agency) on June 20, 2016 and March 6, 2017, respectively.

M1W separately prepared Addendum No. 3 to the PWM/GWR Project Final EIR in October 2017. The Addendum evaluated changes to the approved PWM/GWR Project to increase the operational capacity of the approved Advanced Water Purification Facility to allow delivery of 600 AFY of purified recycled water to MCWD. In addition, Addendum No. 3 also considered the effects of the shared use of facilities with MCWD. That analysis determined that the modifications would not result in any additional environmental effects beyond those previously identified in the PWM/GWR Final EIR. M1W approved the modifications to the PWM/GWR Project and adopted Addendum No. 3 on October 30, 2017.

1.5.2 Notice of Preparation and Scoping Meeting

In accordance with CEQA Guidelines Sec. 15063 and 15082, M1W, as Lead Agency, prepared a NOP for this Supplemental EIR (see **Appendix A**). The NOP was published and distributed to local, State, and Federal agencies and other interested parties on May 15, 2019 for a 30-day review period which ended on June 14, 2019.

M1W conducted a public scoping meeting on Wednesday June 5, 2019 at 5:30 PM at the Oldemeyer Center located at 986 Hilby Avenue, Seaside, CA 93955 to present the Proposed Modifications to the public and agencies and to solicit input as to the scope and content of the Supplemental EIR. Public notices were published in local newspapers informing the general public of availability of the NOP and of the scoping meetings. **Appendix A** includes the written comments received in response to the NOP.

1.5.3 Public Review of Draft Supplemental EIR

CEQA Guidelines Sec. 15087(a) requires that a Notice of Availability (NOA) of a Draft EIR be mailed to the last known name and address of all organizations and individuals who have previously requested such notice in writing. CEQA Guidelines Sec. 15087(a) also requires that in addition to the above notifications, at least one of the following procedures be implemented:

- Publication at least one time by the public agency in a newspaper of general circulation in the area affected by the Proposed Modifications;
- Posting of notice by the public agency on and off the site in the area where the Proposed Modifications are to be located; or,
- Direct mailing to the owners and occupants of property contiguous to the parcel or parcels on which the Proposed Modifications are located.

CEQA Guideline Sec. 15087(d) requires the NOA be posted for at least 30 days in the office of the county clerk of each county in which the Proposed Modifications will be located. CEQA Guideline Sec. 15085(e) further requires that the review period for the a draft EIR shall be as provided in CEQA Guidelines Sec. 15105, which states that "[w]hen a draft EIR is submitted to

the State Clearinghouse for review by State agencies, the public review period shall not be less than 45 days, unless a shorter period, not less than 30 days, is approved by the State Clearinghouse." CEQA Guidelines Sec. 15087(f) requires that an NOA be sent to State agencies through the State Clearinghouse. Finally, CEQA Guidelines Sec. 15087(g) states that Lead Agencies should place copies of the Draft EIR in public libraries.

Pursuant to CEQA Guidelines Sec. 15087(a), M1W has mailed copies of the NOA to all parties that previously requested such notice in writing. M1W distributed these notices concurrently with publication of this Draft Supplemental EIR. M1W also noticed the availability of the Draft Supplemental EIR in a newspaper of general circulation in the area affected by the Proposed Modifications concurrently with publication of the Draft Supplemental EIR. M1W also posted notices on and off the site in the area where the Proposed Modifications are located. M1W posted notice of availability of the Draft Supplemental EIR at the office of the Monterey County Clerk. M1W also submitted the Draft Supplemental EIR for review by State agencies through the State Clearinghouse.

This Draft Supplemental EIR will be available for public review for a period of 45 days commencing November 7, 2019 and concluding on December 23, 2019. During this period, the Draft Supplemental EIR will be available for review to local, State, and Federal agencies and to interested organizations and individuals. Written comments on the environmental analysis contained in this Draft Supplemental EIR should be sent to:

Mail: Monterey One Water Attn: Rachel Gaudoin 5 Harris Court, Building D Monterey, CA 93940 <u>purewatermontereyinfo@my1water.org</u>

1.5.4 Final Supplemental EIR

CEQA Guidelines Sec. 15088 requires that the "Lead Agency shall respond to comments raising significant environmental issues received during the noticed comment period..." CEQA Guidelines Sec. 15089 requires that the Lead Agency shall prepare a Final EIR in accordance with the requirements of CEQA Guidelines Sec. 15132, which requires that the Final Supplemental EIR consist of the following:

- List of individuals and agencies commenting on the Draft Supplemental EIR;
- Copies of letters received on the Draft Supplemental EIR;
- Responses to comments received on the Draft Supplemental EIR, in accordance with CEQA Guidelines (Sec. 15088); and,
- Revisions to the Draft Supplemental EIR text, as necessary.

Following the conclusion of the 45-day public review period, M1W will prepare a Final EIR. The Final EIR will respond to comments received during the public review period that raise significant environmental issues. The Final Supplemental EIR will be made available to the public at least 10 days prior to M1W certifying it (CEQA Guidelines Sec. 15088(b)).

1.5.5 Project Approval and EIR Certification

CEQA requires that a Lead Agency shall neither approve nor carry out a project as proposed unless the significant environmental effects have been reduced to an acceptable level (CEQA Guidelines Sec. 15091 and 15092) or overriding concerns outweigh the unavoidable significant impacts (requiring the Lead Agency to make a Statement of Overriding Considerations) (CEQA Guidelines Sec. 15093). An acceptable level is defined as eliminating, avoiding, or substantially lessening the significant effects. A project's impacts must be reduced to a less-than-significant level where feasible or the Lead Agency must adopt a Statement of Overriding Considerations for any impacts that remain significant after all feasible mitigation is adopted. As the cited CEQA Guidelines Sec. 15092:

(b) A public agency shall not decide to approve or carry out a project for which an EIR was prepared unless either: (1) The project as approved will not have a significant effect on the environment, or (2) The agency has: (A) Eliminated or substantially lessened all significant effects on the environment where feasible as shown in findings under Section 15091, and (B) Determined that any remaining significant effects on the environment found to be unavoidable under Section 15091 are acceptable due to overriding concerns as described in Section 15093.

Pursuant to Public Resources Code Sec. 21002, 21002.1 and 21081 and CEQA Guidelines Sec. 15091 and 15093, no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects unless one or more findings are made:

- 1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects on the environment.
- 2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been or can and should be, adopted by such other agency.
- 3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

Following completion of the Final Supplemental EIR, M1W will hold a public hearing to consider the EIR and act on the Proposed Modifications. At that hearing, M1W will review information contained in the Final Supplemental EIR, adopt findings of approval, including any Statements of Overriding Considerations for any identified significant and unavoidable impacts, and confirm that the Final Supplemental EIR adequately complies with the requirements of CEQA. In addition, M1W will also consider whether the Final Supplemental EIR reflects M1W's independent judgment pursuant to CEQA Guidelines Sec. 15090. After certifying the Final Supplemental EIR, M1W will file a Notice of Determination (NOD) with the County Clerk and the Office Planning and Research.

1-8
1.6 CEQA-PLUS

The Proposed Modifications may be financed in part by a Clean Water State Revolving Fund (CWSRF or SRF) Loan, administered by the SWRCB, Division of Financial Assistance. The CWSRF Program is partially funded by the U.S. Environmental Protection Agency and is subject to Federal environmental regulations. All applicants seeking CWSRF financing must comply with CEQA and provide sufficient information so that the SWRCB can document compliance with Federal environmental laws. The SWRCB calls this Federal compliance "CEQA-Plus." While M1W is not currently seeking SRF funding for the Proposed Modifications, this Draft Supplemental EIR has been prepared to meet the CEQA-Plus requirements in order to be eligible for CWSRF funds should M1W decide to pursue SRF funding at a later date.

1.7 INTENDED USE OF THE SUPPLEMENTAL EIR

The purpose of this Supplemental EIR is to identify new significant effects or a substantial change in the severity of previously identified significant effects of the Proposed Modifications on the physical environment compared to the effects of the approved GWR/PWM Project, and to determine the extent to which those effects can be reduced or avoided and to identify and evaluate feasible alternatives to the Proposed Modifications. M1W and Responsible Agencies will use this information when taking action on the Proposed Modifications. The Supplemental EIR itself is not a decision document and does not determine whether the Proposed Modifications will be approved. Rather, the Supplemental EIR is an informational and disclosure document to be taken under consideration during the decision-making process. M1W, as CEQA Lead Agency, and any Responsible Agencies providing approvals or permits will rely on the information contained in the Supplemental EIR in determining whether to grant permits and/or approvals as described in the preceding section.

1.8 BACKGROUND DOCUMENTS

The following documents provide background information, and serve as technical studies underlying portions of the analysis in this Draft Supplemental EIR:

- CPUC, 2017. CalAm Monterey Peninsula Water Supply Project Draft Environmental Impact Report/Environmental Impact Statement, January 2017.
- CPUC, 2018. CalAm Monterey Peninsula Water Supply Project Final Environmental Impact Report/Environmental Impact Statement, SCH# 2006101004, March 2018.

These documents are available for review at the following address:

Monterey One Water 5 Harris Court, Building D Monterey, CA 93940

1.9 ORGANIZATION OF THE SUPPLEMENTAL EIR

This Draft Supplemental EIR includes the following:

- Executive Summary. A summary description of the Proposed Modifications and their anticipated environmental impacts are included. A summary table lists impacts and the associated mitigation measures for each significant impact identified for the Proposed Modifications.
- **Chapter 1 Introduction.** This chapter describes the review process and organization of this Draft Supplemental EIR.
- Chapter 2 Project Description. This chapter provides an overview of the Proposed Modifications, describes the need for and objectives of the Proposed Modifications, and provides detail on the characteristics of the Proposed Modifications.
- Chapter 3 Water Quality Statutory and Regulatory Compliance Overview. This chapter provides an overview of pertinent information related to the following:
 - (1) the status of recycled water regulations pertaining to groundwater replenishment;
 - (2) studies of other similar projects that have assessed the effects of using recycled water for groundwater replenishment on groundwater quality and public health;
 - (3) studies that have been specifically conducted for the approved PWM/GWR Project related to the treatment system design and performance;
 - (4) studies that have been specifically conducted for the approved PWM/GWR Project regarding protection of groundwater quality and quantity;
 - (5) Proposed Modifications' compliance with applicable statutes, policies, and regulations;
 - (6) effects on groundwater as a result of the Proposed Modifications; and,
 - (7) the relevant information and conclusions for the Draft Supplemental EIR related to groundwater and other relevant water quality analyses.
- Chapter 4 Environmental Setting, Impacts and Mitigation Measures. As needed to address changes in the Project, changes in circumstances or new information, this chapter presents updates to the descriptions of the physical and regulatory settings of the PWM/GWR Project with the Proposed Modifications by environmental issue area (see issue topics below), the significance criteria, including thresholds of significance, an analysis of the significance of impacts, and recommended mitigation measures to reduce any significant impacts. Wherever the PWM/GWR Project Final EIR and Addenda continue to accurately reflects these attributes, the information from and location within, the PWM/GWR Project Final EIR and Addenda is referenced. The following resources topics are provided in the Sections identified below:
 - Aesthetics (Section 4.2)
 - Air Quality and Greenhouse Gas (Section 4.3)
 - Biological Resources: Fisheries (Section 4.4)
 - Biological Resources: Terrestrial (Section 4.5)
 - o Cultural, Paleontological, and Tribal Resources (Section 4.6)

- Energy and Mineral Resources (**Section 4.7**)
- Geology, Soils, and Seismicity (Section 4.8)
- Hazards and Hazardous Materials (Section 4.9)
- Hydrology/Water Quality: Groundwater (Section 4.10)
- Hydrology/Water Quality: Surface Water (**Section 4.11**)
- Land Use, Agriculture, and Forest Resources (**Section 4.12**)
- Marine Biological Resources (**Section 4.13**)
- Noise and Vibration (Section 4.14)
- Population and Housing (Section 4.15)
- Public Services, Recreation, and Utilities (Section 4.16)
- Traffic and Transportation (**Section 4.17**)
- Water Supply and Wastewater Systems (Section 4.18)

Each section of **Chapter 4** contains the following elements:

- o Introduction
- Environmental Setting
- Regulatory Framework
- Impacts and Mitigation Measures (including subsections for construction, operational, and cumulative analyses)
- **Chapter 5 Other Considerations.** As needed to address changes in the Project, changes in circumstances or new information, this chapter has been updated.
- Chapter 6 Alternatives to the Proposed Modifications. This chapter presents an overview of the alternatives to the Proposed Modifications, including alternatives screening and selection, and alternatives considered, but eliminated from further review. The section also provides a qualitative environmental impact analysis of the alternatives considered.
- **Chapter 7 Report Preparers.** This chapter lists individuals and entities that contributed to preparing the Draft Supplemental EIR, as well as applicable references.
- Appendices. Technical background information used in preparation of the Draft Supplemental EIR is included, along with the NOP and comments received during the NOP public review period.

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CHAPTER 2 PROJECT DESCRIPTION

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M1W, in partnership with the MPWMD, is proposing modifications to the approved Pure Water Monterey Groundwater Replenishment Project (Expanded PWM/GWR Project or Proposed Modifications) which would expand the project yield. M1W approved the PWM/GWR Project in 2015 to create a reliable source of water supply to replace existing water supply sources for the Monterey Peninsula in northern Monterey County. M1W approved modifications to the PWM/GWR Project in 2016 and 2017. This Supplemental EIR evaluates new Proposed Modifications, which are considered a back-up to the CalAm MPWSP.¹ As a back-up, the Proposed Modifications would increase the amount of purified recycled water produced by the PWM/GWR Project, which is currently under construction. **Figure 2-1** shows relevant water resource areas and service areas.

¹ On October 28, 2019, the M1W Board of Directors adopted Resolution No. 2019-19 stating that M1W's previous approval to proceed with the potential expansion of the Pure Water Monterey Project was done "only as a back-up plan for, and not as an alternative to, CalAm's desalination project." As stated in the draft resolution, "the purpose and intent of this Resolution, therefore, is to clarify and restate, for the record, the understanding and basis upon which this Board has proceed with looking into and working on the expansion of the PWM Project." Specifically, the draft resolution stated that M1W's "prior approval of proceeding with the initial environmental, permitting and design work for the potential expansion of the Pure Water Monterey Project was done specifically as a backup plan to, and not as an option in the place of, the CalAm desalination project, and only to have a ready-to-go alternative plan in place in the event that the CalAm desalination project is delayed beyond the Cease and Desist Order deadline of December 31, 2019."



The approved PWM/GWR Project will produce a reliable water supply by treating previously discharged secondary effluent with the Advanced Water Purification Facility² and recharging the Seaside Groundwater Basin with the purified recycled water using a series of shallow and deep Injection Wells. Once injected into the Seaside Groundwater Basin, treated water will mix with the groundwater present in the aquifers and be stored for future extraction and use. The approved PWM/GWR Project will replace 3,500 AFY of supplies for CalAm to deliver to its customers in the Monterey District service area. This will enable CalAm to reduce its diversions from the Carmel River system.³ CalAm is under a State order to secure replacement water supplies by December 2021.⁴

Initially, the approved PWM/GWR Project included an Advanced Water Purification Facility that had an operational capacity of 4.0 mgd. In 2017, M1W approved a modification to the PWM/GWR Project that expanded the treatment capacity of the Advanced Water Purification Facility to provide an additional 600 AFY of purified recycled water to the Marina Coast Water District for irrigation use. More specifically, M1W increased the Advanced Water Purification Facility operational capacity from 4.0 mgd to 5.0 mgd by refining plant design.

These design refinements included: 1) minor changes to the secondary effluent diversion structure to convey additional treated wastewater into the Advanced Water Purification Facility; 2) the addition of booster pumping of the ozone effluent and pre-treated reverse osmosis feed; and, 3) minor changes to the design of the waste equalization pump station. All of these improvements occurred within the existing footprint of the Advanced Water Purification Facility (Please refer to discussion below for a full description of the approved PWM/GWR Project).⁵ **Figure 2-2** shows the approved PWM/GWR Project facility locations.

The Proposed Modifications would expand the Advanced Water Purification Facility peak capacity from 5 million gallons per day (mgd) to 7.6 mgd and increase recharge of the Seaside Groundwater Basin by an additional 2,250 AFY (for a total average yield of 5,750 AFY). The Proposed Modifications are considered a "back-up plan" to the MPWSP, CalAm's planned 6.4 mgd desalination project. The Proposed Modifications would be implemented if the MPWSP encounters obstacles that prevent its timely, feasible implementation.

The Proposed Modifications include the following new or modified M1W facilities:

- improvements to the existing PWM/GWR Project Advanced Water Purification Facility (adding equipment, pipelines, and storage within the existing plant site);
- up to two miles of new product water conveyance pipelines;
- one new Injection Well in the Expanded Injection Well Area and associated infrastructure;

² Also referred to as the Advanced Water Treatment Facility (AWTF) in previous project documents.

³ The approved PWM/GWR Project also includes a drought reserve component to support crop irrigation during dry years. Under this component, an extra 200 AFY of purified recycled water will be injected in the Seaside Groundwater Basin during normal and wet years, up to a total of 1,000 AF, to create a "banked reserve." During drought years, M1W will reduce the amount of water injected into the Seaside Groundwater Basin in order to increase production of recycled water for crop irrigation. CalAm will be able to extract the banked water in the Seaside Groundwater Basin to make up the difference to its supplies, such that its extractions and deliveries will not fall below 3,500 AFY.

⁴ The State Water Resources Control Board's Cease and Desist Order 95-10 required the reduction of CalAm pumping from the Carmel River; Order 2016-16 extended the time period for withdrawals above legal limits from the Carmel River through 2021.

⁵ M1W evaluated the environmental effects associated with these plant refinements in Addendum No. 3 to the PWM/GWR Project EIR.



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- relocation of two previously approved Injection Well Sites and associated infrastructure to the Expanded Injection Well Area; and,
- relocation of one previously approved monitoring well⁶ to the area between the Expanded Injection Well Area and CalAm Extraction Wells (described below) located along General Jim Moore Boulevard.

For CalAm to extract additional groundwater injected by the Proposed Modifications into the Seaside Groundwater Basin, deliver it to meet its system demands at all times, and also provide system redundancy and reliability, the following CalAm potable water system improvements would be built and operated:

- four new Extraction Wells and associated infrastructure (e.g., treatment facilities, electrical buildings, etc.), including two new Extraction Wells located at Seaside Middle School, and two new Extraction Wells located off General Jim Moore Boulevard;⁷ and,
- CalAm Conveyance Facilities along General Jim Moore Boulevard and at the Seaside Middle School site.

2.1.1 Overview of Approved PWM/GWR Project

On October 8, 2015, the Board of Directors of M1W approved the PWM/GWR Project and certified the Final EIR (PWM/GWR EIR) (State Clearinghouse No. 2013051094). The approved PWM/GWR Project is the Proposed Project in the PWM/GWR Project Final EIR as modified to include the Alternative Monterey Pipeline and to select the RUWAP⁸ alignment for the product water conveyance system. The primary objective of the approved PWM/GWR Project is to replenish the Seaside Groundwater Basin with 3,500 AFY of purified recycled water to replace a portion of CalAm's water supply as required by State Water Resources Control Board orders. The originally approved PWM/GWR Project included a 4.0 mgd capacity Advanced Water Purification Facility for treatment and production of purified recycled water, which will subsequently be conveyed for injection into the Seaside Groundwater Basin. Injection facilities include a series of shallow and deep Injection Wells. The injected water will mix with the existing groundwater and be stored for urban use by CalAm, thus enabling a reduction in Carmel River system diversions by the same amount. CalAm will recover the groundwater at existing wells (indirect potable reuse). PWM/GWR Project product water conveyance facilities include ten miles of pipeline from the Advanced Water Purification Facility to Injection Wells in the Seaside Groundwater Basin.

In June 2016, MPWMD prepared an addendum to the PWM/GWR Project Final EIR. Addendum No. 1 to the PWM/GWR Project Final EIR considered the environmental effects associated with an amendment to CalAm's Water Distribution Permit to authorize the construction and operation of the Hilby Pump Station and the Monterey Pipeline. In February 2017, MPWMD prepared another addendum, Addendum No. 2, to the PWM/GWR Project Final EIR. Addendum No. 2,

⁶ To consider worst-case construction impacts in this Draft Supplemental EIR, M1W assumes that one new monitoring well would be constructed within 50 feet of one or more residences in the Fitch Park neighborhood.

⁷ The two new Extraction Wells located off General Jim Moore Boulevard are located at the same site as two of the aquifer storage and recovery (ASR) wells that were included in the MPWSP (ASR Wells 5 and 6). The potential environmental effects associated with the construction and operation of ASR Wells 5 and 6 are considered in the MPWSP EIR/EIS.

⁸ The RUWAP is a recycled water project developed by MCWD in cooperation with M1W. RUWAP was originally developed to help MCWD meet the overall needs of its service area, delivering tertiary-treated and disinfected recycled water produced at the existing Salinas Valley Reclamation Plant to urban users in the MCWD service area and former Fort Ord.

which was prepared to support another amendment to CalAm's Water Distribution System, evaluated the environmental effects of a minor realignment of a section of the Monterey Pipeline in the City of Monterey. Finally, in October 2017, M1W prepared Addendum No. 3 to the PWM/GWR Project Final EIR to expand the operational capacity of the approved Advanced Water Purification Facility and other system improvements.

On October 30, 2017, the M1W Board of Directors approved modifications to the PWM/GWR Project to increase the operational capacity (peak or maximum product water flowrate) of the approved Advanced Water Purification Facility from 4.0 mgd to 5.0 mgd to enable the delivery of 600 AFY of purified recycled water to MCWD for urban landscape irrigation by MCWD customers. The additional recycled water delivery is a component of the approved RUWAP, an urban recycled water project developed by MCWD. The source water for the October 2017 capacity expansion is entirely from MCWD's contractual rights to the return of its municipal wastewater in addition to a portion of M1W's summer water allocation per the Amended and Restated Water Recycling Agreement, which is described in more detail in **Section 2.6.1**. In April 2016 (amended in October 2017), M1W Board of Directors approved joint (shared) use of product water storage and conveyance facilities, including Blackhorse Reservoir, with MCWD for the RUWAP and the PWM/GWR Projects (PWM/GWR EIR Addendum No. 3).⁹

The approved PWM/GWR Project includes source water diversion sites, treatment facilities at the existing Regional Treatment Plant, product water conveyance facilities, Injection Well Facilities, and CalAm distribution facilities. The following section provides a more detailed description of each of these components. For further discussion, refer to Section 2.6 of the PWM/GWR Project Final EIR and Addenda.

The PWM/GWR Project Final EIR and associated Addenda, are hereafter referred to as the PWM/GWR Project Final EIR and are accessible online at <u>http://purewatermonterey.org/reports-docs/cfeir/</u>.

2.1.2 Overview of Approved PWM/GWR Project Components

The approved PWM/GWR Project consists of several distinct Project components. **Figure 2-2** includes a map of the previously approved PWM/GWR Project components. The approved components include Source Water Diversion and Storage Sites; Treatment Facilities at the Regional Treatment Plant; Product Water Conveyance; Injection Well Facilities; and, CalAm Distribution System Improvements as detailed below.

2.1.2.1 Source Water Diversion and Storage Sites

These facilities include source water diversion, conveyance, and storage facilities at Blanco Drain, Reclamation Ditch, the Salinas Pump Station, Salinas Industrial Wastewater Treatment Facility (SIWTF) and associated conveyance system.¹⁰ These facilities, which are nearing completion and which are anticipated to be operational in 2019, will enable new source waters to be diverted into

⁹ The combined RUWAP-PWM conveyance system, also termed the Shared Product Water Conveyance Facilities, was also approved by MCWD in March 2016 (RUWAP Addendum No. 3).

¹⁰ The approved PWM/GWR project also includes source water diversion structures and pipelines that have not been funded or constructed, including at the western edge of Lake El Estero and at Tembladero Slough. The Tembladero Slough diversion is no longer being pursued as part of the PWM/GWR Project due to conditions imposed by the State Water Resources Control Board in water rights permits for the Blanco Drain and the Reclamation Ditch source water diversions.

the existing municipal wastewater collection system and to the Regional Treatment Plant to supplement the existing incoming wastewater flows.

2.1.2.2 Treatment Facilities at the Regional Treatment Plant

Improvements at the Regional Treatment Plant include the Advanced Water Purification Facility and pump station facilities to provide treatment and production of purified recycled water. The Advanced Water Purification Facility consists of a state-of-the-art treatment system that uses multiple membrane barriers to purify the water, product water stabilization to prevent pipe corrosion due to water purity, and a pump station.¹¹ As noted above, the operational peak capacity of the approved Advanced Water Purification Facility is 5.0 mgd. The water produced by the Advanced Water Purification Facility will meet or exceed Federal and State drinking water standards, including those set forth in Titles 17 and 22.

2.1.2.3 Product Water Conveyance

These facilities include the Product Water Conveyance Pipeline and Blackhorse Reservoir shared by the PWM/GWR and RUWAP projects and appurtenant facilities to transport the purified recycled water from the Advanced Water Purification Facility to the Seaside Groundwater Basin for injection.

2.1.2.4 Injection Well Facilities

The approved PWM/GWR Project includes subsurface groundwater recharge facilities. The approved PWM/GWR Project includes four Well Sites that each include one shallow or vadose zone well and one deep Injection Well.¹² In addition to the four Well Sites, four on-site monitoring wells located within the Seaside Groundwater Basin are part of the approved PWM/GWR Project. The approved facilities are shown on **Figure 2-2**, the Approved Injection Well Facilities Area.

While the approved PWM/GWR Project included four Well Sites, only two of those Well Sites have been constructed to date. Final project design and project permitting revealed that only two Well Sites, each with one vadose zone well and one deep Injection Well, were necessary to achieve the average injections of 3,500 AFY and maximum of 3,700 AFY. As a result, M1W constructed only two of the approved Well Sites (identified as Well Sites #2 and #3 in the PWM/GWR Project Final EIR), although the PWM/GWR Project Final EIR evaluated the environmental effects associated with the construction and operation of four Well Sites.

2.1.2.5 CalAm Distribution System

Approved CalAm distribution facilities include the Monterey Pipeline and the Hilby Pump Station; these facilities convey water extracted from the Seaside Groundwater Basin to CalAm's customers on the Monterey Peninsula and during injection season they also convey Carmel River system water to the aquifer storage and recovery wells in the Seaside Groundwater Basin.

¹¹ The approved PWM/GWR Project also includes a brine mixing structure and modifications to the Salinas Valley Reclamation Plant to improve delivery of recycled water to agricultural users; these components have not been funded to date.

¹² Vadose zone wells inject water into the unsaturated soils overlying the uppermost aquifer (the unconfined Paso Robles Aquifer), and deep Injection Wells inject into the confined Santa Margarita Aquifer.

2.2 **PROJECT BACKGROUND**

The PWM/GWR Project Final EIR provides the background of the approved PWM/GWR Project (see Section 2.3 at pg. 2-6). That section addresses the requirements of the SWRCB orders affecting pumping from the Carmel River and of the court-ordered adjudication of Seaside Groundwater Basin; existing recycled water projects; and descriptions of key stakeholder agencies, including the project proponents. The following sections provides a brief updated discussion of project background.

2.2.1 SWRCB Orders to Reduce Carmel River Diversions

In 1995, the State Board issued Order No. WR 95-10, which found that CalAm was diverting more water from the Carmel River Basin than it was legally entitled to divert. The State Board ordered CalAm to implement actions to terminate its unlawful diversions from the Carmel River and to maximize use of the Seaside Groundwater Basin (to the extent feasible) to reduce diversions of Carmel River water. In addition, a subsequent Cease and Desist Order (SWRCB Order Number WR 2009-0060) issued in 2009 required CalAm to secure replacement water supplies for its Monterey District service area by January 2017 and reduce its Carmel River diversions to 3,376 AFY no later than December 31, 2016.

Subsequent to certification of the PWM/GWR Project Final EIR, in July 2016, the SWRCB adopted Order 2016-0016, which amends Orders 95-10 and 2009-0060. Order 2016-0016 extends the date by which CalAm must terminate all unlawful diversions from the Carmel River from December 31, 2016 to December 31, 2021. The revised Cease and Desist Order set an initial diversion limit of 8,310 AFY for Water Year 2015-2016 (October 1, 2015 - September 30, 2016) and established annual milestones that CalAm must meet in order to maintain the 8,310 AFY diversion limit through 2021.

2.2.2 Relationship of Expanded PWM/GWR Project to MPWSP

The MPWSP consists of the construction and operation of a CalAm owned and operated 6.4 mgd desalination facility along with associated infrastructure (e.g., slant wells, conveyance pipelines, etc.). The CPUC certified the MPWSP EIR/EIS and approved the project on September 13, 2018 by Decision 18-09-017. In addition, the CPUC adopted settlement agreements and issued a Certificate of Public Convenience and Necessity (CPCN).

The Expanded PWM/GWR Project is proposed as a back-up to the MPWSP, not as an option or alternative to the MPWSP. It would be implemented in the event that CalAm is unable to feasibly implement the MPWSP in a timely fashion, in accordance with the State Board's Cease and Desist Order milestones, specifically, operation of the MPWSP desalination plant by December 31, 2021. The MPWSP and the Expanded PWM/GWR Project are both designed to provide the replacement water CalAm needs to comply with the Cease and Desist Order and with the Seaside Groundwater Basin Adjudication.¹³

¹³ MPWMD staff has prepared updated water demand estimates based on "available supplies and their ability to meet current and long-term demand...changing nature of demand on the Monterey Peninsula, the underlying assumptions in the sizing of the water supply portfolio, and indicators of the market's ability to absorb new demand" (MPWMD, September 16, 2019), CalAm and other members of the public have contended that additional water supplies would be necessary to address future water demand (i.e., up to 14,400 AFY per CPUC CPCN Decision 18-09-017 and up to 12,948 AFY in 2035 per CalAm's 2015 Urban Water Management Plan). More information is provided in Chapter 5.

Due to the potential for delays associated with MPWSP permitting, M1W and MPWMD are pursuing the Proposed Modifications as a back-up plan to the MPWSP. In the event that CalAm is unable to successfully implement the MPWSP in a timely fashion in accordance with the milestones identified by the State Board's Cease and Desist Order, the Expanded PWM/GWR Project would be implemented and CalAm would purchase 2,250 AFY from the proposed Expanded PWM/GWR Project to satisfy CalAm's obligations under the Cease and Desist Order.

2.3 LOCATION OF THE PROPOSED MODIFICATIONS

The Proposed Modifications would be located within northern Monterey County and would include expanded facilities located within unincorporated areas of Monterey County and the City of Seaside as shown in **Figure 2-3**. Specific locations for physical components of the Proposed Modifications are described later in this Chapter.

2.4 **OBJECTIVES OF THE PROPOSED MODIFICATIONS**

The primary objectives of the Proposed Modifications are to reduce discharges of secondary effluent to Monterey Bay and to replenish the Seaside Groundwater Basin with 2,250 AFY of additional purified recycled water to replace CalAm's use of existing water sources. To accomplish these primary objectives, the Proposed Modifications would need to meet the following objectives:

- Be capable of commencing operation, or of being substantially complete, by the end of 2021 or as necessary to meet CalAm's replacement water needs;
- Be cost-effective such that the Proposed Modifications would be capable of supplying reasonably-priced water; and
- Be capable of complying with applicable water quality regulations intended to protect public health.

2.5 OVERVIEW OF EXISTING SYSTEMS

The PWM/GWR Project Final EIR (January 2016) includes an in-depth description of the existing wastewater and water infrastructure systems that are relevant to the approved PWM/GWR Project (see Section 2.5 at pg. 2-19). Section 2.5 describes M1W facilities including the Regional Treatment Plant, ocean outfall, wastewater collection systems, and stormwater collection systems. In addition, the section includes a description of the CalAm Facilities located in the Monterey District. For a detailed discussion of those facilities, please refer to the PWM/GWR Project Final EIR ADDENDA, which are accessible online and at http://purewatermonterey.org/reports-docs/cfeir/.



2.6 PROPOSED MODIFICATIONS TO PWM/GWR PROJECT

As discussed above, the Proposed Modifications would result in an Expanded PWM/GWR Project that would provide an additional 2,250 AFY of purified recycled water for injection into the Seaside Groundwater Basin and subsequent extraction. In order to provide an additional 2,250 AFY of treated water, the Proposed Modifications would require new and expanded project facilities, including improvements at the existing Advanced Water Purification Facility to increase peak capacity; additional product water conveyance facilities; additional Injection Well facilities, including the relocation of previously approved facilities into a new Injection Well area; additional monitoring wells, including the relocation of a previously approved monitoring well; and new potable water facilities consisting of four new Extraction Wells, related pipelines, and treatment facilities. The following section provides a more detailed discussion of each of these project components.

2.6.1 Source Water under Proposed Modifications

The Expanded PWM/GWR Project would recycle and reuse water from the same sources as the approved PWM/GWR Project. The Proposed Modifications would not change the maximum operations to divert, meter/monitor, and convey the following approved source waters to the Regional Treatment Plant as described and evaluated in the PWM/GWR Project Final EIR:

- Municipal Wastewater
- Salinas Agricultural Wash Water
- Salinas Stormwater
- Reclamation Ditch Surface Water
- Blanco Drain Surface Water
- Lake El Estero Surface Water

As the owner of the regional municipal wastewater collection and treatment system, M1W collects municipal wastewater from communities in northern Monterey County and treats it at its Regional Treatment Plant. Currently, most of that wastewater is recycled for crop irrigation in the dry season at an onsite tertiary treatment plant called the Salinas Valley Reclamation Plant. The tertiary-treated wastewater is delivered to growers through a conveyance and irrigation system called the Castroville Seawater Intrusion Project (CSIP). During wet periods, recycled wastewater is used only intermittently for crop irrigation. The wastewater that is not recycled for crop irrigation is treated to secondary effluent standards and discharged to the ocean through M1W's existing ocean outfall. The Proposed Modifications would enable more of the municipal wastewater to be recycled than is possible without the modifications; thus, less municipal wastewater would be discharged through the ocean outfall.

As under the approved PWM/GWR Project, the source water flows would be treated using the existing Regional Treatment Plant processes and then further treated and recycled by the Salinas Valley Reclamation Plant for agricultural irrigation or by the Advanced Water Purification Facility for urban irrigation or for groundwater replenishment in the Seaside Basin to replace urban potable demands.

The Expanded PWM/GWR Project would, however, recycle more of the municipal wastewater and other new source waters that flow into the Regional Treatment Plant as compared to the approved PWM/GWR Project; thus, less municipal wastewater would be discharged through the ocean outfall. The Expanded PWM/GWR Project would increase the amount of municipal wastewater that is recycled at the Advanced Water Purification Facility at the Regional Treatment Plant for treatment/recycling throughout the year; however, the maximum diversions of each new source water and the maximum flows through the Regional Treatment Plant would not exceed the peak amounts described and analyzed in the PWM/GWR Project Final EIR.

With the Proposed Modifications, the approved PWM/GWR Project would continue to result in additional tertiary recycled water supply for agricultural irrigation in northern Salinas Valley, however approximately 700 to 800 AFY less water would be available for agricultural irrigation than was assumed in the calculations provided in connection with the approved PWM/GWR Project. This reduction in tertiary recycled water for agricultural irrigation compared to the amount of water anticipated to be available under the approved PWM/GWR Project is due to M1W's proposal to recycle more of the water that it is entitled to recycle under its existing water rights under Water Code section 1210 and existing contracts and local agency agreements (described below). Currently, the only sources of supply for the existing tertiary recycled water are municipal wastewater and small amounts of urban dry weather runoff. Municipal wastewater flows have declined in recent years due to aggressive water conservation efforts by the M1W member entities. With the approved PWM/GWR Project, the quantity of source waters entering the existing wastewater collection system is expected to be increased such that additional tertiary recycled water still can be provided for use in the CSIP's agricultural irrigation system. The PWM/GWR Project Final EIR estimated that additional source waters could provide 4,500 to 4,750 AFY of additional recycled water supply, in normal and wet years, for CSIP irrigation purposes. In order to produce enough recycled water to meet the vield objectives of the Proposed Modifications. additional wastewater, to which M1W has the rights to use (as described below), will be diverted to the Advanced Water Purification Facility. This in turn will reduce the amount of wastewater available for use as agricultural irrigation by 700 to 800 AFY compared to the amount anticipated for the approved PWM/GWR Project.

2.6.1.1 Amended and Restated Water Recycling Agreement

After certification of the PWM/GWR EIR, in November 2015, M1W and the MCWRA signed an agreement titled the Amended and Restated Water Recycling Agreement (ARWRA), which addresses rights to use source waters from the Blanco Drain, Reclamation Ditch and the City of Salinas (produce wash water) for CSIP and the PWM/GWR Project. The ARWRA was developed by combining provisions of (i) the M1W agreement with MCWRA, dated June 15, 1992, for construction and operation of a tertiary treatment system (the "1992 Agreement"), with subsequent amendments thereto, as follows: Amendment No. 1 on May 30, 1994; Amendment No. 2 on February 16, 1998; and Amendment No. 3 on May 28, 2002, (ii) agreement between M1W and MCWRA entitled "Operation and Maintenance of the Salinas River Diversion Facility," dated February 3, 2011 (SRDF Agreement) and, (iii) the Source Waters MOU.

The ARWRA Section IV., Provision of Recycled Water to WRA *{Water Resources Agency}* from PCA, section 4.01 (Existing Allocations) states:

"1. WRA {Water Resources Agency} shall be entitled to tertiary treated recycled water for its CSIP Project during the agricultural growing season in a volume not less than total wastewater flows to the Regional Treatment Plant from all PCA (M1W) members existing at the Effective Date of this Water Recycling Agreement, plus all other areas within PCA's 2001 boundaries less the following amounts (may be taken before tertiary treatment):

(a) Amount claimed and utilized by MCWD pursuant to Section 15.04 as provided pursuant to the Annexation Agreements.

(b) Such flows as are lost or as must be diverted in the ordinary course of operating and maintaining the treatment plant and ocean outfall.

(c) Such flows as are not needed to meet WRA's authorized demand pursuant to this Water Recycling Agreement.

(d) 650 AF of water allocated by WRA to PCA per Table 2:

	Table 2
Month	Typical Monthly Seasonal Spread (AF)
May	138
June	172
July	185
August	155
Total	650

2. WRA shall be entitled to one-half of the volume of wastewater flows from areas outside of PCA's 2001 Boundary provided; however, at the request of WRA, PCA passes the wastewater flows through the tertiary treatment facility or Pure Water Monterey Facilities..."

Several flows that are treated at the Regional Treatment Plant are considered to be out of the 2001 M1W Service Area and thus, pursuant to the ARWRA section 4.01(2), rights to these wastewater flows would be evenly divided between M1W and MCWRA, including

- Backwash flows from the Salinas River Diversion Facility screening process (totaling up to approximately 200 AFY, when the facility is operating and limited to April through September).
- Filter backwashing flows from the mixed media filters at the Salinas Valley Reclamation Plant (totaling approximately 2,000 AFY peaking in the summer months).
- Advanced Water Purification Facility filter backwash and clean in place flows (approximately 900 AFY spread evenly throughout the year).
- Recycled Sumps #1 and #2 flows that treat wastewaters generated on-site and at the adjacent landfill (approximately 300 AFY).
- Several areas in and around the City of Salinas and the community of Castroville (currently only the western annexation of the Boronda area constitute substantive flows with those total approximately 200 AFY evenly spread throughout the year).

Total water rights to these wastewater flows at the Regional Treatment Plant available to each, M1W and MCWRA, would range from 1,700 to 1,900 AFY depending upon flows of these waters, in particular, whether or not the SRDF is operating.

Portions of the ARWRA applicable to the New Source Water Facilities and to requirements for M1W to finance, design and construct certain source waters will not become effective until the following conditions are met per Section XVI General Provisions, section 16.15 (Conditions Precedent for New Source Water Facilities of the ARWRA:

"1. Water Rights for the Blanco Drain and Reclamation Ditch are obtained from the California State Water Resources Control Board; and,

2. A fully executed, and California Public Utilities Commission (CPUC) approved, Water Purchase Agreement, between MRWPCA, MPWMD, and California-American Water, is approved by the CPUC and executed by the parties thereto; and,

3. Written finding by the Regional Water Quality Control Board that utilization of the Blanco Drain dry weather flows as New Source Water meets all treatment requirements for the aforesaid dry weather flows; and,

4. An independent third-party review of proposed capital and operating costs and preparation of an Engineer's Report is approved by the Water Resources Agency Board of Directors and Board of Supervisors. The costs of the aforesaid third-party review shall be shared equally between Water Resources Agency and MRWPCA; and,

5. A successful assessment or Proposition 218 process for rates and charges related to the operation and maintenance of the New Source Water Facilities and proportional primary and secondary treatment charges; and,

6. Inclusion of Salinas Pond Water Return Facilities as New Source Water Facilities requires execution of a separate agreement between the Parties."

Due to delays in completing the cost-based Engineers Report (Condition 4 above), and changes in MCWRA personnel, the conditions 3, 4, 5, and 6 above have not been completed as of preparation of this Draft Supplemental EIR. In June 2019, the MCWRA and M1W developed an amendment to the ARWRA that allows additional time to address the conditions precedent, delays payments by the MCWRA, and allows M1W to use source waters for the PWM/GWR Project until such time as the conditions are met. The M1W Board and the MCWRA Board of Directors and Monterey County Board of Supervisors unanimously approved Amendment No. 1 at their June 2019 meetings.

For this Draft Supplemental EIR, M1W assumes the following:

- 1) The conditions precedent (Items 4, 5, and 6) would be met *prior* to commencement of operation of the Expanded PWM/GWR Project,
- 2) An amendment to the ARWRA will be approved, if needed, taking into consideration the Proposed Modifications and progress and results of completion of conditions precedent in ARWRA section 16.15, and
- 3) the Expanded PWM/GWR Project would be implemented in accordance with the existing, or if needed, an amended agreement.

A revised source water rights memorandum has been prepared (previously Appendix C – revised in the PWM/GWR Project Final EIR) and is included in this Supplemental EIR as **Appendix B**.

In addition, to the above agreements, M1W has entered into an agreement with the City of Salinas to utilize agricultural wash water (Salinas industrial wastewater) for recycling through the SVRP for CSIP and for use by the approved PWM/GWR Project for groundwater replenishment in the Seaside Groundwater Basin. That agreement is provided in **Appendix C**. In the event that the conditions precedent in ARWRA section 16.15 are not met, section 16.16 states MCWRA "will retain the right to utilize the Agricultural Wash Water component from the City of Salinas."

As described above, ARWRA, section 4.01 designates water rights to wastewater flows originating from outside of M1W's 2001 service area as equally split between M1W and MCWRA. The M1W Regional Treatment Plant and surrounding land, including the Monterey Regional Waste Management District land, are located outside of M1W's 2001 boundaries; thus, section 4.01 applies to wastewaters originating from these areas. This section will remain in effect whether or not conditions precedent in ARWRA section 16.15 are met, because Section 4.01 is not applicable to New Source Waters.

The Proposed Modifications would not change the construction aspects or maximum use of any of the approved PWM/GWR source water facilities.

2.6.2 Modifications to the Advanced Water Purification Facility

The Expanded PWM/GWR Project would expand the capacity of the Advanced Water Purification Facility from 5.0 mgd to 7.6 mgd. Expanding the Advanced Water Purification Facility to produce up to 7.6 mgd will require installation of additional treatment and pumping equipment, chemical storage, pipelines and facility appurtenances within the 3.5-acre existing building area. The Advanced Water Purification Facility would be modified by installing additional equipment in the locations designated and shown in the current Advanced Water Purification Facility site plan drawings as shown on **Figure 2-4.** The additional equipment, piping and electrical/instrumentation that would be installed at the site within each major facility sub-component are summarized below. Items identified as optional equipment would provide additional system redundancy but would not be required to achieve the production rate of 7.6 mgd. For this Draft Supplemental EIR, all of the analyses assume that the optional components would be installed, but that they would operate only if the other like process equipment were not operating for an extended period of time.

Added Source Water Pump Station Equipment

- One duty source water pump and associated piping and valves
- One variable frequency drive and associated electrical and instrumentation

Added Ozone System Equipment

- One liquid oxygen (LOX) storage tank (optional)
- One standby LOX vaporizer (optional)
- Two ozone injection skids (one required and one optional)
- One ozone destruct unit (optional)
- Associated piping, electrical and instrumentation

Added Membrane Filtration (MF) System Equipment

- One duty MF feed pump
- One duty MF unit
- Associated piping, VFDs, electrical and instrumentation

Added Reverse Osmosis (RO) System Equipment

- One duty RO transfer pump
- One duty RO feed pump
- One large (2.02 mgd) RO train¹⁴
- Associated piping, VFDs, electrical and instrumentation

Added Ultraviolet Light and Advanced Oxidation Process System Equipment

- One duty ultraviolet light reactor (for a total of 6 duty reactors + 1 Standby)
- Associated piping, power supply, electrical and instrumentation

¹⁴ The RO unit is anticipated to be six-vessels-tall instead of five-vessels-tall, resulting in the potential need for an additional mobile hydraulic man lift at the site.



Added Waste Collection System Equipment

- One duty waste transfer pump
- Associated piping, VFD, electrical and instrumentation

Added Product Water Pump Station Equipment

- Replacement of up to two of the existing pump impellers and addition of one duty product water pump and motor
- Associated piping, VFD, electrical and instrumentation

The approved Advanced Water Purification Facility is fed electricity from a 21kV switchgear that feeds two transformers that power additional switchgear. Additional loads associated with the operation of the equipment needed for the Proposed Modifications yields may result in the need to replace or add one or more pieces of switchgear equipment.

No changes would be needed to the stabilization process at the approved Advanced Water Purification Facility. No changes are expected for chemical storage, although chemical deliveries may be more frequent. No additional grading/excavation and no addition of buildings would be required. Some areas of asphalt and/or landscaping may be converted to concrete pads on which covered or uncovered equipment, tanks, and electrical cabinets may be placed.

Construction

Construction workers would access the existing Advanced Water Purification Facility site via Charles Benson Road and existing access roads serving the existing treatment plant. Construction activities would include cutting, laying, and welding pipelines and pipe connections; pouring concrete footings for foundations, tanks, and other support equipment; installing piping, pumps, storage tanks, and electrical equipment; and testing and commissioning facilities. Construction equipment would include excavators, backhoes, graders, pavers, rollers, bulldozers, concrete trucks, flatbed trucks, boom trucks and/or cranes, forklifts, welding equipment, dump trucks, air compressors, and generators. Mechanical components of the ozone pretreatment, membrane filtration systems, reverse osmosis, advanced oxidation, and post-treatment facilities would be prefabricated and delivered to the site for installation. All construction and staging areas would be within the existing 3.5-acre site. Construction activities related to the modifications to the Advanced Water Purification Facilities are expected to occur over ten months.

Operation and Maintenance

Regional Treatment Plant secondary effluent would be drawn into the Advanced Water Purification Facility from the existing secondary effluent conveyance system to a pump station at the Advanced Water Purification Facility. Pumping facilities operate remotely by M1W's SCADA system. The Advanced Water Purification Facility would operate at an overall water recovery rate of 81 percent.¹⁵ The proposed expanded Advanced Water Purification Facility would be operated to produce up to 5,950 AFY of purified recycled water for injection and 600 AFY of purified recycled water to MCWD for urban landscape irrigation, which equates to an annual average production rate of 5.8 mgd (6,550 AFY). The 7.6 mgd facility size is required to allow for peak seasonal operation and system

¹⁵ This recovery rate does not include losses due to the filter backwash flows routed through the Regional Treatment Plant, as these flows would be recycled through the plant and return as source water, thus not decreasing the system recovery. Of the total Regional Treatment Plant influent that becomes Advanced Water Purification Facility influent, 81 percent becomes product water and 19 percent becomes reject water as reverse osmosis concentrate.

down time. The system components must be sized to allow for losses during treatment such as backwashing and concentrate disposal. Cleaning wastes from each system would be neutralized and returned to the Regional Treatment Plant headworks, along with backwash waste residuals from the membrane treatment system. Reverse osmosis concentrate would be discharged to the existing Regional Treatment Plant ocean outfall. The expanded Advanced Water Purification Facility would produce 5,750 AFY on average for injection, plus up to an additional 200 AFY for drought or operational reserve injections in most years. In addition, up to 600 AFY could be produced to supply Marina Coast Water District customer irrigation demands. The average annual RO feed supply for all the potential demands would be 7,839 AFY with a maximum of 8,087 AFY. The RO system would produce waste byproduct (RO concentrate) of an average of 1,489 AFY for all potential demands with a maximum of 1,537 AFY.

Table 2-1 Expanded AWPF Typical Monthly Flow Volumes, shows an example of the proposed seasonality of flow and production. Although the data is presented here as a single set of flows by month, actual system operation would require daily or weekly management of the production rates to address the variability in irrigation demands and supply availability. Source water diversions would be similarly managed to maximize water availability for all irrigation users during the peak irrigation season.

Expanded Havaneed Water Fulliteation Facility				у —	JPICU		y	1101		ameo	(111)		
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	June	Total
Source Waters	648	634	610	888	859	888	888	802	888	598	645	628	8,975
Membrane Filtration Feed	635	622	597	870	842	870	870	786	870	586	633	615	8,795
Reverse Osmosis Feed	584	572	550	800	774	800	800	723	800	539	582	566	8,091
Purified Recycled Water	473	463	445	648	627	648	648	585	648	437	471	459	6,554

Expanded Advanced Water Purification Facility – Typical Monthly Flow Volumes (AF)

A summary of the expanded Advanced Water Purification Facility design flows are provided in **Table 2-2, below.**

Table 2-2

Table 2-1

Expanded Advanced Water Purification Facility Design Summary

Component	Design Capacity (See Note a)
Secondary Effluent Diversion Structure, Source Water (Advanced Water Purification Facility Influent) Pump Station, and Chloramine Feed System	10.4 mgd
Ozone System	10.4 mgd
Membrane Filtration System	10.4 mgd
Reverse Osmosis System	9.3 mgd
Advanced Oxidation System, Product Water Stabilization and Product Water Pump Station	7.57 mgd
Notes: a. Capacities represent process feedwater maximum flow rates.	

The expanded Advanced Water Purification Facility would be able to produce water at up to 90% of design capacity, on average, due to some anticipated down time for membrane "clean in place" practices and repairs. The down time is assumed to be evenly distributed each month, though planned events would be scheduled for times when the least source water is available. The annual average production would be significantly lower (5.8 mgd) because M1W will only operate at the peak production when secondary effluent volumes exceed base project and CSIP demands (typically, November through March). The resulting flow quantities for the expanded Advanced Water Purification Facility are shown in Table 2-3, Expanded Advanced Water Purification Facility Process Design Flow Assumptions below.

Table 2-3

Expanded Advanced Water Purification Facility Process Design Flow Assumptions

1	0		±
	Annual Flows ¹	Average Flow Conditions ¹	Maximum Flow Conditions ²
AWT Facility Process	AFY	mgd	mgd
Source Water Pump Station and Ozone System Feed	8,985	8.0	10.4
Membrane Filtration Feed	8,985	8.0	10.4
Membrane Filtration Backwash retuned to Regional Treatment Plant Headworks	898	0.8	1.0
Reverse Osmosis Feed	8,086	7.2	9.3
Reverse Osmosis Concentrate	1,536	1.4	1.8
Reverse Osmosis Product Water (Advanced Water Purification Facility Design Size)	6,550	5.8	7.57
Advanced Oxidation Process, Product Water Stabilization, and Product Water Pump Station	6,550	5.8	7.57
Notes: ¹ Average annual flows reflect 6,550 AFY, typical annual production while bu	ilding an ope	erational or drought	reserve.

² Maximum flow condition reflects design peak production rate.

No changes to the operational vehicle trips and employees would occur (see Table 2-10 of the PWM/GWR Project Final EIR). Operational electricity demands are discussed later in this chapter (see **Section 2.6**).

2.6.3 Modifications to Product Water Conveyance

The Proposed Modifications include the construction of a new product water conveyance pipeline extending from the existing Blackhorse Reservoir to the Expanded Injection Well Area. See **Figure 2-5** for more detail. The northern part of the pipeline would be located within an existing private dirt road, which is maintained by MCWD. The southern portion of the pipeline would be located within the existing paved area of Eucalyptus Road. Eucalyptus Road is closed to vehicles; however, it is frequently used by recreational users. In total, the pipeline would be approximately 1 mile to the first Injection Well (at Well Site #5) and an additional 2,000 feet from Well Site #5 to Well Site #7. The pipeline would be a maximum of 30 inches in diameter. An additional 2,000 feet of pipeline for backflushing wells also be located generally along the same alignment as the product water pipeline between Well Site #5 and Well Site #7.

The existing product water pump station at the M1W Regional Treatment Plant would need to be upgraded, as described above in **Section 2.6.2**, in order to efficiently convey water produced at the Advanced Water Purification Facility to the new portion of the Product Water Conveyance Pipeline described above.



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Construction

The product water conveyance pipeline would be constructed using open trench methods. The construction sequence would typically include clearing and grading the ground surface along the pipeline alignment; excavating the trench; shoring, if required; preparing and installing pipeline sections; installing vaults, manhole risers, manifolds, and other pipeline components; backfilling the trench with non-expansive fills; restoring preconstruction contours; and revegetating or paving the pipeline alignments, as appropriate. A conventional backhoe, excavator, or other mechanized equipment would be used to excavate trenches. The typical trench width would be six feet; however, vaults, manhole risers, and other pipeline components could require wider excavations. In addition, the project construction area is underlain by sandy soils that may require a laid-back trench cross-section due to considerations such as duration of construction, efficiency, and safety. In these cases, trench widths may be up to 12 feet wide. Work crews would install trench boxes or shoring or would lay back and bench the slopes to stabilize the pipeline trenches and prevent the walls from collapsing during construction. After excavating the trenches, the contractor would line the trench with pipe bedding (sand or other appropriate material shaped to support the pipeline). Construction workers would then place pipe sections (and pipeline components, where applicable) into the trench, connect the sections together by welding or other applicable joining methods as trenching proceeds, and then backfill the trench. Most pipeline segments would have four to five feet of cover. Open-trench construction would generally proceed at a rate of about 150 to 250 feet per day. Steel plates would be placed over trenches to maintain access during construction.

Operation and Maintenance

The proposed product water conveyance pipeline could operate continuously for up to 24 hours a day. General operations and maintenance activities associated with pipelines would include annual inspections of the cathodic protection system and replacement of sacrificial anodes when necessary; inspection of valve vaults for leakage; testing, exercising and servicing of valves; vegetation maintenance along rights-of-way; and repairs of minor leaks in buried pipeline joints or segments.

No changes to the operational vehicle trips and employees would occur (see Table 2-10 of the PWM/GWR Project Final EIR). Operational electricity demands are discussed later in this chapter (see **Section 2.6**).

2.6.4 Modifications to Injection Well Facilities

As noted previously above, the approved PWM/GWR Project included four Well Sites; however, only two of the four approved Well Sites have been constructed based on final design of the approved PWM/GWR Project. The two remaining Well Sites would be relocated as part of the Proposed Modifications. In addition, the Proposed Modifications also include the construction of an additional Well Site.

As previously discussed in **Section 2.1**, the Proposed Modifications include an increase in the amount of injection to achieve an additional 2,250 AFY of yield; 90% of the project yield will be injected into the confined Santa Margarita Aquifer of the Seaside Groundwater Basin. Under the Proposed Modifications, 5,750 AFY on average would be injected into the Seaside Groundwater Basin (and a maximum of up to 5,950 AFY when the maximum drought reserve injections are occurring and less when the CSIP area is using the drought reserve).

The Proposed Modifications include an expansion of the area of temporary and permanent Injection Well Facilities, in an area referred to as the Expanded Injection Well Area. The Expanded

Injection Well Area would contain up to three Well Sites (including the relocation of two previously approved Well Sites), numbered #5 through #7 (named from northeast to southwest). Under the Proposed Modifications, the remaining two of the four approved deep Injection Wells would be relocated into the Expanded Injection Well Area. Well Site #4 would be relocated to the northeast to Well Site #7 in the Expanded Injection Well Area. Well Site #1 would be relocated to northeast of the original Injection Well Facilities area (referred to as Well Site #5 in the Expanded Injection Well Area). In addition, one new deep Injection Well would be constructed and operated at Well Site #6. No new vadose zone wells are proposed as part of the Proposed Modifications.¹⁶

 Table 2-4 and Figure 2-5 summarize the Injection Well at each of the Well Sites.

Table 2-4

Injection	Well	Site	Summary
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Well Site Number	Location of Well Site	Status of Injection Wells			
#1	Approved Injection Well Facilities Area	1 deep injection well and 1 vadose zone well have been approved but not constructed; the deep injection well would be relocated to Well Site #5 (the farthest northeastern well site)			
#2	Approved Injection Well Facilities Area	1 deep injection well and 1 vadose zone well have been approved and constructed			
#3	Approved Injection Well Facilities Area	1 deep injection well and 1 vadose zone well have been approved and constructed			
#4	Approved Injection Well Facilities Area	1 deep injection well and 1 vadose zone well have been approved but not construction; the deep injection well would be relocated to Well Site #7			
#5	Expanded Injection Well Area	1 approved deep injection well relocated from Well Site #1			
#6	Expanded Injection Well Area	1 newly proposed deep injection well			
#7	Expanded Injection Well Area	1 approved deep injection well relocated from Well Site #4			
* For groundwater modeling, this SEIR assumes all shallow (vadose zone) injection wells will operate at Well Sites #2 and #3 and that the approved vadose zone well at Well Site #1 is not needed. The number of wells assumed for the proposed Expanded PWM/GWR Project is eight total: however, groundwater modeling was conducted assuming seven total, five deep injection wells					

and two vadose zone wells and a 90%/10% split on a volumetric basis between deep and shallow aquifers.

Each Injection Well would be equipped with associated backwash pumps and appurtenances. **Figure 2-6** shows the conceptual design profile of the proposed deep Injection Wells.

Under the approved PWM/GWR Project, monitoring wells were proposed to be installed between the approved Well Sites and the nearest downgradient Extraction Well. Due to the relocation of the approved deep Injection Wells and the proposed additional deep well in the Expanded Injection Well Area, the location of the monitoring wells must also be relocated. They would be located in the area between General Jim Moore Boulevard and the Expanded Injection Well Area. Monitoring wells are entirely below ground and include an approximate 12-inch diameter manhole cover.

A new electrical building and backflush basin for percolation water into the vadose zone would be included at a central location within the Expanded Injection Well Area (see **Figure 2-5**). The backflush facilities at each Injection Well site would include a flow meter, a backflush pump and 400-hp motor, and an electrical cabinet, monitoring and SCADA. A main electrical power supply/transformer and motor control building would be built for PG&E power supply. In addition to incidental power requirements (instrumentation and monitoring equipment, site lighting, etc.), major power supply would be required to drive only one injection pump motor at a time.

¹⁶ The Approved PWM/GWR Project included analysis of eight total Injection Wells: four shallow and four deep. The Expanded PWM/GWR Project will require eight total Injection Wells with up to five deep Injection Wells and up to three shallow Injection Wells.



The Proposed Modifications would also include an increase to the capacity of the approved backflush basin to accommodate backflush water produced from the deep Injection Wells in the approved Injection Well Area.

Construction

Construction of the new facilities in the Expanded Injection Well Area would occur using the same methods discussed in Section 2.10.2 on page 2-78 of the PWM/GWR Project Final EIR. These methods are included here for full understanding of this project component and have not changed since the certification of the PWM/GWR Project Final EIR.

Well Construction

Installation of the wells typically follows a two-step process: 1) drilling and logging, and installation; 2) testing and equipping. This section describes these three processes.

Drilling, Logging, and Installation

The deep Injection Wells would be drilled with rotary drilling methods. The method would be customized to minimize borehole impacts from drilling fluids and may incorporate air rotary methods or specialized drilling fluids (such as polymers). Cuttings from the borehole would be logged by a California Certified Hydrogeologist. Open-hole geophysical logging would also be conducted. Spoils will be spread on-site. A temporary diesel pump (up to 500-hp) would be used for eight-hours at each well to develop and test the well after construction.

Testing and Equipment

Both constant discharge and constant injection testing would be completed in the Injection Well following well drilling. Constant rate tests would be preceded by step tests, as appropriate, to identify preferred rates for each test. Flowmeter surveys would be conducted following pumping and injection testing to identify water movement within the wellbore. Depending on the objectives of the test, both static and dynamic flow testing may be recommended.

At the end of the constant rate discharge test, a water quality sample would be collected to confirm local groundwater quality. Constituents targeted for analysis would be based on compliance with the applicable State Board- Division of Drinking Water regulations and recommendations contained in the Engineering Report prepared for well construction, as well as ambient groundwater quality in the Santa Margarita aquifer in the area.

Backflush Pipeline Facilities Construction

To construct the backflush pipeline and basin, the contractor would excavate pipe trenches, retain the spoilage on site, import and install bedding material, and lay pipe, backfill & compact trench.

Estimated construction time for this component is approximately four months. The temporary construction area along the alignment of the 14-inch diameter backflush water pipeline would be approximately 25 to 50 feet wide, for its approximate 2,000-foot length. Hence, the ground surface disturbance area would be between 2.5 acres. The construction area width is to provide space for a backhoe, trucks for hauling excess soil material and imported bedding material. The depth of the pipeline trench would be approximately five feet to allow for bedding of the pipe and about three to four feet of cover material.

Percolation Basins Construction

Percolation basins are required for disposal of periodic well backflushing cycles, and for disposal of well development and testing water for new or rehabilitated wells. Percolation basins located

within the wellfield recharge to the vadose zone. The approved PWM/GWR Project assumed one basin, which was recently constructed at Well Site #4. The backflush cycles are planned to occur weekly, flushing at a rate of 2,624 gpm for four hours. This produces approximately 84,200 cubic feet of water, or 1.9 acre-feet. The approved basin at Well Site #4 holds 2.1 acre-feet of water, which allows 1-foot of freeboard. At a percolation rate of 6-inches per hour, the pond drains in under 24-hours based on well development water during construction of the first two project deep Injection Wells. The target flow rate for well testing and development is 2,500 gpm for eight hours. This produces a volume of 160,430 cubic feet, or 3.7 acre-feet. A percolation basin of 4.0 acrefeet is recommended to hold that volume of water with a minimum of 1-ft of freeboard. A basin of that size would also accommodate backflushing two wells in sequence without a lag-day to allow for percolation. A second percolation basin would be constructed to accommodate the additional well development and backflush water from the Expanded Injection Well Area between Well Sites #5 and #6 as shown on Figure 2-5. The new percolation basin would have a capacity of 4.0 acrefeet, requiring the excavation of approximately 6,500 cubic yards of material and placing it on the adjacent slopes or using it to create level Well Sites. The total area of soil disturbance is approximately 1.5-acres.

Pump Motor Control/Electrical Conveyance Construction

A main electrical power supply/transformer and motor control building would be built at each Injection Well Site for PG&E power supply. In addition to incidental power requirements (instrumentation and monitoring equipment, site lighting, etc.), major power supply would be required to drive one pump motor at a time for backflushing the deep wells. The following activities would be required to construct the pump motor control and electrical conveyance facilities:

- excavation, spoilage handling, import and install bedding material, building foundation, trench, place concrete, backfill & compact trench, finish concrete floor of electrical building;
- install exterior electrical control cabinets on the paved area at the three deep Injection Wells (only one of which is a new Well Site, the other two are relocated from previously approved sites); and
- for electrical buildings, construct block walls, doors, louvers, roof and appurtenances, then interior finishes, lighting and HVAC; and electrical equipment and wiring.

The estimated construction period for these facilities is approximately 6 months. The temporary construction area would be approximately 25 to 50 feet wide within the alignment of the 14-inch diameter backflush water pipeline. There would be no additional surface disturbance for construction of electrical conduits beyond that for the 14-inch backflush water pipeline. Construction activities would include installation of a buried electrical power conduit and instrumentation conduits, all of which would be underground and encased in a concrete ductbank, which would run in parallel and near the 14-inch backflush pipeline. The depth of the ductbank trench would be approximately 4.5 to 5 feet to allow for about 3 feet of cover material. The electrical control building that would house the electrical and instrumentation (SCADA) transmission equipment would be approximately 16 feet by 24 feet. Its foundation construction would be slab-on-grade; hence, excavation would be only about 3 feet deep. The construction surface area would be about 600 square feet.

Operation and Maintenance

Operation of the Injection Well Facilities in the Expanded Injection Well Area would occur using the same methods discussed in Section 2.10.3 on page 2-50 of the PWM/GWR Project Final EIR. These methods are included below for reference and have not changed since the certification of

the PWM/GWR Project Final EIR. The Proposed Modifications would change the locations, aquifers (or depth), and injections volumes. Injection volumes and flowrates by month are provided in **Table 2-5.** The new aquifer-specific injection volumes by well (including a variety of forecasted scenarios) are provided in **Appendix D, Groundwater Modeling Analysis Technical Memorandum.**

Table 2-5

E	J Interface	Elenne Lee	Ludin - Duan	alet Deserves	windting flame	· · · · · · · · · · · · · · · · · · ·
Expande	ed injection	i flows, inc	luaing Drou	gnt Keserve	rigation flows	s not included)

	Jan	Feb	Mar	Apr	Мау	June	Jul	Aug	Sep	Oct	Nov	Dec
Volume per month (AF)	625	569	621	381	382	370	382	386	376	607	610	640
Well Flow Rates (gpm)												
Maximum	5,257	5,257	5,257	5,257	5,257	5,257	5,257	5,257	5,257	5,257	5,257	5,257
Average	4,563	4,602	4,534	2,874	2,798	2,788	2,791	2,827	2,837	4,432	4,603	4,680
Minimum	0	0	0	0	0	0	0	0	0	0	0	0

Injection Wells and associated electrical and mechanical systems would operate 24 hour per day, 7 days per week throughout the year, although it is unlikely that all the wells would be actively injecting at the same time for any length of time. Operations and maintenance staff would visit the site most likely once daily Monday through Friday nearly every week. In addition to operation and maintenance of the wells, the workers would inspect above ground valves and appurtenances to assure they are properly functioning and to conduct and monitor the backflush operations.

Backflushing of each Injection Well would occur for about four hours weekly and would require discharge of the backflush water to the percolation basin. M1W will conduct backflushing and visual checks of the backflush water discharge to confirm adequate flushing time has been provided. Approximately once per year, a disking machine would be used to scarify the bottom of the pond to increase/restore the percolation rate.

Monitoring wells would be used to monitor project performance and compliance with State Board – Division of Drinking Water regulations. Because the Proposed Modifications would recharge two separate aquifers (Paso Robles and Santa Margarita Aquifers), monitoring wells would be sampled to satisfy regulatory requirements for monitoring of subsurface travel time, tracer testing, and other requirements for a groundwater replenishment project.

No changes to the operational vehicle trips and employees would occur (see Table 2-10 of the PWM/GWR Project Final EIR). Operational electricity demands are discussed later in this chapter (see **Section 2.6**).

2.6.5 Modifications to CalAm Facilities for Expanded PWM/GWR Project

The Proposed Modifications include a total of four new Extraction Wells; two at the Seaside Middle School Property (Extraction Wells #1 and #2) and two near the Fitch Park Community (Extraction Wells #3 and #4), located southeast of the intersection of General Jim Moore Bouvard and Ardennes Circle, as shown on **Figure 2-7**.



Proposed Modifications to CalAm Distribution System

Figure

2-7

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Expanded PWM/GWR Project Supplemental EIR All Extraction Wells would be constructed with associated appurtenances, electrical works, pipeline tie-ins, access road, and other site works including grading and fencing, see **Figure 2-8 Flow Schematic of Existing and Proposed CalAm Extraction Well Facilities** for a schematic of these facilities and how they connect to the CalAm Distribution System discussed below.

For each of the proposed Extraction Wells, the following assumptions and information are used as the basis of design.

Wells screened in the Santa Margarita Aquifer in this area have proven to be large capacity wells and exploratory borings at the Extraction Well #3 and #4 sites confirm the aquifer characteristics for extraction improve to the north. The siting of four Extraction Wells to the north of ASR Wells #3 and #4 would provide the additional production capacity required to support the Proposed Modifications, plus system redundancy and back-up.

The Santa Margarita Sandstone Aquifer is ubiquitous in this area of the Seaside Groundwater Basin and had been found to be on the order of 200 to 250 feet thick. The Extraction Wells would be designed with wire wrap well screens across the entire thickness of the formation. The wells would contain a 20-foot cellar (or sump) at the base of the screened interval extending down into the Monterey Formation.

To achieve the required pumping rate of 1,750 gallons per minute (GPM), a blank casing diameter of 18 inches would be utilized for the Extraction Wells. This diameter would allow the pump bowl assemblage to be set as low as necessary to achieve the design well capacity.

For the purposes of well construction, a minimum 4-inch annular thickness is required to run a tremie pipe for proper installation of gravel pack and cement seal materials. Accordingly, a minimum 26-inch diameter borehole is required to construct the Extraction Wells.

The Extraction Well #3 and Extraction Well #4 sites are approximately 0.5 and 0.6 miles northeast of the Extraction Well #2, respectively and are about 690 feet apart therefore, those two wells will be able to be pumped simultaneously with each other and with Extraction Wells #1 and/or #2, with no impact to pumping capacity of the wells.

In addition, an electrical building would be constructed at each Extraction Well location. The building would be made of fiberglass and would have its own sound proofing and ventilation. All switch gear and power panels would be installed inside the building.

Extracted raw water from all four new wells would be conveyed in new raw water pipelines within General Jim Moore Boulevard for treatment using new water treatment facilities, including disinfection, located at Extraction Well #3. The treatment at Extraction Well #3 would include a building measuring approximately 24-feet by 30-feet and 15-feet tall with raw and treated water pipelines and appurtenances, chemical delivery, storage, metering, feed/injection systems, SCADA/electrical instrumentation and controls, and safety and climate control equipment.

Construction

Construction of the new facilities in the Expanded Injection Well Area would occur using the same methods discussed in Section 2.10.2 on page 2-78 of the PWM/GWR Project Final EIR and the overview for the proposed Injection Well Facilities, above.



Operation and Maintenance

Maintenance of the Extraction Wells would involve routine backflushing. Backwash effluent containing elevated levels of sediment and turbidity would be conveyed through the proposed pipeline discussed below to the existing backflush basin at the ASR #1 and #2 Site at the intersection of General Jim Moore Boulevard and Coe Avenue, and would infiltrate into the ground. As part of ongoing operations of the Extraction Well system, sediment that accumulates in the settling basin is periodically removed and disposed of at an appropriate disposal site to prevent the settling basin from clogging. No changes to the anticipated vehicle trips and employees would occur (see Table 2-10 of the PWM/GWR Project Final EIR). Operational electricity demands are discussed later in this chapter (see Section 2.6).

2.6.5.1 CalAm Conveyance Facilities

Construction

It is anticipated that construction of the CalAm Distribution System Improvements would occur using open trench construction methods. These methods are described above in **Section 2.6.3**. Where it is not feasible or desirable to perform open-cut trenching, trenchless methods such as jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunneling would be employed. Pipeline segments located within heavily congested underground utility areas would likely be installed using horizontal directional drilling or microtunneling. Jack-and-bore methods would also be used for pipeline segments that cross beneath highways, major roadways, or drainages.

Jack-and-Bore and Microtunneling Methods

The jack-and-bore and microtunneling methods entail excavating an entry pit and receiving pit at either end of the pipe segment. A horizontal boring machine or auger is used to drill a hole, and a hydraulic jack is used to push a casing through the hole to the opposite pit. As the boring proceeds, a steel casing is jacked into the hole and pipe is installed in the casing.

Drill-and-Burst Method

The drill-and-burst method involves drilling a small pilot hole at the desired depth through a substrate, and then pulling increasingly larger reamers multiple times through the pilot hole until the hole reaches the desired diameter. The pipe is then installed through the drilled hole.

Horizontal Directional Drilling

Horizontal directional drilling requires the excavation of a pit on either end of the pipe alignment. A surface-launched drilling rig is used to drill a small horizontal boring at the desired depth between the two pits. The boring is filled with drilling fluids and enlarged by a back reamer or hole opener to the required diameter. The pipeline is then pulled into position through the boring. Entry and receiving pits would range in size depending on the length of the crossing, but typically would have dimensions of approximately 50 by 50 feet.

Operation and Maintenance

General operations and maintenance activities associated with the new pipelines would include annual inspections of the cathodic protection system and replacement of sacrificial anodes when necessary; inspection of valve vaults for leakage; testing, exercising and servicing of valves; vegetation maintenance along rights-of-way; and repairs of minor leaks in buried pipeline joints or segments. No changes to the operational vehicle trips and employees would occur (see Table 2-10 of the PWM/GWR Project Final EIR). Operational electricity demands are discussed later in this chapter (see Section 2.6).

Table 2-6

Summary of Temporary and Permanent Footprint of Proposed Modifications

	Construction B	oundary (feet)	Permanent Component Footprint (feet)					
Project Component	Length Width		Length	Width	Maximum Height	Maximum Depth		
Advanced Water Purification Facility	No additional grou proposed as modific	No change to the existing footprint of the Advanced Water Purification Facility is proposed as part of this modification.						
Product Water Conveyance Pipeline								
Blackhorse Reservoir to first Injection Well (Well Site #5)	5,280	10-15	5,280	<6	0	10		
Well Site #5 to Well Site #7	2,000	10-15	2,000	<6	0	10		
Backflushing Pipeline	2,000	10-15	2,000	<6	0	10		
Injection Well Facilities	-	-	-	-				
Well cluster, including: one Deep Injection Well, one Vadose Zone Well, motor control building, transformer, and space for replacement wells	300	125	100	90	15	1,050 (Deep)		
Second Backflush Basin	500	150	500	120	2-3 for pipe outlet only	10		
Monitoring wells, including up to six well clusters with two wells at each site	100	100	3	3	0	900		
Access Roads to Injection Wells, including underground pipeline & electrical	8,400	40	8,400	20	0	10		
Electrical conduit along General Jim Moore Blvd and, if needed, Eucalyptus Rd.	560	10	560	3	0	6		
Electrical Building	200	150	60	90	10	6		
Access roads to monitoring wells	1,000	20	1,000	10	0	2		
CalAm Distribution System Improvement	s							
CalAm Conveyance Pipelines	14,500	30-80	14,500	<6	0	6		
Extraction Wells 1-4	200	200	100	100	10	600 to 800		
Source: Monterey One Water, Alison Imami	ira Associato Engin	per October 2010						

2.6.6 Overall Energy Demand of Proposed Modifications

The Proposed Modifications would result in an incremental increase in energy (electricity) use primarily due to the operation of the higher peak production capacity and pumping by the product water pump station at the Advanced Water Purification Facility and additional backflushing at the Injection Wells. CalAm's new extraction facilities will be replacing similar electricity demands for their existing water supplies, therefore are not considered new demands. The incremental increase in energy demand associated with the operation of the expanded Advanced Water Purification Facility would be accommodated through the purchase of electricity produced from Monterey Regional Waste Management District (MRWMD)'s landfill biogas. Table 2-7, identifies anticipated energy demand associated with the Proposed Modifications, including injection and extraction. As shown in Table 2-7, there is sufficient available renewable energy from the MRWMD to accommodate the incremental increased demand from the Proposed Modifications. The total new PG&E electricity demand for the Expanded PWM/GWR Project electricity would be approximately 45 mWhr/yr, a reduction of 125 mWhr/yr compared to the 5 mgd PWM/GWR Project due to net changes in use of water for injection and for crop irrigation.

Table 2-7

PWM/GWR Project Electricity Demands with Proposed Modifications (all in average megawatt-hours per year, mWhr/yr)

Source Water Diversion and Storage Sites				
Existing M1W Wastewater Collection Pump Stations (increased pumping for source water collection)	1,100			
Proposed Salinas Pump Station Diversions (lighting, SCADA, misc. electricity) [Note: this facility operates using primarily solar energy.]	10			
Proposed Salinas Industrial Wastewater Treatment Plant Storage and Recovery Component (pumping, lighting, SCADA, misc. electricity)	100			
Existing Salinas Treatment Facility and Stormwater Operations (reduction of pumping, Ron Cole, February 2014 modified by M1W staff October 2014)	(1,875)			
Proposed Reclamation Ditch Diversion (pumping, lighting, SCADA, misc. electricity)	250			
Proposed Blanco Drain Diversion (pumping, lighting, SCADA, misc. electricity)	731			
Treatment Facilities at Regional Treatment Plant				
Existing Primary and Secondary Processes (existing on-site cogeneration facility would provide a reduction in this value, see below)	3,673			
Existing Salinas Valley Reclamation Plant (SVRP) (existing plant operations use solar electricity, reducing electricity demand by up to 1,400 mWhr/yr)	1,100			
7.6 AFY Advanced Water Purification Facility (Kennedy Jenks April 2018, assumes 6,500 AFY of water production)				
Existing CSIP Supplemental Wells				
Reduction of use of CSIP Supplemental Wells due to new source waters for SVRP	(1,607)			
Injection Well Facilities				
Backflush of five (5) deep injection wells, lighting, HVAC, meters, instruments, SCADA	236			
Proposed New Electricity Generation at M1W Existing Cogeneration Facility	(2,999)			
New Purchased electricity from Monterey Regional Waste Management District (1)				
NET TOTAL (with reduction in energy demand from renewable energy sources)	45			
(1) The Monterey Regional Waste Management District (MRWMD) utilizes biogas produced by the decomposition of	waste			

material to produce electrical energy. MRWMD will provide additional for Advanced Water Purification Facility at the site. The Regional Treatment Plant is adjacent to the landfill and power generation facility operated by MRWMD.
2.7 **PERMITS AND APPROVALS**

The PWM/GWR Project Final EIR identified the various permits and approvals applicable to the approved PWM/GWR Project; at pg. 2-98. Many of the permits and approvals would need to be amended to accommodate the Project Modifications. **Table 2-8** below provides a summary of the required permit amendments.

Table 2-8

New or Amended Permits or Approvals for Proposed Modifications

Permit (*=amend existing approval/permit)	Component
Federal	
National Historic Preservation Act (NHPA) Section 106 Compliance*	CalAm Facilities
Endangered Species Act Coordination with U.S. Fish and Wildlife	Injection Well Facilities and CalAm Facilities
Service (USFWS) regarding Existing Biological Opinion*	
Endangered Species Act Coordination with National Marine	Advanced Water Purification Facility
Fisheries Services (NMFS)*	
U.S. Army (Army) Land Easement*	CalAm Facilities
State	
Amendment to Water Recycling Requirements/ Waste Discharge	Advanced Water Purification Facility and Injection Well
Requirements*	Facilities
Amendment to Waste Discharge Requirements/ NPDES for	Advanced Water Purification Facility
Regional Treatment Plant Ocean Outfall*	
Local	
City of Seaside Use Permit	Injection Well Facilities and CalAm Facilities
City of Seaside Grading and Ordnance Ordinance Permit	Injection Well Facilities and CalAm Facilities (Wells only)
Monterey County Use Permit* (Modification of Existing Permit)	Advanced Water Purification Facility
City of Seaside Encroachment Permit	Injection Well Facilities and CalAm Facilities
Fort Ord Reuse Authority (FORA) Right of Entry and Easement	Injection Well Facilities
Seaside Groundwater Basin Watermaster Water Storage Permit*	Injection Well Facilities
Monterey County Health Department Well Drilling Permit	Injection Well Facilities and CalAm Facilities (Wells only)

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CHAPTER 3 WATER QUALITY STATUTORY AND REGULATORY COMPLIANCE OVERVIEW

Table

3-1 Proposed Project Treatment Barriers

As described in **Chapter 2, Project Description**, the approved PWM/GWR Project was designed to produce 5.0 MGD of purified water and is currently under construction. The Proposed Modifications would expand the capacity of Advanced Water Purification Facility to a maximum plant capacity of 7.6 MGD. The PWM/GWR Project is a reliable water supply project that includes collecting a variety of new source waters that will be combined with existing incoming raw wastewater flows for conveyance to and treatment at M1W's Regional Treatment Plant. The effluent that is not further treated to tertiary levels by the SVRP and used for agricultural irrigation in northern Salinas Valley, will be conveyed to the newly constructed Advanced Water Purification Facility that will produce highly purified recycled water (purified water). The purified water will be used to replenish the Seaside Groundwater Basin (Seaside Basin) by injecting this high-quality water into a series of shallow and deep Injection Wells. Once injected into the Seaside Basin, the purified water will mix with the groundwater present in the aquifers and be stored for future extraction from existing potable water supply wells.

The primary purpose of the approved PWM/GWR Project is to provide 3,500 AFY of high quality treated "replacement" water to CalAm for delivery to its customers—enabling CalAm to reduce its diversions from the Carmel River system by this same amount. The Proposed Modifications will increase the Advanced Water Purification Facility peak capacity from 5.0 MGD to 7.6 MGD, and increase recharge of the Seaside Groundwater Basin by an additional 2,250 AFY, for a total yield of 5,750 AFY. At this time, the GWR Project expansion is considered a "back-up plan" to the MPWSP, CalAm's planned 6.4 mgd desalination project. The GWR Project expansion would be implemented in the event that the MPWSP encounters obstacles that prevent timely, feasible implementation.

With the Proposed Modifications, the approved PWM/GWR Project would continue to provide additional tertiary recycled water supply for agricultural irrigation in northern Salinas Valley, however approximately 700 to 800 AFY less water would be available for agricultural irrigation than was assumed in the calculations provided in connection with the approved PWM/GWR Project. This reduction in tertiary recycled water for agricultural irrigation compared to approved PWM/GWR Project is due to M1W's proposal to recycle more of the water that it is entitled to recycle under its existing water rights under Water Code Sec. 1210 and existing contracts and local agency agreements. Currently, the only sources of supply for the existing tertiary recycled water are municipal wastewater and small amounts of urban dry weather runoff.¹ Municipal wastewater flows have declined in recent years due to aggressive water conservation efforts by the M1W member entities. With the approved PWM/GWR Project, the quantity of source waters entering the existing wastewater collection system is expected to be increased such that additional tertiary recycled water can be provided for use in the CSIP agricultural irrigation system.

¹ Salinas River water is stored and used for irrigation during the period April 1 to October 31. On-site recirculated flows and treated screening backwash flows have also been a source of supply for the tertiary treatment facility and these wastewaters are considered as originating outside of M1W's 2001 Service Area.

The PWM/GWR Project Final EIR estimated that additional source waters could provide 4,500 to 4,750 AFY of additional recycled water supply, in normal and wet years, for CSIP irrigation purposes. In order to produce enough recycled water to meet the yield objectives of the Proposed Modifications, additional wastewater, to which M1W has the rights to use (as described above), will be diverted to the Advanced Water Purification Facility. This in turn will reduce the amount of wastewater available for use as agricultural irrigation by 700 to 800 AFY compared to the estimates provided for the approved PWM/GWR Project.

Some modifications were assumed to be made to the water recycling facility to optimize and enhance the delivery of recycled water to growers, and the analysis assumed a financial contribution from the MCWRA for construction and implementation of the new source waters projects.² The tertiary recycled water complies with statutory and regulatory requirements for the production and use of recycled water per California Water Code Sec. 13500 – 13577 and California Code of Regulations, Title 22, Sec. 60301 – 60357, including through compliance with Waste Discharge Requirements and Water Recycling Requirements issued by the Central Coast Regional Water Quality Control Board (RWQCB or Regional Board) – namely, Orders No., 94-82 as amended (for SVRP), Order No. 97-52 (for CSIP), and Order No, 2018-0017 (NPDES Permit No. CA00048551) which also regulates SVRP.

The approved PWM/GWR Project also includes a drought reserve component to support greater use of the new source water supplies for crop irrigation during dry years. The approved PWM/GWR Project will provide for an additional 200 AFY of purified water that will produced by the Advanced Water Purification Facility and injected in the Seaside Basin in wet and normal years up to a total of 1,000 acre-feet (AF) of water. Thus, the Project with the Proposed Modifications would inject a total of up to 5,950 AFY into the Seaside Basin in some years, rather than the 5,750 AF needed for CalAm supplies. This would result in a "banked" drought reserve. During dry years, less than 5,750 AF of PWM/GWR Project purified water would be delivered to the Seaside Basin, and the source waters that are not sent to the Advanced Water Purification Facility would be further treated to tertiary recycled water specification and sent to the SVRP to increase irrigation supplies for the agricultural lands. CalAm would be able to extract the banked water to make up the difference to its supplies, such that its extractions and deliveries would not fall below 5,750 AFY.

Planning for the PWM/GWR Project included a pilot study of some of the source waters and treatment technologies intended to be part of the Advanced Water Purification Facility. The treatment train includes pre-oxidation with ozone; MF; RO; advanced oxidation (AOP) using ultraviolet light and hydrogen peroxide; and post-treatment stabilization. In addition, hydrogeologic modeling and soil and geochemical analyses have been performed for the approved PWM/GWR Project that are also applicable to the Proposed Modifications evaluated herein (as described in **Section 4.10, Hydrology and Water Quality: Groundwater Resources**). The California State Water Resources Control Board Division of Drinking Water (DDW), the RWQCB, and a National Water Research Institute Independent Advisory Committee have provided oversight for these studies and project planning. The current 5.0 MGD PWM/GWR Project has already been approved by DDW and the RWQCB, and M1W was issued an Order for Waste Discharge Requirements and Water Recycling Requirements (Order No. R3-2017-0003), on March 9, 2017. This order would need to be revised or amended for the Proposed Modifications.

In conjunction with the Draft Supplemental EIR, the Water Quality Statutory and Regulatory Compliance Technical Report for the Proposed Modifications to the Pure Water Monterey

² To date, the MCWRA has not acted to fund any of the new source water facilities.

Groundwater Replenishment Project (hereafter, the "Water Quality Statutory and Regulatory Report"), **Appendix E** (Trussell Technologies, Larry Walker & Associates, and Todd Groundwater, 2019) was prepared to present pertinent information related to the following: (1) the status of recycled water regulations pertaining to groundwater replenishment; (2) studies of other similar projects that have assessed the effects of using recycled water for groundwater replenishment on groundwater quality and public health; (3) studies that have been specifically conducted for the project related to the Advanced Water Purification Facility Advanced Water Purification Facility design and performance; (4) studies that have been specifically conducted for the project regarding protection of groundwater quality and quantity; (5) approved PWM/GWR Project compliance with applicable statutes, policies, and regulations; (6) effects on groundwater of the approved PWM/GWR Project with Proposed Modifications; and (7) the significance of this information for the Draft Supplemental EIR. The Water Quality Statutory and Regulatory Report in **Appendix E** provides updated information about the Advanced Water Purification Facility design and production capacities and additional water quality data for the source waters being diverted to the Regional Treatment Plant.

This regulatory compliance evaluation has concluded that:

- California has established numerous state laws, regulations and policies governing the use of recycled water for groundwater replenishment to protect groundwater quality and the health of individuals who drink groundwater that is replenished using recycled water, including:
 - Comprehensive regulations for the use of purified water for replenishment of groundwater by subsurface application (CCR Title 22, Chapter 3, Article 5.2 "Groundwater Replenishment Regulations");
 - State policy related to maintaining high quality water (SWRCB Resolution No. 68-16 "Statement of Policy with Respect to Maintaining High Quality Waters in California"); designating water bodies that are suitable as a domestic water supply (SWRCB Resolution No. 88-63 "Sources of Drinking Water"); and encouraging the safe use of recycled water from wastewater sources (SWRCB Resolution No. 2018-0057 "Water Quality Control Policy for Recycled Water");
 - The Water Quality Control Plan for the Central Coast Basin (Basin Plan) implemented by the RWQCB that includes standards, objectives, and guidelines for the protection of groundwater quality in the GWR Project area; and
 - Effective July 1, 2014, consolidation of the regulatory structure for water, recycled water and wastewater into one agency, the SWRCB, to protect public health and promote comprehensive protection of drinking water and other beneficial uses of the state's waters.
- Studies have been conducted for other similar potable reuse projects, including epidemiology studies, risk assessments, and investigations that analyze and compare the toxicological properties of recycled water to those of drinking water. These studies have shown:
 - There is no association between the use of recycled water and adverse health outcomes in individuals consuming groundwater containing recycled water; and
 - Purified water from an appropriately designed and operated Advanced Water Purification Facility presents less risk from regulated chemicals, pathogens, and trace organics compared to the risk from conventional drinking water sources.

- Based on the analytical results of monitoring the source waters to be used for the approved PWM/GWR Project, the water quality results of the pilot plant testing (using ozone, MF, and RO), information on the predicted performance and water quality of the proposed full-scale Advanced Water Purification Facility based on other existing groundwater replenishment projects and related research/studies:
 - The PWM/GWR Project, including Proposed Modifications, would comply with the Groundwater Replenishment Regulations and would meet all Basin Plan standards, objectives, and guidelines.
 - An Independent Advisory Panel and DDW have reviewed the PWM/GWR Project concept and continues to advise on project implementation, as needed. The Proposed Modifications do not change the treatment process or injection methods locations such that the recommendations and findings of the Independent Advisory Panel would change.
 - The RWQCB has approved the approved PWM/GWR Project and adopted Waste Discharge Requirements and Water Recycling Requirements that govern operation. The Proposed Modifications would also likely be approved because of the use of the same treatment facility, technical analysis demonstrating compliance with regulations, and proposed operational compliance monitoring and reporting activities consistent with the approved PWM/GWR Project.
 - o The Advanced Water Purification Facility and groundwater replenishment operations with Proposed Modifications described in this Draft Supplemental EIR will provide reliability and redundancy through the use of multiple treatment barriers. Through the integration of treatment at the Regional Treatment Plant, the Advanced Water Purification Facility, and underground retention, chemical constituent removal redundancy will be achieved by employing at least two treatment processes for each constituent type and at least four treatment processes for each pathogen category, as shown in the table below.

Table 3	3-1
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Dresses	Chemical Co	Chemical Constituents					Pathogenic Microorganisms		
Process	Nitrogen	TOCª	DPBs⁵	Inorganics	CECsc	Bacteria	Viruses	Protozoa	
RTP Primary/ Secondary	1	~		✓	~	~	~	1	
Ozone			~		1	1	~	1	
MF		~		√d		~		1	
RO	~	~	~	✓	1	1	~	1	
UV/AOP	1		~		~	1	~	4	
Aquifer – Underground Residence Time						~	~	~	
a. Total organ b. Disinfection c. Constituen	nic carbon – TO n by-products – ts of emerging c	C. DBPs. concern – (CECs	\ \	<u> </u>	1	<u> </u>	<u> </u>	

Proposed Groundwater Replenishment Project Treatment Barriers

Proposed Modifications to the PWM/GWR Project DRAFT Supplemental EIR

- To evaluate compliance with the Groundwater Replenishment Regulations, studies were conducted to (1) analyze the recharge components of the GWR Project, including recharge wells, operational facilities, and the fate and transport of the purified water in the groundwater basin, and (2) conduct geochemical modeling to test stabilized reverse osmosis pilot test water³ compatibility with ambient groundwater. The studies found that:
 - No documented groundwater contamination or contaminant plumes were identified in the PWM/GWR Project area, including areas were Proposed Modifications to the Injection Wells would occur. Therefore, injection of purified water associated with the PWM/GWR Project, including with the Proposed Modifications, would not exacerbate existing groundwater contamination or cause plumes of contaminants to migrate.
 - O When two water types with different water chemistry are mixed (such as the PWM/GWR Project purified water and native groundwater), geochemical reactions could occur in the groundwater system that could potentially result in leaching of natural or anthropogenic constituents, which could also potentially impact groundwater quality. The risk of geochemical impacts from incompatibility would be addressed at the PWM/GWR Project Advanced Water Purification Facility by including a stabilization process, using decarbonation and lime addition, to ensure that the purified water is stabilized and non-corrosive. The design and acceptability of the post-treatment stabilization process and finished water quality target concentrations have been verified by geochemical modeling studies and benchscale tests of the geochemical stability of the Seaside Basin aquifer with stabilized Advanced Water Purification Facility treated water, including an independent study conducted by the Seaside Basin Watermaster in 2019 that also applies to the Proposed Modifications.
- A Salt and Nutrient Management Plan (SNMP) has been prepared for the Seaside Basin to comply with the Recycled Water Policy. As documented in the SNMP, ambient groundwater generally exceeds the Basin Plan groundwater objective for total dissolved solids in many areas of the Seaside Basin, while nitrate and chloride concentrations generally meet Basin Plan objectives. Studies conducted to evaluate the water quality of the stabilized reverse osmosis pilot test water found that the concentrations of total dissolved solids, nitrate, and chloride in the reverse osmosis permeate water met all Basin Plan objectives. Further, these concentrations were generally lower than average concentrations in groundwater and are, in some cases, further reduced by the additional treatment process, advanced oxidation with ultraviolet light and hydrogen peroxide. As such, replenishment of the Seaside Basin using the Advanced Water Purification Facility purified water, including with the Proposed Modifications, will not degrade, but will provide benefits to local groundwater quality and increasing the replenishment volumes would further increase these benefits (Jon Lear, MPWMD, personal communication, July 2019).

³ The samples were RO permeate collected in 2014 from the M1W pilot plant, and in 2019 from the Advanced Water Purification Facility Demonstration Facility. In the 2014 sample, the RO permeate was stabilized using a bench-scale post-treatment stabilization unit to better approximate the water quality anticipated for the full-scale Advanced Water Purification Facility. For the 2019 sample, the RO permeate was stabilized using bench-scale decarbonation procedures and hydrated lime addition with the same lime that is used in the full-scale Advanced Water Purification Facility.

- Based on the source water sampling, results of the pilot testing and hydrogeologic studies, other relevant research, and information from other groundwater replenishment projects, the following conclusions are offered with regards to the approved PWM/GWR Project and Proposed Modifications' effect on groundwater resources:
 - The PWM/GWR Project purified water will meet groundwater quality standards in the Basin Plan and state drinking water quality standards. A monitoring program will document project performance. The Proposed Modifications would also meet these standards and the monitoring program will be modified as required by the State Board and Regional Board.
 - The PWM/GWR Project purified water, including as produced by the Proposed Modifications, will contain much lower concentrations of total dissolved solids and chloride than ambient groundwater and will be expected to provide a benefit to the Seaside Basin groundwater quality.
 - No documented groundwater contamination or contaminant plumes have been identified in the PWMGWR Project area, nor in the area of the Proposed Modifications (i.e., Expanded Injection Well Area or CalAm Extraction Wells). Therefore, injection associated with the PWM/GWR Project will not exacerbate existing groundwater contamination or cause plumes of contaminants to migrate.
 - Injection of Advanced Water Purification Facility purified water, including from the Proposed Modifications, will not degrade groundwater quality (Jon Lear, MPWMD, personal communication, July 2019).
 - The purified water will be stabilized as part of the Advanced Water Purification Facility treatment processes to ensure no adverse geochemical impacts. Geochemical modeling has been conducted by Todd Groundwater for the PWM/GWR Project EIR and by Pueblo Water Resources for the Seaside Watermaster to inform the Advanced Water Purification Facility stabilization procedures.
 - The PWM/GWR Project will result in both higher and lower water levels in wells throughout the Seaside Basin at various times. Although water levels will be slightly lower during some time periods, the difference is generally small and judged insignificant. Modeling indicates the PWM/GWR Project will not lower water levels below protective levels in coastal wells and will not exacerbate seawater intrusion.

CHAPTER 4 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Sections			s	Figures		
4.1	Introduction	4.1-1	Resource Topics/Sections and	4.1-1	Updated Cumulative	
4.2	Aestnetics		Abbreviations Key		Projects Location Map	
4.3	Air Quality and Greenhouse Gas	4.1-2	Projects Considered for			
4.4	Biological Resources: Fisheries		Cumulative Analysis (listed by			
4.5	Biological Resources: Terrestrial		primary geographic area in			
4.6	Cultural Resources, Paleontological, and Tribal Cultural Resources		which project is located)			
47	Energy and Mineral Resources					
48	Geology Soils and Seismicity					
49	Hazards and Hazardous Materials					
4 10	Hydrology/Water Quality					
	Groundwater					
4 1 1	Hydrology/Water Quality: Surface					
	Water and Marine					
4 12	Land Use Agricultural and Forest					
	Resources					
4 13	Marine Biological Resources					
4 14	Noise and Vibration					
4.15	Population and Housing					
4 16	Public Services Recreation and					
	Utilities					
4.17	Traffic and Transportation					
4.18	Water Supply and Wastewater					
	Systems					

4.1 INTRODUCTION

This chapter provides a project-level analysis of the physical environmental effects of implementing the Proposed Modifications to the PWM/GWR Project. This chapter describes the environmental setting, assesses impacts, and identifies mitigation measures for significant impacts.

4.1.1 Scope of Analysis

This Draft Supplemental EIR analyzes the potential effects of the Proposed Modifications to the PWM/GWR Project on the environment under the applicable environmental resource topics listed in the Appendix G of the CEQA Guidelines, as updated. The environmental resource topics evaluated in this EIR are identified in **Table 4.1-1**, **Resource Topics/Sections and Abbreviations Key** below.

Table 4.1-1
Resource Topics/Sections and Abbreviations Kev

Resource Topics (Section Number)	Abbreviations
Aesthetics (see Section 4.2)	
Air Quality and Greenhouse Gas (see Section 4.3)	
Biological Resources: Fisheries (see Section 4.4)	BE
Biological Resources: Terrestrial (see Section 4.5)	BT
Cultural Indian Trust Assets and Paleontological Resources (see Section 4.6)	CR
Energy and Mineral Resources (see Section 4.7)	EN EN
Geology Soils and Seismicity (see Section 4.8)	GS
Hazards and Hazardous Materials (see Section 4.9)	HH
Hydrology/Water Quality: Groundwater (see Section 4.10)	GW
Hydrology/Water Quality: Surface Water (see Section 4.11)	HS
Land Use, Agriculture and Forest Resources (see Section 4.12)	LU
Marine Biological Resources (Section 4.13)	MR
Noise and Vibration (see Section 4.14)	NV
Population and Housing (see Section 4.15)	PH
Public Services, Recreation, and Utilities (see Section 4.16)	PS
Traffic and Transportation (see Section 4.17)	TR
Water Supply and Wastewater Systems (see Section 4.18)	WW

Each environmental resource section includes a discussion of the environmental setting, applicable regulations pertaining to the resource area, impact assessment, and mitigation measures where applicable. Where appropriate, this Draft Supplemental EIR refers to existing information contained in the PWM/GWR Project Final EIR concerning the environmental setting and applicable regulatory environment where those discussion items remain unchanged from the prior analysis. The following discussion provides an overview of the approach for those resource topics addressed in this Draft Supplemental EIR pursuant to CEQA Guidelines Sec. 15162(a)(3)(B).

Consistent with the PWM/GWR Project Final EIR, each section of **Chapter 4.0** contains the following elements:

Environmental Setting. This subsection presents a description of the existing physical environmental conditions in the vicinity of the Proposed Modifications, and in the larger Project Study Area, as needed, of the Proposed Modifications with respect to each resource area at an appropriate level of detail to understand the impact analysis. Where the environmental setting remains unchanged from the PWM/GWR Project Final EIR, the reader is referred to the appropriate location in the PWM/GWR Project Final EIR where the environmental setting is described. In certain limited situations a summary of the environmental setting from the PWM/GWR Project Final EIR where the environmental setting from the PWM/GWR Project Final EIR may be included in this Draft Supplemental EIR to provide context and facilitate the review of potential environmental effects associated with the Proposed Modifications.

Regulatory Framework. This subsection provides updated information to Federal, State, and local regulations and policies related to the resource topic and the Proposed Modifications, if applicable. Where the regulatory framework is unchanged, the reader is directed to the applicable section in the PWM/GWR Project Final EIR.

Impacts and Mitigation Measures. This subsection evaluates the potential for the Proposed Modifications to affect the physical environment in comparison to the findings contained in the PWM/GWR Project Final EIR. Significance criteria for evaluation of environmental impacts are defined in the beginning of the impact analysis section, including an explanation of how the significance criteria are used in the evaluation of impacts of the Proposed Modifications. The significance criteria in this Draft Supplemental EIR have been updated to reflect the most recent thresholds of significance contained in

Appendix G of the CEQA Guidelines. This subsection also identifies significance criteria that are not applicable to the Proposed Modifications. The impact statement in each topical subsection is typically followed by an impact evaluation and conclusions for each of the Proposed Modifications, and a conclusion regarding the combined impact of the Proposed Modifications as a whole. Where the impact is regional, such as greenhouse gas and energy and where each of the Proposed Modifications would result in substantially the same environmental effect, a detailed discussion of each of the individual modifications is not included and only a combined impact analysis is provided. This subsection also describes how the impact conclusions differ (more severe, less severe, or the same) from the PWM/GWR Project Final EIR. (See further discussion of Approach to Specific Topical Resource Analysis below). Mitigation measures, including changes to the language to make the mitigation specific to the Proposed Modifications, are identified to avoid or reduce identified significant impacts to a less-than-significant level, if warranted. (See further discussion of mitigation measures below).

Cumulative Impacts and Mitigation Measures. Cumulative impacts are discussed in each environmental resource section following the description of the impacts associated with the Proposed Modifications. The cumulative impact analysis evaluates the effects of the Proposed Modifications as compared to the cumulative impact analysis contained in the PWM/GWR Project Final EIR and whether the Proposed Modifications would result in any additional or more severe cumulative effects beyond those identified in the PWR/GWR Project Final EIR. The cumulative impact analysis is based on the same setting, regulatory framework, and significance criteria presented in each resource topic section. Additional mitigation measures may be identified if the analysis determines that the Proposed Modification's contribution to an adverse cumulative impact would be cumulatively considerable and, therefore, significant. **Section 4.1.5** below describes the assumptions and methodology for assessing cumulative impacts in this Supplement.

4.1.2 Approach to Specific Topical Resource Analysis

As stated in CEQA Guidelines Sec. 15163(b), "[t]he supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised."

For certain environmental resource areas, the conclusions of impact analyses of the Proposed Modifications would not change those identified in the PWM/GWR Project Final EIR and Addenda. Because some of the Proposed Modifications would not result in any new significant impacts nor a worsening in severity of previously identified impacts, they would not be substantially more severe and thus, these impacts are not analyzed in detail. In these topical areas, there would be no change to the environmental or regulatory setting and the potential for impacts from construction or implementation of the Proposed Modifications would be substantially the same as the analysis in the PWM/GWR Project Final EIR. In these instances, this Supplemental EIR provides a brief explanation and rationale why the environmental resource topic is not further considered.

4.1.3 Significance Determinations

CEQA requires that a significance determination be made for each adverse impact identified in a Draft Supplemental EIR. Significance thresholds are identified for each environmental issue or resource. The significance thresholds serve as a benchmark for determining if a project would result in significant adverse environmental impacts when evaluated against the baseline (i.e.

existing environmental conditions). Impacts are assessed relative to each significance threshold to determine whether the Proposed Modifications would have no impact, a less-than-significant impact, or a significant impact, and these determinations consider whether feasible measures are available to reduce the severity of each significant impact.

A "significant effect on the environment" means a substantial, or potentially substantial, adverse change in the environment. (Public Resources Code Sec. 21068). As noted above, the significance criteria used for each environmental resource topic are presented in each of the topical resource section contained in this chapter. For the impact analyses, one of the following significance determinations will be assigned:

- *No Impact (NI).* This determination is made if there is no potential that the Proposed Modifications could affect the resource at issue.
- *Less-than-Significant (LS)*. This determination applies if there is a potential for some limited impact on a resource, but the impact is not significant in accordance with the significance criterion.
- *Less-than-Significant with Mitigation (LSM).* This determination applies if there is the potential for a significant adverse effect in accordance with the significance criterion, but mitigation is available to reduce the impact to a less-than-significant level.
- *Significant Unavoidable (SU).* This determination applies to impacts that are significant, but for which there appears to be no feasible mitigation available to substantially reduce the impact.
- *Beneficial Impacts (BI).* This determination applies to impacts that represent a beneficial effect to the environment.

Within each section in this chapter, a summary table is included at the beginning of the impact discussion to summarize the potential impacts of each of the individual components of the Proposed Modifications, as well as the Proposed Modifications as a whole. In addition, each section also describes whether the Proposed Modifications would result in any additional significant environmental impacts or a worsening in severity of any previously identified significant impacts compared to those identified in the PWM/GWR Project Final EIR. This table also indicates the level of impact significance before and after mitigation. Environmental impacts are numbered throughout this Draft Supplemental EIR, using an abbreviation corresponding to the section name (see **Table 4.1-1** for key to abbreviations) followed by sequentially numbered impacts. Mitigation measures are numbered to correspond to the impact numbers; for example, **Mitigation Measure LU-1** addresses Land Use Impact LU-1.

4.1.4 Mitigation Measures under Proposed Modifications

CEQA requires that feasible mitigation measures be identified to reduce or avoid significant impacts. CEQA Guidelines Sec. 15370 define mitigation as:

- a) Avoiding the impact altogether by not taking a certain action or parts of an action;
- b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and,

e) Compensating for the impact by replacing or providing substitute resources or environments.

For significant impacts identified in the proceeding topical resource sections, this Draft Supplemental EIR identifies mitigation measures to reduce the significant impacts to a less-thansignificant level, where feasible. If impacts would remain significant after all feasible mitigation is implemented (i.e., impact would continue to exceed the relevant significance threshold), the analysis concludes that the impact is significant and unavoidable.

The PWM/GWR Project Final EIR identified mitigation measures to reduce the approved PWM/GWR Project's significant environmental impacts. These mitigation measures, to the extent they are applicable to the Proposed Modifications, would also be required to reduce significant impacts of the Proposed Modifications. In this Draft Supplemental EIR, the previously approved mitigation measures are referenced where appropriate, and new or revised mitigation measures are provided to reduce impacts of the Proposed Modifications to a less-than-significant level. As applicable, secondary effects of implementation of the mitigation are also analyzed.

4.1.5 Cumulative Impacts

CEQA Guidelines Sec. 15355 defines "cumulative impacts" as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental effects. Cumulative impacts can result from individually minor, but collectively significant, actions when added to those of other closely related past, present, or reasonably foreseeable future projects. "[A] cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." (CEQA Guidelines Sec. 15130(a)(1)). Cumulative impacts must be addressed if the incremental effect of a project, combined with the effects of other projects is "cumulatively considerable." (CEQA Guidelines Sec.15130(a)). Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (CEQA Guidelines Sec. 15065(a)(3).Together, these projects comprise the cumulative scenario which forms the basis of the cumulative impact analysis.

CEQA Guidelines Sec. 15130 provides specific guidance concerning the evaluation of cumulative impacts. Specifically, CEQA Guidelines Sec. 15130 states:

- a. An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable.
- b. An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- c. A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- d. The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.
- e. The focus of analysis should be on the cumulative impact to which the identified other projects contribute, rather than on attributes of the other projects that do not contribute to the cumulative impact.

The cumulative impact analysis for each environmental resource topic is described in the appropriate subsections of this Chapter, following the description of project-specific impacts and identified mitigation measures.

4.1.5.1 Approach to Cumulative Impact Analysis

The focus of this Draft Supplemental EIR's cumulative analysis is to determine whether the Proposed Modifications would cause the PWM/GWR Project's contribution to a significant cumulative impact to be cumulatively considerable.

The PWM/GWR Project Final EIR described two approaches to evaluate cumulative impacts under CEQA Guidelines Sec. 15130(b). The first approach used a list of past, present, and reasonably foreseeable future projects producing related or cumulative impacts. The second approach entailed a summary of projections contained in an adopted local, regional, or statewide plan, such as a general plan or related planning document, or in an adopted or certified environmental document, which describes or evaluates conditions contributing to cumulative effects.¹ Specific criteria used to determine an appropriate list of relevant past, present, and future projects for the PWM/GWR Project Final EIR included: 1) similar environmental impacts; 2) geographic scope and location; and, 3) timing and duration of implementation.

This Draft Supplemental EIR evaluates the potential contribution to cumulative effects associated with the Proposed Modifications in comparison to the contribution to cumulative impacts of the approved PWM/GWR Project that was described in the PWM/GWR Project Final EIR. This evaluation utilizes the same approach as the PWM/GWR Project Final EIR. This analysis addresses cumulative impacts based upon the list approach with the specific exceptions related to air quality/greenhouse gas emissions, transportation and traffic, and population and housing. Additionally, each impact area was evaluated for the potential of overlapping construction and operational impacts. The geographic scope of the cumulative analysis varies by resource, because the nature and range of potential effects vary by resource.

Similar Environmental Impacts

Projects that are relevant to the cumulative impact analysis include projects that could contribute incremental environmental effects on the same resources as, and would have similar impacts to, those discussed in the PWM/GWR Project Final EIR, as applicable to the Proposed Modifications. Cumulative impacts that could occur when the impacts of the Proposed Modifications are considered in combination with the impacts of other relevant projects are discussed in each of the topical resource sections of this Draft Supplemental EIR.

Geographic Scope and Location

CEQA Guidelines Sec. 15130(b)(3) requires that lead agencies define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used. The defined geographic scope is dependent on the environmental resource affected. Generally, the geographic scope includes the area within and adjacent to the individual site for each of the Proposed Modifications. However, for certain environmental

¹ For the PWM/GWR Project Final EIR, other projects that may cause cumulative impacts were identified using the list approach; however, as required by the Monterey Bay Air Resources District, the plan-based approach was used to assess cumulative impacts on regional air quality. In addition, the cumulative analysis for population and housing and for traffic relied upon population and housing projections and traffic modeling of the Association of Monterey Bay Area Governments, respectively. Greenhouse gases also were assessed using summaries of projections.

resource topics the geographic scope extends farther, such as the regional roadway network, regional air basin, or the Seaside Basin. The geographic scope of each environmental resource topic is described in the relevant topical section.

The PWM/GWR Project Final EIR included a detailed discussion identifying the geographic scope for the cumulative impact analysis. In general, the geographic scope of the cumulative analysis has remained unchanged from the geographic scope identified in the PWM/GWR Project Final EIR, although minor modifications have been incorporated in this Draft Supplemental EIR to clarify the geographic scope for the Proposed Modifications.

Aesthetics. The geographic scope for cumulative impact analysis of aesthetic resources consists of all Proposed Modification sites and the immediate vicinity around each of these sites that are visible from the same public vantage point as the Proposed Modifications.

Air Quality and Greenhouse Gas Emissions. The geographic scope for cumulative analysis of regional air quality impacts is the air basin in which the facilities are being constructed and operated, and any downwind air basins that may be affected by emissions from the approved PWM/GWR Project with the Proposed Modifications. In this case, the location of the Project Modification sites and the predominantly west-northwest winds in the North Central Coast Air Basin would not affect other air basins; therefore, only projects and plans applicable to the jurisdiction of the Monterey Bay Air Resources District (MBARD or District) (i.e., the North Central Coast Air Basin) would apply. Projects throughout this region could have adverse effects on the regional air quality and the same sensitive receptors within the region. For localized air quality effects, the geographic scope is the vicinity of the Proposed Modifications. Because greenhouse gas (GHG) emissions affect global climate change, the evaluation of GHG emissions is inherently a cumulative impact issue. The geographic scope for cumulative impact analysis of GHG emissions includes the North Central Coast Air Basin, as well as the State of California.

Biological Resources: Fisheries. The geographic scope for cumulative impact analysis of biological fisheries resources consists of the Carmel and Salinas River watersheds.

Biological Resources: Terrestrial. The geographic scope for cumulative impact analysis on terrestrial biological resources consists of the overall region (central coastal California) in which the approved PWM/GWR Project with the Proposed Modifications would be constructed. Projects throughout the region could have adverse effects on the same sensitive species and habitats that occur within and adjacent to the Project with the Proposed Modifications.

Cultural Resources. The geographic scope for cumulative impact analysis on cultural resources includes all sites upon which past, present and probable future projects could affect the same cultural resources as the approved PWM/GWR Project with the Proposed Modifications.

Energy and Mineral Resources. The geographic scope for cumulative impact analysis of energy and mineral resources consists of Monterey County and PG&E's service area.

Geology, Soils, and Seismicity. The geographic scope for cumulative impact analysis on geology and soils consists of each site of the approved PWM/GWR Project with the Proposed Modifications and the immediate vicinity around each of the sites. Geologic and seismic impacts are generally site-specific because they depend upon the local geology and soil conditions and do not have additive effects with activities/projects beyond the immediate vicinity.

Hazards and Hazardous Materials. The geographic scope for cumulative analysis on hazardous and hazardous materials consists of each site of the approved PWM/GWR Project with the Proposed Modifications and the immediate area surrounding the sites, including roadways.

Hydrology and Water Quality: Groundwater. The geographic scope consists of two primary groundwater basins that are located beneath the approved PWM/GWR Project with the Proposed Modifications, the Salinas Valley Groundwater Basin and the Seaside Groundwater Basin.

Hydrology and Water Quality: Surface Water. The geographic scope for cumulative impact analysis on hydrology and water quality of inland surface water includes the watersheds of the surface water bodies that would receive surface flows that originate or interact with other surface water at the approved PWM/GWR Project with the Proposed Modification sites. The geographic scope for cumulative impact analysis on marine water quality includes the area near the M1W ocean outfall diffusers (the Marine Study Area shown in Figure 4.13-1, Existing Marine Biological Resources Study Area of the PWM/GWR Project Final EIR).

Land Use, Agriculture, and Forest Resources. The geographic scope for cumulative impact analysis of land use impacts consists of the immediate area of each site of the approved PWM/GWR Project with the Proposed Modifications. The geographic scope for cumulative impact analysis on agriculture and forest resources consists of Monterey County.

Marine Biological Resources. The geographic scope for cumulative impact analysis of marine biological resources is the area in the immediate vicinity of the existing M1W ocean outfall and diffusers (the Marine Study Area shown in Figure 4.13-1, Existing Marine Biological Resources Study Area of the PWM/GWR Project Final EIR).

Noise and Vibration. The geographic scope for cumulative impact analysis of noise and vibration consists of each of the sites of the approved PWM/GWR Project with the Proposed Modifications, and the immediate vicinity around each of these sites in which noise could combine with noise from the approved PWM/GWR Project with the Proposed Modifications to adversely affect the same sensitive receptors.

Population and Housing. The geographic scope for cumulative impact analysis of population and housing consists of the counties of Monterey, San Benito and Santa Cruz.

Public Services, Utilities, and Recreation. The geographic scope for cumulative impact analysis of public services consists of the service areas of the public service providers evaluated (fire protection, police protection, schools, and parks). For landfill capacity, the geographic scope includes the service area of the MRWMD Landfill. For compliance with solid waste statutes and regulations, the geographic scope encompasses Monterey County, including incorporated cities within which the approved PWM/GWR Project with the Proposed Modifications are proposed.

Traffic and Transportation. The geographic scope for cumulative impact analysis of transportation and traffic consists of the roadways affected by construction and operation of the approved PWM/GWR Project with the Proposed Modifications and the areas in northern Monterey County that use the same roadways as the approved PWM/GWR Project with the Proposed Modifications.

Water Supply and Wastewater Systems. The geographic scope for cumulative impact analysis of water supply and wastewater systems includes the service areas for the providers of water supply service and M1W for wastewater treatment.

Timing and Duration of Construction and Implementation

Projects that are relevant to the cumulative analysis include projects that could contribute impacts that coincide with the approved PWM/GWR Project with the Proposed Modifications' impacts during construction (short-term) or operation (long-term). Construction of the approved PWM/GWR Project is anticipated to be complete in 2019. Construction of the Proposed Modifications would last approximately 24 months, occurring between approximately October

2020 and December 2021 for M1W Facilities, with CalAm construction continuing into 2022. For temporal impacts such as air quality emissions, and increased noise levels and traffic during construction, cumulative effects associated with the Proposed Modifications could overlap with those of other past, present, and reasonably foreseeable future projects.

4.1.5.2 List of Relevant Projects

The PWM/GWR Project Final EIR included an extensive list of past, present, and reasonably foreseeable future projects. That list included 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. The cumulative project list from the PWM/GWR Project Final EIR is included as Table 4.1-2, Projects Considered for Cumulative Impacts Analysis. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR. That list, which is included below, consisted of a comprehensive list of cumulative projects. Although some of the cumulative projects have since been abandoned or may be beyond the scope of the Proposed Modification's potential effects, the cumulative project list in the PWM/GWR Project Final EIR conservatively identified potential past, present, and reasonably foreseeable future projects. Please note that Table 4.1-2 describes overlapping construction schedules between the listed projects and the components of the approved PWM/GWR Project. To the extent construction of the listed projects might occur at the same time as construction of any of the Project Modifications. similar overlapping impacts would be expected. There are no relevant changes to the cumulative project list that would result in an impact that would combine with the Proposed Modifications. As a result, the existing cumulative list is a reasonable forecast of potential cumulative projects even when considering that construction schedules of the project listed have shifted. Table 4.1-2 includes a brief description of the projects and their anticipated construction schedules. Table **4.1-2** also identifies the potential cumulative effects associated with each of the listed projects. Figure 4.1-1, Location of Projects Considered in the Cumulative Analysis, shows the location of the cumulative projects; the numbering of the projects in the table correlates to the numbered location of the projects on the figure.



Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component
Monterey Co	unty	•			·
1	CalAm Monterey Peninsula Water Supply Project (with Smaller 6.4 mgd Desalination Plant) (CalAm/ CPUC*)	See description in Section 4.1.3.2 of the PWM/GWR Project Final EIR	Geographic scope, location, and timing (Treatment Facilities, Product Water Conveyance System (RUWAP and Coastal Alignments) Product Water Booster Pump Station (RUWAP) Injection Well Facilities CalAm Distribution System Improvements)	2020-2022	See Figure 4.1-2 . The CalAm desalination plant site would be located ½ mile northwest of the existing RTP (the site of the proposed GWR advanced treatment facilities and Salinas Valley Reclamation Plant improvements) The CalAm proposed subsurface slant wells at CEMEX would be located 2 miles west and/or northwest of the RTP; CalAm pipeline alignments and other CalAm facilities would be located throughout the Proposed Project area within less than ¼ mile in some locations. The Proposed Project and the CalAm Monterey Peninsula Water Supply Project would share the same ocean outfall.
2	Salinas Valley Water Project Phase 2 (Monterey County Water Resources Agency*)	The Salinas Valley Water Project Phase 2 would allow MCWRA to facilitate further offsets of groundwater pumping by delivering additional surface water to the Pressure and East Side subareas. The project would divert up to 135,000 acre-feet per year of water from the Salinas River for municipal, industrial, and/or agricultural uses in the Pressure and East Side subareas. Continued alleviation of groundwater pumping through use of the diverted surface water would help address seawater intrusion in Monterey County. The project proposes two surface water diversion points and their appurtenant facilities for capture, conveyance, and delivery of the water. The capture and diversion facilities would consist of either a surface water diversion facility, similar to the Salinas River Diversion Facility, or subsurface collectors, such as radial arm wells, which has not been determined. The conveyance facilities would be composed of pipelines and pump stations. The pipeline diameter, length, destination, number and location of turnouts. Jocations of pump stations. and	Similar environmental impacts, geographic scope & location (Treatment Facilities, Product Water Conveyance System)	Construction not likely to coincide with Proposed Project. Schedule shows: Draft EIR (2015); project operation (2026)	The project would be located in Monterey County within the Salinas Valley and includes two surface water diversion points, one located near the City of Soledad (26 miles from the Salinas Pump Station) and the other located south of the City of Salinas (5-1/2 miles from the Salinas Pump Station). Each diversion point would be accompanied by conveyance and delivery facilities, the locations and termini of which have not been determined.

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component
		physical layout of the conveyance facilities have not been determined. The delivery facilities may consist of Injection Wells for, percolation ponds, turnouts for direct use of the water, or other options. The construction design and physical location of the delivery facilities will be influenced by the type of facility, the end-user's intended application of the water (agricultural versus urban), and need for water treatment. The project design will be identified after further feasibility and environmental review. (MCWRA, 2014a)			
3	East Garrison Specific Plan (UCP, Inc.)	Mixed-use development project comprised of residential, commercial, office, institutional, and recreational uses on approximately 244 acres. The project includes the construction of up to 1,470 dwelling units, 75,000 square feet of commercial uses, 11,000 square feet of public and institutional uses, 100,000 square feet of art/cultural/educational uses, and approximately 50 acres of open space. Development under the Specific Plan will be implemented in three phases. Phase I infrastructure has been completed. At end of 2013, construction of Manzanita Place Apartments (64 units) was nearing completion and 37 building permits for single family homes had been issued and were under construction. (Michael Brandman Associates, 2005, FORA, 2014, Monterey County Planning Department, 2013).	Geographic scope and location (Salinas Pump Station, Salinas Treatment Facility Source Water Diversion and Storage Site, Treatment Facilities)	Under construction in 2014 – 2020	Former Fort Ord Military Base, East Garrison Area. Approximately ½ mile southwest of the Salinas Treatment Facility.

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component
4	DeepWater Desal (Deep Water Desal, Inc.)	Construction of a 15-mgd seawater desalination facility located on a 110- acre site in Moss Landing, on Dolan Road, approximately 1,500 feet east of the Moss Landing Power Plant. This project would serve the City of Salinas (Monterey County Planning Department, 2013).	Geographic scope and location (Product Water Pipelines), similar environmental impacts	Beyond 2017	Primary facilities in Moss landing area is approximately 2-1/2 miles northwest from the Tembladero Slough Diversion Site. Pipelines may be located within vicinity of the Proposed Project.
5	Interlake Tunnel (Monterey County Water Resources Agency)	The approximately 11,000-foot gravity- flow tunnel would move water from Lake Nacimiento to Lake San Antonio that would have otherwise been spilled at Nacimiento Dam (MCWRA, 2014b).	Additive beneficial impacts on the Salinas Valley Groundwater Basin water levels and seawater intrusion	Beyond 2020	74 miles southeast of the Salinas Pump Station.
6	Harper Canyon (Harper Canyon Realty LLC)	The project consists of subdivision of 344 acres into 17 residential lots ranging in size from 5.13 acres to 23.42 acres on 164 acres and one 180-acre remainder parcel	Geographic scope and location (Salinas Pump Station, Salinas Treatment Facility Source Water Diversion and Storage Site, Treatment Facilities)	Approved	South of State Highway 68, Near intersection of Harper Canyon and San Benancio Road and about 3.5 miles from the Salinas Pump Station
7	Corral De Tierra Road (Omni Enterprises, LLC)	Development of a new 100,000-square- foot shopping center that includes retail and office space (Monterey County Planning Department, 2014).	Geographic scope and location (Salinas Pump Station, Salinas Treatment Facility Source Water Diversion and Storage Site, Treatment Facilities)	Approved	Highway 68 over six miles from the Salinas Pump Station
8	Ferrini Ranch Subdivision (Bollenbacher & Kelton, Inc.)	Subdivision of an approximately 866-acre property into 185 residential lots, including 17 inclusionary unites; 28,500 square feet commercial/winery, parcel fronting on River Road, and 700 acres of open space (Monterey County Planning Department, 2014).	Geographic scope and location (Salinas Pump Station, Salinas Treatment Facility Source Water Diversion and Storage Site, Treatment Facilities)	Approved	South side of State Highway 68, between River Road and San Benancio Road and about 3 miles from the Salinas Pump Station

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component
City of Sand	City	•	•		
9	Monterey Bay Shores Resort (SNG Development Company)	A 341-unit "eco-resort" on 39 acres approved. Proposal calls for 161 hotel rooms, 180 condominiums, a restaurant, conference center, spa and three swimming pools.	Geographic scope and location (Product Water Conveyance – either alignment)	Project approved. Construction start date unknown.	Former Sand Mine site, near the Fremont / Highway 1 interchange about 1-1/2 miles west of the Proposed Project Product Water Conveyance (either alignment)
City of Marin	a				
10	The Dunes on Monterey Bay (Marina Community Partners)	Mixed-use development project comprised of an additional 1,237 residential units, 500 hotel rooms, and retail and office space on 297 acres. Phase 1 (378,000 sf Retail Center) built in 2007-08. Projects currently underway include the following: (1) South County Housing to develop and build 108 low and very low income affordable apartments to be completed by spring/summer 2014, (2) Cinemark multiple screen movie theater planned to be constructed by summer 2014, (3) Plans approved for two approximately 15,000 sf retail buildings to be built near the proposed movie theater, (4) Veterans Affairs Monterey Health Care Center located on a 14.31 acre project site within the Dunes on Monterey Bay Specific Plan area. (FORA, 2014).	Geographic scope and location (Product Water Conveyance – RUWAP Alignment) and timing of construction	Ongoing construction/full buildout scheduled for 2020	Former Fort Ord Military Base, Highway 1 / Imjin Parkway immediately adjacent to construction activities for the Proposed Project's proposed RUWAP product water conveyance alignment.
11	Marina Airport (City of Marina)	 Marina Airport Economic Development Area – Airport development project aimed at promoting growth of the airport. Individual projects include: Airfield Electrical System Upgrades Runway Rehabilitation and Extension Taxiway Rehabilitation and Extension Airfield NAVAIDS Improvements (City of Marina, 2014). 	Geographic scope and location (Product Water Conveyance – RUWAP Alignment)	Approved 2009– 2013	Marina Municipal Airport located on the east side of the City of Marina; The proposed Product Water Conveyance – RUWAP Alignment is about ½ mile from the airport.

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component
12	Marina Station: Armstrong Ranch	Development project comprised of 1,360 residential units, approximately 60,000 square feet of retail space, 144,000 square feet of office space, and 652,000 square feet of business park/industrial uses (City of Marina, 2014).	Geographic scope and location (Product Water Conveyance – RUWAP and Coastal alignment options)	Unknown; Approved	The proposed Product Water Conveyance pipeline alignments (both the RUWAP and Coastal options) would pass immediately adjacent to or through the proposed site. Site plans for the previous proposed development at this site accommodated water supply pipelines such as those proposed and evaluated in this EIR.
13	Rockrose Gardens (Interim, Inc.)	Affordable housing for people with disabilities, 20 units of permanent supportive housing for people with psychiatric disabilities. (FORA, 2014)	Geographic scope and location (Product Water Conveyance – RUWAP Alignment)	Approved, construction completed Fall 2014	Former Fort Ord Military Base, Lexington Court in the city of Marina; less than 1 mile from construction activities for the Proposed Project's RUWAP Product Water Conveyance alignment.
14	Cypress Knolls Senior Residential Project	Senior residential community with active- adult housing, care services, senior community center, and supportive amenities and services on 188 acres (City of Marina, 2014).	Geographic scope and location (Product Water either alignment)	Unknown, Approved but Construction Suspended	On the northern side of the CSUMB campus in the city of Marina; immediately adjacent to construction activities for both Proposed Project Product Water Conveyance alignments.
15	Marina Heights	Removal of 828 abandoned residential units and replacement with a combination of 1,050 new townhouse, cottage, and single-family residential units. The project also includes 35 acres of parks, greenbelts, and open space (City of Marina, 2014).	Geographic scope and location (Product Water Conveyance – either alignment)	Unknown, Approved	On the northern side of the CSUMB campus in the city of Marina; immediately adjacent to construction activities for both Proposed Project Product Water Conveyance alignments.

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component
16	North Campus Housing Master Plan (CSUMB*)	Includes 583 student housing units, leasing office, community center on 8- acres (more recently known as the Promontory Housing Project) (FORA, 2014).	Geographic scope and location (Product Water Conveyance- either alignment)	2015	On the northern side of the CSUMB campus in the city of Marina; immediately adjacent to construction activities for both Proposed Project Product Water Conveyance alignments.
17	ITCD Academic Building (CSUMB*)	New 58,000 square foot Information Technology and Communications Design (ITCD) and the School of Business academic building. (FORA, 2014)	Geographic scope and location (Product Water Conveyance, either alignment)	Unknown	Immediately west of the Tanimura and Antle Family Memorial Library on Divarty Street, less than ¼ mile from both Proposed Project Product Water Conveyance alignments.
18	Regional Urban Water Augmentation Project – Desalination (Marina Coast Water District*)	Construction of a 1,500-acre-foot-per- year desalination plant at the Marina Coast Water District Armstrong Ranch property, north of the city of Marina in Monterey County. The RUWAP project would extract seawater and potentially brackish water, produce desalinated water, and convey it to the existing District distribution systems (Marina Coast Water District, 2012).	Similar environmental impacts, geographic scope and location (Product Water Conveyance- RUWAP Alignment)	Unknown	Armstrong Ranch property, immediately adjacent to the RUWAP Product Water Conveyance alignment.
19	Regional Urban Water Augmentation Project – Recycled Water (Marina Coast Water District*)	The Recycled Water Alternative proposed to supply 1,500 AFY of recycled water for the Marina Coast Water District. This alternative also includes the following facility components: a new distribution system, and new operational storage tanks and associated pumps (Marina Coast Water District, 2012).	Similar environmental impacts, geographic scope and location (Product Water Conveyance- RUWAP Alignment; Treatment Facilities at Regional Treatment Plant)	Unknown	This project would include facilities at the Regional Treatment Plant, plus facilities immediately south of the plant, pipelines, and pumps through Marina and the former Fort Ord. This project includes the same or similarly located product water pipeline alignment as the RUWAP and some proposed facilities for both this project and the Proposed Project would be located at the Regional Treatment Plant.
20	Slant Test Well Project (California American Water Company)	Construction of a temporary test well for collection of data regarding geology, hydrology, and water quality. The test well would extend diagonally under the floor of the Pacific Ocean through the Dune Sand Aquifer, Salinas Valley Aquitard (if present), and the 180-Foot Aquifer. The facility would operate for a period of up to 24 months (City of Marina, 2014).	No overlapping construction or operations	Approved; Complete in 2015	Cemex Sand Mining Facility, Lapis Road, west of Highway 1 and about 1 mile northwest of the Coastal alignment product water conveyance. The test well is proposed to become one of the permanent wells for Project #1 (MPWSP) if it operates successfully.

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component
City of Seasi	de		•		·
21	West Broadway Urban Village Specific Plan (City of Seaside*)	Mixed-use, transit-oriented development comprised of residential with ground- floor retail and commercial uses along Broadway Avenue, with supporting future transit-oriented development along the west side of Del Monte Boulevard. Includes a public library and parking structure on Broadway Boulevard and a hotel/conference center mixed-use development at the southeast corner of Canyon Del Rey and Del Monte Boulevards. Broadway infrastructure and street improvements to be completed near term. (City of Seaside, 2013b).	Geographic scope and location (CalAm Distribution System pipelines)	Ongoing construction due to redevelopment plans	West of Fremont Boulevard, along Broadway Avenue, Del Monte Boulevard, and Canyon Del Rey Boulevard, within less than ¼ of the CalAm distribution pipeline (Transfer).
22	Seaside Resort (Seaside Resort Development, LLC)	The first phase, completed in 2009, involved upgrades to the Bayonet and Black Horse Golf Courses. The next phase of development features a four- star hotel with approximately 275 hotel rooms, 175 timeshare units, and 125 residential units (City of Seaside, 2013c).	Geographic scope and location (Product Water Conveyance-either alignment; Injection Well Facilities)	Stage 1 2017- 2018	Former Fort Ord Military Base, Monterey Road at Coe Avenue / immediately adjacent to both of the Proposed Project Product Water Conveyance alignments and 17pprox ½ mile north of the Proposed Project Injection Well Facilities.
23	90-Inch Bay Avenue Outfall Phase 1 (City of Seaside*)	Improvement project to 1) Install a discharge valve at the outfall discharge; 2) Annual maintenance and manual breaching of the sand bar to allow gravity flow through the culvert (requires Coastal Permit); 3) Create an infiltration basin at John Street and Redwood Avenue to mitgate flooding in this area; 4) Reconstruct the existing elevated emergency outlet structure, including doubling the size of the box to increase the width of the emergency outlet structure; and 5) Construct a curbed channel along the top of the existing 90- inch diameter culvert from the emergency out let to the check valve	Similar environmental impacts, geographic scope and location (CalAm Distribution System pipelines)	Unknown	Redwood Avenue and John Street in the City of Sand City, located within ¼ mile of the CalAm distribution pipelines (specifically, the CalAm Monterey Pipeline).

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component
24	Monterey Downs and Horse Park and Central Coast Veteran's Cemetery Specific Plan (City of Seaside*)	The Specific Plan would include a 225,000-square-foot horse training facility comprised of a track and stabling area, ancillary buildings, and a 6,500-seat sports arena and grandstand; a 330,000-square-foot commercial center; a 15,000-square-foot horse park with a visitors center, office space, veterinary clinic, and horse stables; two affordable extended-stay hotels with a total of 256 units; 1,280 residential units ranging from apartments to single-family residential homes; a 100,000-square-foot office park; a 200-room (100,000-square-foot) hotel; a 5,000-square-foot tennis and swim club; a 73-acre habitat preservation area; and 74 acres dedicated to open space and parks and infrastructure. The Central Coast Veterans Cemetery component of the Specific Plan project includes 13,838 burial sites for 20 years of interments, an administration building, a maintenance yard and building, memorial areas, veterans' hall, cultural history museum, chapel, and a 300-seat amphitheater for special events. An adjacent 45.9-acre parcel is proposed as a habitat restoration area (City of Seaside, 2013a).	Geographic scope and location (Product Water Conveyance- RUWAP Alignment; and Injection Well Facilities)	Unknown; Draft EIR released March 2015	Former Fort Ord Military Base East of General Jim Moore Boulevard, south of Inter-Garrison Road and north of Eucalyptus Road over 1 mile east of the RUWAP alignment for the Product Water Conveyance.
25	Del Monte Blvd Dry Weather Diversion (City of Seaside*)	An existing 90-inch diameter storm drain pipe conveys water from approximately 2,000 acres within the City of Seaside to an outfall at Monterey Bay. The existing water quality is poor due to urban water impacts. The project consists of construction of a Dry Weather Storm Water diversion at Del Monte Boulevard to the sanitary sewer system. Diverted water would be treated by the regional treatment plant and reused for existing non-potable and potential future potable uses.	Similar environmental impacts, geographic scope and location (CalAm Distribution System pipelines)	2015	Broadway Avenue between Del Monte Boulevard and Fremont Boulevard and at Del Monte Boulevard, less than ¼ mile from the CalAm Transfer and Monterey Pipelines.

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component
26	West Broadway Stormwater Retention (City of Seaside*)	The project consists of construction of a stormwater treatment and diversion system in Broadway Avenue between Del Monte Boulevard and Fremont Boulevard and at Del Monte Boulevard. Treated water would be diverted to retention structures for groundwater recharge.	Similar environmental impacts, geographic scope and location (CalAm Distribution System pipelines)	Unknown	Broadway Avenue between Del Monte Boulevard and Fremont Boulevard, and Del Monte Boulevard between Broadway Avenue and Contra Costa Street; within ¼ of the CalAm Distribution System Transfer and Monterey Pipelines.
27	Seaside Groundwater Basin Aquifer Storage and Recovery Phase 1 (Monterey Peninsula Water Management District*)	Water supply project comprised of two Injection/Extraction Wells, a backwash percolation basin, a chemical/electrical building, and conveyance pipelines. During high-flow periods in the Carmel River, river water is injected into Seaside Groundwater Basin, then extracted during dry periods or periods of high demand (MPWMD, 2005).	Similar environmental impacts, geographic scope and location (Injection Well Facilities Site)	Construction completed in 2008	General Jim Moore Boulevard and Eucalyptus Boulevard, primary physical facilities located ¼ mile from the Proposed Project Injection Well Facilities.
28	Seaside Groundwater Basin Aquifer Storage and Recovery Phase 2 (Monterey Peninsula Water Management District*)	This phase includes two Injection/Extraction Wells and appurtenant facilities (MPWMD, 2013).	Similar environmental impacts, geographic scope and location (Product Water Conveyance, Injection Facilities)	Construction completed in 2014	Seaside Middle School General Jim Moore Boulevard at Coe Avenue. This project's physical facilities are located immediately adjacent to the Proposed Project Product Water Conveyance pipeline and ¼ northwest of the Proposed Project's Injection Well Facilities.
29	Dredge Laguna Grande and Roberts Lake (City of Seaside*)	Create additional storage capacity, visitor serving amenities, and habitat enhancements at Laguna Grande and Roberts Lake. The additional storage capacity could act as a reservoir for diversion of stormwater to the proposed GWR project. Conjunctive use of water from Roberts Lake could be a viable alternative to breaching the sand bar to avoid flooding.	Similar environmental impacts, geographic scope and location (CalAm Distribution System pipelines)	Unknown	Near the intersection of Highway 218 (aka Canyon Del Rey Boulevard) and Del Monte Boulevard, immediately adjacent to the proposed CalAm Distribution System: Monterey Pipeline.

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction	Project Location / Approximate Distance to nearest GWR Project Component		
0	Lead Agency)*		r roject componento,	ooneddie			
City of Monte	City of Monterey						
30	459 Alvarado Street	12,000 square feet of commercial units and (City of Monterey, 2014).	CalAm Distribution Pipelines-Monterey Pipeline	Approved; Under Construction	Within ¼ mile of the CalAm Distribution System Monterey Pipeline Alignment in Old Town Monterey.		
31	480 Cannery Row	Ocean View Plaza – Mixed-use development project comprised of 87,362 square feet of commercial space, 30,000 square feet of restaurant space, 8,408 square feet of coastal/community use, 38 market-rate condominiums, and 13 inclusionary housing units (City of Monterey, 2014).	CalAm Distribution System-Monterey Pipeline	Unknown	Located approximately 1 mile north of the western terminus of the CalAm Distribution System Monterey Pipeline.		
City of Pacifi	ic Grove						
32	Local Water Project (City of Pacific Grove*)	Construction of a new local satellite recycled water treatment plant at the former Point Pinos Wastewater Treatment Plant to treat Pacific Grove wastewater and deliver recycled water to irrigation sites in the city (CPUC, 2012a).	Similar environmental impacts, timing and duration of implementation; similar project objectives	2015 – 2016	Sunset Drive adjacent to Pacific Grove Golf Links, approximately 5 miles west of the CalAm Distribution System Monterey Pipeline.		
33	Monterey- Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project (Cities of Monterey and Pacific Grove*)	Divert stormwater from the Greenwood Park and Congress Storm Drain Watersheds to the David Avenue Reservoir site, provide treatment, and deliver recycled water to irrigation sites throughout the city. Facilities include a 15- million-gallon storage reservoir and 8,800 lineal feet of recycled water distribution pipeline (CPUC, 2012a). The primary purpose of the project is to improve stormwater quality prior to being discharged into the ASBS, in accordance with SWRCB standards. A secondary project purpose is to provide stormwater as a source of non-potable recycled water supply for local irrigation.	Similar environmental impacts	2018 -2020	Citywide – David Avenue Reservoir, Pine Avenue, Ocean View Blvd, former wastewater treatment plant site, 1 mile north of the CalAm Distribution System Monterey Pipeline.		

Table 4.1-2

Cumulative Project No.	Project Name (Proponent or Proponent and Lead Agency)*	Project Description	Areas of Overlap (Potentially Affected Project Components)	Estimated Construction Schedule	Project Location / Approximate Distance to nearest GWR Project Component	
City of Salinas						
	Salinas Solar Project	of photovoltaic solar panels at the Salinas Treatment Facility Diversion and Storage site. 12.3 acres of those panels and their corresponding power would be leased to MRWPCA for use at the Salinas Pump Station for diversion and pumping of agricultural wash water and southwestern stormwater along with sewage.	and location; timing and duration of implementation (Salinas Treatment Facility Diversion and Storage Site)	complete in 2016	Treatment Facility Diversion and Storage site	
Other Projec	ts					
35	Fort Ord Dunes State Park Campground (California State Parks*)	The project proposes construction and operation of a campground facility and associated infrastructure within Fort Ord Dunes State Park, including 45 RV sites and two host sites; 10 hike/bike sites, and 43 tent sites; parking; restrooms and showers; a multi-purpose building; outdoor campfire center, interpretation/ viewing areas; renovation of existing bunkers; an entrance station near the 1 st Street underpass; modular structures; storage yard and maintenance shop; improved beach access/trails; one plumbed restroom with shower; 200 foot wildlife/habitat corridor; internal campground trail network, trail improvements and roadway improvements; and off-site utilities.	Geographic scope and location; timing and duration of implementation (Product Water Conveyance – Coastal Alignment)	2015	Fort Ord Dunes State Park is located immediately west of the Transportation Agency for Monterey County rail corridor and State Highway 1 west of the former Fort Ord; immediately adjacent to the Proposed Project Coastal Alignment Option Product Water Conveyance alignment.	

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4.2 **AESTHETICS**

Sections	Tables	Figures		
4.2.1 Introduction	4.2-1 Summary of Prior Environmental	4.2-1 Site Photos - Advanced Water		
4.2.2 Environmental Setting	Review – Aesthetics	Purification Facility		
4.2.3 Regulatory Framework	4.2-2 Summary of Visual Sensitivity	4.2-2 Site Photos - Product Water		
4.2.4 Impacts and Mitigation Measures	Conditions	Conveyance Pipeline		
	4.2-3 Visual Impact Scale for	4.2-3 Site Photos – Expanded		
	Operational Analysis	Injection Well Facilities		
	4.2-4 Summary of Impacts - Aesthetics	4.2-4 Site Photos - CalAm		
		Extraction Wells		
		4.2-5 Photo of Existing Injection		
		Well		

4.2.1 Introduction

This section describes the existing visual character of the sites for the Proposed Modifications and evaluates the potential changes to aesthetic effects associated with the implementation of the Proposed Modifications, compared to the effects identified in the PWM/GWR Project Final EIR and Addenda.

The visual effects of the PWM/GWR Project were identified in Section 4.2, Aesthetics, of the PWM/GWR Project Final EIR (see PWM/GWR Project Final EIR Vol. 1, at pg. 4.2-1 through 4.2-52). Similarly, the Addenda to the PWM/GWR Project Final EIR also considered the visual effects associated with minor modifications to the PWM/GWR Project Final EIR. The Addenda did not change any of the conclusions of the Final PWM/GWR EIR. **Table 4.2-1** below summarizes the findings of the PWM/GWR Project Final EIR and Addenda.

Table 4.2-1

Summary of Prior Environmental Review – Aesthetics

	Approved PWM/GWR Project (Overall Impact)
AE-1: Construction Impacts on Scenic Views, Resources, and Visual Quality of Sites and Surrounding Area	LS
AE-2: Construction Impacts due to Temporary Light and Glare	LSM
AE-3: Operation Effects on Visual Quality of Sites and Surrounding Areas	LS*
AE-4: Operation Impacts due to Permanent Light and Glare	LSM
NI – No Impact LS – Less-than-Significant LSM – Less-than-Significant with Mitigation SU – Significant Unavoidable	

BI – Beneficial Impact

* Although impact was identified as less-than-significant, the PWM/GWR Project Final EIR included a mitigation measure to address comments received from the City of Seaside related to potential aesthetic impacts from proposed injection well facilities.

This Draft Supplemental EIR describes existing visual resources based on site photographs and site surveys conducted by DD&A, as well as review of existing environmental documentation. Building dimensions and architectural details were provided by M1W and MPWMD. This section addresses the direct, indirect, and cumulative effects of the Proposed Modifications relative to findings in the PWM/GWR Project Final EIR and Addenda. This section uses information from the

MPWSP EIR/EIS regarding construction of CalAm Distribution System Improvements. Changes to approved mitigation measures in the adopted MMRP for the approved GWR/PWM Project and to any indirect impacts of these measures are also described, where applicable.

4.2.1.1 Concepts and Terminology

Key concepts and terminology used to evaluate the potential visual effects of the Proposed Modifications are unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR relies on the PWM/GWR Project Final EIR and summarizes applicable information from it.

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Depending on the extent to which a project's presence would alter the visual character and quality of the environment, a visual or aesthetic impact may occur. Visual quality, visual character and visual sensitivity, affected viewers and exposure sensitivity and Visual Study Area are the terms used throughout the analysis, and are generally defined below.

- Visual quality is defined as the overall visual impression or attractiveness of a site or locale as determined by its aesthetic qualities.
- Visual character is a general description of the visual attributes of a particular land use setting and the unique set of landscape features. The purpose of defining the visual character of an area is to provide the context within which the visual quality of a particular site or locale is most likely to be perceived by the viewing public.
- Affected viewers and exposure sensitivity conditions address the variables that affect viewers and their visual exposure to the project component sites. The identification of viewer types and volumes describes the type and quantity of potentially affected viewers within the Visual Study Area. Generally, viewer sensitivity relates to the level of interest or concern the public has for a particular aesthetic resource.
- Visual sensitivity is determined based on the combined factors of visual quality, viewer types and volumes, and visual exposure to the Proposed Modifications as described above. A setting's overall visual sensitivity is the measure of its susceptibility to significant visual impacts as a result of project-caused visual changes.

Each of the above factors are rated in this analysis as low, moderate, or high, as further discussed in **Section 4.2.2** below.

4.2.1.2 Visual Study Area

The PWM/GWR Project Final EIR and Addenda accurately described the Visual Study Area for the approved PWM/GWR Project and Proposed Modifications.

4.2.2 Environmental Setting

4.2.2.1 Visual Character of the Project Area

Section 4.2.2.1 of the PWM/GWR Project Final EIR describes the visual character of the project area. The PWM/GWR Project Final EIR used landscape units to classify the visual character of each of the individual project component sites. The Proposed Modifications include improvements within the following types of landscaped units: Urban and Developed (Advanced Water Purification Facility improvements, Product Water Conveyance Pipeline, and proposed CalAm facilities) and Coastal Scrub (Injection Well Facilities and a portion of the Product Water

Conveyance Pipeline), as summarized in **Table 4.2-2, Summary of Visual Sensitivity Conditions.**

4.2.2.2 Scenic Views and Scenic Resources

Section 4.2.2.2 of the PWM/GWR Project Final EIR describes Scenic Views and Scenic Resources in the project area. The Proposed Modifications are not located in an area that would affect designated scenic highways or locally designated roads and are not located in proximity to any scenic roads or areas that are recognized as providing scenic views or resources.

4.2.2.3 Visual Character and Sensitivity of Project Sites

Table 4.2-2, Summary of Visual Sensitivity Conditions provides an overview of visual quality, affected viewers, exposure conditions and visual sensitivity of each component site for the Proposed Modifications, which are described in more detail in the remainder of this section. **Figures 4.2-1** through **4.2-4** include photographs of existing visual conditions at the Proposed Modifications.

Table 4.2-2

Facility Site	Landscape Unit	Visual Quality	Affected Viewers and Exposure Conditions	Visual Sensitivity			
Advanced Water Purification Facility	Urban and Developed	Low	Low	Low			
Product Water Conveyance Pipeline	Urban and Developed, Coastal Scrub	Moderate	Moderate	Moderate			
Injection Well Facilities	Coastal Scrub	Moderate	Moderate	Moderate			
CalAm Facilities: Extraction Wells	Urban and Developed	Low/Moderate	Low/Moderate	Low/Moderate			
CalAm Facilities: Conveyance Pipelines	Urban and Developed	Low	Low	Low			

Summary of Visual Sensitivity Conditions

Advanced Water Purification Facility

The PWM/GWR Project Final EIR described the existing visual character of the Advanced Water Purification Facility site. The site is part of the larger Regional Treatment Plant. The PWM/GWR Project Final EIR identified that this site is within an Urban and Developed landscape unit due to existing structures and development, although the surrounding area is generally located in the Agricultural landscape unit. The site is characterized by large scale public utility/industrial-looking tanks and structures. The Advanced Water Purification Facility is in the northwest corner of the Regional Treatment Plant. **Figure 4.2-1, Site Photographs of Advanced Water Purification Facility** shows photographs of the site.

• **Visual Quality.** The site is not located within a designated scenic vista of a scenic corridor as defined by the Monterey County General Plan. The existing visual quality of the site is characterized by the existing structures, tanks and equipment that result in an industrial-looking appearance. The site does not contain any visual features that are visually unique. The site is fully developed with infrastructure associated with the Regional Treatment Plant, including the newly constructed Advanced Water Purification Facility. Therefore, the visual quality of the site is considered low.



Site Photos - Advanced Water Purification Facility

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Proposed Modifications to the PWM/GWR Project DRAFT Supplemental EIR

4.2-1



Photo of Product Water Conveyance Pipeline alignment taken from near the Blackhorse Reservior looking southeast toward the intersection of Eucalyptus Road and the existing dirt road.

Site Photos - Product Water Conveyance Pipeline

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4.2-2



Photo of Expanded Injection Well Area taken from Eucalyptus Road looking south.



Photo of Expanded Injection Well Area taken from border with existing Injection Well Area looking east.

Site Photos - Expanded Injection Well Area

Figure **4.2-3**

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Photo of Extraction Well EW-1 and EW-2 site taken from near General Jim Moore Boulevard looking west.



Photo of Extraction Well EW-3 and EW-4 site taken from near General Jim Moore Boulevard looking east.

Site Photos - CalAm Extraction Wells

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Figure 4.2-4a



Photo of CalAm Conveyance Pipelines alignment taken from near Extraction Well EW-3 and EW-4 sites looking south down General Jim Moore Boulevard.



Photo of CalAm Conveyance Pipelines alignment taken from near Injection Well Facilities looking north up General Jim Moore Boulevard.

Site Photos - CalAm Conveyance Pipelines

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- Affected Viewers and Exposure Conditions. The site is not visible from any public roads; therefore, the visual exposure of the site is low.
- **Visual Sensitivity.** The overall visual sensitivity of the site is considered low due to the low visual quality of the site and the lack of visibility of the Project Modifications from any public roads.

Product Water Conveyance Pipeline

The Proposed Modifications include up to two miles of new underground Product Water Conveyance Pipeline. This modification is primarily within the Urban and Developed landscape unit, except for the northern most portion, which would be constructed within an existing dirt road, and a portion of the alignment located near the area of the Expanded Injection Well Facilities. Although the northern portion of the alignment is located within an existing disturbed area, the area immediately surrounding the existing dirt road is within the Coastal Scrub landscape unit. Similarly, the southern portion of this modification, which would eventually connect with the Expanded Injection Well Facilities, would also be located within the Coastal Scrub landscape unit. The remaining portion of the alignment, which would be located within the right of way of the existing paved portions of Eucalyptus Road, is within the Urban and Developed landscape unit. **Figure 4.2-2, Site Photographs of Product Water Conveyance Pipeline** shows site photographs of the location of the portion of the Product Water Conveyance Pipeline alignment in which the proposed additional two miles of pipeline would be constructed.

- Visual Quality. This modification is not located within a designated scenic vista or a scenic corridor. The site is generally characterized by open, gently rolling terrain. The topography and vegetation of the site provides moderately interesting and varied aesthetic features due to the primarily open space character of the area, although the visual context as viewed from Eucalyptus Road also includes roads, power lines, dirt paths and other disturbed areas. The roadway and previous site disturbances somewhat diminish the aesthetic appeal of the site, although the more distant view is generally open and undeveloped except for power transformers. Overall, the site is given a moderate rating for visual quality associated with the open, coastal scrub landscape that generally characterizes the area, although there is some low-profile development, including existing roads, that is visible. Additionally, past military munitions removal activities have denuded the vegetative cover of the site.
- Affected Viewers and Exposure Conditions. There are no new above-ground permanent facilities proposed as part of this modification. Moreover, this modification is not located within a designated scenic vista or scenic corridor. As a result, the visual exposure of this component is low.
- Visual Sensitivity. The overall visual sensitivity of this site is considered low. While this site consists of a mixture of natural and urban site conditions, including areas of adjacent open space intermixed with urban features, including roadways and utilities, all improvements associated with this modification would be underground. Therefore, visual sensitivity is considered low.

Injection Well Facilities

The Proposed Modifications include the construction and operation of additional and relocated Injection Well Facilities, including the relocation of two previously approved (but not constructed) deep injection wells; and construction and operation of an additional new backflush basin, electrical building and deep injection well in a new Expanded Injection Well Area. The Expanded Injection Well Area is located to the north and east of the previously approved Injection Well site.

The PWM/GWR Project Final EIR describes the existing visual character of the Injection Well Facilities site as being located within the Coastal Scrub landscape unit, and the visual character of the Expanded Injection Well Area is similar.

The Expanded Injection Well Area has historically been disturbed by former military training operations and environmental remediation activities. **Figure 4.2-3, Site Photographs of Injection Well Facilities** shows photographs of the Expanded Injection Well Area and **Figure 4.2-5, Existing Injection Well Facilities** shows a photograph of the existing Injection Well Facilities constructed as part of the approved PWM/GWR Project.

- Visual Quality. The Expanded Injection Well Area is not located within a designated scenic vista or a scenic corridor. The site is generally characterized by open, gently rolling terrain. The topography and vegetation of the site provide moderately interesting and varied aesthetic features due to the primarily open space character of the area, although the visual context as viewed from the surrounding area also includes roads, power lines, dirt paths and other areas previously disturbed in connection with former use by the U.S. Army and subsequent remediation work. The roadway and previous site disturbance somewhat diminish the aesthetic appeal, although the more distant view is generally open and undeveloped except for views of utilities. Overall, the site is given a moderate rating for visual quality associated with the open, coastal scrub landscape that generally characterizes the area, although there is some low-profile development that is visible. Additionally, past military munitions removal activities have denuded the vegetative cover of the site.
- Affected Viewers and Exposure Conditions. Although the Expanded Injection Well Area is not within a scenic vista or view corridor, the site is visible from Eucalyptus Road, which is closed to vehicular traffic but used for recreational purposes (e.g., walking, biking, etc.). In addition, the property is west of the Fort Ord National Monument; however, the monument area is currently not open to the public for recreational use due to the presence of military munitions and clean-up activities occurring on an ongoing basis. The visual exposure of the site is considered moderate. As identified in the PWM/GWR Project Final EIR, in the future, when the land is developed and open space becomes available to the public for recreational access, the visual exposures may increase due to the public.
- **Visual Sensitivity.** Due to the open, undeveloped nature of the site and the moderate visual quality and exposure, the overall visual sensitivity is considered moderate.

CalAm Distribution System Improvements

Extraction Wells EW-1 & EW-2

CalAm would construct two new extraction wells ("EW") (EW-1 and EW-2), at Seaside Middle School. The facilities would be located in an area that is currently developed with existing water supply infrastructure. The proposed location for the Extraction Wells is considered Urban and Developed with undeveloped open space located to the east, Seaside Middle School to the south, and the Blackhorse Bayonet Golf Course to the west and north. **Figure 4.2-4, CalAm Facilities Site Photos** shows a photograph of the site.



Photo shows example of newly constructed deep injection well. Example shown does not yet have vegetation screening installed. All deep injection wells will include vegetation screening to be installed post-construction.

Photo of Existing Injection Well

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Expanded PWM/GWR Project Supplemental EIR Figure **4.2-5**

- **Visual Quality.** The site is not located within a designated scenic vista of a scenic corridor. EW-1 and EW-2 are located at Seaside Middle School in an area improved with existing water supply infrastructure. The location of the proposed Extraction Wells is primarily surrounded by existing vegetation that generally obstructs views of the area from adjacent areas, including Blackhorse Bayonet Golf Course to the west and north, and Seaside Middle School to the south. The visual quality of the site is considered low due to the presence of existing water supply infrastructure.
- Affected Viewers and Exposure Sensitivity. EW-1 and EW-2 would not be visible from nearby residences located to the northeast or Blackhorse Bayonet Golf Course. Views of the site are generally obstructed by existing vegetation that precludes views of the site from surrounding uses. As a result, the exposure sensitivity is rated low.
- Visual Sensitivity. Given that the proposed Extraction Well facilities would be located within the Urban and Developed landscape unit, and considering the surrounding uses, the visual quality is considered low. Based on the above-described factors, the overall visual sensitivity is low.

CalAm Extraction Wells EW-3 and EW-4

The Proposed Modifications also include two additional Extraction Wells and related infrastructure (e.g., treatment and electrical tanks, cabinets, buildings) located near the Fitch Park Community. The existing visual character of the location of these Extraction Wells was previously described in the MPWSP EIR/EIS.¹ The following discussion summarizes the existing visual character of this site, as described in the MPWSP EIR/EIS, and has been updated to include additional information regarding visual quality, affected views and exposure sensitivity, and visual sensitivity consistent with the approach used to describe the other sites listed above. **Figure 4.2-4, CalAm Facilities Site Photos** shows the visual characteristics of the site.

- Visual Quality. The site is not located within a designated scenic vista or a scenic corridor. The site is located in an area that is currently vegetated with oak and conifer trees in the Fitch Park military housing community. The site is located within the Urban and Developed landscape unit. See Figure 4.2-4. The site is located east of General Jim Moore Boulevard. Potential sources of light and glare include automobile headlights, streetlights along General Jim Moore Boulevard, nearby golf course facilities, and adjacent residential areas. The densely vegetated surroundings of the well sites contribute to a moderate visual quality.
- Affected Viewers and Exposure Sensitivity. While numerous residences are located in the area, the EW-3 and EW-4 would be visible only from those few homes adjacent to and west of General Jim Moore Boulevard. However, General Jim Moore Boulevard itself supports high daily traffic volumes, and the proposed wells and related infrastructure would be slightly elevated above the road. As such, the sites are visible for short durations by motorists along this transportation corridor, and for longer durations by pedestrians and bicyclists. Therefore, the visual exposure is considered moderate.
- **Visual Sensitivity.** While these facilities would not be within view of any designated scenic vistas or corridors, they would be located in a heavily vegetated area.

¹ These improvements were described as part of CalAm's proposed improvements to the ASR system. The MPWSP EIR/EIS identified this location as the site for ASR-5 and ASR-6 Wells. While the proposed EWs would not be for ASR, the EWs are proposed in the same locations. The environmental setting description in the MPWSP EIR/EIS, accurately describes the existing visual character of the site.

Therefore, the visual sensitivity of the area is considered moderate. Based on the above-described factors, the aesthetic resource value of the area is moderate.

CalAm Conveyance Pipelines

The proposed CalAm Conveyance Pipelines would be located underground within General Jim Moore Boulevard with only small appurtenances, such as air release valves located above grade along the road. The pipeline would be contained within the public right of way. This route would traverse a developed area within the Urban and Developed landscape unit. **Figure 4.2-4, CalAm Facilities Site Photos** shows the visual characteristics of the site.

- Visual Quality. The site is not located within a designated scenic vista or a scenic corridor as defined by the City of Seaside General Plan. The proposed pipeline alignment is located within roadways of developed areas with views typical of residential areas, and containing minimal vegetation or new development. Sources of light and glare in the surrounding area include nighttime lighting emanating from the surrounding Urban and Developed landscape unit and automobile headlights along nearby roadways. The visual quality of the site is considered low.
- Affected Viewers and Exposure Sensitivity. The location of this modification is visible from nearby residences, as well as from automobiles traveling along the roads adjacent to the proposed route. However, there are no new above-ground permanent facilities proposed as part of this modification. Moreover, this modification is not located within a designated scenic vista or scenic corridor. As a result, the visual exposure associated with this modification is low.
- Visual Sensitivity. Given that the alignment is within the Urban and Developed landscape unit and is surrounded by development, the visual quality is considered low. Based on the above-described factors, the overall visual sensitivity of the sites for the CalAm Conveyance Pipelines alignment is low.

4.2.3 Regulatory Framework

4.2.3.1 Federal and State

There are no Federal regulations related to aesthetic effects of the Proposed Modifications. Section 4.2.3.2 of the PWM/GWR Project Final EIR describes State regulations related to aesthetics. There are no new State regulatory requirements related to aesthetic effects of the Proposed Modifications.

4.2.3.2 Regional and Local

Section 4.2.3.3 and Table 4.2-2 of the PWM/GWR Project Final EIR describes regional and local land use regulations related to aesthetics. There are no new regional or local regulatory requirements related to aesthetic effects of the Proposed Modifications.

4.2.4 Impacts and Mitigation Measures

4.2.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, the Proposed Modifications would have a significant impact on aesthetics if they would:

- a. Have a substantial adverse effect on a scenic vista;
- b. Substantially damage a scenic resource, including but not limited to trees, rock outcroppings, and historic buildings within a State scenic highway corridor;
- c. In non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; and/or
- d. Create a substantial new source of light or glare that would adversely affect day or nighttime views in the area.

A change to a few private views in a project's immediate vicinity is not generally regarded as a significant environmental impact under CEQA. No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the State Clean Water Revolving Fund Loan Program (CWSRF) administered by the State Board.

4.2.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

The analysis addresses the short-term (construction) and long-term (siting, operations and maintenance of above-ground facilities) incremental impacts on scenic resources, scenic vistas, and the visual character of the Proposed Modifications if the physical changes are visible to the public.

The visual impact analysis is based on field observations of the sites and surrounding viewsheds of the Proposed Modifications conducted in August and September 2019, review of aerial and street-level site photographs, and review of relevant aesthetic analysis and figures in PWM/GWR Project Final EIR and Addenda. The analysis for EW-3 and EW-4 also is based in part on Section 4.14, Aesthetics of the MPWSP EIR/EIS at pg. 4.14-16 through 4.14-17 and pg. 4.14-28 through 4.14-51.

Construction Impacts

The evaluation of temporary, construction visual impacts considers whether the construction activities of the Proposed Modifications would substantially degrade the existing visual character or quality of the site or surrounding area and the duration of the activity. Temporary construction effects on visual quality are generally considered to have a less-than-significant impact unless there are unusual construction features or duration.

Operational Impacts

Permanent visual impacts from facility siting and operation are assessed based on the potential for the Proposed Modifications to have a substantial adverse effect on scenic vistas, substantially damage scenic resources, or substantially degrade the existing visual character or quality of public views of the site and its surroundings. The analysis of permanent visual impacts focuses on sites where the Proposed Modifications would add or change above-ground facilities. The evaluation of permanent visual impacts of the operation and maintenance of the Proposed Modifications considers each site's overall visual sensitivity. **Table 4.2-3, Visual Impact Scale for Operational Analysis** presents a scale of three levels (high, moderate, low) using the

concepts and terminology discussed in **Section 4.2.2**, **Environmental Setting**, for determining the level of impact for each significance criteria for construction impacts and for siting/operational impacts.

Table 4.2-3

Visual Impact Scale for Operational Impact Analysis

		Overall Visual Sensitivity				
		High	Moderate	Low		
	High	Significant	Significant	Less-than-Significant		
Visual	Moderate	Significant	Less-than-Significant	Less-than-Significant		
/Change	Low	Less-than-Significant	Less-than-Significant	Less-than-Significant		
•	No Change/Effect	No Impact	No Impact	No Impact		

Table 4.2-3 considers overall visual sensitivity of each site and its surroundings, as well as the visual change or contrast that would be caused by the Proposed Modifications. "Overall visual sensitivity" brings together the factors discussed in **Section 4.2.1.1 Concepts and Terminology** into a single consolidated measure: visual quality; affected viewers and exposure conditions; and visual sensitivity as discussed for each Proposed Modifications site in **Section 4.2.2.1** and summarized on **Table 4.2-3**. "Visual change/contrast" refers to the transformation or modification of the appearance of the Proposed Modifications (i.e., at each component site) and/or its surroundings. As seen in the table, each of these measures are rated high, moderate and low, with the significance dependent on how the Proposed Modifications' impact would compare with both measures.

Areas of No Impact

Many of the components of the Proposed Modifications would be underground; after construction is completed, these components would not be visible and would not result in permanent changes that affect scenic views (criterion "a"), scenic resources (criterion "b"), the visual quality of public views of the surrounding area (criterion "c"), or introduction of light and glare (criterion "d"). Therefore, the visual impacts associated with the operations of the following components of the Proposed Modifications are not discussed further in this analysis:

- Product Water Conveyance Pipeline; and,
- CalAm Conveyance Pipelines.

The Proposed Modifications would not result in a permanent impact related to scenic vistas (criterion "a") as discussed below. Impact analyses related to criteria "b" through "d" are addressed below under Sections 4.2.4.4, Construction Impacts and 4.2.4.5, Operational Impacts.

(*a*) *Scenic Vista.* Upon completion of construction, permanent, new above-ground structures would be located at the following component sites:

- Advanced Water Purification Facility;
- Injection Well Facilities; and,
- CalAm Extraction Wells.

Of the three components listed above, the Proposed Modifications at the Advanced Water Purification Facility would not be visible from any public viewpoints because all improvements at the Advanced Water Purification Facility would occur within the existing buildings or on concrete or asphalt footprints of the Advanced Water Purification Facility. None of the other Proposed Modifications to components would be located within areas that are designated as having a scenic view or moderate to high visual sensitivity. Therefore, none of the operations of the Proposed Modifications would eliminate, obstruct or alter and public views, including scenic vistas.

Summary of Impacts

Table 4.2-4, Summary of Impacts – Aesthetics provides a summary of potential impacts to the aesthetic environment and significance determinations at each Proposed Modifications component site.

Table 4.2-4

Summary of Impacts - Aesthetics

	ity	ЭГ		CalAm Distribution System		
Impact Title	Advanced Water Purification Facili	Product Water Conveyance Pipelir	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
AE-1: Construction Impacts on Scenic Views, Resources, and Visual Quality of Sites and Surrounding Area	NI	LS	LS	LS	LS	LS
AE-2: Construction Impacts due to Temporary Light and Glare	LS	NI	LS	LSM	LSM	LSM
AE-3: Operation Effects on Visual Quality of Sites and Surrounding Areas	LS	NI	LS	LSM	NI	LSM
AE-4: Operation Impacts due to Permanent Light and Glare	LS	NI	LSM	LSM	NI	LSM
Cumulative Impacts	LS: The make a cumul	Project Mo cumulative ative constr	difications ly conside uction or o	would not o rable contrib operational a	ause the Proj oution to signi aesthetic impa	ject to ficant acts.
NI – No Impact LS – Less-than-Significant LSM – Less-than-Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact						

4.2.4.3 Construction Impacts and Mitigation Measures

Impact AE-1:Construction Impacts on Scenic Views, Scenic Resources and
Visual Quality of the Surrounding Areas.
Construction of the
Proposed Modifications would not result in substantial effects on
scenic views, scenic resources, or the visual character or quality of
public views of the areas surrounding the Proposed Modifications
facilities. (Criteria a, b, and c) (Less-than-Significant)

The PWM/GWR Project Final EIR and Addenda found that construction activities could result in temporary changes to the visual character in the vicinity of construction sites due to the presence

of construction vehicles, equipment and materials, stockpiles, and exposed soils. The PWM/GWR Project Final EIR determined that potential construction-related aesthetics effects would be lessthan-significant due to the temporary nature of construction-related activities. The PWM/GWR Project Final EIR identified that construction activities could be temporarily visible from public vantage points for most of the construction sites, except for specific locations, including the Advanced Water Purification Facility.

Construction activities associated with the Proposed Modifications would be temporarily visible from public vantage points, including General Jim Moore Boulevard and Eucalyptus Road, which is closed to public vehicular traffic. More specifically, the construction of CalAm Facilities (i.e., conveyance pipelines, Extraction Wells, and related improvements) would be visible from General Jim Moore Boulevard and the construction of Proposed Modifications to Injection Well Facilities and to Product Water Conveyance facilities would be temporarily visible by pedestrians and cyclists on Eucalyptus Road.

Like the approved PWM/GWR Project, the Proposed Modifications are not anticipated to result in any temporary construction-related effects associated with improvements at the Advanced Water Purification Facility because the Proposed Modifications would not be visible from any public viewshed. Visual and aesthetic impacts during construction for all other sites are evaluated below.

Product Water Conveyance Pipeline

The PWM/GWR Project Final EIR evaluated the potential environmental effects associated with the construction of Product Water Conveyance facilities. While the PWM/GWR Project Final EIR found that construction activities would be temporarily visible from adjacent streets and properties, the PWM/GWR Project Final EIR concluded that construction of the Product Water Conveyance Pipeline would not constitute a substantial degradation of the visual quality of the surrounding area during construction. As a result, the PWM/GWR Project Final EIR concluded that construction aesthetic impacts would be less-than-significant.

The Proposed Modifications would result in the construction of approximately two additional miles of Product Water Conveyance Pipeline from the existing Blackhorse Reservoir to the Expanded Injection Well area. The northern portion of the proposed pipeline would be located within the existing tank site and along an existing dirt road; the southern portion of the pipeline would be located entirely within the right of way of the existing paved portions of Eucalyptus Road. While Eucalyptus Road is closed to vehicle traffic, it is accessed by the general public on foot or on bicycle. As a result, construction-related activities would be visible from Eucalyptus Road. However, this portion of the alignment is not located adjacent to a scenic road or within a designated scenic corridor or scenic vista.

Construction of this modification would be temporarily visible and would result in similar environmental effects to those identified in the PWM/GWR Project Final EIR in connection with the construction of Product Water Conveyance facilities. Construction would have the appearance of a typical public works pipeline installation/maintenance project. The construction activities would result in a low visual change of a temporary nature (the project would proceed at a rate of approximately 200 feet per day). Given the limited visibility of the construction site and temporary construction period, the expanded construction area and activities would not result in a substantial degradation of the visual quality of the surrounding area during construction. Impacts would be comparable to those identified in the PWM/GWR Project Final EIR and the impacts for this component would be less-than-significant.

Injection Well Facilities

The PWM/GWR Project Final EIR's evaluation of potential temporary, construction aesthetic impacts of approved Injection Well Facilities, including monitoring wells, electrical buildings, and backwash basins, concluded that the visual character of the surrounding area would not be substantially degraded during construction. As a result, the PWM/GWR Project Final EIR concluded that construction aesthetic impacts would be less-than-significant.

The Proposed Modifications would result in comparable construction-related aesthetic effects as those identified in the PWM/GWR Project Final EIR. Consistent with the findings of the PWM/GWR Project Final EIR, the Expanded Injection Well Area, which is located north and east of the approved Injection Well Facilities, is not located adjacent to a scenic road or within a designated scenic corridor or scenic vista. In addition, construction-related aesthetic effects would be temporary in nature and all disturbed areas would be restored following construction. Moreover, only portions of the construction would be visible, and construction would have a low impact severity. Given the limited construction period and construction activities, the visual character of the surrounding area would not be substantially degraded during construction. Moreover, the Proposed Modifications also entail the relocation of two previously approved, although not constructed, well sites to the Expanded Injection Well Area. The potential temporary aesthetic-related effects associated with the construction of these wells were previously evaluated in the PWM/GWR Project Final EIR. The construction of two relocated deep wells and construction of an additional deep injection well within the Expanded Injection Well area would not result in any new significant aesthetic effects, nor an increase in severity of previously identified significant aesthetic effects. This represents a less-than-significant impact.

CalAm Distribution System Improvements

CalAm Extraction Wells

The Proposed Modifications include the construction of four new Extraction Wells, and associated wellhead treatment and electrical buildings, and appurtenances, including two new Extraction Wells at Seaside Middle School and two located near the Fitch Park community. The proposed Extraction Wells are not located adjacent to a scenic road or within a design scenic corridor or vista.

The construction of Extraction Wells at the Seaside Middle School location would result in temporary (short-term) changes to the appearance of the sites and aesthetic effects would be similar to those identified in the PWM/GWR Project Final EIR for construction of the Injection Well Facilities. Construction aesthetic impacts would be minor because the site contains existing water supply and electrical infrastructure, views of the site are generally obstructed by existing topography and vegetation, and construction would be temporary lasting only approximately 2 months.

The Proposed Modifications also include the construction of two Extraction Wells near the Fitch Park community. The MPWSP EIR/EIS evaluated potential construction-related effects of new wells at this location (in connection with construction of ASR-5 and ASR-6 Wells). The MPWSP EIR/EIS identified that construction-related activities at this location would be visible from General Jim Moore Boulevard and surrounding nearby residences, including by area residents, motorists, cyclists, and pedestrians. The changes to views of the site during construction is limited in duration; thus, temporary construction impacts would not obstruct or otherwise impede views. Given the width of the travel corridor, and the height and mass of area structures and vegetation, the proposed construction would not dominate the landscape, nor would it impair public views.

Given the limited duration of construction visual effects, the construction of the proposed Extraction Wells would not adversely affect scenic views, scenic resources, or the visual character or quality of public views of the surrounding area and the impacts would be less-than-significant.

CalAm Conveyance Pipelines

The PWM/GWR Project Final EIR found that due to the limited extent and temporary nature of construction of the CalAm Conveyance Pipelines, impacts would be less-than-significant. Proposed Modifications to this component, namely additional pipelines within General Jim Moore, would result in impacts similar to those identified in the PWM/GWR Project Final EIR. Construction-related activities would consist of temporary staging of construction equipment, stockpiling of construction material, and temporary ground disturbing activities. Construction would have the appearance of a typical public works pipeline installation/maintenance project. Given the temporary nature of construction, the construction of this component would not result in a substantial degradation of the visual quality of the surrounding area. Impacts would be comparable to those identified in the PWM/GWR Project Final EIR – this represents a less-than-significant impact.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the construction of the Proposed Modifications would not result in impacts to a scenic view or scenic resource. Construction activities would be temporarily visible from public vantage points to varying degrees. Construction related activities would include storage of equipment and machinery, spoils stockpiles, vegetation removal, and exposed earth. Although some areas would be intermittently visible to motorists, bicyclists, pedestrians, and other observers, these construction activities would be temporary and would not significantly change or disrupt the visual character of the surrounding areas. Therefore, construction-related impacts related to degradation of the visual character of surrounding areas would be the same as those identified in the PWM/GWR Project Final EIR – temporary construction-related aesthetic effects would be less-than-significant, and no mitigation measures would be required.

Impact AE-2:Construction Impacts due to Temporary Light and Glare.
Construction of the Proposed Modifications could result in
substantial, temporary sources of light or glare. (Criterion d) (Less-
than-Significant with Mitigation)

The PWM/GWR Project Final EIR found that construction activities at most of the construction sites would not result in the creation of substantial sources of light and glare since most construction activities would occur during the daytime hours. However, the PWM/GWR Project Final EIR found that nighttime construction could result in a potentially significant impact at the Injection Well Facilities site and improvements associated with the CalAm distribution system. These impacts were reduced to a less-than-significant level through the implementation of Mitigation Measure AE-2, which requires the implementation of nighttime lighting reduction measures during construction.

Advanced Water Purification Facility

The construction of the Proposed Modifications to the Advanced Water Purification Facility would not occur at night. Therefore, construction of this component of the Proposed Modifications would result in a less-than-significant impact and no mitigation measures would be necessary.

Product Water Conveyance Pipeline

Similar to the approved PWM/GWR Project, the construction of the additional two miles of Product Water Conveyance Pipeline would not occur at night. Therefore, construction of this component of the Proposed Modifications would result in a less-than-significant impact and no mitigation measures would be necessary.

Injection Well Facilities

The PWM/GWR Project Final EIR concluded that construction activities associated with the Injection Well Facilities site could result in a potentially significant temporary impact due to new sources of light and glare. The PWM/GWR Project Final EIR identified that some nighttime construction activities could occur at various times during construction, thereby necessitating temporary lighting. Due to the proximity of the Injection Well Facilities to nearby residents west of General Jim Moore Boulevard in Seaside, the PWM/GWR Project Final EIR determined that this would represent a potentially significant impact that could be reduced to a less-than-significant level through the implementation of Mitigation Measure AE-2, which requires the implementation of nighttime lighting reduction measures during construction.

The Proposed Modifications to the Injection Well Facilities may also result in nighttime construction activities that would necessitate temporary lighting, increasing light and glare on nearby sensitive receptors and adversely affecting nighttime views. While the Expanded Injection Well Area is north and east of the existing Injection Well area and is not visible from General Jim Moore Boulevard or residences located near General Jim Moore Boulevard, temporary construction lighting could be visible from residences located north of the Expanded Injection Well Area on Ardennes Circle. These receptors are located approximately 850 ft. north of the Expanded Injection Well Area. As a result, construction lighting could be visible from these residences, although nighttime lighting would be temporary in nature. Therefore, construction of this modification could result in potentially significant construction-related night-time lighting and glare impact. Implementation of Mitigation Measure AE-2 would ensure that impacts would be less-than-significant.

CalAm Distribution System Improvements

CalAm Extraction Wells

The PWM/GWR Project Final EIR evaluated aesthetic impacts due to temporary lighting needed for construction of Injection Well Facilities. The construction of the Proposed Modifications to the CalAm Extraction Wells would result in impacts comparable to those associated with the construction of injection well facilities which also require 24 hour per day drilling activities. The PWM/GWR Project Final EIR concluded that construction of Injection Well Facilities would result in a significant temporary impact due to increased lighting and glare during nighttime construction activities in proximity Injection Well Facilities to residential areas west of General Jim Moore Boulevard. The PWM/GWR Project Final EIR concluded that the implementation of Mitigation Measure AE-2 was necessary to reduce impacts to a less-than-significant level.

The Proposed Modifications include the construction of four Extraction Wells and associated infrastructure, including two Extraction Wells at Seaside Middle School and two located near the Fitch Park community.² The construction of these modifications would entail temporary nighttime

² As noted previously, the two EWs located near the Fitch Park community were evaluated in the MPWSP EIR/EIS as ASR-5 and ASR-6 Well.

construction, which could adversely affect existing nighttime views due to the proximity of construction-related activities to nearby residences.

The primary source of lighting in the vicinity of the proposed CalAm Extraction Wells is street lighting along General Jim Moore Boulevard; however, other sources of light in the area include headlights from automobiles traveling along General Jim Moore Boulevard, golf course and institutional facilities, and residential development. While construction of the proposed Extraction Wells would normally occur during the daytime, continuous 24-hour construction would be necessary during well completion and testing. Due to the proximity of existing residences along General Jim Moore Boulevard, the introduction of temporary construction lighting would constitute a new substantial source of light to the area, albeit temporarily. This could adversely affect nighttime views in the area. The potential impacts from nighttime lighting would be potentially significant. The implementation of Mitigation Measure AE-2 (described below), which requires the implementation of construction lighting control measures, would ensure that temporary nighttime construction lighting impacts would be reduced to a less-than-significant level.

CalAm Conveyance Pipelines

The PWM/GWR Project Final EIR determined that the construction of CalAm Distribution System Pipelines (i.e., Monterey Pipeline) would result in a potentially significant impact due to temporary nighttime lighting that could be reduced to a less-than-significant level through the implementation of Mitigation Measure AE-2. Construction of the Proposed Modifications to include additional CalAm Conveyance Pipelines within General Jim Moore Boulevard would result in environmental effects like those identified in the PWM/GWR Project Final EIR. While construction would normally occur during the daytime, some nighttime construction activities may be necessary. Due to the proximity of existing residential areas adjacent to General Jim Moore Boulevard, mitigation is necessary to ensure that temporary nighttime lighting does not adversely affect adjacent residences. The implementation of Mitigation Measure AE-2 would reduce this impact to a less-than-significant level.

Impact Conclusion

With implementation of existing Mitigation Measure AE-2, the Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. At most sites, the Proposed Modifications would not result in creation of substantial sources of light and glare as most construction activities would be conducted during daytime hours or in areas where the introduction of temporary nighttime lighting would not constitute a substantial increase in nighttime lighting. Nighttime construction lighting could result in potentially significant light impacts at the sites of the proposed CalAm Extraction Wells, CalAm Conveyance Pipelines, and Injection Well Facilities. However, with implementation of Mitigation Measure AE-2, this significant impact would be reduced to a less-than-significant level.

Mitigation Measure

The PWM/GWR Project Final EIR identified Mitigation Measure AE-2 (Minimize Construction Nighttime Lighting) to reduce potential temporary construction-related lighting effects to a less-than-significant level. The requirements of Mitigation Measure AE-2 remain unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR includes minor modifications to this mitigation measure to identify the Proposed Modifications that would be subject to this mitigation measure.

MM AE-2: <u>Minimize Construction Nighttime Lighting</u>. (Applies to the Injection Well Facilities, CalAm Extraction Wells, and Conveyance Pipelines). As part of its contract specifications, CalAm and M1W shall require its construction contractors to

implement site-specific nighttime construction lighting measures for nighttime construction at the Injection Well Facilities, Extraction Wells, and Conveyance Pipelines. The measures shall, at a minimum, require that lighting be shielded, directed downward onto work areas to minimize light spillover, and specify that construction lighting use the minimum wattage necessary to provide safety at the construction sites. M1W shall ensure these measures are implemented at all times during nighttime construction.

4.2.4.4 Operational Impacts and Mitigation Measures

Impact AE-3:Degradation of Visual Quality of Sites and Surrounding Areas.
Proposed Modifications would not result in a substantial
degradation of the visual character of the project area and its
surroundings. (Criterion c) (Less-than-Significant with
Mitigation)

Many of the Proposed Modifications would be underground; after construction is complete, these components would not be visible and would not result in permanent changes that would affect the visual quality of the surrounding area (criterion "c"). These modifications include the Product Water Conveyance Pipeline and the CalAm Conveyance Pipelines. All proposed pipelines would be installed below ground and would not be visible after construction, except for valve box and manhole covers flush with the ground. Therefore, no permanent impact to visual resources would result. As a result, these facilities are not discussed further.

Advanced Water Purification Facility

The PWM/GWR Project Final EIR identified that construction of treatment facilities, including the Advanced Water Purification Facility, at the Regional Treatment Plant would result in a less-thansignificant impact to the visual quality of the surrounding area due to the low visual quality of the site. The Proposed Modifications to the Advanced Water Purification Facility would occur entirely within the existing footprint of the Regional Treatment Plant and no new previously undisturbed areas would be impacted. In addition, the new equipment, tanks, and appurtenances would be within existing buildings or if installed outside on existing concrete pads, they would be shorter and smaller in scale than other approved and constructed physical site features. As a result, the Proposed Modifications to the Advanced Water Purification Facility would result in a less-than-significant impact.

Injection Well Facilities

The PWM/GWR Project Final EIR concluded that construction of the approved PWM/GWR Project would result in a less-than-significant impact on the visual character of the approved Injection Well site due to the moderate visual change/contrast associated with well construction.

The Proposed Modifications to the Injection Well Facilities would result in impacts comparable to those identified in the PWM/GWR Project Final EIR. The Proposed Modifications would entail the construction of permanent above-ground features, including an access road, one new and two relocated injection wells, up to four relocated monitoring wells, a backflush basin, and electrical cabinets/buildings. Above-ground features associated with each permanent Injection Well would include short segments of above-ground pipes, valves, and mechanical equipment that would not typically exceed six feet in height and would not extend beyond the immediate vicinity (i.e., 10 feet) from the insertion point of the well.

As noted previously, the Proposed Modifications include the relocation of two previously approved injection wells and relocation of up to four sets of monitoring wells - the environmental effects of which were previously evaluated in the PWM/GWR Project Final EIR. As a result, the effects associated with these improvements, albeit at a new location, were previously described and analyzed in the PWM/GWR Project Final EIR. These facilities would be located further east of General Jim Moore Boulevard and would be less visible from that location but could potentially be visible from residences located north of the Expanded Injection Well Area on Ardennes Circle. As a result, the potential effects associated with the relocation of the previously approved facilities would be comparable to those identified in the PWM/GWR Project Final EIR. Additionally, the Proposed Modifications would also result in the construction of one additional deep well beyond the number previously evaluated as part of the PWM/GWR Project Final EIR. Improvements associated with the Proposed Modifications would be located adjacent to Eucalyptus Road, which is accessible by the general public for recreational purposes, and could be visible from Eucalyptus Road, However, improvements would be generally screened from view due to existing topography and vegetation. Moreover, the buildings would appear as low-profile structures of similar size. scale, and mass as existing nearby utility buildings located at the approved Injection Well area and at the CalAm and MPWMD ASR sites. Monitoring wells would be entirely below ground, except for a well cover flush with the ground surface. As described above, the visual sensitivity of this site is moderate. Potential impacts would, however, be less-than-significant consistent with the findings of the PWM/GWR Project Final EIR due to the moderate visual change/contrast associated with this modification, changes in existing topography, and existing vegetation.

CalAm Distribution System Improvements

CalAm Extraction Wells

The proposed Extraction Wells would result in comparable environmental effects as those identified in the PWM/GWR Project Final EIR associated with the Injection Well Facilities. As noted above, the PWM/GWR Project Final EIR concluded that the Injection Well Facilities would result in a less-than-significant impact to the existing visual character of the site. Similarly, the MPWSP EIR/EIS also considered potential visual impacts associated with ASR-5 and ASR-6 Wells, the sites where EW-3 and EW-4 are now proposed as part of the Proposed Modifications. The MPWSP EIR/EIS identified that permanent above-ground facilities could have an adverse effect on the existing visual character of the area due to the proximity of these facilities to existing residential areas. The MPWSP EIR/EIS identified this as a potentially significant impact that could be reduced to less-than-significant with implementation of mitigation.

The Proposed Modifications include the construction of four Extraction Wells, including two at Seaside Middle School and two located near the Fitch Park community.³ Permanent aboveground structures associated with the proposed Extraction Wells include pump houses and fencing, a treatment building, and other related infrastructure. The pump and electrical control system for each well would be housed in an 11-foot-tall, 900-square-foot concrete pump house. In addition, security fencing would be installed to enclose each of the Extraction Wells. A treatment building is also proposed at EW-3.

EW-1 and EW-2 would potentially be visible from General Jim Moore Boulevard. However, the extent of visibility would be limited due to existing topography and vegetation. In addition, EW-1 and EW-2 would be located at a site that is already improved with existing water supply infrastructure. The above-ground facilities associated with the proposed Extraction Wells would be small relative to existing structures and buildings in the area. As a result, improvements

³ As noted previously, the two EWs located near the Fitch Park community are proposed at sites evaluated in the MPWSP EIR/EIS for ASR Wells.

associated with EW-1 and EW-2 are unlikely to strongly contrast with the surrounding area. Moreover, as identified above, this location has an overall low visual sensitivity and improvements would result in a low visual contrast. Therefore, potential impacts associated with EW-1 and EW-2 would be less-than-significant.

EW-3 and EW-4 would be noticeable from General Jim Moore Boulevard and nearby residences. While the above-ground facilities associated with the EW-3 and EW-4 would be small relative to existing structures and buildings in the area, but given their visibility and depending on final design, they could strongly contrast with the surrounding area. As noted above, the location of EW-3 and EW-4 has a moderate overall visual sensitivity. This represents a potentially significant impact. This significant impact can be reduced to a less-than-significant level with implementation of Mitigation Measure AE-3 (Provide Screening for New Above-Ground Features), which requires that CalAm design these facilities to avoid or minimize contrast with the surrounding setting and ensure the facilities are screened from public views to the extent feasible.

Impact Conclusion

With implementation of Mitigation Measure AE-3, the Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Upon completion of construction, the Product Water Conveyance Pipelines and CalAm Conveyance Pipeline would not be visible. Moreover, the structural above-ground development at the Advanced Water Purification Facility and Injection Well Facilities would not substantially degrade the visual character or quality of the surrounding area. EW-3 and EW-4 would, however, be visible from General Jim Moore Boulevard and surrounding residential areas and could strongly contrast with the surrounding visual character of the area. The implementation of Mitigation Measure AE-3 (Provide Screening for New Above-Ground Features) would ensure that potential impacts from the Proposed Modifications, namely the CalAm Extraction Wells, would be reduced to a less-than-significant level.

Mitigation Measure

The PWM/GWR Project Final EIR included Mitigation Measure AE-3 (Screening for New Above-Ground Structures) to address potential impacts related to new above-ground features (e.g., injection well facilities).⁴ Implementation of this mitigation measure would ensure that potentially significant impacts associated with the Proposed Modifications, specifically the proposed CalAm Extraction Wells would be reduced to a less-than-significant level. The requirements of Mitigation Measure AE-3 remain unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR incorporates minor modifications to Mitigation Measure AE-3 to identify which components of the Proposed Modifications would be subject to the requirements of this mitigation measure.

MM AE-3: Provide Aesthetic Screening for New Above-Ground Structures. (Applies to the following project components: CalAm Extraction Wells). The aboveground features at the proposed CalAm Extraction Wells, shall be designed to minimize visual impacts by incorporating screening with vegetation, or other aesthetic design treatments, subject to review and approval of the City of Seaside,

⁴ The PWM/GWR Project Final EIR determined that the approved PWM/GWR Project would not result in a significant adverse environmental effect to the existing visual character of any of the identified project sites or surrounding area. While the PWM/GWR Project Final EIR concluded that impacts would be less-than-significant, the EIR, nevertheless, identified a recommended mitigation measure to address concerns articulated by the City of Seaside during the environmental review process regarding the effects of above-ground facilities located in the City of Seaside.

which has also requested that the buildings be designed with Monterey/Mission style architecture to match the design of the structures that have been built on the Santa Margarita ASR site and the Seaside Middle School ASR Site. All pipelines placed within the City of Seaside on General Jim Moore Boulevard shall be placed underground. CalAm shall coordinate with the City of Seaside on the location of Extraction Wells. Use of standard, commercial-grade, chain link fencing and barbed wire should be discouraged.

Impact AE-4:Impacts due to Permanent Light and Glare during Operations.
Operation of Proposed Modifications may result in a substantial
new source of light or glare that would adversely affect day or
nighttime views in the area. (Criterion d) (Less-than-Significant
with Mitigation)

The PWM/GWR Project Final EIR identified that the only components associated with the approved PWM/GWR Project that would result in new sources of exterior lighting included the Advanced Water Purification Facilities at the Regional Treatment Plant, and the Injection Well Facilities. The PWM/GWR Project Final EIR identified that all the other project components would not result in any impacts related to new sources of light or glare.

The two miles of additional Product Water Conveyance Pipeline and the CalAm Conveyance Pipelines would not result in above-ground features or new sources of exterior lighting, and therefore would not have a permanent impact related to a substantial increase in light or glare. As with the approved PWM/GWR Project, the only Proposed Modifications that would include a permanent source of lighting or glare are the Advanced Water Purification Facilities, the relocated and new Injection Well Facilities at the Expanded Injection Well Area, and CalAm Extraction Wells. No permanent light and glare impacts would occur due to the other Proposed Modifications. Therefore, these modifications are not discussed further.

Advanced Water Purification Facility

The PWM/GWR Project Final EIR identified that permanent lighting at the Regional Treatment Plant would be limited. Specifically, nighttime light would be limited to only that exterior lighting that is necessary for safety and security. The PWM/GWR Project Final EIR determined that exterior lighting at the Regional Treatment Plant would be similar to existing lighting sources in the vicinity. This was identified as a less-than-significant impact since nighttime lighting at the Regional Treatment Plant would not result in the creation of a new source of light or glare that would adversely affect day or nighttime views.

The Proposed Modifications to the Advanced Water Purification Facility would not result in any additional environmental effects related to lighting or glare beyond those identified in the PWM/GWR Project Final EIR. The Proposed Modifications would not result in an increase in nighttime lighting such that day or nighttime views in the area would be adversely affected. This represents a less-than-significant impact.

Injection Well Facilities

As identified in the PWM/GWR Project Final EIR, the construction of Injection Well Facilities would entail new sources of nighttime lighting. The PWM/GWR Project Final EIR determined that this would constitute a potentially significant impact warranting mitigation due to the proximity of Injection Well Facilities to existing residences and due to changes to ambient lighting in the vicinity. The PWM/GWR Project Final EIR identified that the implementation of Mitigation Measure

AE-4 (Exterior Lighting Minimization) would reduce significant impacts to a less-than-significant level.

Similar to the approved PWM/GWR Project, the Proposed Modifications would entail new sources of nighttime lighting for safety and security purposes at the new and relocated deep well sites. These new sources of light or glare could affect nighttime views in the area thereby resulting in a potentially significant impact. As a result, the potential effects associated with these improvements, albeit at a new location, were previously accounted for in the existing environmental documentation. The Proposed Modifications would also include construction of one additional deep well beyond the number previously evaluated as part of the PWM/GWR Project Final EIR.

The Proposed Modifications would increase the amount of nighttime lighting for safety and security purposes. This represents a potentially significant impact that can be reduced to a less-than-significant level through the incorporation of mitigation. The implementation of Mitigation Measure AE-4, which requires that exterior lighting be minimized, would ensure that all potential impacts would be less-than-significant.

CalAm Distribution System Improvements

CalAm Extraction Wells

The Proposed Modifications include the construction and operation of four CalAm Extraction Wells, including two at Seaside Middle School and two located near the Fitch Park community. The Extraction Wells would result in aesthetic related effects comparable to those identified in the PWM/GWR Project Final EIR related to construction of the Injection Well Facilities – nighttime lighting could be required for site safety and security purposes. If not properly contained, exterior lighting at these facilities could adversely affect nighttime views in the area, particularly from adjacent residential areas. Moreover, as previously identified in this Draft Supplemental EIR, the MPWSP EIR/EIS also previously evaluated potential impacts associated with the construction and operation of ASR-5 and ASR-6 wells, which were evaluated as the same locations as proposed EW-3 and EW-4 as part of the Proposed Modifications. The MPWSP EIR/EIS identified that nighttime lighting for safety and security purposes, if not properly contained, could represent a potentially significant impact. This potentially significant impact can be reduced to a less-thansignificant level by implementation of Mitigation Measure AE-4 (Exterior Lighting Minimization).

Impact Conclusion

With implementation of Mitigation Measure AE-4, the Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the below-ground modifications (i.e., Product Water Conveyance Pipeline and CalAm Conveyance Pipeline) would not entail any permanent exterior lighting. The only Proposed Modifications that would result in development of new structures/facilities with exterior lighting are as follows: the Advanced Water Purification Facilities; Injection Well Facilities; and, CalAm Extraction Wells. Permanent exterior lighting at the Advanced Water Purification Facility would not result in a substantial new source of offsite lighting or glare. Impacts due to operational nighttime lighting at the Advanced Water Purification Facility would be less-than-significant. The Injection Well Facilities and CalAm Extraction Wells may, however, create a new source of light or glare that could adversely affect nighttime views in the area and would be considered significant. Implementation of Mitigation Measure AE-4 (Exterior Lighting Minimization) would reduce the impact to a less-than-significant level.

Mitigation Measure

The requirements of Mitigation Measure AE-4 remain unchanged from the PWM/GWR Project Final EIR. Mitigation Measure AE-4 has been modified to specify the Proposed Modifications that would be subject to this mitigation measure.

- MM AE-4: Exterior Lighting Minimization. (Applies to the following project components: Injection Well Facilities and CalAm Extraction Wells). To prevent exterior lighting from affecting nighttime views, the design and operation of lighting at the Injection Well Facilities and CalAm Extraction Wells, shall adhere to the following requirements:
 - Use of low-intensity street lighting and low-intensity exterior lighting shall be required.
 - Lighting fixtures shall be cast downward and shielded to prevent light from spilling onto adjacent offsite uses.
 - Lighting fixtures shall be designed and placed to minimize glare that could affect users of adjacent properties, buildings, and roadways.
 - Fixtures and standards shall conform to State and local safety and illumination requirements.

4.2.4.5 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that there would be no significant construction or operational cumulative impacts related to aesthetics. More specifically, the PWM/GWR Project Final EIR identified that with the exception of the MPWSP, the approved PWM/GWR Project would not be located within the same viewshed as any other known projects whose construction schedule might overlap with the approved PWM/GWR Project. The PWM/GWR Project Final EIR further identified that if an overlap did occur (due to changes in construction schedules for cumulative projects); the timing for the construction of specific segments of the pipeline would be limited in duration. Thus, the PWM/GWR Project Final EIR concluded that there would be no significant construction-related cumulative effects. The PWM/GWR Project Final EIR also concluded that there would be no operational cumulative effects. Specifically, the PWM/GWR Project Final EIR concluded that the approved PWM/GWR Project "would result in project-specific aesthetic impacts but would not contribute to any significant cumulative aesthetic impacts due to lack of impacts from any other cumulative projects."

The Proposed Modifications are anticipated to result in comparable effects. Construction would result in temporary aesthetic related impacts, but construction of the Proposed Modifications is not anticipated to overlap with the construction of other cumulative projects in the vicinity of the Proposed Modifications. Moreover, construction effects would be temporary in nature. Thus, there would be no cumulatively considerable construction-related aesthetic effects. Moreover, the

Proposed Modifications would not cause the Project to result in a cumulatively considerable operational impact. New above-ground facilities would be located at the Advanced Water Purification Facility, Injection Well Facilities, and CalAm Extraction Wells. These modifications would result in project-specific aesthetic impact but would not contribute to any significant cumulative effects. Therefore, the Proposed Modifications will not cause the Project to make a cumulatively considerable contribution to a significant cumulative impact.

4.3 AIR QUALITY AND GREENHOUSE GAS

Secti	ons	Table	5
4.3.1	Introduction	4.3-1	Summary of Prior Environmental Review – Air Quality
4.3.2	Environmental Setting	4.3-2	Air Quality Significance Thresholds
4.3.3	Regulatory Framework	4.3-3	Summary of Impacts – Air Quality and Greenhouse Gas
4.3.4	Impacts and Mitigation	4.3-4	Daily Construction Emissions by Proposed Modification
	Measures	4.3-5	Maximum Daily Construction Emissions by Proposed Modification
		4.3-6	Daily Air Pollutant Emissions
		4.3-7	Nearest Sensitive Receptors and Approximate Distances
		4.3-8	Annual GHG Emissions from Operation (metric tons/year CO ₂)

4.3.1 Introduction

This section describes the existing air quality conditions in the area of the Proposed Modifications and evaluates the potential air quality and GHG effects associated with the implementation of the Project with the Proposed Modifications compared to the effects identified in the PWM/GWR Project Final EIR and Addenda.

The air quality effects of the approved PWM/GWR Project were identified in Section 4.3, Air Quality and Greenhouse Gas, of the PWM/GWR Project Final EIR (see 2015 PWM/GWR Project Final EIR Vol. 1, at pg. 4.3-1 through 4.3-40) and Addenda. The Addenda considered potential air quality effects associated with modifications to the PWM/GWR Project as described in the PWM/GWR Project Final EIR and Addenda. However, the Addenda did not change any of the conclusions of the PWM/GWR Project Final EIR. **Table 4.3-1** below summarizes the findings of the PWM GWR Project Final EIR and Addenda.

Table 4.3-1

Summary of Prior Environmental Review – Air Quality

	PWM/GWR Project Final EIR and Addenda (Overall Impact)
AQ-1: Construction Criteria Pollutant Emissions	LSM*
AQ-2: Construction Exposure of Sensitive Receptors to Pollutants	LS
AQ-3: Construction Odors	LS
AQ-4: Construction Greenhouse Gas Emissions (Cumulative Impact)	LS: Construction of the PWM/GWR Project would not make a considerable contribution to significant cumulative impacts due to greenhouse gas emissions and the related global climate change impacts.
AQ-5: Operational Air Quality Violation	LS
AQ-6: Operational Criteria Pollutant Emissions	LS
AQ-7: Operational Exposure of Sensitive Receptors to Pollutants	LS
AQ-8: Operational Odors	LS

Table 4.3-1 Summary of Prior Environmental Review – Air Quality

	PWM/GWR Project Final EIR and Addenda (Overall Impact)
AQ-9: Operational Greenhouse Gas Emissions (Cumulative Impact)	LS: The PWM/GWR Project would not make a considerable contribution to significant cumulative impacts of greenhouse gas emissions and the related global climate change impacts.
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact * The implementation of each component when looked at individually would not a have a sig components are implemented together (with overlapping construction schedules) that a signific Mitigation Measures to reduce to LS.	nificant impact; it is only when all cant impact would occur triggering

This section was prepared in consultation with Illingworth & Rodkin, who prepared the air quality and greenhouse gas evaluation of the Proposed Modifications. This report is contained in **Appendix F** (Illingworth & Rodkin Inc., September 2019).

The PWM/GWR Project Final EIR and related Addenda described the character of the project area as it relates to criteria air pollutants and ambient air quality standards, existing air quality and air basin attainment status, toxic air contaminants, and greenhouse gases. For a complete description of the air quality setting, please refer to Section 4.3.2.1 of the PWM/GWR Project Final EIR.

4.3.2 Environmental Setting

The PWM/GWR Project Final EIR and related Addenda described the air quality conditions in the area, specifically: 1) the local climate and air quality; 2) criteria air pollutants and ambient air quality standards; 3) the existing air quality and basin attainment status; 4) toxic air contaminants; and, 5) greenhouse gas emissions. All of the information contained in the PWM/GWR Project Final EIR is applicable to the Proposed Modifications. For more information concerning the existing environmental setting, please refer to Section 4.3.2 of the PWM/GWR Project Final EIR.

4.3.3 Regulatory Framework

The PWM/GWR Project Final EIR describes Federal, State, and local regulations related to air quality and GHGs. Please refer to Section 4.3.3 of the PWM/GWR Project Final EIR for more information. Changes to the regulatory framework are described below.

4.3.3.1 Air Quality Attainment Status and Clean Air Plans

MBARD, formerly the Monterey Bay Unified Air Pollution Control District, is responsible for air monitoring, permitting, enforcement, long-range air quality planning, regulatory development, education and public information activities related to air pollution for the North Central Coast Air Basin Air Basin (air basin).

Similar to conditions in 2015, the region is in attainment of all National Ambient Air Quality Standards (NAAQS) and is not subject to any air basin-specific State Implementation Plan (SIP)

requirements. The region is considered nonattainment for inhalable Particulate Matter (PM_{10}) and Nonattainment-Transitional for ozone per the California Ambient Air Quality standards. As a result, MBARD continues to document progress toward attaining the State ozone standard through updates to the Air Quality Management Plan (AQMP). The 2016 AQMP (MBARD 2017) is the latest triennial update to the plan. The plan identifies that reducing NOx is "crucial for reducing ozone formation" and that projections indicate lower future NOx emissions both in the air basin and in adjacent air basins where transport of ozone is an issue. The 2016 AQMP also identifies fewer exceedances of the ozone standard than in the past.

4.3.4 Impacts and Mitigation Measures

4.3.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, a project would have a significant air quality impact if it would:

- a. Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard;
- c. Expose sensitive receptors to substantial pollutant concentrations; or,
- d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Based on Appendix G of the CEQA Guidelines, a project would have a significant greenhouse gas impact if it would:

- e. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,
- f. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

In 2008, MBARD adopted CEQA Air Quality Guidelines that included thresholds of significance to assist in the review of projects under CEQA. The significance thresholds, all of which except GHG emissions are adopted thresholds of the MBARD, are summarized in **Table 4.3-2.** These are the same thresholds as those used in the PWM/GWR Project Final EIR.

In February 2014, MBARD staff proposed the following options for operational GHG significance thresholds for land use projects: (1) a bright-line threshold of 2,000 metric tons CO_2e per year; (2) incorporation of mitigation measures to reduce GHG emissions by 16%; or, (3) compliance with an applicable adopted GHG reduction plan/climate action plan (MBARD, 2014). There are no adopted GHG reduction plans or climate action plans that would apply to the Project with the Proposed Modifications; therefore, the third option would not be applicable. A threshold of 10,000 metric tons CO_2e per year was recommended for stationary source projects that are subject to MBARD permitting requirements; however, the Proposed Modifications are not considered a stationary source project so this threshold would not be applicable to this analysis.

Table 4.3-2Air Quality Significance Thresholds

Criterie Dellutert	Construction Thresholds	Operational Thresholds			
	Maximum Daily Emissions (Ibs/day)	Average Daily Emissions (lbs/day)			
Criteria Air Pollutants					
Volatile organic compound (VOC) or Reactive Organic Gases (ROG)	Not applicable ¹	137			
Nitrogen oxides (NOx)	Not applicable ¹	137			
Carbon monoxide (CO)	Not applicable	550			
Particulate matter with aerodynamic diameter < 10 micrometers (PM ₁₀)	82 (on-site) ²	82 (on-site) ²			
Sulfur dioxide (SO ₂)	Not applicable	150			
Greenhouse Gas Emissions					
Quantified GHG Annual Emissions	2,000 metric tons of CO_2eq per year or failure to reduce GHG emissions by 16% using alternative energy, energy efficiency, or other GHG reduction measures ³				
Toxic Air Contaminants	Toxic Air Contaminants				
Increased cancer risk due to exposure to toxic air contaminants	Greater than one incide	nt per 100,000 population			
¹ MBARD applies the emission threshold of 137 pounds per day of ROG or NOx to construction activities that involve non-typical equipment (i.e., grinders, and portable equipment). The District specifies examples of typical equipment as scrapers, tractors, dozers, graders, loaders, and rollers (MBARD, 2008). For this project, well construction was the only construction activity assumed to use non-typical equipment not normally used in the District (e.g., drilling rigs). ² Emissions exceeding these thresholds are considered significant if dispersion modeling shows that the ambient air quality standard for that pollutant would be exceeded. Since air pollutant dispersion modeling was not conducted for this project, the emissions thresholds are used to judge the significance. This threshold applies to stationary sources, not indirect sources. ³ Based on the substantial evidence developed and presented by District staff in February 2013 and 2014, M1W, as Lead Agency for this EIR, elected to use thresholds to determine if the Proposed Modifications would make a considerable contribution to significant cumulative global climate change impacts. The Proposed Modifications would have negligible direct, staff are proposed of greenhouse of greenhouse are green envisions.					

4.3.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

Consistent with the PWM/GWR Project Final EIR, the primary source of air pollutant emissions associated with the Proposed Modifications would occur in connection with construction activities. The California Emissions Estimator Model or CalEEMod is typically used to predict project construction, operational, and greenhouse gas emissions for land use development projects. Since the Proposed Modifications are not considered a typical land use project, Illingworth and Rodkin determined that use of CalEEMod was inappropriate since the model does not predict fugitive emissions from trenching/pipeline construction and well drilling. Therefore, as with the evaluation for the PWM/GWR Project Final EIR, the assessment of the Proposed Modifications used a spreadsheet analysis that includes specific construction assumptions including new timeframes for the Proposed Modifications, and applies the most appropriate published emissions factors for the different types of emission-generating activities.

Construction Analysis

Construction of the Proposed Modifications would generate emissions of criteria pollutants (ROG, NO_X , CO, PM_{10} , $PM_{2.5}$) that would result in short-term effects on ambient air quality and emissions of GHGs (primarily CO₂ and CH₄) that would add to the existing global GHG emissions. Emissions would originate from mobile and portable construction equipment exhaust, construction worker vehicle exhaust, dust from ground disturbances, and electrical transmission. Most of these emissions would be temporary (i.e., limited to the construction period) and would cease when construction activities are complete. The Proposed Modifications include construction activities at several locations for a duration of approximately 24 months, with some activities occurring concurrently. In addition, some painting, paving, testing, and start-up activities would occur for about four months at the end of the construction period. Assuming an average of 21 workdays per month, there would be approximately 500 workdays of construction activity.

Illingworth and Rodkin computed construction equipment emissions based on the quantity, types, size, and duration of equipment usage. A worksheet for each Proposed Modification was developed that provided the type of equipment, quantity, size, load factor, number of days in use and average hours of usage. This inventory of construction activity was combined with the equipment emissions factors that are used in the CalEEMod Version 2016.3.2 model. These emissions factors are based on the California Air Resources Board's (CARB) latest OFFROAD model that is used to develop statewide emissions inventories (by county) for various types of construction-type equipment. The emission factors were obtained from the CalEEMod technical appendix. Unless specifically known, the horsepower and load factor for each type of equipment was based on the statewide average used in CalEEMod. Construction equipment exhaust emissions factors for year 2020 were used in this analysis representing a conservatively high assumption.

Emissions from construction-related vehicle traffic were computed using emission factors used by CalEEMod based on CARB's EMFAC2014 mobile emissions model. These factors were modeled in the spreadsheet to represent annual conditions in Monterey County. Emission factors, which were generated in terms of grams per mile and vehicle trip end emissions, were applied to projected vehicle travel activity for each Proposed Modification component. In the case of ROG, emission factors also included running losses that account for emissions from evaporating fuel and oil while the vehicle is operating. PM₁₀ and PM_{2.5} emission factors also include those from brake and tire wear. Emission rates were developed for light-duty trucks (assumed to be worker trips), light-heavy heavy-duty trucks (assumed to be vendor trips), and heavy-heavy duty truck trips assumed to be soil hauling, equipment delivery and cement truck trips. The average distances used by CalEEMod were applied to these trips to estimate vehicle miles traveled. The vehicle activity in terms of trips and miles traveled for each Project Modification component were used with the CalEEMod mobile emission factors to generate emissions.

Emissions associated with ground disturbance were developed for area disturbance (e.g., grading and vehicle activity), trenching for pipeline construction, and vehicle travel on unpaved surfaces. These emissions were computed for the maximum daily projected activity. This maximum day was estimated to occur during the peak month of overlapping construction (specifically, when the greatest number of sites involving earth moving activities were anticipated to be occurring simultaneously).

Area disturbance emissions are those from general ground disturbance at construction sites. This factor was developed by Midwest Research Institute based on an emission factor of 0.11 tons of PM_{10} per acre of disturbance per day (CARB, 2013). Since this emission factor assumed some level of construction area watering for dust management, the unmitigated emission factor was

computed as twice that factor (i.e., watering was assumed to provide 50% control of emissions). This unmitigated area source emission factor was computed at 20 pounds of PM_{10} emitted per disturbed acre per day.

Emissions for pipeline trenching were based on EPA's AP 42, Fifth Edition Compilation of Air Pollutant Emission Factors (EPA, 2006a). The emission factor is based on the amount of material moved (i.e., excavated and then replaced) in cubic yards, mean wind speed, and material moisture content. The amount of material moved was computed based on the length of pipeline that would be constructed in one day multiplied by the assumed width of 6 feet and depth of 6 feet. This amount was then doubled to assume soil would be moved twice, once to excavate, and then to either backfill or load in a truck to export. The wind speed was based on that used by CaIEEMod of 7.1 miles per hour. While CaIEEMod uses a soil moisture content of 7.9%, a drier moisture content of 2.5% was used since the equation was developed for a range of soil conditions from 0.25% to 4.8%. This is a conservative assumption, since soil excavated for pipeline construction is anticipated to be moist (i.e., probably greater than 4.8%) and drier soil would be more likely to become airborne.

Unpaved roadway travel emissions were computed assuming worker and truck travel at all sites of 0.1 miles. The traffic projections for the maximum daily activity construction period were used to compute daily vehicle miles traveled (VMT) for worker and truck trips. Emission factors were based on the EPA's Unpaved Roadway Emission Factor that is based on silt content and vehicle weight (EPA, 2006b). The silt content of 6.9% used by CalEEMod was applied. The average assumed vehicle weight was 16.4 tons for trucks (i.e., 80% weigh 20 tons and 20% weigh 2 tons).

The construction schedule and equipment usage assumptions were provided by M1W for each of the Proposed Modifications. Construction equipment, disturbed ground surface area, duration, proposed new structures, and soil and demolition hauling volumes for each component of the Proposed Modifications are included in the air quality and greenhouse gas evaluation prepared by Illingworth & Rodkin, Inc. (**Appendix F**).

Operational Analysis

Operation of the Proposed Modifications would generate minor emissions of criteria pollutants (ROG, NO_X, CO, PM₁₀, PM_{2.5}) that would result in short-term effects on ambient air quality and GHGs (CO₂, CH₄, and N₂O) that would add to the existing global GHG emissions that cause climate change. Operational emissions include some vehicle trips associated with any commuting workers, maintenance trips, truck deliveries and increased electrical demand of the Proposed Modifications and changes to electricity demand due to modifications to treatment and pumping facilities (e.g., Advanced Water Purification Facility). No new direct, stationary sources of emissions are included in the Proposed Modifications; in the unlikely event that emergency back-up power supplies are needed, the existing emergency generators owned by M1W would likely be used and these are already tested by as part of facility operations. M1W indicated that there would not be any emergency generators that would be located at any of the Well Sites or facilities.

Mobile emissions are assumed to be minor as there would only be a few trips added by the Proposed Modifications. These were not computed as they are assumed to be negligible, consistent with the findings of the PWM/GWR Project Final EIR for the approved PWM/GWR Project.

GHG emissions from changes in electricity demand were computed based on electrical demand of the new and modified facilities and emission factors for electricity generation. Emissions rates associated with electricity consumption were based on Pacific Gas & Electric utilities (PG&E) projected 2020 CO_2 intensity rate (PG&E, 2013). These rates are based, in part, on the requirement of a renewable energy portfolio standard of 33% by the year 2020 and increase to

50% by 2030. The derived 2020 rate for PG&E was estimated at 290 pounds of CO_2 per megawatt of electricity delivered and is based on the CPUC GHG Calculator. Electricity demand for each modification was estimated. This included changes to electricity demand at each of the existing facilities whose use would be modified by the Proposed Modifications. Note that PG&E's CO_2 emissions rate for all of PG&E's delivered electricity, including power purchased from third parties was 294 pounds per megawatt-hour (PG&E, 2018).

Areas of No Impact

Some of the significance criteria outlined above (a and d) are not applicable to the Proposed Modifications, or the Proposed Modifications would not result in impacts related to these criteria, as explained below. The impact analyses related to the other criteria (b and c) are addressed below under Sections 4.3.4.4 (Construction Impacts), 4.3.4.5 (Operational Impacts), and 4.3.4.5 (Cumulative Impacts).

(a) Conflict with or obstruct implementation of the applicable air quality plan. Overall construction emissions associated with the Proposed Modifications would be consistent with the MBARD's 2016 Air Quality Management Plan. The Proposed Modifications would not conflict with or obstruct implementation of MBARD's 2016 Air Quality Management Plan. As a result, the Proposed Modifications would result in no impact in regard to this threshold of significance.

(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people (Operational). The Proposed Modifications include improvements to the Advanced Water Purification Facility, which is located at the existing Regional Treatment Plant where primary and secondary wastewater treatment-related odors may already be generated. However, the Proposed Modifications would not add new facility processes that are anticipated to result in generation of any additional odors during operations, consistent with the findings of the PWM/GWR Project Final EIR for the approved PWM/GWR Project.

Summary of Impact Analysis

Table 4.3-3, **Summary of Impacts – Air Quality and Greenhouse Gas**, provides a summary of potential air quality and greenhouse gas impacts and significance determinations for each of the Proposed Modifications and the project overall.

	ility	ine		CalAm Distribution Systems		
Impact Title	Advanced Water Purification Fac	Product Water Conveyance Pipel	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
AQ-1: Construction Criteria Pollutant Emissions	LSM*	LSM*	LSM*	LSM*	LSM*	LSM
AQ-2: Construction Exposure of Sensitive Receptors to Pollutants	LS	LS	LS	LS	LS	LS
AQ-3: Construction Odors	LS	LS	LS	LS	LS	LS
AQ-4C: Construction Greenhouse Gas Emissions (Cumulative Impact) LS: The construction of the Proposed Modification to make a considerable contribution to significar greenhouse gas emissions and the related glob			fications would gnificant cumu ed global clima	d not cause t lative impact ate change ir	he Project s due to npacts.	
AQ-5: Operational Exposure of Sensitive Receptors to Pollutants	LS	LS	LS	LS	LS	LS
AQ-6: Operational Greenhouse Gas Emissions (Cumulative Impact)	LS: The Proposed Modifications would not cause the Project to mal considerable contribution to significant cumulative impacts of greenhour emissions and the related global climate change impacts.		ake a ouse gas			
Cumulative Impact – Criteria Pollutant Emissions (PM ₁₀)	LSM: The Proposed Modifications would potentially make a considerable contribution to significant cumulative regional emissions of PM ₁₀ ; however, wit implementation of Mitigation Measure AQ-1, the impact would be reduced to less than significant.			lerable ever, with duced to		
NI – No Impact LS – Less than Significant LSM – Loss than Significant with Mitigation						

Table 4.3-3 Summary of Impacts - Air Quality and Greenhouse Gas

LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact

* The implementation of each component when looked at individually would not a have a significant impact; it is only when all components are implemented together (with overlapping construction schedules) that a significant impact would occur triggering Mitigation Measures to reduce to LS.

4.3.4.3 Construction Impacts and Mitigation Measures

Impact AQ-1: Construction Criteria Pollutant Emissions. Construction of the Proposed Modifications would result in emissions of criteria pollutants, specifically PM₁₀, that may result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard. (Criterion b) (Less-than-Significant with Mitigation)

All Proposed Modifications

The PWM/GWR Project Final EIR found that construction PM_{10} emissions would exceed the MBARD's threshold and result in a potentially significant impact. Construction of the Proposed Modifications would not overlap with construction of the completed components of the approved PWM/GWR Project. Therefore, this analysis focuses on the emissions of the Proposed Modifications to determine whether a new significant impact would occur. The total emissions during construction for each of the Proposed Modifications were computed as part of the air quality evaluation (**see Appendix F**). Daily emissions were assessed based on the potential for overlapping activities among the Proposed Modifications and compared against MBARD thresholds.

A credible worst-case scenario was evaluated predicting maximum emissions for each year. In 2020, maximum emissions would occur under the scenario where one Injection Well and grading of the backflush basin could occur simultaneously. In 2021, the highest daily emissions are anticipated during the simultaneous construction of the Advanced Water Purification Facility expansion, Extraction Well construction, Injection Well construction, and pipeline construction. Note that drilling, a 24-hour per day operation, would not occur simultaneously at multiple Well Sites. In 2022, the Proposed Modifications would include construction of the CalAm Extraction Wells and Conveyance Pipeline. Testing and cleanup activities would follow completion of that work.

Total emissions for construction of the Proposed Modifications were computed on an annual basis for the calendar year in which construction of that component is expected to occur. Daily emissions were then compared against MBARD thresholds. **Table 4.3-4**, **Construction Emissions by Modification** and **Table 4.3-5 Maximum Daily Construction Emissions by Modification** provide a summary of the total criteria pollutant emissions from construction activities by each of the Proposed Modifications. The combined daily air pollutant emissions of PM₁₀ during construction for all Project Modifications during construction are presented in **Table 4.3-6**, **Daily Air Pollutant Emissions**.

Table 4.3-4

Daily Construction Emissions by Proposed Modification

	Emissions (Ibs/day)				
Construction Component	ROG	NOx	PM ₁₀	PM _{2.5}	
Advanced Water Purification Facility - 2021					
Exhaust	2	31	1	1	
Fugitive PM			7	1	

	Emissions (lbs/day)						
Construction Component	ROG	NO _x	PM ₁₀	PM _{2.5}			
Product Water Conveyance Pipeline - 2021							
Exhaust	2	21	1	1			
Fugitive PM			4	1			
Expanded Injection Well Facilities – 2020 through 2021							
Exhaust	2	21	1	1			
Fugitive PM			27	5			
CalAm Facilities – 2020 through 2021							
Exhaust	3	33	2	1			
Fugitive PM			25	5			
Testing and Cleanup – late 2021	Testing and Cleanup – late 2021						
Exhaust	2	22	1	1			

Table 4.3-4Daily Construction Emissions by Proposed Modification

Table 4.3-5

Maximum Daily Construction Emissions by Proposed Modification

	Maximum Emissions (Ibs/day)				
Construction Component	ROG	NOx	PM ₁₀	PM _{2.5}	
Advanced Water Purification Facility Building Interior, P Expanded Injection Well Building Construction in 2021	roduct Water	Conveyance	Pipeline, Extra	ction Well and	
Exhaust and fugitive	12	117	63	15	
Expanded Injection Well Facilities and Backflush Basin Construction – 2020					
Exhaust and fugitive	9	89	31	9	
CalAm Facilities Extraction Wells and Pipeline Construction - 2022					
Exhaust and fugitive	3	22	8	2	
Testing and Cleanup - 2022					
Exhaust	2	22	1	1	

The emissions from the Proposed Modifications would be below the significance thresholds recommended by the District with the exception of PM_{10} . **Table 4.3-6, Daily Pollutant Emissions,** identifies the unmitigated and mitigated PM_{10} associated with the Proposed Modifications. As identified in **Table 4.3-6,** the Proposed Modifications would exceed MBARD's threshold of significance for PM_{10} emissions. This impact would, however, be reduced to a less-than-significant level with implementation of Mitigation Measure AQ-1.

Table 4.3-6

Daily PM₁₀ Air Pollutant Emissions

Proposed Modifications	PM₁₀ Emissions Unmitigated (Ibs/day)	PM₁₀ Emissions Mitigated(lbs/day)
Advanced Water Purification Facility	54.7	19.1
Product Water Conveyance Pipeline	12.2	4.3
Injection Well Facilities	77.1	27

Table 4.3-6Daily PM10 Air Pollutant Emissions

Proposed Modifications	PM ₁₀ Emissions Unmitigated (Ibs/day)	PM₁₀ Emissions Mitigated(lbs/day)				
CalAm Extraction Wells and Pipeline	19.8	6.9				
Combined Total	163.8*	57.3				
*Exceeds MBARD threshold of 82 lbs/day.						

Impact Conclusion

With implementation of existing Mitigation Measure AQ-1 (Construction Fugitive Dust Control Plan), the Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. The PWM/GWR Project Final EIR found that construction PM_{10} emissions would exceed the MBARD's threshold and result in a potentially significant impact. This impact could be reduced to a less-than-significant level with implementation of Mitigation Measure AQ-1. Consistent with these findings, construction of the Proposed Modifications would not result in a significant impact with implementation of Mitigation Measure AQ-1. Consistent with these findings, construction of the Seasure AQ-1. This mitigation would reduce maximum daily on-site construction PM_{10} emissions to 57.3 pounds per day, below the threshold of 82 pounds per day.

Mitigation Measure

The PWM/GWR Project Final EIR identified Mitigation Measure AQ-1 (Construction Fugitive Dust Control Plan) to reduce potential temporary air quality impacts during construction from PM₁₀ to a less-than-significant level. The general requirements of Mitigation Measure AQ-1 remain unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR includes minor modifications to this mitigation measure to identify the Proposed Modifications that would be subject to the requirements of this measure.

- **MM AQ-1:** Construction Fugitive Dust Control Plan. (Applies to All Proposed Modifications). The following standard Dust Control Measures shall be implemented during construction to help prevent potential nuisances to nearby receptors due to fugitive dust and to reduce contributions to exceedances of the State ambient air quality standards for PM₁₀, in accordance with MBARD's CEQA Guidelines.
 - a. Water all active construction areas as required with non-potable sources to the extent feasible); frequency should be based on the type of operation, soil, and wind exposure and minimized to prevent wasteful use of water.
 - b. Prohibit grading activities during periods of high wind (over 15 mph).
 - c. Cover all trucks hauling soil, sand, and other loose materials and require trucks to maintain at least 2 feet of freeboard.
 - d. Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
 - e. Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets;
 - f. Enclose, cover, or water daily exposed stockpiles (dirt, sand, etc.).
 - g. Replant vegetation in disturbed areas as quickly as possible.

- h. Wheel washers shall be installed and used by truck operators at the exits of the construction sites to the Advanced Water Purification Facility site, and the Injection Well Facilities.
- i. Post a publicly visible sign that specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the MBARD shall also be visible to ensure compliance with MBARD rules.

Impact AQ-2.Construction Exposure of Sensitive Receptors to Pollutant
Emissions. Construction of the Proposed Modifications would not
expose sensitive receptors to substantial pollutant concentrations.
(Criterion c) (Less-than-Significant)

All Proposed Modifications

Sensitive receptors are locations where sensitive populations (such as children, asthmatics, the elderly, and the chronically ill) that are at greater risk than the general population may be exposed to the effects of air pollutants. These locations include residences, schools, playgrounds, childcare centers, retirement homes, hospitals, and medical clinics. **Table 4.3-7, Nearest Sensitive Receptors and Approximate Distances** summarizes the nearest sensitive receptors and approximate distances to each of the Proposed Modifications sites.

Table 4.3-7

Nearest Sensitive Receptors and Approximate Distances

Project Component	Type of Receptor	Closest Distance from Project
Advanced Water Purification Facility	Farmhouse on Monte Road	One mile
Product Water Conveyance Pipeline	Residences – Ardennes Circle	300 feet
Injection Well Facilities	Residences – Ardennes Circle	850 feet
EW-1 and EW-2	Seaside Middle School	Just north of playfields, >500 feet from classrooms
EW-3 and EW-4	Residences – Ardennes Circle	50 feet
CalAm Conveyance Pipeline	Residences (e.g., Del Monte Boulevard and Marina Drive) and Schools	100 from residences, 300 feet from school

The PWM/GWR Project Final EIR found that construction activities would expose sensitive receptors to temporary emissions of toxic air contaminants. The primary concern for nearby sensitive receptors would be exposure to diesel particulate matter emissions from diesel-powered construction equipment and diesel trucks associated with construction activities. Diesel particulate matter is classified as a toxic air contaminant by CARB for the cancer risk associated with long-term (i.e., 70 years) exposure.

As shown in **Table 4.3-7**, the nearest receptors to pipeline work would be located as close as approximately 100 feet from the CalAm Conveyance Pipeline. Pipeline construction in residential areas would progress at a rate of about 2,000 feet per day, thus limiting nearby receptors' exposure to diesel particulate matter to several days. Exposure to construction emissions for such

4.3 Air Quality and Greenhouse Gas

a short time period would not result in chronic effects, such as a significant increase in cancer risk.

Construction work at the Advanced Water Purification Facility and Expanded Injection Well Facilities would occur 850 feet or more from sensitive receptors and would not have adverse construction air quality impacts at these locations. Pollutant and contaminant concentrations greatly disperse at such distances.

Construction of new EW-3 and EW-4 would be as close as 50 feet from residences. The air quality effects from constructing these wells were evaluated in the MPWSP EIR/EIS because these same wells were proposed as part of ASR system improvements that were evaluated in that EIR/EIS (ASR-5 and ASR-6). The MPWSP EIR/EIS concluded that construction these wells would have a less-than-significant impact. These findings were based on predictions of increased lifetime cancer risk of less than 10 chances per million.¹

Construction of new EW-1 and EW-2 would be near Seaside Middle School. These wells would be slightly over 500 feet from the nearest classrooms. EW-1 and EW-2 would be much farther from Seaside Middle School receptors than EW-3 and EW-4 are from residential receptors where predictions of lifetime cancer risk were made. Therefore, those same conclusions from the CalAm Project could be applied to support the findings of a less-than-significant impact in terms of effects to sensitive receptors.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the PWM/GWR Project Final EIR, a significant cancer risk based on lifetime exposure would not occur from construction of the Proposed Modifications. Specifically, the cancer risk from construction of the Proposed Modifications, associated with diesel emissions over a 70-year lifetime, would be small and below significance thresholds (10 in one million). Therefore, the impacts related to diesel particulate matter exposure and construction health risk would be less-than-significant. No mitigation measures are required.

Impact AQ-3:Construction Odors. Construction of the Proposed Modifications
would not result in other emissions (e.g., odors) that would
adversely affect a substantial number of people. (Criterion d)
(Less-than-Significant)

All Proposed Modifications

As identified in the PWM/GWR Project Final EIR, construction may result in intermittent odors from diesel exhaust that could be noticeable to residences near the work sites. However, given the distance of receptors from most construction sites and the limited construction duration at any one location, potential odors from construction equipment are not anticipated to result in significant odor impacts and no mitigation measures would be required. Construction of the Proposed Modifications would result in substantially the same impact (i.e., intermittent odors due to diesel exhaust) as the approved PWM/GWR Project. This impact would be temporary in nature. As a result, the Proposed Modifications would not result in a significant construction-related odor impact. This represents a less-than-significant impact. No mitigation measures are warranted.

¹ See pages 4.10-27 through 4.10-29 of the MPWSP EIR/EIS.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the PWM/GWR Project Final EIR, the Proposed Modifications would have a less-than-significant impact related to odors during construction. No mitigation is required.

Impact AQ-4: <u>Construction Greenhouse Gas Emissions.</u> Construction of the Proposed Modifications would generate greenhouse gas emissions, either directly or indirectly, but would not cause the Project with the Proposed Modifications to make a considerable contribution to significant cumulative impacts due to greenhouse gas emissions and the related global climate change impacts. (Criterion e) (Less-than-Significant)

The PWM/GWR Project Final EIR found that GHG emissions would be less-than-significant. The air quality assessment for the Proposed Modifications calculated construction GHG emissions in units of metric tons (MT) of carbon dioxide equivalent (CO₂e) per year. Construction of the Proposed Modifications would result in a one-time emission total of up to 843 MT of CO₂e during the construction period. MBARD does not have adopted nor recommended quantified thresholds for assessing the significance of GHG emissions during construction. MBARD staff recommended including construction emissions within operational totals based on the 30-year amortization to provide a full analysis of construction and operational GHG emissions (Clymo, 2014). Accordingly, the total construction period emissions from the Proposed Modifications were amortized over a 30-year life. The annual amortized GHG emissions from construction of the Proposed Modifications are 28 MT/year.² As explained below under Impact AQ-6, the total GHG emissions from the Proposed Modifications and the effects of contribution to significant cumulative impacts associated with GHG emissions and the effects of climate change.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the PWM/GWR Project Final EIR, the Project with the Proposed Modifications would have a less-than-significant impact related to GHG emissions during construction activities. No mitigation is required.

² 843 MT over 30 years
4.3.4.4 Operation Impacts and Mitigation Measures

Impact AQ-5:Operational Criteria Pollutant Emissions. Operation of the Project
with the Proposed Modifications would not expose sensitive
receptors to substantial pollutant concentrations. (Criterion c)
(Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR found less-than-significant impacts from operational impacts since the project would not introduce new stationary sources of emissions and would generate little traffic. Comparable to the findings of the PWM/GWR Project Final EIR, the Proposed Modifications would not result in new stationary sources of emissions and little traffic resulting in less-than-significant operational air quality impacts.

Table 4.3-7 summarizes the nearest sensitive receptors and approximate distances to each of the Proposed Modifications. Operation of the Proposed Modifications would not result in emissions of TACs that could affect sensitive receptors, because no direct sources of operational TAC emissions would occur and the vehicular and truck traffic generated by the Project with the Proposed Modifications would be negligible and spread across the region. Consistent with the findings in the Final EIR, the health risks in terms of excess cancer risk or hazards from TACs would be less-than-significant and no mitigation is required.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the PWM/GWR Project Final EIR, the Project with the Proposed Modifications would have a less-than-significant impact. No mitigation is required.

Impact AQ-6:Operational Greenhouse Gas Emissions.Operation of the
Proposed Modifications would generate GHG emissions, either
directly or indirectly. These emissions would not cause the Project
with the Proposed Modifications to exceed significance thresholds
such that they would result in a considerable contribution to
significant cumulative impacts of GHG emissions. In addition, the
Proposed Modifications would not conflict with applicable plan,
policy or regulation adopted for the purpose of reducing
greenhouse gas emissions. (Criteria e and f) (Less-than-
Significant)

The PWM/GWR Project Final EIR concluded that the GHG impacts would be less-than-significant since annual GHG emissions would be below the project-specific GHG significance threshold of 2,000 MT CO₂e per year.

Consistent with the analysis contained in the PWM/GWR Project Final EIR, the Proposed Modifications may require new maintenance and employee vehicle trips; however, these activities would generate relatively small amounts of GHG emissions and are considered to be negligible.

Indirect GHG emissions from energy usage would occur in connection with the Proposed Modifications. Anticipated electricity demand (mWh/year) was provided by the M1W and used to calculate annual GHG emissions using emissions rates published for PG&E's projected 2020 CO₂ intensity rate (the first possible full year of operation of the Proposed Modifications would be 2022).

The increase in electricity demand associated with the Proposed Modifications, without incorporation of new energy-saving features, was computed as a total of 22,915 mega-watt hours per year (mWh/year) and represents "Business as Usual" emissions. The Proposed Modifications would include energy saving features that would reduce energy demand and related GHG emissions, as described in Section 4.3.3.4 of the PWM/GWR Project Final EIR.

Potential increased construction GHG emissions are described in Impact AQ-4. GHG emissions from construction of the Project Modifications would total 843 MT of CO₂e. Total project-related construction GHG emissions associated with the approved PWM/GWR Project and Project Modifications of 843 MT were amortized over 30 years and that annual amount was added to the annual Project with Proposed Modifications operational emissions. **Table 4.3-8** summarizes the computed annual GHG emissions for both the approved PWM/GWR Project and Proposed Modifications. As shown by this table, annual GHG emissions would be below the GHG significance threshold of 2,000 MT CO₂e per year. Therefore, the Project with the Proposed Modifications would have a less-than-significant impact related to GHG emissions. No mitigation measures are required to reduce GHG emissions. Like the approved PWM/GWR Project, the Proposed Modifications would be consistent with plans, policies and regulations adopted for the purpose of reducing GHGs because the Proposed Modifications would use electricity generated through the purchase of landfill gas (or biogas), and inclusion of energy efficient pumps and treatment processes to minimize GHG emissions.

Table 4.3-8

Annual GHG Emissions (metric tons/year CO₂)

Project Component	Electricity Demand (mWh/year)	CO₂e MT/yr		
Approved PWM/GWR Project				
Total Construction Emissions (2016-2017) = 6,039 MT		201 ¹		
Mobile Emissions	-	57		
Proposed Modifications				
Total Construction Emissions (2020-2022) = 843 MT		28 ¹		
Total Net New Electricity Demand	22,915			
New Electricity Demand Emissions – using Cogeneration, Biogas and PG&E	Net increase = 2,999 Cogeneration ² 19,871 Biogas ² 45 PG&E	6		
Total Net New GHG Emissions	-	292 ¹		
Project-Specific Significance Threshold	2,000 MT/year or 16% below Business as Usual			
Exceed Threshold?	No			
¹ Some construction emissions computed for the approved PWM/GWR Project would be included in the Proposed Modifications (construction amortized over 30 years). ² Emissions from cogeneration and purchased landfill gas are considered renewable energy sources.				

Impact Conclusion

The Proposed Modifications would not cause the Project to make a new or substantially more severe contribution to significant cumulative greenhouse gas emissions and associated impacts related to climate change. Consistent with the PWM/GWR Project Final EIR, the Project with the Proposed Modifications would have a less-than-significant impact related to GHG emissions and no mitigation is required.

4.3.4.5 Cumulative Impacts and Mitigation Measures

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. This Draft Supplemental EIR relies on a plan-based approach for the analysis of cumulative impacts related to air quality and greenhouse gas emissions.

The PWM/GWR Project Final EIR and Addenda found that the approved PWM/GWR Project's contribution to cumulative air quality and GHG impacts would not be significant. The specific findings were as follows:

- Construction would not make a considerable contribution to significant cumulative impacts due to GHG emissions and the related global climate change impacts and this is a less-than-significant cumulative impact.
- Operational plus amortized construction GHG emissions would not make a considerable contribution to significant cumulative impacts of GHGs and the related global climate change impacts and this is a less-than-significant cumulative impact.
- Construction could result in a considerable contribution to significant cumulative regional emissions of PM₁₀; however, with implementation of Mitigation Measure AQ-1, the impact would be less-than-significant.

The Project with the Proposed Modifications is anticipated to make similar contributions to cumulative air quality and GHG impacts to those of the approved PWM/GWR Project. The emissions from construction of the Proposed Modifications would be below the significance thresholds recommended by the District with the exception of PM₁₀, which would be reduced to a less-than-significant level with mitigation. In addition, construction and operation of the Proposed Modifications would not expose sensitive receptors to substantial air pollutant concentrations. For the reasons identified in the PWM/GWR Project Final EIR above, the Project with the Proposed Modifications would not make a cumulatively considerable contribution to significant cumulative impacts.

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4.4 **BIOLOGICAL RESOURCES: FISHERIES**

Sections	Tables				
 4.4.1 Introduction 4.4.2 Environmental Setting 4.4.3 Regulatory Framework 4.4.4 Impacts and Mitigation Measures 	 4.4-1 Summary of Prior Environmental Review – Biological Resources: Fisheries 4.4-2 Summary of Impacts – Biological Resources: Fisheries 				

4.4.1 Introduction

This section addresses the freshwater and anadromous fishery biological resources potentially affected by the Proposed Modifications; identifies applicable federal, state and local regulations pertaining to fishery resources; and evaluates potential impacts from construction and operation of the Proposed Modifications, compared to the effects identified in the PWM/GWR Project Final EIR and Addenda.

Section 4.4, Biological Resources: Fisheries of the PWM/GWR Project Final EIR (see PWM/GWR Project Final EIR Vol. 1, at pg. 4.4-1 through 4.4-76) identified the effects of the approved PWM/GWR Project on freshwater and anadromous fishery biological resources. The Addenda did not change any of the conclusions of the PWM/GWR Project Final EIR. **Table 4.4-1** below summarizes the findings of the PWM GWR Project Final EIR and Addenda.

Table 4.4-1

Summary of Prior Environmental Review – Biological Resources: Fisheries

	Approved PWM/GWR Project (Overall Impact)
BF-1: Habitat Modification Due to Construction of Diversion Facilities	LSM
BF-2: Interference with Fish Migration Due to Project Operations	LSM
BF-3: Reduction in Fish Habitat or Fish Populations Due to Project Operations	LS
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	

Fishery biological resources refer to aquatic life present in the affected surface waters utilized or potentially affected by the Proposed Modifications. **Section 4.5, Biological Resources: Terrestrial,** of this Draft Supplemental EIR addresses terrestrial vegetation, wildlife, and wetland resources.

No public and agency comments related to fishery resources were received during the public scoping period in response to the Notice of Preparation (see **Appendix A**).

4.4.2 Environmental Setting

The PWM/GWR Project Final EIR describes the existing conditions of the approved PWM/GWR Project area as it relates to fisheries resources. No changes have occurred since the PWM/GWR Project Final EIR classified the fisheries resources setting. Refer to Section 4.4.2 of the

PWM/GWR Project Final EIR for a complete description of the environmental setting and a discussion of PWM/GWR components and diversion sites.

There would be no changes to approved source water facilities or requirements for modifications to diversions from facilities at any of the approved diversion sites as described in the PWM/GWR Project Final EIR under the Proposed Modifications. Further, none of the Proposed Modifications are located in proximity to any aquatic resources that may support fishery resources.

4.4.2.1 Overview of Fish Species in Vicinity of Components of the Proposed Modifications

The PWM/GWR Project Final EIR contained an overview of fish species in Section 4.4.2.1 and a discussion of special status species in Section 4.4.2.2. There are no fish species or special status fish species or water bodies containing fishery resources located in the vicinity of the Proposed Modifications. For a complete description of the fish species in the vicinity of the project components, broken down by water body, please refer to Sections 4.4.2.1 and Section 4.4.2.2 of the PWM/GWR Project Final EIR.

4.4.3 Regulatory Framework

4.4.3.1 Federal, State and Local

Section 4.4.3.1 and Section 4.4.3.2 of the PWM/GWR Project Final EIR describe federal and state regulations related to fisheries resources. There have been no relevant changes to these regulations.

4.4.3.2 Local Plans and Regulations

Section 4.4.3.3 of the PWM/GWR Project Final EIR describes regional and local land use regulations related to fisheries resources. See also Table 4.4-6, Applicable State, Regional and Local Land Use Plans and Policies Relevant to Biological Resources: Fisheries, in the PWM/GWR Project Final EIR for more information. There have been no relevant changes to these regulations.

4.4.4 Impacts and Mitigation Measures

4.4.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, a project would result in significant impacts related to fishery resources if it would:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any fisheries species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service;

- c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e. Conflict with any local policies or ordinances protecting fisheries resources, such as a tree preservation policy or ordinance; or
- f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the State Revolving Fund Loan Program administered by the State Water Resources Control Board.

4.4.4.2 Impact Analysis Overview

Approach to Analysis

The impact assessment addresses the potential for Proposed Modifications to impact fisheries resources and special status fisheries species. As noted above, none of the Proposed Modifications are located in proximity to any aquatic resources that may support fishery resources and thus, there are no areas within the Proposed Modifications where special status fisheries species may be found.

Areas of No Impact

None of the components of the Proposed Modifications would be located adjacent to water bodies and thus, construction would have no effect on fisheries resources.

The operation of the expanded Advanced Water Purification Facility at the Regional Treatment Plant would result in additional reverse osmosis concentrate discharge beyond the amount analyzed in the PWM/GWR Project Final EIR. Potential impacts to anadromous fish in the marine environment due to reverse osmosis concentrate discharge are discussed in detail within **Section 4.13**, **Marine Resources**.

Operations under the Proposed Modifications would not result in impacts related to the any of the significance criteria, as explained below.

(a) Have a substantial adverse effect, either directly or through habitat modifications, on candidate, sensitive, or special status fisheries or b) Have a substantial adverse effect on any riparian habitat or identified sensitive natural community. None of the facilities or components of the Proposed Modifications would be located adjacent to water bodies or fisheries habitat. Construction and operation of the Proposed Modifications would not result in impacts to habitat or area designated as containing sensitive communities, or candidates, sensitive or special status fisheries resources. (Note: Potential impacts to anadromous fish in the marine environment due to the operation of the expanded Advanced Water Purification Facility are evaluated in the Section 4.13, Marine Resources).

(c) Have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means. No federally protected wetlands having connection to any fisheries resources would be impacted by the Proposed Modifications.

(*d*) Interfere substantially with the movement of any native resident or migratory fish. The operation of the expanded Advanced Water Purification Facility at the Regional Treatment Plant does not propose new diversions or increased diversion beyond that identified in the PWM/GWR Project Final EIR. Thus, the Proposed Modifications would not interfere substantially with the movement of any native resident or migratory fish. The Proposed Modifications would produce expanded supplies of water to CalAm thereby enabling CalAm to reduce its diversions from the Carmel River and Seaside Basin systems. Reduction of diversions in the Carmel River would have a beneficial impact on river flows and fishery habitat and thus, the Proposed Modifications would have net beneficial effects on special-status species in the Carmel River system.

(e) Conflict with Local Policies Protecting Fishery Resources. Construction and operation of the Proposed Modifications would not result in conflicts with local policies addressing protection of fishery resources.

(*f*) Conflict with Habitat Conservation Plan or Natural Conservation Community Plan. There are no adopted Habitat Conservation Plans or Natural Conservation Community Plans within the Proposed Modifications project area that address fishery resources. (Note: the "Installation-Wide Multispecies Habitat Conservation Plan at Former Fort Ord" does not include fishery resources within the geographic area of potential impact of the Proposed Modifications.)

Summary of Impacts

Table 4.4-2, Summary of Impacts – Biological Resources: Fisheries provides a summary of potential applicable impacts to terrestrial fishery resources and significance determinations at each component site of the Proposed Modifications.

Table 4.4-2

Summary of Impacts – Biological Resources: Fisheries

	sility	line		CalAm Distribution System		
Impact Title	Advanced Water Purification Fac	Product Water Conveyance Pipe	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
BF-1: Habitat Modification Due to Construction of Diversion Facilities	NI	NI	NI	NI	NI	NI
BF-2: Interference with Fish Migration Due to Project Operations	NI	NI	NI	NI	NI	NI
BF-3: Reduction in Fish Habitat or Fish Populations Due to Project Operations	NI	NI	NI	NI	NI	BI
Cumulative Impacts	NI: The Proposed Modifications would make no contribution to a cumulative impact on fishery biological resources.					
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	<u> </u>					

4.4.4.3 Impacts and Mitigation Measures

All Proposed Modifications

The Proposed Modifications would not result in new impacts or substantial changes in impacts analyzed in the PWM/GWR Project Final EIR. The following analysis addresses significance criteria addressed in the PWM/GWR Project Final EIR:

Impact BF-1: Habitat Modification Due to Construction of Diversion Facilities.

The Proposed Modifications would result in effects comparable to those identified in the PWM/GWR Project Final EIR. There would be no construction impacts or habitat modification due to construction of the Proposed Modifications that would impact fisheries resources. None of the Proposed Modifications are located adjacent to water bodies, and there would be no improvements constructed in proximity to any aquatic habitat at these sites. No additional construction is proposed at any approved source water diversion or conveyance facility sites.

Impact BF-2: Interference with Fish Migration Due to Project Operations.

The Proposed Modifications would not result in changes to the effects identified in the PWM/GWR Project Final EIR. None of the Proposed Modification facilities would result in operations that would adversely affect stream flows as addressed above. There are no proposed new diversions or expansion of use of any source water diversion facilities under the Proposed Modifications. The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. In fact, the Proposed Modifications would enhance and increase the beneficial impacts of the approved PWM/GWR Project.

Impact BF-3:Reduction in Fish Habitat or Fish Populations Due to Project
Operations.

The Proposed Modifications would not reduce fish habitat or reduce or restrict the range of a fish species. Additionally, the Proposed Modifications will result in reduction of diversions of water from the Carmel River which would have a beneficial impact on river flows and fishery habitat. Similar to the approved PWM/GWR Project, the Proposed Modifications would have net beneficial effects on special-status species in the Carmel River system. The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts.

Overall, the Proposed Modifications would not adversely impact fisheries resources during operations. The Proposed Modifications would have net beneficial effects on special-status species in the Carmel River system.

4.4.4.4 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. PWM/GWR Project Final EIR **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects. The PWM/GWR Project Final EIR identified the geographic scope for cumulative impact analysis on fishery biological resources as the area of those projects that may affect steelhead, tidewater goby or other fishery species in the Salinas River or Reclamation Ditch.

The PWM/GWR Project Final EIR and Addenda found that there would be no significant construction or operational cumulative impacts related to fisheries resources. The Proposed Modifications would not cause the Project as a whole to make greater contributions to cumulative impacts to fishery biological resources than the approved PWM/GWR Project. The Proposed Modifications would not result in the placement of structures within creeks, rivers, or other waterways, nor would the Modifications affect inland fish or migration. Therefore, the Proposed Modifications would not impact fisheries resources. The Project with the Proposed Modifications would not impact fisheries resources. The Project with the Proposed Modifications would have net beneficial effects on special-status species in the Carmel River system. Therefore, the Project's contribution to fisheries impacts would not be cumulatively considerable.

4.5 **BIOLOGICAL RESOURCES: TERRESTRIAL**

Sections	Tables
4.5.1 Introduction	4.5-1 Summary of Prior Environmental Review – Biological Resources:
4.5.3 Regulatory Framework 4.5.4 Impacts and Mitigation	4.5-2 Habitat Types Identified within the Proposed Modifications Biological Study Area
Measures	4.5-3 Special-Status Plan Species Documented within the Biological Study Area During Focused Botanical Surveys in 2019
	4.5-4 Summary of Impacts – Biological Resources: Terrestrial

4.5.1 Introduction

This section describes the terrestrial biological resources present in the vicinity of the Proposed Modifications and evaluates the potential effects of construction and operation of the Proposed Modifications on these resources. These resources include plant communities, wildlife habitats, potentially occurring special-status plant and wildlife species, and natural communities.

The effects of the approved PWM/GWR Project on special-status plant and wildlife species and natural communities were identified in Section 4.5, Biological Resources: Terrestrial, of the PWM/GWR Project Final EIR (see PWM/GWR Project Final EIR Vol. 1, at pg. 4.5-1 through 4.5-119). The Addenda to the PWM/GWR Project Final EIR did not change any of the conclusions of the PWM/GWR Project Final EIR. **Table 4.5-1** below summarizes the findings of the PWM/GWR Project Final EIR and Addenda.

Table 4.5-1

Summary of Prior Environmental Review – Biological Resources: Terrestrial

	Approved PWM/GWR Project (Overall Impact)
BT-1: Construction Impacts to Special-Status Species and Habitat	LSM
BT-2: Construction Impacts to Riparian, Federally Protected Wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community.	LSM
BT-3: Construction Impacts to Movement of Native Wildlife and Native Wildlife Nursery Sites.	LS*
BT-4: Construction Conflicts with Local Policies, Ordinances, or approved Habitat Conservation Plan.	LSM
BT-5: Operational Impacts to Special-Status Species and Habitat.	LS*
BT-6: Operational Impacts to Riparian, Federally protected wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community.	LSM*
BT-7: Operational Impacts to Movement of Native Wildlife and Native Wildlife Nursery Sites.	LS*
BT-8: Operational Conflicts with Local Policies, Ordinances, or approved Habitat Conservation Plan.	LS*
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact * These impacts are not applicable to the Proposed Modifications.	

Fisheries are addressed in **Section 4.4, Biological Resources: Fisheries** of this Supplemental EIR and marine biological resources are addressed in **Section 4.13, Marine Biological Resources**.

DD&A prepared a Biological Resources Report (October 2019) that evaluated the potential biological effects of the Proposed Modifications. This section relies on information contained in the Biological Resources Report to supplement existing information contained in the PWM/GWR Project Final EIR related to terrestrial biological resources. The Biological Resources Report is included in **Appendix G**. The Biological Resources Report describes existing terrestrial biological resources within and surrounding the sites of the Proposed Modifications, identifies any special-status species and sensitive habitats within the modification sites, and assesses potential impacts on these terrestrial biological resources. The Biological Resources Report also identifies mitigation measures from the PWM/GWR Project Final EIR that would be applicable to the Proposed Modifications.

Public and agency comments related to terrestrial biological resources were received during the public scoping period in response to the Notice of Preparation and are included in **Appendix A.** M1W received a comment letter from the SWRCB on the Notice of Preparation regarding compliance with certain Federal laws, including the Endangered Species Act. The applicable comments included in that letter are summarized briefly below:

- If M1W pursues funding through the CWSRF program for the Proposed Modifications, "CEQA-Plus" environmental review would be required. This requirement includes compliance with the Federal Endangered Species Act (ESA).
- If the Proposed Modifications are subject to ESA, the SWRCB would consult with the USFWS and/or NMFS.
- If the Proposed Modification are subject to ESA, M1W would need to identify whether the Proposed Modifications would involve any direct effects from construction activities, or indirect effects that may affect Federally listed threatened, endangered, or candidate species, and identify applicable conservation measures to reduce such effects.
- There may be other Federal environmental requirements pertinent to the Proposed Modifications under the CWSRF Program. The letter referenced a website for more information.

At this time, M1W is not pursuing funding through the CWSRF program for the Proposed Modifications; however, if that occurs the information and analysis in this Supplemental EIR may be used for compliance with Federal environmental regulations.

4.5.2 Environmental Setting

The PWM/GWR Project Final EIR described the project area as it relates to terrestrial biological resources. The PWM/GWR Project Final EIR classified the terrestrial biological resources setting based on an overview of the Project Study Area (as defined in the PWM/GWR Project Final EIR), available data sources, habitat types, sensitive or otherwise, and special-status species in the vicinity or with the potential to occur in the vicinity of the approved PWM/GWR Project Final EIR is applicable to the Proposed Modifications and remains unchanged since certification of the PWM/GWR Project Final EIR. For a complete description of the environmental setting of the PWM/GWR Project as it relates to terrestrial biological resources, please refer to Section 4.5.2 of the PWM/GWR Project Final EIR.

4.5.2.1 Biological Study Area

This Supplemental EIR uses the term Biological Study Area to describe all areas of potential temporary and permanent surface ground disturbance, including areas proposed for construction staging, stockpiling of materials, vehicle travel, and equipment use.¹ The Biological Study Area is depicted in Figure 1 of **Appendix G**.

4.5.2.2 Botanical Survey Area

This Supplemental EIR defines the areas within the Biological Study Area where focused botanical surveys for special-status plant species were conducted during the appropriate blooming period as the Botanical Survey Area. The Botanical Survey Area consists of four (4) distinct geographic areas located within the City of Seaside and the former Fort Ord, totaling approximately 89 acres (approximately 7.2 acres adjacent to San Pablo Avenue and General Jim Moore Boulevard, approximately 76 acres along Eucalyptus Road and General Jim Moore Boulevard in between Seaside Middle School and Parker Flats Cutoff Road, and approximately 2.6 and 3.9 acre polygons adjacent to Eucalyptus Road).

4.5.2.3 Data Sources

The PWM/GWR Project Final EIR detailed the primary literature and data sources that were reviewed in order to determine the occurrence or potential for occurrence of special-status species for the PWM/GWR Project. No additional information was necessary to supplement the existing description. For a complete description of the data sources that were reviewed, please refer to Section 4.5.2.2 of the PWM/GWR Project Final EIR.

4.5.2.4 Habitats within the Biological Study Area

The Biological Study Area includes five habitat types; ruderal/disturbed, central maritime chaparral, central coastal scrub, coast live oak woodland, and developed. The approximate acreage of each habitat type within the Biological Study Area is:

- developed 43.2 acres
- central maritime chaparral 16.1 acres
- central coastal scrub 8.8 acres
- coast live oak woodland 10.2 acres
- ruderal/disturbed 46.4 acres

All of these habitat types were described in the PWM/GWR Project Final EIR. Please refer to the PWM/GWR Project Final EIR for detailed descriptions of each. The following information provides site-specific information regarding the Proposed Modifications. **Table 4.5-2** below provides the acreages of each of the habitat types within the Biological Study Area for each of the Proposed Modifications.

¹ The Biological Study Area did not include improvements at the Advanced Water Purification Facility. Given that the site is under active construction and has been completely disturbed by earthmoving and development of hardscape, landscaped areas, and infrastructure, it was determined that the Proposed Modifications would not have the potential to impact any biological resources at that component.

	Proposed Modifications					
	пе		CalAm Distrik			
Habitat Type (in acres)	Product Water Conveyance Pipeli	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall	
Developed	3.1	8.8	0.4	30.9	43.2	
Ruderal/Disturbed	0.5	8.6	1.1	0.01	10.21	
Central Maritime Chaparral	1.4	14.7	-	-	16.1	
Central Coast Scrub	0.4	38.8	6.5	0.6	46.3	
Coast Live Oak Woodland	0.05	8.7	-	-	8.8	

Table 4.5-2 Habitat Types Identified Within the Proposed Modifications Biological Study Area

4.5.2.5 Special-Status Plant Species

Surveys for special-status plant species were conducted within the Botanical Survey Area as described in the Biological Resources Report prepared by DD&A. Six special-status plant species were identified within the Botanical Survey Area. All other potential special-status plant species are assumed not present within the Botanical Survey Area, based upon the results of the focused botanical surveys.

- Sandmat manzanita (Arctostaphylos pumila) California Native Plant Society (CNPS) List 1B,²
- Monterey ceanothus (Ceanothus rigidus) CNPS List 4,
- Monterey spineflower (Chorizanthe pungens var. pungens) FT/CNPS List 1B,
- Eastwood's goldenbush (Ericameria fasciculata) CNPS List 1B,
- Kellogg's horkelia (Horkelia cuneata var. sericea)– CNPS List 1B, and
- Monterey gilia (Gilia tenuiflora ssp. arenaria)- FE/ST/CNPS List 1B

Each special-status plant species and the total area documented within the Botanical Survey Area is presented in **Table 4.5-3**.

² FE: Federally Endangered; SE: State Endangered; SSC: California Species of Special Concern; CFP: California Fully Protected; CNPS List 1B: California Native Plant Society List 1B Species (rare, threatened, or endangered in California and elsewhere); CNDDB: species on the CDFW's "Special Animals" list. **Bold text** indicates Fort Ord HMP Species.

Table 4.5-3 Special-Status Plant Species Documented Within the Botanical Survey Area During Focused Botanical Surveys in 2019

Scientific Name	Common Name	Listing Status	Polygons Within the Biological Study Area (Acres)	Points Within the Biological Study Area (Individual Plants)
Arctostaphylos pumila	Sandmat manzanita	CNPS List 1B, HMP	6.4	6(10)
Ceanothus rigidus	Monterey ceanothus	CNPS List 4, HMP	9.5	48(60)
Chorizanthe pungens var. pungens	Monterey spineflower	FT/CNPS List 1B, HMP	1.3	308(621)
Ericameria fasciculata	Eastwood's goldenbush	CNPS List 1B, HMP	2.6	8(14)
Horkelia kellogii	Kellogg's horkelia	CNPS List 1B	0.4	35(78)
<i>Gilia tenuiflora</i> ssp. arenaria	Monterey gilia	FE/ST/CNPS List 1B, HMP	0.1	23(31)

A brief description of each of the special-status plant species listed above is included in Section 4.5.2.4 of the PWM/GWR Project Final EIR.

4.5.2.6 Special Status Wildlife Species

Special-status wildlife species are discussed below due to their potential to occur or known presence within the Biological Study Area and their potential to be impacted by the Proposed Modifications. Suitable habitat for six special-status wildlife species is present within and/or immediately adjacent to the Biological Study Area.

- Cooper's hawk (Accipiter cooperii) CNDDB,
- **California legless lizard**³ (*Anniella pulchra*)⁴– SSC,
- Coast horned lizard (*Phrynosoma blainvillii*)⁵ SSC,
- Monterey dusky-footed woodrat (Neotoma macrotis luciana)⁶ SSC,
- Monterey ornate shrew (Sorex ornatus salarius) SSC, and
- American badger (*Taxidea taxus*) SSC.

A brief description of each of these wildlife species is included in Section 4.5.2.4 of the PWM/GWR Project Final EIR.

In addition, trees and shrubs throughout the Biological Study Area may provide nesting habitat for raptors and other avian species protected under California Fish and Game Code, such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), great horned owl (*Bubo*

³ **Bold text** indicates Fort Ord HMP Species.

⁴ Includes *A. p. nigra* and *A. p. pulchra* as recognized by the CDFW.

⁵ DD&A observed coast horned lizards within portions of the Biological Survey Area that were classified as central maritime chaparral and central coast scrub.

⁶ Monterey dusky-footed woodrat nests were observed within the densely vegetated portions of central coast scrub, central maritime chaparral, oak woodland and ruderal habitat types throughout the Biological Study Area.

virginianus), American kestrel (*Falco sparverius*), and turkey vulture (*Cathartes aura*). Sec. 3503 of the Fish and Game Code states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Additionally, the 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA." USFWS drafted a list of these species in an effort to carry out this mandate. Migratory bird species that may be nesting within the Biological Study Area include, but are not limited to, common poorwill (*Phalaenoptilus nuttallii*), western meadowlark (*Sturnella neglecta*), Townsend's warbler (*Setophaga townsendii*), black phoebe (*Sayornis nigricans*), white-crowned sparrow (*Zonotrichia leucophrys*), California thrasher (*Toxostoma redivivum*), ash-throated fly catcher (*Myiarchus cinerascens*), tree swallow (*Tachycineta bicolor*), and horned lark (*Eremophila alpestris*).

4.5.2.7 Sensitive Habitats

The PWM/GWR Project Final EIR contained an overview of sensitive habitat types, which included:

- central maritime chaparral;
- central dune scrub;
- riparian;
- emergent wetlands;
- salt marsh wetlands;
- wetlands and other waters; and,
- eucalyptus grove.

Of the habitat types listed above, central maritime chaparral is the only sensitive habitat type present within the Biological Study Area. A brief description of central maritime chaparral is provided below. For a complete description of other sensitive habitat types, please refer to Section 4.5.2.5 of the PWM/GWR Project Final EIR.

Central maritime chaparral is a plant community found within the coastal fog zone on sandy to rocky soils. Many of the plants in the chaparral community require fire in order to propagate. This habitat type is dominated by sclerophyllous (having hard, thick, leathery leaves) shrubs that may be drought-deciduous or evergreen and are often spiny.

Dominant plant species include shaggy-bark manzanita (*Arctostaphylos tomentosa* ssp. *tomentosa*), sandmat manzanita, coyote bush (*Baccharis pilularis*), deerweed (*Acmispon glaber*), chamise (*Adenostoma fasciculatum*), and sticky monkey flower (*Mimulus aurantiacus*). Additional species include California coffeeberry (*Frangula californica*), poison oak (*Toxicodendron diversilobum*), black sage (*Salvia mellifera*), mock heather (*Ericameria ericoides*), Eastwood's goldenbush, Monterey ceanothus, coast live oak (*Quercus agrifolia*), rush rose (*Crocanthemum scoparium*), golden yarrow (*Eriophyllum confertiflorum*), sticky cinquefoil (*Drymocallis glandulosa*), Monterey spineflower, Michael's rein orchid (*Piperia michaelii*), globe lily (*Calochortus albus*), and checker lily (*Fritillaria affinis*).

Common wildlife species that occur within central maritime chaparral habitat include California quail (*Callipepla californica*), California towhee (*Melozone crissalis*), California thrasher (*Toxostoma redivivum*), common poorwill (*Phalaenoptilus nuttallii*), Anna's hummingbird (*Calypte anna*), wrentit (*Chamaea fasciata*), western scrub jay (*Aphelocoma californica*), fence lizard

(Sceloporus occidentalis), gopher snake (*Pituophis catenifer*), coast garter snake (*Thamnophis elegans terrestris*), and brush rabbit (*Sylvilagus bachmani*).

Maritime chaparral is identified as a sensitive habitat on the CNDDB's list of high priority and rare natural communities (California Department of Fish and Wildlife [CDFW], 2010). Special-status plant species identified within this habitat type during the 2019 surveys include Monterey spineflower, Monterey gilia, sandmat manzanita, Monterey ceanothus, and Eastwood's goldenbush. Special-status wildlife that may occur within this habitat type include California legless lizard, Monterey ornate shrew, coast horned lizard and Monterey dusky-footed woodrat. Special-status avian species may also forage and or nest within this habitat type. Central maritime chaparral is present within the Biological Study Area along the Product Water Conveyance Pipeline alignment and the Expanded Injection Well Facilities Site. In total, there is approximately 30.2 acres of central maritime chaparral present within the Biological Study Area.

4.5.3 Regulatory Framework

4.5.3.1 Federal

The PWM/GWR Project Final EIR and related Addenda describe Federal regulations related to terrestrial biological resources. Please refer to Section 4.5.3.1 of the PWM/GWR Project Final EIR for more information. There have been no relevant changes to these regulations.

4.5.3.2 State

The PWM/GWR Project Final EIR and related Addenda describe State regulations related to terrestrial biological resources. Please refer to Section 4.5.3.2 of the PWM/GWR Project Final EIR for more information. There have been no relevant changes to these regulations.

4.5.3.3 Regional and Local

The PWM/GWR Project Final EIR and related Addenda describe regional and local land use regulations related to terrestrial biological resources. There have been no relevant changes to these regulations. Please refer to Section 4.3.5.3 of the PWM/GWR Project Final EIR for more information. Moreover, see also Table 4.5-6, Applicable Local Plans, Policies, and Regulations – Biological Resources: Terrestrial, contained in the PWM/GWR Project Final EIR for more information.

4.5.4 Impacts and Mitigation Measures

4.5.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, a project would result in significant impacts related to terrestrial biological resources if it would:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or U.S. Fish and Wildlife Service.
- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or US Fish and Wildlife Service.

- c. Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the SRF Loan Program administered by the SWRCB.

4.5.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Areas of No Impact

The Proposed Modifications would not result in impacts related to some of the significance criteria, as explained below. Impact analyses related to the other criteria are addressed below under **Section 4.5.4.3** (for construction impacts), and **4.5.4.4** (for cumulative impacts). The following significance criteria is not applicable to the Proposed Modifications:

(c) Impacts to wetlands. There are no wetlands within the Biological Study Area of the Proposed Modifications. No new or substantially more severe significant impacts to this resource would result from construction or operation of the Proposed Modifications.

All of the other significance criteria outlined above are discussed within this section because they are potentially applicable to construction of the Proposed Modifications. There would be no new or substantially more severe significant impacts resulting from operation of the Proposed Modifications.

Approach to Analysis

This section describes the methods used to analyze potential terrestrial biological resources impacts. This impact analysis addresses direct and indirect impacts that may result from the construction of the Proposed Modifications. Direct impacts are those effects of a project that occur at the same time and place of project implementation, such as removal of habitat from ground disturbance. Indirect impacts are those effects of a project that occur either later in time or at a distance from the Proposed Modifications but are reasonably foreseeable. Direct and indirect impacts can also vary in duration and result in temporary, short-term, and long-term effects on biological resources. A temporary effect would occur only during an activity that would happen for a short period of time, then end. A short-term effect would last from the time an activity ceases to some intermediate period of approximately one to five years (i.e., repopulation of habitat following restoration). A long-term or permanent effect would last longer than five years after an activity ceased. Long-term effects may result from ongoing maintenance and operation of a project or may result from a permanent change in the condition of a resource, in which case it could be considered a permanent impact.

Construction Impacts

This impact analysis assumes that the construction activities would be limited to the Biological Study Area. The Proposed Modifications would result in the construction of a variety of permanent features required for operation, including, but not limited to, pipelines, treatment buildings, and injection and Extraction Wells. Some components would be located underground (e.g., pipelines) and, therefore, construction activities may result in temporary, short-term impacts to biological resources but would not result in long-term permanent impacts. Only the above-ground Proposed Modifications construction activities would potentially result in permanent, long-term impacts to biological resources.

Fort Ord Habitat Management Plan Species

All of the Biological Study Area is within the former Fort Ord and located within parcels designated by the Fort Ord Habitat Management Plan (HMP) (United States Army Corps of Engineers [USACOE], 1997) as "development." Through implementation of the Fort Ord HMP, impacts to Fort Ord HMP species and habitats occurring within the designated development parcels were anticipated and mitigated through the establishment of habitat reserves and corridors, and the implementation of habitat management requirements within habitat reserve parcels on former Fort Ord. Parcels designated as "development" have no management restrictions.

The U.S. Fish and Wildlife Service issued a Final Biological Opinion on the disposal and reuse of former Fort Ord requiring that the Fort Ord HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species (USFWS, 1993, updated to USFWS, 2017). The Biological Opinion and the Fort Ord HMP require the identification of sensitive biological resources within "development" parcels that may be salvaged for use in restoration activities in reserve areas.

The Fort Ord HMP species known or with the potential to occur within the Biological Study Area on the former Fort Ord include Monterey spineflower, sandmat manzanita, Monterey ceanothus, Eastwood's goldenbush, Monterey gilia, California legless lizard, and Monterey ornate shrew. With the designated habitat reserves and corridors and habitat management requirements of the Fort Ord HMP in place, the loss of one or more individuals of these species is not expected to jeopardize the long-term viability of these species and their populations on the former Fort Ord. This is because the recipients of disposed land with restrictions or management guidelines designated by the Fort Ord HMP would be obligated to implement those specific measures through the Fort Ord HMP and deed covenants. In addition to the Fort Ord HMP species identified, impacts to sensitive central maritime chaparral habitat are also addressed in the Fort Ord HMP and, therefore, impacts to this habitat are also considered mitigated through the implementation of the Fort Ord HMP based on the same conclusions. Because the Proposed Modifications are: 1) only proposing development activities within designated development parcels; 2) required to comply with the habitat management restrictions identified in the Fort Ord HMP; and 3) would not result in any additional impacts to Fort Ord HMP species and habitats beyond those anticipated in the Fort Ord HMP, no additional mitigation measures for these Fort Ord HMP species or central maritime chaparral habitat are required, with the exception of State-listed plant species. Impacts to these special-status species and central maritime chaparral are considered less-thansignificant. However, because the Biological Opinion and Fort Ord HMP require the identification of sensitive biological resources within development parcels that might be salvaged for use in restoration activities in reserve areas, additional mitigation measures are identified where appropriate to comply with, and to ensure consistency with, the Biological Opinion and Fort Ord HMP.

The one exception to this is the State-listed Monterey gilia. Impacts to this species will require compliance with the California Endangered Species Act (CESA). Additional mitigation measures are described below if impacts to this species cannot be avoided.

Summary of Impacts

Table 4.5-4, Summary of Impacts – Biological Resources provides a summary of potential impacts to biological resources and significance determinations at each Proposed Modifications component site.

Table 4.5-4

Summary of Impacts – Biological Resources: Terrestrial

	ne lity			CalAm Distribution System		
Impact Title	Advanced Water Purification Facil	Product Water Conveyance Pipeli	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
BT-1: Construction Impacts to Special-Status Species and Habitat	NI	LSM	LSM	NI	NI	LSM
BT-2: Construction Impacts to Riparian, Federally Protected Wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community.	NI	LS	LS	NI	NI	LS
BT-3: Construction Conflicts with Local Policies, Ordinances, or approved Habitat Conservation Plan.	NI	LSM	LSM	LSM	LSM	LSM
Cumulative Impacts	tive Impacts LS: The Proposed Modifications would not cause the Project to make a considerable contribution to significant cumulative impacts to terrestrial biological resources.					
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact						

4.5.4.3 Construction Impacts and Mitigation Measures

Impact BT-1:Construction Impacts to Special-Status Species and Habitat.
Construction of the Proposed Modifications may adversely affect,
either directly or through habitat modification, special-status plant
and wildlife species and their habitat within the Biological Study
Area. (Criteria a, b, and d) (Less-than-Significant with Mitigation)

The PWM/GWR Project Final EIR found that the approved PWM/GWR Project would result in direct and indirect impacts to special-status plant and wildlife species. In addition, nighttime construction activities could also introduce temporary nighttime lighting at some approved

PWM/GWR Project component locations. While this represents a significant impact, the PWM/GWR Project Final EIR found that this impact could be reduced to less-than-significant levels with the implementation of the following mitigation measures identified below. For more information concerning these mitigation measures, including their applicability to the various components of the approved PWM/GWR Project, please refer to Section 4.5.4.3 of the PWM/GWR Project Final EIR.

- Mitigation Measure BT-1a: Implement Construction Best Management Practices.
- Mitigation Measure BT-1b: Implement Construction-Phase Monitoring.
- Mitigation Measure BT-1c: Implement Non-Native, Invasive Species Controls.
- Mitigation Measure BT-1d: Conduct Pre-Construction Surveys for California Legless Lizard.
- Mitigation Measure BT-1e: Prepare and Implement Rare Plant Restoration Plan to Mitigate Impacts to Sandmat Manzanita, Monterey Ceanothus, Monterey Spineflower, Eastwood's Goldenbush, Coast Wallflower, and Kellogg's Horkelia.
- Mitigation Measure BT-1f: Conduct Pre-Construction Protocol-Level Botanical Surveys within the Product Water Conveyance: Coastal Alignment Option between Del Monte Boulevard and the Regional Treatment Plant site on Armstrong Ranch; and the remaining portion of the Biological Study Area within the Injection Well Facilities site.
- Mitigation Measure BT-1g: Conduct Pre-Construction Surveys for Special-Status Bats.
- Mitigation Measure BT-1h: Implementation of Mitigation Measures BT-1a and BT-1b to Mitigate Impacts to the Monterey Ornate Shrew, Coast Horned Lizard, Coast Range Newt, Two-Striped Garter Snake, and Salinas Harvest Mouse (*Reithrodontomys megalotis ssp. distichlis*).
- Mitigation Measure BT-1i: Conduct Pre-Construction Surveys for Monterey Dusky-Footed Woodrat.
- Mitigation Measure BT-1j: Conduct Pre-Construction Surveys for American Badger.
- Mitigation Measure BT-1k: Conduct Pre-Construction Surveys for Protected Avian Species, including, but not limited to, white-tailed kite and California horned lark.
- Mitigation Measure BT-1I: Conduct Pre-Construction Surveys for Burrowing Owl.
- Mitigation Measure BT-1m: Minimize effects of nighttime construction lighting.
- Mitigation Measure BT-1n: Mitigate Impacts to Smith's blue butterfly.
- Mitigation Measure BT-10: Avoid and Minimize Impacts to Monarch butterfly.
- Mitigation Measure BT-1p: Avoid and Minimize Impacts to Western Pond Turtle.
- Mitigation Measure BT-1q: Avoid and Minimize Impacts to California Red-Legged Frog.

Consistent with the analysis in the PWM/GWR Project Final EIR, construction of the Proposed Modifications could also result in direct and indirect impacts to special-status plant and wildlife species. Impacts to special-status species would occur due to use of heavy equipment and other construction activities that could result in the loss of individuals, soil compaction, dust, vegetation removal/loss of habitat, wildlife harassment or mortality, root damage, erosion, destruction or disturbance of nests, and introduction and spread of non-native, invasive species.

In addition, nighttime construction activities could introduce temporary nighttime lighting at the Proposed Modifications. The majority of construction activities would occur during the daytime and would not result in new or increased sources of light or glare. However, extended work hours into the night could be necessary during construction of certain components.

Product Water Conveyance Pipelines

Special-status plant species were observed during the focused botanical surveys for the Product Water Conveyance Pipeline component of the Project Modifications. Construction of the Product Water Conveyance Pipeline may result in impacts to Monterey spineflower, Kellogg's horkelia, Monterey ceanothus, and Monterey gilia. All these special-status plant species are Fort Ord HMP species, except for Kellogg's horkelia. The entire alignment of the Product Water Conveyance Pipeline component of the Project Modifications is located within the former Fort Ord. As described above, impacts to Fort Ord HMP species on the former Fort Ord are considered less-than-significant. These special-status plant species are included in the Fort Ord HMP and impacts are mitigated through compliance with the Fort Ord HMP. Impacts from construction of this component of the Project Modifications to Kellogg's horkelia would be considered significant. Implementation of Mitigation Measures BT-1a (Implement Construction Best Management Practices), BT-1e (Prepare and Implement Rare Plant Restoration Plan to Mitigate Impacts to Kellogg's Horkelia), and BT-1f (Conduct Pre-Construction Protocol-Level Botanical Surveys within the remaining portion of the Biological Study Area) would reduce this impact to a less-than-significant level.

Special-status wildlife species with the potential to occur within or within the immediate vicinity of the potential impact area for the Product Water Conveyance Pipeline component of the Project Modifications include nesting raptors and other migratory birds, coast horned lizard, and California legless lizard. Impacts from construction of this component of the Project Modifications to these special-status wildlife species would be considered significant, however, implementation of Mitigation Measures BT-1a (Implement Construction Best Management Practices), BT-1b (Implement Construction-Phase Monitoring), BT-1d (Conduct Pre-Construction Surveys for California Legless Lizard), and BT-1k (Conduct Pre-Construction Surveys for Protected Avian Species, including, but not limited to, white-tailed kite and California horned lark), would reduce this impact to a less-than-significant.

No nighttime construction would occur during the Product Water Conveyance Pipeline component of the Project Modifications.

Injection Well Facilities

Special-status plant species were observed within the Expanded Injection Well Area during the 2019 focused botanical surveys. Construction of this component of the Project Modifications may result in impacts to Monterey gilia, Monterey spineflower, Eastwood's goldenbush, sandmat manzanita, Monterey ceanothus, and Kellogg's horkelia. All these special-status plant species are Fort Ord HMP species, except for Kellogg's horkelia. The entire Expanded Injection Well Area is within the former Fort Ord. As described above, impacts to Fort Ord HMP species on the former Fort Ord are considered less-than-significant. These special-status plant species are included in the Fort Ord HMP and impacts are mitigated through compliance with the Fort Ord HMP. Impacts from construction of this component of the Project Modifications to Kellogg's horkelia would be considered significant, however, implementation of Mitigation Measures BT-1e (Prepare and Implement Rare Plant Restoration Plan to Mitigate Impacts to Kellogg's Horkelia) would reduce this impact to a less-than-significant level.

Construction of the Proposed Modifications to the Injection Well Facilities would potentially require nighttime construction. Nighttime construction activities may result in impacts to wildlife species

due to artificial influence on species diel patterns.⁷ This is considered a potentially significant impact that can be reduced to a less-than-significant level with implementation of Mitigation Measure BT-1m (Minimize Effects of Nighttime Construction Lighting).

Special-status wildlife species with the potential to occur within or within the immediate vicinity of the potential impact area for the Proposed Modifications to the Injection Well Facilities include nesting raptors and other migratory birds, coast horned lizard, Monterey ornate shrew, Monterey dusky-footed woodrat, American badger, and California legless lizard. Impacts due to construction of this component of the Proposed Modifications on special-status wildlife species would be considered significant, however, implementation of Mitigation Measures BT-1a (Implement Construction Best Management Practices), BT-1b (Implement Construction-Phase Monitoring), BT-1d (Conduct Pre-Construction Surveys for California Legless Lizard), BT-1i (Conduct Pre-Construction Surveys for California Legless Lizard), BT-1i (Conduct Pre-Construction Surveys for American Badger), and BT-1k (Conduct Pre-Construction Surveys for Protected Avian Species, including, but not limited to, white-tailed kite and California horned lark), would reduce this impact to a less-than-significant.

CalAm Distribution System Improvements

Extraction Wells

No special-status plant species were identified at any of the four proposed Extraction Well sites. No impact would result related to special-status plant species from the construction of this component of the Project Modifications.

Special-status wildlife species with the potential to occur within or within the immediate vicinity of the potential impact area for the Extraction Wells include nesting raptors and other migratory birds, coast horned lizard, Monterey ornate shrew, Monterey dusky-footed woodrat, American badger, and California legless lizard. Impacts from construction of this component of the Project Modifications to these special-status wildlife species would be considered significant, however, implementation of Mitigation Measures BT-1a (Implement Construction Best Management Practices), BT-1b (Implement Construction-Phase Monitoring), BT-1d (Conduct Pre-Construction Surveys for California Legless Lizard), BT-1i (Conduct Pre-Construction Surveys for American Badger), and BT-1k (Conduct Pre-Construction Surveys for Protected Avian Species, including, but not limited to, white-tailed kite and California horned lark), would reduce this impact to a less-than-significant.

Construction of the CalAm Extraction Wells would potentially require nighttime construction. Nighttime construction activities may result in impacts to wildlife species due to artificial influence on species diel patterns. This is considered a potentially significant impact that can be reduced to a less-than-significant level with implementation of Mitigation Measure BT-1m (Minimize Effects of Nighttime Construction Lighting).

CalAm Conveyance Pipelines

The entire alignment of the CalAm distribution pipelines would be located within the existing road right-of-way of General Jim Moore Boulevard. No special-status plant species were identified at this Project Modifications site. No impact would result related to special-status plant species from the construction of this component.

Special-status wildlife species with the potential to occur within or within the immediate vicinity of the potential impact area for the CalAm Conveyance Pipelines include nesting raptors and other

⁷ Diel refers to a 24-hour time period.

migratory birds. Impacts from construction of this component of the Proposed Modifications to these special-status wildlife species would be considered significant, however, implementation of Mitigation Measures BT-1a (Implement Construction Best Management Practices), BT-1b (Implement Construction-Phase Monitoring), and BT-1k (Conduct Pre-Construction Surveys for Protected Avian Species, including, but not limited to, white-tailed kite and California horned lark), would reduce this impact to a less-than-significant.

Nighttime construction is not proposed for the CalAm Conveyance Pipelines.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the Proposed Modifications, with the exception of the changes to the Advanced Water Purification Facility, could result in impacts to special-status species due to construction activities within the Biological Study Area. Impacts to special-status species would be considered a significant impact. Implementation of Mitigation Measures BT-1a through BT- 1f, BT-1h through BT-1k, and BT-1m would reduce potentially significant impacts to special-status species during construction to a less-than-significant level.

Mitigation Measures

The PWM/GWR Project Final EIR identified the following mitigation measures to reduce potential construction-related impacts to special-status species to a less-than-significant level. The general requirements of the following mitigation measures remain unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR includes minor modifications to this mitigation measure to identify the Proposed Modifications that would be subject to the requirements of this measure.

MM BT-1a: <u>Implement Construction Best Management Practices.</u> (Applies to all Proposed Modifications, except the Advanced Water Purification Facility)

The following best management practices shall be implemented during all identified phases of construction (i.e., pre-, during, and post-) to reduce impacts to special-status plant and wildlife species:

- A qualified biologist must conduct an Employee Education Program for the construction crew prior to any construction activities. A qualified biologist must meet with the construction crew at the onset of construction at the site to educate the construction crew on the following: 1) the appropriate access route(s) in and out of the construction area and review project boundaries;
 how a biological monitor will examine the area and agree upon a method which would ensure the safety of the monitor during such activities, 3) the special-status species that may be present; 4) the specific mitigation measures that will be incorporated into the construction effort; 5) the general provisions and protections afforded by the USFWS and CDFW; and 6) the proper procedures if a special-status species is encountered within the site.
- 2. Trees and vegetation not planned for removal or trimming shall be protected prior to and during construction to the maximum extent possible through the use of exclusionary fencing, such as hay bales for herbaceous and shrubby vegetation, and protective wood barriers for trees. Only certified weed-free straw shall be used, to avoid the introduction of nonnative, invasive species. A biological monitor shall supervise the installation

of protective fencing and monitor at least once per week until construction is complete to ensure that the protective fencing remains intact.

- 3. Protective fencing shall be placed prior to and during construction to keep construction equipment and personnel from impacting vegetation outside of work limits. A biological monitor shall supervise the installation of protective fencing and monitor at least once per week until construction is complete to ensure that the protective fencing remains intact.
- 4. Following construction, disturbed areas shall be restored to preconstruction contours to the maximum extent possible and revegetated using locally occurring native species and native erosion control seed mix, per the recommendations of a qualified biologist.
- 5. Grading, excavating, and other activities that involve substantial soil disturbance shall be planned and carried out in consultation with a qualified hydrologist, engineer, or erosion control specialist, and shall utilize standard erosion control techniques to minimize erosion and sedimentation to native vegetation (pre-, during, and post-construction).
- 6. No firearms shall be allowed on the construction sites at any time.
- 7. All food-related and other trash shall be disposed of in closed containers and removed from the project area at least once a week during the construction period, or more often if trash is attracting avian or mammalian predators. Construction personnel shall not feed or otherwise attract wildlife to the area.
- 8. To protect against spills and fluids leaking from equipment, the project proponents shall require that the construction contractor maintains an onsite spill plan and on-site spill containment measures that can be easily accessed.
- 9. Refueling or maintaining vehicles and equipment should only occur within a specified staging area that is at least 100 feet from a waterbody (including riparian and wetland habitat) and that has sufficient management measures that will prevent fluids or other construction materials including water from being transported into waters of the State. Measures shall include confined concrete washout areas, straw wattles placed around stockpiled materials and plastic sheets to cover materials from becoming airborne or otherwise transported due to wind or rain into surface waters.
- 10. The project proponents and/or their contractors shall coordinate with the City of Seaside on the location of well facilities within the Expanded Injection Well Area and the removal of sensitive biotic material.

MM BT-1b: <u>Implement Construction-Phase Monitoring.</u> (Applies to all Proposed Modifications, except the Advanced Water Purification Facility)

The project proponents shall retain a qualified biologist to monitor all ground disturbing construction activities (i.e., vegetation removal, grading, excavation, or similar activities) to protect any special-status species encountered. Any handling and relocation protocols of special-status wildlife species shall be determined in coordination with CDFW prior to any ground disturbing activities and conducted by a qualified biologist with appropriate scientific collection permit. After ground disturbing project activities are complete, the qualified biologist shall train an

individual from the construction crew to act as the on-site construction biological monitor. The construction biological monitor shall be the contact for any special-status wildlife species encounters, shall conduct daily inspections of equipment and materials stored on site and any holes or trenches prior to the commencement of work, and shall ensure that all installed fencing stays in place throughout the construction period. The qualified biologist shall then conduct regular scheduled and unscheduled visits to ensure the construction biological monitor is satisfactorily implementing all appropriate mitigation protocols. Both the qualified biologist and the construction biological monitor shall have the authority to stop and/or redirect project activities to ensure protection of resources and compliance with all environmental permits and conditions of the project. The qualified biologist and the construction monitor shall complete a daily log summarizing activities and environmental compliance throughout the duration of the project. The log shall also include any special-status wildlife species observed and relocated.

MM BT-1c: <u>Implement Non-Native, Invasive Species Controls.</u> (Applies to all Proposed Modifications, except the Advanced Water Purification Facility)

The following measures shall be implemented to reduce the introduction and spread of non-native, invasive species:

- 1. Any landscaping or replanting required for the project shall not use species listed as noxious by the California Department of Food and Agriculture (CDFA).
- 2. Bare and disturbed soil shall be landscaped with CDFA recommended seed mix or plantings from locally adopted species to preclude the invasion on noxious weeds in the Biological Study Area.
- 3. Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds, before mobilizing to arrive at the construction site and before leaving the construction site.
- 4. All non-native, invasive plant species shall be removed from disturbed areas prior to replanting.

MM BT-1d: <u>Conduct Pre-Construction Surveys for California Legless Lizard.</u> (Applies to Product Water Conveyance Pipelines, Injection Well Facilities, and Extraction Wells)

The project proponents shall retain a qualified biologist to prepare and implement a legless lizard management plan in coordination with CDFW, which shall include, but is not limited to, the protocols for pre-construction surveys, construction monitoring, and salvage and relocation. The management plan shall include, but is not limited to, the following:

 Pre-Construction Surveys. Pre-construction surveys for legless lizards shall be conducted in all suitable habitat proposed for construction, ground disturbance, or staging. The qualified biologist shall hold or obtain a CDFW scientific collection permit for this species. The pre-construction surveys shall use a method called "high-grading." The high grading method shall include surveying the habitat where legless lizards are most likely to be found, and the survey must occur under the conditions when legless lizards are most likely to be seen and captured (early morning, high soil moisture, overcast, etc.). The intensity of a continued search may then be adjusted, based on the results of the first survey in the best habitat.

- 2. A "three pass method" shall be used to locate and remove as many legless lizards as possible. A first pass shall locate as many legless lizards as possible, a second pass should locate fewer lizards than the first pass, and a third pass should locate fewer lizards than the second pass. All search passes shall be conducted in the early morning when legless lizards are easiest to capture. Vegetation may be removed by hand to facilitate hand raking and search efforts for legless lizards in the soil under brush. If lizards are found during the first pass, an overnight period of no soil disturbance must occur before the second pass, and the same requirement shall be implemented after the second pass. If no lizards are found during the second pass, a third pass is not required. Installation of a barrier, in accordance with the three-pass method, shall be required if legless lizards are found at the limits of construction (project boundaries) and sufficient soft sand and vegetative cover are present to suspect additional lizards are in the immediate vicinity on the adjacent property. A barrier shall prevent movement of legless lizards into the property. All lizards discovered shall be handled according to the salvage procedures outlined below.
- 3. Construction Monitoring. Monitoring by a qualified biologist shall be ongoing during construction. The onsite monitor shall be present during all ground-disturbing construction activities. To facilitate the careful search for lizards during construction, vegetation may need to be removed. If removal by hand is impractical, equipment such as a chainsaw, string trimmer, or skid-steer may be used, if a monitor and crew are present. The task of the vegetation removal is to remove plants under the direction of the monitor, allowing the monitor to watch for legless lizards. After plants are removed, the monitor and crew shall search the exposed area for legless lizards. If legless lizards are found during pre-construction surveys or construction monitoring, the protocols for salvage and relocation identified below shall be followed. Upon completion of pre-construction actions, a report shall be submitted to the CDFW. The CDFW must be notified at least 48 hours before any field activity begins.
- 4. Salvage and Relocation. Only experienced persons may capture or handle legless lizards. The monitor must demonstrate a basic understanding, knowledge, skill, and experience with this species and its habitat. Once captured, a lizard shall be placed in a lidded, vented box containing clean sand. Areas of moist and dry sand need to be present in the box. The boxes must be kept out of direct sunlight and protected from temperatures over 72°F. The sand must be kept at temperatures under 66°F. Ideal temperatures are closer to 60°F. On the same day as capture, the lizards shall be examined for injury and data recorded on location where found as well as length, color, age, and tail condition. Once data is recorded, lizards shall be relocated to appropriate habitat, as determined through coordination with the CDFW, qualified biologist, and potential landowners.
- 5. Suitability of habitat for lizard release must be evaluated and presented in a management plan. The habitat must contain habitat factors most important to the health and survival of the species such as appropriate

habitat based on soils, vegetated cover, native plant species providing cover, plant litter layer and depth, soil and ambient temperature, quality and composition of invertebrate population and prey availability. Potential relocation sites that contain the necessary conditions may exist within the habitat reserves on the former Fort Ord, including the Fort Ord National Monument. Lizards shall be marked with a unique tag (pit or tattoo) prior to release. Release for every lizard shall be recorded with GPS. GPS locations shall be submitted as part of the survey result report to document the number and locations of lizards relocated.

MM BT-1e: <u>Prepare and Implement Rare Plant Restoration Plan to Mitigate Impacts to</u> <u>Kellogg's Horkelia.</u> (Applies to Product Water Conveyance Pipeline and Injection Well Facilities)

Impacts to rare plant species individuals shall be avoided through project design and modification, to the extent feasible while taking into consideration other site and engineering constraints. If avoidance is not possible, the species shall be replaced at a 1:1 ratio for area of impact through preservation, restoration, or combination of both. A Rare Plant Restoration Plan, approved by the Lead Agency prior to commencing construction on the component site upon which the rare plant species would be impacted, shall be prepared and implemented by a qualified biologist. The plan shall include, but is not limited to, the following:

- (a) A detailed description of on-site and/or off-site mitigation areas, salvage of seed and/or soil bank, plant salvage, seeding and planting specifications, including, if appropriate, increased planting ratio to ensure the applicable success ratio. Specifically, seed shall be collected from the on-site individuals that would be impacted and grown in a local greenhouse, and then transplanted within the mitigation area. Plants shall be transplanted while they are young seedlings in order to develop a good root system. Alternatively, the mitigation area may be broadcast seeded in fall; however, if this method is used, some seed shall be retained in the event that the seeding fails to produce viable plants and contingency measures need to be employed.
- (b) A description of a 3-year monitoring program, including specific methods of vegetation monitoring, data collection and analysis, restoration goals and objectives, success criteria, adaptive management if the criteria are not met, reporting protocols, and a funding mechanism.

The mitigation area shall be preserved in perpetuity through a conservation easement or other legally enforceable land preservation agreement. Exclusionary fencing shall be installed around the mitigation area to prevent disturbance until success criteria have been met.

MM BT-1f: <u>Conduct Pre-Construction Protocol-Level Botanical Surveys within the</u> <u>remaining portion of the Biological Study Area.</u> (Applies to all Proposed Modifications, except the Advanced Water Purification Facility)

The project proponents shall retain a qualified biologist to conduct protocol-level surveys for special-status plant species within the Biological Study Area not yet surveyed. Protocol-level surveys shall be conducted by a qualified biologist at the appropriate time of year for species with the potential to occur within the site. A report describing the results of the surveys shall be provided to the project

proponents prior to any ground disturbing activities. The report shall include but is not limited to 1) a description of the species observed, if any; 2) map of the location, if observed; and 3) recommended avoidance and minimization measures, if applicable. The avoidance and minimization measures shall include, but are not limited to, the following:

- 1. Impacts to species individuals shall be avoided through project design and modification, to the extent feasible while taking into consideration other site and engineering constraints.
- 2. If impacts to State listed plant species cannot be avoided, the project proponents shall comply with the CESA and consult with the CDFW to determine whether authorization for the incidental take of the species is required prior to commencing construction. If it is determined that authorization for incidental take is required from the CDFW, the project proponents shall comply with the CESA to obtain an incidental take permit prior to commencing construction on the site upon which State listed plant species could be taken. Permit requirements typically involve preparation and implementation of a mitigation plan and mitigating impacted habitat at a 3:1 ratio through preservation and/or restoration. At a minimum, the impacted plant species shall be replaced at a 1:1 ratio through preservation and/or restoration, as described below. The project proponents shall retain a gualified biologist to prepare a mitigation plan, which shall include, but is not limited to identifying; avoidance and minimization measures; mitigation strategy, including a take assessment, avoidance and minimization measures, compensatory mitigation lands, and success criteria; and funding assurances. The project proponents shall be required to implement the approved plan and any additional permit requirements.
- 3. If impacts to non-State listed, special-status plant species cannot be avoided, the species shall be replaced at a 1:1 ratio for acreage and/or individuals impacted through preservation, restoration, or combination of both. A Rare Plant Restoration Plan, approved by the project proponents prior to commencing of construction on the site upon which the rare plant would be impacted, shall be prepared and implemented by a qualified biologist. The plan shall include, but is not limited to, the following:
- 4. A detailed description of on-site and/or off-site mitigation areas, salvage of seed and/or soil bank, plant salvage, seeding and planting specifications, including, if appropriate, increased planting ratio to ensure the applicable success ratio. Specifically, seed shall be collected from the on-site individuals that will be impacted and grown in a local greenhouse, and then transplanted within the mitigation area. Plants shall be transplanted while they are young seedlings in order to develop a good root system. Alternatively, the mitigation area may be broadcast seeded in fall; however, if this method is used, some seed shall be retained in the event that the seeding fails to produce viable plants and contingency measures need to be employed.
- 5. A description of a three-year monitoring program, including specific methods of vegetation monitoring, data collection and analysis, restoration goals and objectives, success criteria, adaptive management if the criteria are not met, reporting protocols, and a funding mechanism.

6. The mitigation area shall be preserved in perpetuity through a conservation easement or other legally enforceable land preservation agreement. Exclusionary fencing shall be installed around the mitigation area to prevent disturbance until success criteria have been met.

MM BT-1h: Implementation of Mitigation Measures BT-1a and BT-1b to Mitigate Impacts to the Monterey Ornate Shrew, Coast Horned Lizard, Coast Range Newt, Two-Striped Garter Snake, and Salinas Harvest Mouse. (Applies to Injection Well Facilities and Extraction Wells)

If these species are encountered, implementation of **Mitigation Measures BT-1a** and **BT-1b**, which avoid and minimize impacts through implementing construction best management practices and monitoring, would reduce potential impacts to these species to a less-than-significant level.

MM BT-1i: <u>Conduct Pre-Construction Surveys for Monterey Dusky-Footed Woodrat.</u> (Applies to Injection Well Facilities and Extraction Wells)

To avoid and reduce impacts to the Monterey dusky-footed woodrat, the project proponents shall retain a qualified biologist to conduct pre-construction surveys in suitable habitat proposed for construction, ground disturbance, or staging within three days prior to construction for woodrat nests within the project area and in a buffer zone 100 feet out from the limit of disturbance. All woodrat nests shall be flagged for avoidance of direct construction impacts and protection during construction, where feasible. Nests that cannot be avoided shall be manually deconstructed prior to land clearing activities to allow animals to escape harm. If a litter of young is found or suspected, nest material shall be replaced, and the nest left alone for two to three weeks before a re-check to verify that young are capable of independent survival before proceeding with nest dismantling.

MM BT-1j: <u>Conduct Pre-Construction Surveys for American Badger.</u> (Applies to Injection Well Facilities and Extraction Wells)

To avoid and reduce impacts to the American badger, the project proponents shall retain a qualified biologist to conduct focused pre-construction surveys for badger dens in all suitable habitat proposed for construction, ground disturbance, or staging no more than two weeks prior to construction. If no potential badger dens are present, no further mitigation is required. If potential dens are observed, the following measures are required to avoid potential significant impacts to the American badger:

- 1. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers from re-using them during construction.
- 2. If the qualified biologist determines that potential dens may be active, the den shall be monitored for a period sufficient (as determined by a qualified biologist) to determine if the den is a maternity den occupied by a female and her young, or if the den is occupied by a solitary badger.
- 3. Maternity dens occupied by a female and her young shall be avoided during construction and a minimum buffer of 200 feet in which no construction activities shall occur shall be maintained around the den. After the qualified biologist determines that badgers have stopped using active dens within

the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

4. Solitary male or female badgers shall be passively relocated by blocking the entrances of the dens with soil, sticks, and debris for three to five days to discourage the use of these dens prior to project construction disturbance. The den entrances shall be blocked to an incrementally greater degree over the three to five-day period. After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

MM BT-1k: <u>Conduct Pre-Construction Surveys for Protected Avian Species, including,</u> <u>but not limited to, white-tailed kite and California horned lark.</u> (Applies to all Proposed Modifications, except the Advanced Water Purification Facility)

Prior to the start of construction activities at each project component site, a qualified biologist shall conduct pre-construction surveys for suitable nesting habitat within the project area and within a suitable buffer area from the project area. The qualified biologist shall determine the suitable buffer area based on the avian species with the potential to nest at the site.

In areas where nesting habitat is present within the component project area or within the determined suitable buffer area, construction activities that may directly (e.g., vegetation removal) or indirectly (e.g., noise/ground disturbance) affect protected nesting avian species shall be timed to avoid the breeding and nesting season. Specifically, vegetation and/or tree removal can be scheduled after September 16 and before January 31. Alternatively, a qualified biologist shall be retained by the project proponents to conduct pre-construction surveys for nesting raptors and other protected avian species where nesting habitat was identified and within the suitable buffer area if construction commences between February 1 and September 15. Pre-construction surveys shall be conducted no more than 14 days prior to the start of construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). Because some bird species nest early in spring and others nest later in summer, surveys for nesting birds may be required to continue during construction to address new arrivals, and because some species breed multiple times in a season. The necessity and timing of these continued surveys shall be determined by the qualified biologist based on review of the final construction plans.

If active raptor or other protected avian species nests are identified during the preconstruction surveys, the qualified biologist shall notify the project proponents and an appropriate no-disturbance buffer shall be imposed within which no construction activities or disturbance shall take place until the young have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist.

MM BT-1m: <u>Minimize effects of nighttime construction lighting.</u> (Applies to Injection Well Facilities and Extraction Wells)

Nighttime construction lighting shall be focused and downward directed to preclude night illumination of the adjacent open space area.

Impact BT-2:Construction Impacts to Sensitive Habitats.ProposedModifications construction may adversely affect sensitive habitats
(including riparian, wetlands, and/or other sensitive natural
communities) within the Biological Study Area. (Criteria b and c)
(Less-than-Significant)

The PWM/GWR Project Final EIR identified that construction of the approved PWM/GWR Project may result in direct and indirect impacts to sensitive habitats at all of the PWM/GWR component sites except the Advanced Water Purification Facility. In addition, several of the PWM/GWR Project components were in the coastal zone and were located in habitats that may be considered Environmental Sensitive Habitat Area (ESHA) by the California Coastal Commission (CCC) or local authority. This was considered a potentially significant impact that could be reduced to a less-than-significant level with implementation of the mitigation measures identified below:

- Mitigation Measure BT-2a: Avoidance and Minimization of Impacts to Riparian Habitat and Wetland Habitats. (Applies to Tembladero Slough Diversion, Reclamation Ditch, Blanco Drain Diversion, and Product Water Conveyance: Coastal Alignment Option.)
- Mitigation Measure BT-2b: Avoidance and Minimization of Impacts to Central Dune Scrub Habitat. (Applies to CalAm Distribution System: Monterey Pipeline)
- Mitigation Measure BT-2c: Avoidance and Minimization of Construction Impacts Resulting from Horizontal Directional Drilling under the Salinas River (Applies to Blanco Drain Diversion)

The construction of the Proposed Modifications may result in impacts to central maritime chaparral (approximately 30.2 acres). This habitat type is considered a sensitive habitat by the CDFW. The entire Biological Study Area is located within the former Fort Ord and outside of the coastal zone. As described above, impacts to sensitive central maritime chaparral habitat are addressed in the Fort Ord HMP and, therefore, impacts to this habitat are also considered mitigated through the implementation of the Fort Ord HMP. Therefore, impacts are considered less-than-significant and no additional mitigation measures are required.

Product Water Conveyance Pipeline and Expanded Injection Well Facilities

Portions of the Product Water Conveyance Pipeline alignment and the Expanded Injection Well Area are located within areas designated as central maritime chaparral habitat. This habitat type is considered to be sensitive by the CDFW. Impacts to sensitive maritime chaparral habitat are addressed in the Fort Ord HMP and, therefore, impacts to this habitat are considered mitigated through the implementation of the Fort Ord HMP. Therefore, impacts are considered less-than-significant and no additional mitigation measures are required.

CalAm Distribution System Improvements

Extraction Wells

The Extraction Well sites are located within areas that are generally disturbed. The sites on which EW-1 and EW-2 are located are classified as either ruderal/disturbed or oak woodland. The sites on which EW-3 and EW-4 are located are classified as either ruderal/disturbed or developed. These habitat types are not classified as sensitive. No impacts to sensitive habitats are anticipated at these sites.

CalAm Conveyance Pipelines

The CalAm Conveyance Pipelines are located within the existing road right-of-way of General Jim Moore Boulevard. This is classified as ruderal/disturbed. This habitat type is not classified as sensitive. No impact to sensitive habitats are anticipated from construction of this component.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Impacts to sensitive maritime chaparral habitat are addressed in the Fort Ord HMP and, therefore, impacts to this habitat are also considered mitigated through the implementation of the Fort Ord HMP. Therefore, impacts are considered less-than-significant and no additional mitigation measures are required.

Impact BT-3:Construction Conflicts with Local Policies, Ordinances, or
Approved Habitat Conservation Plan. Construction of the
Proposed Modifications would potentially conflict with local
policies or ordinances protecting biological resources. A potential
conflict may occur if the Fort Ord HMP plant species on the former
Fort Ord that do not require a take authorization from the Service
or CDFW are impacted, and salvage is not conducted. There are no
approved HCPs applicable to the Proposed Modifications.
(Criteria e and f) (Less-than-Significant with Mitigation)

The PWM/GWR Project Final EIR found that a potentially significant impact would result from inconsistency with local plans and policies. However, this impact could be reduced to a less-than-significant impact with the implementation of Mitigation Measure BT-4 (Fort Ord HMP Plant Species Salvage). Construction of the PWM/GWR Project would be consistent with the approved Fort Ord HMP because all sites are located on parcels designated as "developed" and the construction activities comply with specific requirements including those included in Mitigation Measure BT-4.

All Proposed Modifications, except the Advanced Water Purification Facility

None of the Proposed Modifications are located within an approved Habitat Conservation Plan or Natural Community Conservation Plan area. All of the Proposed Modifications are located within the former Fort Ord. As described above, construction of these Proposed Modifications would be consistent with the approved Fort Ord HMP because all sites are located on parcels designated as "developed." Moreover, construction activities would comply with specific requirements contained in the Biological Opinion and Fort Ord Management Plan requiring the identification of sensitive biological resources within development parcels that might be salvaged for use in restoration activities in reserve areas. If those species are identified, the seeds from those plants to be removed must be salvaged for restoration of other areas of the former Fort Ord. Plant species salvage requirements are described below in Mitigation Measure BT-4. Implementation of Mitigation Measure BT-4 would ensure consistency with the Biological Opinion and HMP and would reduce this potentially significant impact to a less-than-significant level.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. The Proposed Modifications, except the Advanced

Water Purification Facility, could potentially conflict with requirements contained in the Fort Ord HMP. Implementation of Mitigation Measure BT-4 would reduce this potentially significant impact to a less-than-significant level.

Mitigation Measure

The PWM/GWR Project Final EIR identified Mitigation Measure BT-4 (Fort Ord HMP Plant Species Salvage) to reduce conflicts with local plans and ordinances to a less-than-significant level. The general requirements of Mitigation Measure BT-4 remain unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR includes minor modifications to this mitigation measure to identify the Proposed Modifications that would be subject to the requirements of this measure.

MM BT-4. <u>Fort Ord HMP Plant Species Salvage.</u> (Applies to Product Water Conveyance Pipeline, Expanded Injection Well Facilities, Extraction Wells, and CalAm Conveyance Pipelines)⁸

For impacts to the Fort Ord HMP plant species within the Biological Study Area that do not require take authorization from USFWS or CDFW, salvage efforts for these species shall be evaluated by a qualified biologist per the requirements of the Fort Ord HMP and Biological Opinion. A salvage plan shall be prepared and implemented by a qualified biologist, which shall include, but is not limited to: a description and evaluation of salvage opportunities and constraints; a description of the appropriate methods and protocols of salvage and relocation efforts; identification of relocation and restoration areas; and identification of qualified biologists approved to perform the salvage efforts, including the identification of any required collection permits from USFWS and/or CDFW. Where proposed, seed collection shall occur from plants within the Biological Study Area and topsoil shall be salvaged within occupied areas to be disturbed. Seeds shall be collected during the appropriate time of year for each species by gualified biologists. At the time of seed collection, a map shall also be prepared that identifies the specific locations of the plants for any future topsoil preservation efforts. The collected seeds shall be used to revegetate temporarily disturbed construction areas and reseeding and restoration efforts on- or off-site, as determined appropriate in the salvage plan.

4.5.4.4 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that the approved PWM/GWR Project would not make a cumulatively considerable contribution to cumulative impacts to terrestrial

⁸ Although this mitigation measure corresponds to Impact BT-3 in this Supplemental EIR, it is named Mitigation Measure BT-4. This has been done intentionally to retain consistency with the numbering format of mitigation measures in the PWM/GWR Project Final EIR.

biological resources. The PWM/GWR Project Final EIR and Addenda identified that although the approved PWM/GWR Project has the potential to impact some of the same biological resources as other past, present, and probable future projects, the approved PWM/GWR Project's construction-related impacts would not be cumulatively considerable with implementation of the mitigation measures identified. In addition, the PWM/GWR Project Final EIR found that the approved PWM/GWR Project's operational impacts would not be cumulatively considerable with implementation of the mitigation measures identified.

The Project with the Proposed Modifications would result in similar contributions to cumulative effects to those identified in the PWM/GWR Project Final EIR and Addenda. Cumulative development could result in potential impacts to terrestrial biological resources during construction of the Proposed Modifications, however implementation of mitigation measures included in this Draft Supplemental EIR would ensure that the contributions of the Proposed Modifications would not cause the Project to result in a cumulatively considerable contribution to cumulative impacts.

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4.6 CULTURAL, PALEONTOLOGICAL, AND TRIBAL RESOURCES

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4.6.3	Regulatory Framework	4.6.2	Recorded Cultural Sites Within Vicinity of Proposed Modifications Sites
4.6.4	Impacts and Mitigation Measures		(Identified by CHRIS Within 500 ft. of the Area of Potential Effect)
	. 5	4.6-3	Summary of Impacts – Cultural, Paleontological, and Tribal Resources

4.6.1 Introduction

This section assesses cultural resources including historic, archaeological, paleontological, and human remains known to occur at the Proposed Modifications sites and/or which may be accidentally encountered or discovered. This section evaluates the potential environmental effects to cultural resources associated with implementation of the Proposed Modifications compared to the effects identified in the PWM/GWR Project Final EIR and Addenda.

The effects of the approved PWM/GWR Project on cultural resources were identified in Section 4.6, Cultural and Paleontological Resources of the PWM/GWR Project Final EIR (see PWM/GWR Project Final EIR Vol. 1, at pg. 4.6-1 through 4.6-36). Similarly, the Addenda to the PWM/GWR Project Final EIR also considered the potential effects to cultural resources associated with minor modifications to the PWM/GWR Project Final EIR. The Addenda did not change any of the conclusions of the PWM/GWR Project Final EIR. **Table 4.6-1** below summarizes the findings of the PWM/GWR Project Final EIR and Addenda.

Table 4.6-1

Summary of Prior Environmental Review – Cultural and Paleontological Resources

	Approved PWM/GWR Project (Overall Impact)
CR-1: Construction Impacts on Historical Resources	LSM
CR-2: Construction Impacts on Archaeological Resources or Unknown Human Remains	LSM
CR-3: Construction Impacts on Paleontological Resources	LS
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable	

Public and agency comments received during the public scoping period in response to the NOP are included in **Appendix A**. M1W received a comment letter from the Native American Heritage Commission (NAHC). The comment letter identified that M1W, as the CEQA Lead Agency, must comply with the requirements of California Assembly Bill 52, Native Americans: California Environmental Quality Act, Chapter 532 (AB 52) and California Senate Bill 18, Traditional Tribal Cultural Places, Chapter 905 (SB 18). Specifically, the comment letter identified that M1W should initiate consultation with representatives of Native American Tribes that are traditionally and culturally affiliated with the geographic location of the Proposed Modifications. The letter also contained NAHC's recommendations for conducting Cultural Resources Assessments.

4.6.2 Environmental Setting

4.6.2.1 Regional Cultural Setting

Section 4.6.2.1 of the PWM/GWR Project Final EIR describes the regional cultural setting, including the pre-historic and historic regional setting. The description of the regional cultural setting contained in the PWM/GWR Project Final EIR is applicable to the Proposed Modifications. There are no changes in the regional setting since certification of the PWM/GWR Project Final EIR.

4.6.2.2 Cultural Resources in the Vicinity of Proposed Modifications

Archaeological Methods, Surveys and Results

Section 4.6.2.2 of the PWM/GWR Project Final EIR identified existing cultural resources within the vicinity of the components of the approved PWM/GWR Project based on the results of a Phase 1 Cultural and Paleontological Resources Survey prepared by Archaeological Consulting (2014). The results of that analysis were based on a background search of the California Historical Resources Information System (CHRIS), Sacred Lands Files Search, and field surveys of the Area of Potential Effect (APE)¹ that were not previously subject to archaeological surveys.

Basin Research Associates (Basin) was retained to prepare a Cultural Resource Assessment for the sites of the Proposed Modifications. As part of that analysis, Basin conducted a review of prehistoric and historic site record and literature search of the APE for the Proposed Modifications. This also included a 500-foot search radius conducted by the CHRIS/Northwest Information Center (NWIC), as well as review of reference material from the Bancroft Library, University of California at Berkeley, and Basin's records for Monterey County, including the following resources:

- Historic Properties Directory for Monterey County (CAL/OHP 2012a);
- National Register of Historic Places listings for Monterey County, California (USNPS 2015, 2017, 2019);
- Listed California Historical Resources (CAL/OHP 2017) with the most recent updates of the National Register of Historic Places; California Historical Landmarks; and, California Points of Historical Interest as well as other evaluations of properties reviewed by the State of California Office of Historic Preservation;
- California History Plan (CAL/OHP 1973);
- California Inventory of Historic Resources (CAL/OHP 1976);
- Five Views: An Ethnic Sites Survey for California (CAL/OHP 1988); and,

¹ The APE for archaeology includes the area within which an undertaking may directly or indirectly cause changes in the character or use of cultural resources should any be present within the APE. The horizontal APE includes all areas where activities associated with the project are proposed including the Extraction Well footprints (200 feet x 200 feet), the Expanded Injection Well Area and the right of way of for the pipeline alignments as well any areas required for grading, stockpiling, staging, paving, and other project elements. The vertical APE is the maximum depth below the surface to which excavations for the project will extend. It is anticipated that the maximum depth for the pipelines will be approximately 10 feet deep for trenching and 25 feet deep for any the entry and exit pits within areas that plan to use trenchless pipeline installation. Other disturbance may be up to six-eight feet for underground electrical, piping, etc.

Archaeological Determinations of Eligibility for Monterey County (CAL/OHP 2012b).

In addition, Basin also contacted the NAHC for a review of the Sacred Lands Files to supplement previous consultation efforts conducted in support of the PWM/GWR Project Final EIR. Basin sent letters soliciting additional information to the 12 Native American individuals/groups recommended by the NAHC. Correspondence and consultation with the Native American tribes recommended by the NAHC who responded to Basin resulted in no additional information about specific resources or sacred sites within the project area.

Additionally, an archaeological field inventory of the APE was conducted on August 1, 2019 and August 13, 2019 by Basin's professional archaeologists meeting the Standards of the Secretary of the Interior. The field inventory consisted of pedestrian surveys of the APE, which was divided into inventory sections.

Archaeological Resources Identified in Proposed Modifications Areas

The CHRIS/NWIC search revealed 22 reports/documents pertaining to studies in the vicinity of the Proposed Modifications. In addition, seven studies are located within 500 feet of the APE. While the CHRIS/NWIC revealed a number of reports/documents in the vicinity of the Proposed Modifications, only three recorded resources within or adjacent to the APE were identified during the record search, as summarized in **Table 4.6-2**, **Recorded Cultural Sites Within Vicinity of Proposed Modifications**.

Table 4.6-2

Recorded Cultural Sites Within Vicinity of Proposed Modifications (Identified by CHRIS Within 500 ft. of the Area of Potential Effect)

Resource	Туре	Recorded By	Eligibility NRHP/CRHR	Comment		
In/adjacent						
P-27-000385 (MNT-280)	Prehistoric Site	1950 (A.R. Pilling)	Not evaluated	Location unknown, reported destroyed ca. 1940		
Within 500 feet						
P-27-002717	Historic Structure – Fort Ord water tower/tank	2001 (Lorna Billat)	Evaluated as eligible under Criterion C	Resource removed and replaced during work at Blackhorse Reservoir ca. 2008		
P-27-003383	Historic Structure; PG&E Sal-Del Transmission Tower No. 4/62	2013 (Dana E. Supernowicz)	6Y - Not eligible			

Of the three resources in the vicinity of the Proposed Modifications, one has been destroyed, another was removed and replaced, and the other is not eligible for listing. No combined prehistoric and historic era, or historic era archaeological sites have been recorded in or adjacent to the APE.

The CHRIS/NWIC records search and previous archaeological research indicate that the archaeological sensitivity of the APE and immediate vicinity is low primarily due to disturbance associated with infrastructure construction and previous military use as part of the former Fort Ord "live-fire" training ranges. Moreover, on-going remediation activities associated with the removal of unexploded ordinances (UXO) has occurred across larges areas of the APE east of General Jim Moore Boulevard. This has resulted in extensive surface and subsurface disturbance to wide areas of the APE.

The results of Basin's Cultural Resource Assessment indicate the following:

 The CHRIS/NWIC records review noted 22 previous cultural resources studies for the area near the Proposed Modifications with negative results. No prehistoric and/or historic era archaeological sites are within in or adjacent to the APE.

- One reported prehistoric archaeological site, CA-MNT-280/P-27-00385, without a definite location was recorded in 1950 for an area that includes the APE. The site form notes that the site was bulldozed ca. 1940. No further information is available.
- No Native American villages, traditional use areas or contemporary use areas or other features of significance have been previously identified in or adjacent to the APE.
- No Hispanic era features have been identified in or adjacent to the APE.
- No American Period archaeological sites have been recorded, reported or identified in or adjacent to the APE.
- The field inventory noted no prehistoric or historic cultural resources. The location of the Expanded Injection Well Area has been subject to UXO remediation resulting in considerable surface and subsurface disturbance.
- Research suggests a low potential for the presence of subsurface prehistoric and/or historic deposits either within or adjacent to the APE.
- No listed or known potential National Register of Historic Places and/or California Register of Historical Resources are located in or adjacent to the proposed APE. No other significant or potentially significant local, State or Federal cultural resources/historic properties, landmarks, points of interest, etc. have been identified in or adjacent to the APE.

Historic Resources Identified in Proposed Modifications Areas

As identified in the PWM/GWR Project Final EIR, a few properties within the former Fort Ord have been identified as being eligible for listing in the NRHP. Those properties include Whitcher Cemetery, Stilwell Hall, Martinez Hall, and the Mess Hall Complex in the East Garrison. None of these properties are in the APE. The APE does not contain historical resources listed in the California Inventory, California Historical Landmarks, or the National Register of Historic Places.

4.6.2.3 Paleontological Resources

Section 4.6.2.3 of the PWM/GWR Project Final EIR described the existing environmental setting for paleontological resources. As identified in therein, most of the project components associated with the approved PWM/GWR Project were within areas with a low potential for paleontological resources, with the exception of improvements at the Salinas Treatment Facility Storage and Recovery Site and two segments of the Monterey Pipeline. None of the Proposed Modifications are located in an area with a high potential for paleontological resources.

4.6.3 Regulatory Framework

4.6.3.1 Federal

Section 4.6.3.1 of the PWM/GWR Project Final EIR describes Federal regulations related to cultural and paleontological resources. There have been no relevant changes to these regulations.

4.6.3.2 State

Section 4.6.3.2 of the PWM/GWR Project Final EIR describes State regulations related to cultural and paleontological resources. The following additional State regulations now apply to the Proposed Modifications.

Assembly Bill 52

CEQA revisions in 2015 resulted from adoption of AB 52. AB 52 changed sections of the Public Resources Code to add consideration for Native American culture within the CEQA process. The goal of AB 52 is to promote the involvement of California Native American tribes in the decision-making process when it comes to identifying and developing mitigation of impacts to resources of importance to their culture. To reach this goal, the bill establishes a formal role for tribes in the CEQA process.

CEQA lead agencies are required to consult with tribes about potential tribal cultural resources in the project area, the potential significance of project impacts on those resources, the development of project alternatives, and the type of environmental document that should be prepared. AB 52 states that a project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (PRC Sec. 21084.2).

Tribal cultural resources, as defined by CEQA Sec. 21074(a)(1) and 5024.1(c), includes either of the following:

- 1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - a. Included or determined to be eligible for inclusion in the California Register of Historical Resources.
 - b. Included in a local register of historical resources as defined in Public Resources Code Sec. 5020.1(k).
- 2. A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code section 5024.1(c). In applying the criteria set forth in 5024.1(c) for the purposes of this paragraph, the Lead Agency shall consider the significance of the resource to a California Native American tribe.

Tribal cultural resources are also defined as a cultural landscape where "the landscape is geographically defined in terms of the size and scope of the landscape." However, tribal cultural resources can also include "non-unique archaeological resources" that, rather than being important for scientific value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource.

4.6.3.3 Regional and Local

Section 4.6.3.3 and Table 4.6-4 of the PWM/GWR Project Final EIR describes regional and local land use regulations related to cultural and paleontological resources. There have been no relevant changes to these regulations.

4.6.4 Impacts and Mitigation Measures

4.6.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, a project would result in significant impacts related to cultural resources if it would:

- a. Cause a substantial adverse change in the significance of a historical resource pursuant to Sec. 15064.5;
- b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Sec. 15064.5;
- c. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or,
- d. Disturb any human remains, including those interred outside of dedicated cemeteries.

Additionally, based on Appendix G of the CEQA Guidelines, a project would result in significant impacts related to tribal cultural resources if it would cause a substantial adverse change in the significance of a tribal cultural resources, defined in Public Resources Code Sec. 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historic Resources, or in a local register of historical resources as defined in Public Resources Code Sec. 5020.1(k); or
- f. A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Sec. 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Sec. 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the SRF Loan Program administered by the SWRCB.

4.6.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR, however, includes minor modifications to reflect that no historical resources would be affected by the Proposed Modifications. Therefore, the following approach has been modified to exclude information regarding historical resources.

Approach to Analysis

The APE for the Proposed Modifications was developed to identify all areas where constructionrelated ground disturbance could occur in order to evaluate the project's potential impacts on cultural resources. The APE was established based on input from the project technical team, preliminary project plans, and assessor parcel information.

The APE for potential effects on archaeological resources includes all areas of ground disturbance, staging areas, access, and work areas. The APE for pipelines includes the area where the pipeline will be installed (component footprint) as well as a work area (construction boundary). For the pipelines that will be installed below (within) existing roadways, the APE is the

varying width of the road right-of-way. No excavation or grading is expected to occur in the staging areas, but clearing and grubbing may occur in these locations with a minimal depth (less than six inches) of potential disturbance, and placement and movement of personnel and heavy equipment.

Areas of No Impact

The potential impacts to cultural resources would occur during the construction phase. Once construction has been completed, operation of the Proposed Modifications would have no effect on cultural resources.

(*a*) Cause a substantial adverse change in the significance of a historical resource. The PWM/GWR Project Final EIR concluded that the PWM/GWR Project, namely components within the City of Monterey, would result in a potentially significant effect to a historic resource in connection with the construction of the Monterey Pipeline. The PWM/GWR Project Final EIR identified that this potentially significant impact could be reduced to a less-than-significant level through the incorporation of Mitigation Measure CR-1 (Avoidance and Vibration Monitoring for Pipeline Installation in the Presidio of Monterey Historic District, and Downtown Monterey). Construction of the Proposed Modifications would not impact a known historic resource or historic property. There are no historical resources listed in or eligible for listing in the California Register or National Register within the APE of the Proposed Modifications. Therefore, no impact on historical resources or historic properties would result from construction of any Proposed Modifications.

(e) Substantial adverse change in the significance of a tribal resource that is listed or eligible for listing in the California Register of Historic Resources, or in a local register of historical resources. No tribal resources were identified during the course of the Cultural Resource Assessment for the Proposed Modifications. As a result, the Proposed Modifications would not result in the substantial adverse change in the significance of a tribal resource that is listed or eligible for listing under the California Register of Historic Resources or in a local register of historic resources. Therefore, there would be no impact under this criterion.

(*f*) Substantial adverse change in the significance of a tribal resource that is a resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant. No tribal resources were identified in the Cultural Resource Assessment prepared by Basin. Thus, the Proposed Modifications would not result in a substantial adverse change in the significance of a tribal resource that is a resource determined by the Lead Agency to be significant. Therefore, there would be no impact under this criterion.

Summary of Impacts

Table 4.6-3, Summary of Impacts – Cultural and Paleontological Resources provides a summary of potential impacts related to cultural and paleontological resources and significance determinations at each Proposed Modifications component site.

				CalAm Dis Syst	stribution tem	
Impact Title	Advanced Water Purification Facility	Product Water Conveyance Pipeline	Injection Well Facilities	Extraction Wells	Conveyance Pipelines	Proposed Modifications Overall
CR-1: Construction Impacts on Archaeological Resources or Unknown Human Remains	LSM	LSM	LSM	LSM	LSM	LSM
CR-2: Construction Impacts on Paleontological Resources	LS	LS	LS	LS	LS	LS
Cumulative Impact	LS: The F cumulativ	Project Modific vely considera operation	ations would r ble contributio nal cultural res	not cause the n to cumulati sources impa	e Project to r ive construc cts.	make a tion or
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact						

Table 4.6-3 Summary of Impacts – Cultural, Paleontological, and Tribal Resources

4.6.4.3 Construction Impacts and Mitigation Measures

Impact CR-1:Construction Impacts on Archaeological Resources or Human
Remains. Construction of the Proposed Modifications may result
in a substantial adverse change in the significance to unknown
archaeological resources during construction and/or encounter
unknown human remains. (Criteria b and d) (Less-than-
Significant with Mitigation)

All Proposed Modifications

The PWM/GWR Project Final EIR identified that there were no recorded or known archaeological resources within the APE, except for a segment along the Monterey Pipeline alignment. While the PWM/GWR Project Final EIR identified that there were no known resources within the APE, the it did identify that there is the potential for construction to affect unidentified (e.g., buried) resources. Additionally, the PWM/GWR Project Final EIR identified that no known human remains have been documented in the APE; however, there is the possibility of inadvertently uncovering human remains during construction. The PWM/GWR Project Final EIR concluded that this represented a potentially significant impact that would be reduced to a less-than-significant level through the implementation of Mitigation Measures CR-2b (Discovery of Archeological Resources or Human Remains) and CR-2c (Native American Notification).

Construction of the Proposed Modifications would result in potential impacts comparable to those identified in the PWM/GWR Project Final EIR, since the Proposed Modifications could result in the inadvertent discovery of previously unknown archaeological resources and/or human remains. There are no recorded or known archaeological resources within the APE for the Proposed Modifications. Consistent with the findings of the PWM/GWR Project Final EIR, this represents a potentially significant impact. The implementation of Mitigation Measures CR-2b (Discovery of Archeological Resources or Human Remains) and CR-2c (Native American Notification) would ensure that these impacts would be reduced to a less-than-significant level.

Impact Conclusion

With implementation of Mitigation Measure CR-2b (Discovery of Archeological Resources or Human Remains) and CR-2c (Native American Notification), the Proposed Modifications would not result in any new significant impacts nor worsen the severity of any previously identified significant impacts. Based on the above analysis, construction of the Proposed Modifications could result in potentially significant impacts to unknown archaeological resources and/or human remains that may be uncovered during construction. Implementation of Mitigation Measures CR-2b (Discovery of Archeological Resources or Human Remains) and CR-2c (Native American Notification) would reduce the impact to a less-than-significant level.

Mitigation Measures

The requirements of Mitigation Measures CR-2b (Discovery of Archeological Resources or Human Remains) and CR-2c (Native American Notification) remain unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR includes minor modifications to identify the modifications that would be subject to this mitigation measure.

- MM CR-2b: Discovery of Archaeological Resources or Human Remains. (Applies to all Proposed Modifications components). If archaeological resources or human remains are unexpectedly discovered during any construction, work shall be halted within 50 meters (±160 feet) of the find until it can be evaluated by a qualified professional archaeologist. If the find is determined to be significant, appropriate mitigation measures shall be formulated and implemented, with the concurrence of the Lead Agency (M1W). The County Coroner shall be notified in accordance with provisions of Public Resources Code 5097.98-99 in the event human remains are found and the Native American Heritage Commission shall be notified in accordance with the provisions of Public Resources Code Sec. 5097 if the remains are determined to be of Native American origin.
- MM CR-2c: <u>Native American Notification</u>. (Applies to all Proposed Modifications components). Because of their continuing interest in potential discoveries during construction, all listed Native American Contacts shall be notified of any and all discoveries of archaeological resources in the project area.

Impact CR-2:Construction Impacts on Unknown Paleontological Resources.
Construction of the Proposed Modifications would not result in
damage to or destruction of unknown paleontological resources.
(Criterion c) (Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR identified that the PWM/GWR Project was not located in proximity to areas of significant paleontological resources as mapped by Monterey County. The PWM/GWR Project Final EIR identified that most of the components of the approved PWM/GWR Project would be located within areas that have a low potential for paleontological resources. Therefore, the PWM/GWR Project Final EIR concluded that the potential impact to known paleontological resources would be considered less-than-significant and no mitigation was necessary. Similarly, the Proposed Modifications are not anticipated to adversely affect paleontological resources, because none of the Proposed Modifications are located in an area of significant paleontological resources. Moreover, the locations of some of the Proposed Modifications have been disturbed extensively in connection with existing development and the former military use. Therefore, the Proposed Modifications would have a less-than-significant impact and no mitigation is necessary.

Impact Conclusion

Implementation of the Proposed Modifications would not result in any new significant construction effects to previously unknown paleontological resources, nor would the Proposed Modification result in an increase in severity of previously identified significant effect. Based on the above analysis, the Proposed Modifications would not result in significant impacts to paleontological resources, and no mitigation measures are required, consistent with the findings of the Final EIR.

4.6.4.4 Operation Impacts and Mitigation Measures

As previously indicated, the potential impacts to cultural resources would occur during the construction of the Proposed Modifications. Operation of the Proposed Modifications would have no impacts on cultural or paleontological resources.

4.6.4.5 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that construction of the approved PWM/GWR Project would not make a cumulatively considerable contribution to cumulative impacts to historic, archaeological and paleontological resources. Moreover, the PWM/GWR Project Final EIR and Addenda identified that no cumulative operational impacts to cultural resource would occur. More specifically, the PWM/GWR Project Final EIR identified that cumulative development could result in potential impacts to cultural and paleontological

resources; however, impacts to cultural resources are site specific and are evaluated on a projectby-project basis. The PWM/GWR Project Final EIR concluded that none of the cumulative projects would be located in sufficiently close proximity to result in combined impacts to the known historic and archaeological resources that could be affected by the approved PWM/GWR Project. Moreover, the PWM/GWR Project Final EIR also concluded that there would be no cumulative impacts to historic resources.

The Project with the Proposed Modifications would result in comparable contributions to cumulative effects as those identified for the approved PWM/GWR Project in the PWM/GWR Project Final EIR and Addenda. Cumulative development could result in potential impacts to cultural, tribal, and paleontological resources. As noted above, impacts to cultural resources are site specific and are evaluated on a project-by-by project basis and the Proposed Modifications would not result in any direct effects to any known cultural, tribal, or paleontological resource. As noted in the PWM/GWR Project Final EIR, none of the cumulative projects would be in sufficiently close proximity to known historic or archaeological resources that could be affected by the Proposed Modifications. Moreover, the Proposed Modifications would not affect a historic resource. The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to a cumulative impact to cultural resources.

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4.7 ENERGY

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4.7.3	Regulatory Framework	4.7-3	Overview of Proposed Electricity Demand
4.7.4	Impacts and Mitigation Measures		

4.7.1 Introduction

This section addresses energy resources in the area and evaluates the potential for construction and operation of the Proposed Modifications and the approved PWM/GWR Project to result in the wasteful or inefficient use of energy. This Draft Supplemental EIR relies on information contained in the PWM/GWR Project Final EIR and Addenda, supplemented by updated energy demand calculations related to the Proposed Modifications.

The effects of the PWM/GWR Project on non-renewable energy were identified in the PWM/GWR Project Final EIR Section 4.7, Energy and Mineral Resources. The impacts on energy resources due to the changes to the PWM/GWR Project Treatment Facilities to expand the Advanced Water Purification Facility from 4.0 MGD to 5.0 MGD were addressed in Addendum No. 3 to the PWM/GWR Final EIR (p. 36-37). The Addenda did not change any of the conclusions of the PWM/GWR Final EIR.

The Proposed Modifications would not result in new impacts or substantial changes in impacts that were analyzed in the PWM/GWR Project Final EIR related to Mineral Resources.¹ The environmental setting, regulatory framework, and approach from the PWM/GWR Project Final EIR remain unchanged, and no impacts would occur from any modifications under this Proposed Modifications.² None of the Proposed Modifications would be located in an area of defined mineral resources, result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State or result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, the Proposed Modifications would not result in in any direct impacts to those resources. The analysis contained in PWM/GWR Project Final EIR, Section 4.7 Energy and Mineral Resources, adequately addresses the potential impacts to mineral resources associated with the approved PWM/GWR Project; no additional effects would occur in connection with the Proposed Modifications. Therefore, no additional significant impacts or substantial increases in the severity of significant impacts would occur as a result of the Project Modifications.

Table 4.7-1 below summarizes the findings of the PWM GWR Project EIR and Addenda.

¹ Evaluation of Mineral Resources are not further addressed in this Draft Supplemental EIR. Further, the Notice of Preparation for this Draft Supplemental EIR provided a statement that the Mineral Resources Section would not be included or needed in the Draft Supplemental EIR.

² In accordance with CEQA Guidelines Sec.15163(c), a Supplemental EIR need only contain the information necessary to make the previous EIR adequate for the project as revised. Additionally, CEQA Guidelines Sec. 15128, "[a]n EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."

Table 4.7-1 Summary of Prior Environmental Review – Energy

	Approved PWM/GWR Project (Overall Impact)
EN-1: Construction Impacts due to Temporary Energy Use	LSM
EN-2: Operational Impacts due to Energy Use	LS
EN-3: Operational Impacts due to Availability of Mineral Resources	LS
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation	
SU – Significant Unavoidable BI – Beneficial Impact	

4.7.2 Environmental Setting

The PWM/GWR Final EIR described the character of the project area as it relates to nonrenewable energy. The PWM/GWR Final EIR classified the non-renewable energy setting based on then-current local, State, and Federal policies and regulations. The PWM/GWR Final EIR described the non-renewable energy setting of electricity, natural gas, oil, and gas and geothermal wells.

The Proposed Project would be located in Monterey County and would include components in the unincorporated area of Monterey County and in the City of Seaside. For a detailed view of the geographic location of the Proposed Project components, see **Chapter 2.0**, **Project Description**, and **Figure 2-2**, **Approved PWM/GWR Project Facilities** and **Figure 2-3**, **Overview of Expanded PWM/GWR Project**. For a complete description of the environmental setting of the Proposed Project as it relates to this section, please refer to Section 4.7.2 of the PWM/GWR Final EIR. The following section below provides minor updates to setting conditions related to energy and non-renewable resources.

4.7.2.1 Electricity and Natural Gas

PG&E provides gas and electric service to the project area. PG&E provides electricity from both renewable and non-renewable resources.

Natural gas use is measured in British thermal units (BTUs), while electricity is measured in kilowatt hours (kWh). Electrical consumption for the County of Monterey in 2018 was 2,587 millions of kWh (GWh). Natural gas consumption in 2018 in Monterey County was 12.18 million BTUs.

4.7.2.2 Oil, Gas, and Geothermal Wells

The PWM/GWR Project Final EIR described the environmental setting of the project as it relates to oil, gas, and geothermal wells. There are no active wells within the area of the Proposed Modifications (Division of Oil, Gas and Geothermal Resources, 2013).

4.7.3 Regulatory Framework

4.7.3.1 Federal

The PWM/GWR Project Final EIR and Addenda describe federal regulations related to nonrenewable energy. Please refer to Section 4.7.3.1 of the PWM/GWR Project Final EIR for more information.

4.7.3.2 State

The PWM/GWR Project Final EIR and Addenda describe State regulations related to nonrenewable energy. Please refer to Section 4.7.3.2 of the PWM/GWR Final EIR for more information. The following updates information on State actions since the publication of the Final EIR.

The **State's 100 Percent Clean Energy Act of 2018** sets a State policy that eligible renewable energy and zero-carbon resources supply 100 percent (%) of all retail sales of electricity in California by 2045. Executive order (EO) was also issued in September 2018, EO B-55-18, establishing a new statewide goal to achieve "carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Per EO B-55-18, the new goal "is in addition to the existing statewide targets of reducing greenhouse gas emissions." Targets previously established by EOs and the Legislature seek to reduce emissions to 40% below 1990 levels by 2030 (by EO B-30-15 and SB 32 in 2015 and 2016, respectively) and to reduce emissions to 80% below 1990 levels by 2050 (by EO S-3-05).

EO B-30-15 was issued in April 2015 and in addition to EO S-3-05, set an interim statewide GHG reduction target of 40 percent below 1990 levels to be achieved by 2030. The stated purpose of this interim target is to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. EO B-30-15 also requires all State agencies with jurisdiction over sources of GHG emissions to implement measures within their statutory authority to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets (Office of the Governor, 2005, 2015).

4.7.3.3 Regional and Local

The PWM/GWR Project Final EIR and related addenda describe regional and local land use regulations related to energy. Please refer to Section 4.7.3.3 of the PWM/GWR Project Final EIR and Table 4.4-6, Applicable State, Regional and Local Land Use Plans, Policies, and Regulations - Energy EIR for more information. This Draft Supplemental EIR relies on these regulations as applicable.

4.7.4 Impacts and Mitigation Measures

4.7.4.1 Significance Criteria

The PWM/GWR Final EIR used significance criteria consistent with requirements of CEQA Guidelines at the time of writing. The following updates the Significance Criteria for Energy Impacts, based on Appendices F and G of the CEQA Guidelines, as revised. Per these criteria, the project would have a significant effect on energy resources if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the CRWSF administered by the State Board.

4.7.4.2 Impact Analysis Overview

Approach to Analysis

Energy

This analysis evaluates the use of energy resources (direct and indirect) associated with the construction and operation of the Proposed Modifications and the approved PWM/GWR Project. The energy analysis is based, in part, on estimates of the operational electricity requirements of the Proposed Modifications provided by M1W and including the energy estimates provided by Kennedy/Jenks Consultants, Inc. Estimates of the electricity requirements for operations (all in average megawatt-hours per year, mWhr/yr) are summarized in **Chapter 2.0, Table 2-6, PWM/GWR Project Electricity Demands with Proposed Modifications**.

For construction and operations of the Proposed Modifications, the analysis considers whether the Proposed Modifications to the approved PWM/GWR Project would use large amounts of fuels or electricity, and whether they would be used in an unnecessary, wasteful, or inefficient manner; estimates of energy demand also are provided. The power supply No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the CWSRF administered by the State Board.

Facilities associated with the Proposed Modifications are described in **Chapter 2**, **Project Description**. Natural gas from PG&E would not be required for construction or operation of the Proposed Modifications and is not discussed further in this section.

Areas of No Impact

The Proposed Project would not result in impacts related to some of the significance criteria, as explained below. Impact analyses related to the other criteria are addressed below under **Subsections 4.7.4.4 (Construction Impacts)**, **4.7.4.5 (Operational Impacts)**, and **4.7.4.6 (Cumulative Impacts)**.

(*b*) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Similar to the approved PWM/GWR Project, the Proposed Modifications would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. As shown in **Table 4.7-1**, **Applicable State**, **Regional**, **and Local Land Use Plans**, **Policies**, **and Regulations – Energy and Minerals** from the PWM/GWR, State, regional, and local land use plans, policies, and regulations pertaining to energy, renewable energy and energy efficiency that are relevant to the Proposed Modifications are reviewed and considered. **Table 4.7-1** provides an analysis of project consistency with these plans, policies, and regulations. Further, findings and rationale are provided in Table 4.71, which document reasoning why the project would not conflict with any applicable State or local plan for renewable energy or energy efficiency.

Summary of Impacts

Table 4.7-2, Summary of Impacts – Energy provides a summary of potential impacts related to energy and significance determinations for the Project Modifications (all Proposed Project component sites).

Table 4.7-2

Summary of Impacts – Energy

	ility	line		CalAm Distribution System		
Impact Title	Advanced Water Purification Fac	Product Water Conveyance Pipel	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
EN-1: Construction Impacts due to Temporary Energy Use	LSM	LSM	LSM	LSM	LSM	LSM
EN-2: Operational Impacts due to Energy Use	LS	LS	LS	LS	LS	LS
Cumulative Energy Impacts	The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to a cumulative impact to energy resources.					nake a o energy
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact						

4.7.4.3 Construction Impacts and Mitigation Measures

Impact EN-1:Construction Impacts due to Temporary Energy Use.ProposedProject and Project Modifications construction could result in
wasteful or inefficient use of energy if construction equipment is
not maintained or if haul trips are not planned efficiently. The
Proposed Project and Project Modifications would not conflict
with existing energy standards. (Criteria a and b) (Less-than-
Significant with Mitigation)

The PWM/GWR Project Final EIR (Vol 1, p. 4.7-1 to 4.7-22) found that the approved PWM/GWR Project would not require or result in the construction of new electrical generation and/or major transmission facilities; require or result in the expansion of existing facilities; or result in the loss of availability of locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The PWM/GWR Project Final EIR found that operation of the approved PWM/GWR Project would result in less than significant impacts due to energy use or availability of mineral resources. The PWM/GWR Project Final EIR found that construction

of the approved PWM/GWR Project could potentially result in significant impacts due to temporary energy use; however, these impacts would be mitigated through implementation of Mitigation Measure EN-1: Construction Equipment Efficiency Plan.

All Proposed Modifications

Construction of the Project Modifications would result in energy consumption due to construction traffic and the use of construction equipment. The primary energy demand during construction would occur from use of gasoline and diesel-powered mobile construction equipment and vehicles. Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site clearing, grading, trenching, and construction. The Proposed Modifications would use additional fossil fuel; however, the additional amount of fossil fuel would be less than 10% more than the amount assumed for the approved PWM/GWR.

Based on cost optimization and idling prohibitions required by Air Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (13 CCR Chapter 10, Sec. 2485) and Final Order Regulation For In-Use Off-Road Diesel-Fueled Fleets Idling (13 CCR, Article 4.8, Chapter 9, Sec. 2449), (i.e., the Idling Limitations), construction activity would not use gasoline or diesel fuel unnecessarily, wastefully, nor inefficiently. As identified in the PWM/GWR Final EIR, however, other wasteful fuel or electricity use may occur if construction equipment is not well maintained, or if haul trips are not planned efficiently.

Electricity would also be used for construction lighting, field services, and electrically driven construction devices such as air compressors, pumps and other equipment. Construction activities would not reduce or interrupt existing electrical or natural gas services due to insufficient supply. Construction of the Proposed Modifications would not interrupt existing local PG&E service, and project-related construction electricity demands would be too small to have a significant effect on PG&E's energy delivery systems or resources. Construction activities would not significantly constrain local or regional energy supplies, require additional capacity, or substantially affect peak and base periods of electrical demand.

Fuel energy consumed during construction would be temporary and would not represent a significant demand on energy resources. Energy efficiency and conservation would be accomplished by several approaches. The Proposed Project would be required to comply with existing codes and standards for efficiency and conservation, including Title 24. Title 24 building energy efficiency standards are updated every three years to constantly improve energy efficiency in residential and non-residential buildings. The Idling Limitations in State regulations for dieselfueled vehicles discussed above and discussed in **Section 4.3**, **Air Quality**, include a requirement that equipment not in use for more than five (5) minutes be turned off to save energy during construction³.

Construction of the Proposed Modifications would result in small incremental increase in the same categories of impact (i.e., indirect energy consumption due to construction traffic and the use of construction materials) as the approved PWM/GWR Project. The impact would be temporary in nature. The energy consumption for construction would not result in long-term depletion of non-renewable energy resources and would not permanently increase reliance on energy resources that are not renewable. During construction, the Proposed Modifications would comply with all

³ The CEQA Guidelines amendments incorporate a new subdivision (b) of Sec. 15126.2, Consideration and Discussion of Significant Environmental Impacts. While the existing Appendix F (revised in 2009) clarifies that analysis of energy impacts is mandatory, subdivision (b) was added to Sec. 15126.2 to remove any question about whether such an analysis is required.

required regulations and would not obstruct any State or local plans for renewable energy or energy efficiency as identified in the PWM/GWR Project Final EIR.

Impact Conclusion

Although construction would result in increased energy consumption, the amount of transportation fuel and potential electricity use required for the Proposed Modifications is not considered an inefficient or wasteful use of energy. Fuel use would be consistent with current construction and manufacturing practices, energy standards that promote strategic planning, and building standards that reduce consumption of fossil fuels and enhance energy efficiency. The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the PWM/GWR Project Final EIR, the approved PWM/GWR Project with the Proposed Modifications would have a less-than-significant impact related to energy use during construction activities with implementation of Mitigation Measures EN-1 (Construction Equipment Efficiency Plan). Consistent with the PWM/GWR Final EIR, implementation of this mitigation would ensure construction activities are conducted in a fuel-efficient manner. This impact would be less-than-significant level.

MM EN-1: <u>Construction Equipment Efficiency Plan</u>. (Applies to all Proposed Modification components). M1W (for all components) or CalAm (for the CalAm Extraction Facilities and Distribution System) shall contract with a qualified professional (i.e., construction manager, planner or energy efficiency consultant) to prepare a Construction Equipment Efficiency Plan that identifies the specific measures that M1W or CalAm (and its construction contractors) will implement as part of project construction to increase the efficient use of construction equipment. Such measures shall include, but not necessarily be limited to: procedures to ensure that all construction equipment is properly tuned and maintained at all times; a commitment to utilize existing electricity sources where feasible rather than portable diesel-powered generators; consistent compliance with idling restrictions of the State; and identification of procedures (including the use of routing plans for haul trips) that will be followed to ensure that all materials and debris hauling is conducted in a fuel-efficient manner.

4.7.4.4 Operational Impacts and Mitigation Measures

Impact EN-2: <u>Operational Impacts due to Energy Use.</u> Proposed Project operations would not result in the consumption of energy such that existing supplies would be substantially constrained nor would the Project result in the unnecessary, wasteful, or inefficient use of energy resources. (Criteria a and b) (Less-than-Significant)

All Proposed Modifications

The operation and maintenance of the approved PWM/GWR Project and Proposed Modifications would result in the ongoing consumption of energy including the use of electricity for pumps, treatment processes, miscellaneous lighting, automated controls, and maintenance equipment. The Proposed Modifications would not require any additional new employee trips for operations and maintenance of the Advanced Water Purification Facility or component sites. The Proposed Modifications would use existing employees for Injection and Extraction Well facilities operations

and maintenance. Accordingly, a small amount of fuel for worker trips to perform routine operations and maintenance checks at each well facility site will be required.

Table 4.7-3 identifies the components of the approved PWM/GWR Project and Proposed Modifications that would result in new operational electricity demand. Proposed Modifications include the following changes to operational electricity demand compared to the approved PWM/GWR Project:

- The Proposed Modifications to expand capacity of the Advanced Water Purification Facility at the Regional Treatment Plant from 5.0 mgd to 7.6 mgd would increase demand for electricity.
- Offsetting savings in electricity demand would result from decreased Salinas Valley Reclamation Plant electricity demand and increased electricity production of the cogeneration plant.
- Proposed Modifications to the Injection Well Facilities would require additional electricity, primarily for backflushing the deep injection wells. A new electrical building and backflush basin would be included at a central location within the Expanded Injection Well Area (see Figure 2-5). The backflush facilities at each Injection Well Site would include a flow meter, a backflush pump and 400-hp motor, and an electrical cabinet, monitoring and SCADA. A main electrical power supply/transformer and motor control building would be built for PG&E power supply. In addition to incidental power requirements, major power supply would be required to drive only one backflush pump motor at a time.

The Proposed Modifications would result in an incremental increase in energy (electricity) use primarily due to the operation of the higher peak production capacity and pumping by the product water pump station at the Advanced Water Purification Facility and additional backflushing at the injection wells. Electricity demands at the Advanced Water Purification Facility with Proposed Modifications would be supplied through the utility connection from the MRWMD Landfill gas generation facility. MRWMD utilizes biogas produced by the decomposition of waste material in the landfill to produce electrical energy. Since certification of the PWM/GWR Project Final EIR, Monterey Regional Waste Management District executed an agreement with M1W for the purchase of electrical energy. This is surplus electrical energy is thus available to M1W for operation of the Advanced Water Purification Facility, including the increased production capacity of the Proposed Modifications. PG&E provides power to the other facilities at the Regional Treatment Plant to supplemental on-site cogeneration electricity produced from wastewater biogas, and solar power.

The energy demand needed for the Advanced Water Purification Facility with Proposed Modifications was updated by Kennedy Jenks Engineers and M1W (M1W, October 2019). **Table 4.7-3 Project Electricity Demands**, identifies anticipated energy demand associated with the approved PWM/GWR Project and Proposed Modifications as well as the incremental increased demand created by the Proposed Modifications. The total new PG&E electricity demand for the Expanded PWM/GWR Project electricity would be approximately 45 mWhr/yr, a reduction of 125 mWhr/yr compared to the Approved PWM/GWR Project due to net changes in use of water for injection and for crop irrigation. Similar to the findings of the PWM/GWR Final EIR and Addenda, the energy impact from operation of the approved PWM/GWR Project with the Proposed Modifications would be less-than-significant, for the following reasons:

 Treatment Facilities at the Regional Treatment Plant are partially powered by solar energy and cogeneration of biogas (including methane generated during the treatment processes) thus minimizing the need for new electricity generation using fossil fuels;

- The Proposed Modifications are designed to be energy efficient and not waste energy because the new pumps and electrical facilities would be energy efficient, including the use of variable speed controls and LED lighting at a minimum;
- There is sufficient available renewable energy from the Monterey Regional Waste Management District to accommodate the incremental increased demand from the Proposed Modifications and there is a Power Purchase Agreement between M1W and the MRWMD in place to ensure that the required electricity is available; and
- The energy resources that would be consumed by the approved PWM/GWR Project with the Proposed Modifications would be for the public benefit, namely provision of water supplies required by the region, and would not be unnecessary, wasteful, nor inefficient.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. The Proposed Modifications operations would not result in the consumption of energy such that existing supplies would be substantially constrained, nor would it result in the unnecessary, wasteful, or inefficient use of energy resources. Consistent with the PWM/GWR Project Final EIR, operation of the Proposed Modifications would result in a less-significant energy impacts.

Table 4.7-3

Project Electricity Demands (all in megawatt-hours per year)

Overview of PWM/GWR Project Electricity Demands	2015 Final EIR (4 mgd AWPF)	2017 Addendum 3 (5.0 mgd AWPF)	PWM/GWR w/ Proposed Modifications (7.6 mgd)	Change 5 to 7.6 mgd for Proposed Modifications
Source Water Diversion and Storage Sites				
Existing MRWPCA Wastewater Collection System Pump Stations (increased pumping for source water collection)	1,100	1,100	1,110	-
Proposed Salinas Pump Station Diversions (lighting, SCADA, misc. electricity) [Note: this facility now operates almost exclusively using solar energy.]	10	10	10	-
Proposed Salinas Industrial Wastewater Treatment Plant Storage and Recovery Component (pumping, lighting, SCADA, misc. electricity)	224	100	100	-
Existing Salinas Treatment Facility and Stormwater Operations (1) (reduction of pumping, Ron Cole, February 2014 modified by M1W staff)	(1,875)	(1,875)	(1,875)	-
Proposed Reclamation Ditch Diversion (pumping, lighting, SCADA, misc. electricity)	250	250	250	-
Proposed Tembladero Slough Diversion (pumping, lighting, SCADA, misc. electricity)	461	-	-	-
Proposed Blanco Drain Diversion (pumping, lighting, SCADA, misc. electricity)	731	731	731	-
Proposed Lake El Estero Diversion (lighting, SCADA, misc. electricity)	10	-	-	-
Treatment Facilities at Regional Treatment Plant	•			
Existing Primary and Secondary Processes (2) (existing on-site cogeneration facility would provide a reduction in this value, see below)	3,673	3,673	3,673	-
Existing Salinas Valley Reclamation Plant (3) (existing plant operations use solar array electricity, which reduces electricity demand by up to 1,400 mWhr/yr) (~3,600 AFY replacement supplies for crop irrigation produced)	1,300	1,300	1,100	(200)
4.0 mgd AWPF (2015 GWR EIR) (new treatment facilities, not including product water pumping; assumes 3,700 AFY of water production to build drought reserve; demand will be less when Drought Reserve is at full capacity and when Drought Reserve is being used by CSIP)	7,007	-	-	-

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Table 4.7-3

Project Electricity Demands (all in megawatt-hours per year)

Overview of PWM/GWR Project Electricity Demands	2015 Final EIR	2017 Addendum	PWM/GWR w/ Proposed	Change 5 to 7.6 mgd for
	(4 mgd AWPF)	3 (5.0 mgd AWPF)	(7.6 mgd)	Proposed Modifications
5.0 mgd AWPF + Product Water Pump Station (Kennedy Jenks, 2017) incl. 4,300 AFY production & pumping	-	12,930	-	(12,930)
7.6 mgd AWPF + Product Water Pump Station (Kennedy Jenks, 2018) incl. 6,550 AFY production & pumping			19,197	19,197
CSIP Supplemental Wells				
Reduction of use of CSIP Supplemental Wells by 3,600 AFY (3)	(1,900)	(1,900)	(1,607)	293
Product Water Conveyance				
Pumping of product water to Injection Well Facilities under RUWAP (7)	1,912	-	-	
Injection Well Facilities				
Backflush of five deep injection wells, lighting, HVAC, meters, instruments, SCADA	147	147	236	89
CalAm Distribution System Changes (8)				
	630	630	-	(630)
Subtotal of electricity demand without deductions for use of landfill and M1W cogeneration renewable sources	13,680	17,096	22,915	5,819
Proposed New Electricity Generation at M1W Existing Cogeneration Facility	(2,726)	(2,726)	(2,999)	(273)
New Purchased Electricity from Monterey Regional Waste Management District (6)		(14,200)	(19,871)	(5,671)
NET TOTAL (with reduction in electricity demand from renewable energy sources)	10,954	170	45	(125)
NOTEC				

NOTES:

(1) No change; still maximizing IWW with Proposed Modifications to PWM/GWR Project.

(2) Assumes no change in annual total Regional Treatment Plant inflows (conservation lowers; new source waters increases).
 (3) 657 AF reduction of new SVRP (3603 AFY with Expanded PWM vs. 4260 AFY with base project); assumed power for SVRP≈CSIP well pumping power (see below). Use of wells with Expansion will be 657 AFY more than under base project (3,603 v 4,260 AFY).

(4) Assumes 161% of base project energy scaled from backflush volumes.

(5) Project use of new source waters to be increased by 10%.

(6) MRWMD utilizes biogas produced by the decomposition of waste material in the landfill to produce electrical energy. The Regional Treatment Plant is adjacent to the landfill and power generation facility operated by MRWMD. Assumes all energy demand at AWPF, plus 674 mWh/yr of other Regional Treatment Plant demands, will be met by landfill gas. Up to 4 MW of capacity is available and M1W has entered into a Power Purchase Agreement with MRWMD to secure that electricity.
 (7) The Product Water Conveyance electricity demands were added to the AWPF demands for the 5 mgd (Addendum No. 3) and

7.6 mgd (Supplemental EIR) capacity because the conveyance system pump station was eliminated and product water pumping will occur at the Regional Treatment Plant.

(8) Upon full operation of the PWM Project, CalAm would reduce its diversions of aquifer storage and recovery water, native groundwater and Carmel River alluvial aquifer water by a commensurate amount. The net electricity usage related to 1:1 change from these three water sources to use of previously injected PWM Expansion water would result in negligible changes in electricity demand.

Sources: M1W/DD&A PWM/GWR Final EIR (October 2015) and Addendum No. 3 to the EIR (October 2017), Kennedy Jenks (April 2018), and M1W staff estimates (Aug 2019).

4.7.4.5 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects.

PWM/GWR Project Final EIR (Section 4.1.3.2, Table 4.1-2, Project Considered for Cumulative Analysis) includes a brief description of the projects, their anticipated construction schedules and the potential cumulative effects associated with each of the listed projects.

The geographic area for the analysis of mineral and energy impacts consists of Monterey County and PG&E's service area. All the cumulative projects identified in **Section 4.1.3.2**, **Table 4.1-2**, **Project Considered for Cumulative Analysis** could result in additional consumption of electricity, natural gas, gasoline and diesel in the region.

The discussion of cumulative impacts is organized to address the approved PWM/GWR Project and combined impacts of the Proposed Modifications and all relevant projects identified on **Table 4.1-2** for the cumulative analysis:

Energy Resources

The PWM/GWR Final EIR and Addenda found that the PWM/GWR Project would result in less than significant cumulative energy impacts and would not result in a substantial adverse cumulative impact to mineral resources.

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. The Proposed Modifications operations would not result in the consumption of energy such that existing supplies would be substantially constrained, nor would it result in the unnecessary, wasteful, or inefficient use of energy resources. Consistent with the PWM/GWR Project Final EIR, operation of the Proposed Modifications would result in a less-significant energy impacts.

Cumulative Impact Conclusion

The Proposed Modifications would not cause Project construction and operation to make a cumulatively considerable contribution to a significant cumulative energy impacts due to consumption or use of energy unnecessarily, wastefully, or inefficiently; the need for new offsite power generation; nor construction of new transmission facilities.

Mineral Resources

The Proposed Modifications would have no impact on the availability of mineral resources during construction and operations.

Cumulative Impact Conclusion

The Proposed Modifications would not contribute to cumulative construction or operational cumulative impacts to mineral resources.

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4.8 GEOLOGY, SOILS, AND SEISMICITY

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4.8.2	Environmental Setting		Environmental Review –	4.8-2	Detailed Fault Map
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4.0.4	impacts and miligation measures	4.8.2	Summary of Impacts –	4.0-4	Soli Elosion Hazaru Areas
			Seismicity		

4.8.1 Introduction

This section describes the existing geology, soils, and seismicity conditions of the sites for the Proposed Modifications and evaluates the related impacts due to the implementation of the Proposed Modifications, compared to the effects identified in the PWM/GWR Project Final EIR and Addenda.

The effects related to geology, soils, and seismicity of the approved PWM/GWR Project were identified in Section 4.8, Geology, Soils, and Seismicity, of the PWM/GWR Project Final EIR (see 2015 PWM/GWR Project Final EIR Vol. 1, at pg. 4.8-1 through 4.8-52). The Addenda to the PWM/GWR Project Final EIR did not change any of the conclusions of the PWM/GWR Project Final EIR and EIR. **Table 4.8-1** below summarizes the findings of the PWM/GWR Project Final EIR and Addenda.

Table 4.8-1

Summary of Prior Environmental Review – Geology, Soils, and Seismicity

	Approved PWM/GWR Project (Overall Impact)
GS-1: Construction-Related Erosion or Loss of Topsoil	LS
GS-2: Construction-Related Soils Collapse and Soil Constraints during Pipeline Trenching	LS
GS-3: Operation - Exposure to Fault Rupture	LS
GS-4: Operation - Exposure to Seismic Ground Shaking and Liquefaction	LS
GS-5: Operation - Exposure to Coastal Erosion and Sea Level Rise	LSM*
GS-6: Operation - Hydro-Collapse of Soils from Well Injection	LS
GS-7: Operation - Exposure to Expansive and Corrosive Soils	LS*
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact * These impacts are not applicable to the Proposed Modifications. They are discus Project Impact .	ssed briefly in Section 4.8.4.2 Area of No

This section describes geology, soils, and seismicity conditions in the vicinity of the Proposed Modifications and assesses the extent to which the Proposed Modifications could expose people or structures to potential seismic, liquefaction, landslide, and expansive soil impacts, and the

extent to which the project could result in substantial soil erosion or loss of topsoil. Potential impacts to paleontological resources are discussed in **Section 4.6 Cultural**, **Paleontological**, **and Tribal Resources**. The impact section evaluates construction and operational impacts, and mitigation measures are presented as necessary. This section relies on a preliminary geotechnical report prepared for the PWM/GWR Project Final EIR by Ninyo & Moore, and review of other relevant studies and reports. A discussion of cumulative impacts is provided at the end of the section.

Public and agency comments received during the public scoping period in response to the Notice of Preparation are summarized in **Appendix A**. No comments were received related to geology, soils, and seismicity.

4.8.2 Environmental Setting

Section 4.8.2 of the PWM/GWR Project Final EIR describes the regional geologic setting, faulting and seismicity, soil conditions, geology and soils characteristics at each of the components of the approved PWM/GWR Project. The environmental setting as it related to geology, soils, and seismicity has not changed since the certification of the PWM/GWR Project Final EIR. The existing environmental setting information contained in the PWM/GWR Project Final EIR is applicable to the Proposed Modifications, as supplemented by the site-specific information provided below.

4.8.2.1 Regional Geologic Setting

Section 4.8.2.1 of the PWM/GWR Project Final EIR described the regional geologic setting including applicable geologic units (e.g., alluvium, eolian deposits, etc.). The existing description is applicable to the Proposed Modifications and as a result, a detailed description of the regional geologic settings is not included in this Draft Supplemental EIR. Instead, the following discussion supplements the existing information contained in the PWM/GWR Project Final EIR to include additional specificity concerning the regional geologic setting as it pertains to each of the Proposed Modifications. **Figure 4.8-1A, Regional Geology Map** depicts the regional geographic setting as it relates to the Proposed Modifications.

4.8.2.2 Faulting and Seismicity

The PWM/GWR Project Final EIR identified regional faults (see Figure 4.8-2, Regional Fault Map in the PWM/GWR Project Final EIR) in addition to potentially active faults in the region (see Table 4.8-1, Principle Active and Potentially Active Faults, in the PWM/GWR Project Final EIR). The Proposed Modifications could be affected by the same regional faults as those described in the PWM/GWR Project Final EIR. See **Figure 4.8-2**, **Proposed Modifications Fault Map** and refer to Section 4.8.2.2 of the PWM/GWR Project Final EIR for a detailed discussion of regional faults.

The PWM/GWR Project Final EIR also included a detailed description of seismic hazards, including fault rupture, ground shaking, soil liquefaction and dynamic settlement, lateral spreading, earthquake-induced landslides, and tsunamis applicable to the Proposed Modifications. The Proposed Modifications could potentially be affected by the same seismic hazards as those described in the PWM/GWR Project Final EIR. See **Figure 4.8-3**, **Proposed Modifications Liquefaction Hazards Map** below and refer to Section 4.8.2.2 of the PWM/GWR Project Final EIR for more information.







4.8.2.3 Soil Conditions

The PWM/GWR Project Final EIR described existing soil conditions, including expansive soils, soil collapse potential, and erosion potential and sea level rise applicable to the Proposed Modifications. See **Figure 4.8-4**, **Proposed Modifications Soil Erosion Hazard Map** below and refer to Section 4.8.2.3 of the PWM/GWR Project Final EIR.

4.8.2.4 Geology and Soils Characteristics at Project Sites

The PWM/GWR Project Final EIR described three general regions with distinct geologic and topographic characteristics. The three regions included a northeastern region, a central region, and a southwestern region. The Proposed Modifications are located within the central region, which the PWM/GWR Project Final EIR described as consisting of gently to moderately rolling dunes with elevations ranging from approximately 10 feet above mean sea level (MSL) to approximately to 425 feet above MSL. For more information, please refer to Section 4.8.2.4 of the PWM/GWR Project Final EIR and the following relevant geology and soils characteristics that occur at each of the Proposed Modification sites.

Advanced Water Purification Facility

The Advanced Water Purification Facility is located north of the City of Marina, approximately two miles east of the Monterey Bay shoreline. The geologic site conditions at the Advanced Water Purification Facility were identified in the PWM/GWR Project Final EIR and include eolian deposits that are anticipated to consist of weakly to moderately consolidated, moderately to well-sorted silt and fine- to medium-grained sand. The Advanced Water Purification Facility is located within the Reliz fault zone. The nearest fault, the Reliz fault, is located approximately 2.2 miles to the south. The alluvial materials in the area are mapped as having low liquefaction susceptibility (Rosenberg, 2001d as referenced in Ninyo & Moore, 2014).

Product Water Conveyance Pipeline

The segments of the Product Water Conveyance Pipeline that are included in the Proposed Modifications are located in the City of Seaside and would connect the approved Blackhorse Reservoir to the Expanded Injection Well Facilities Area, discussed below. This location is underlain by eolian deposits that are anticipated to consist of weakly to moderately consolidated, moderately to well-sorted silt and fine- to medium-grained sand. The nearest fault is the Ord Terrace fault, which is located approximately 1.5 miles to the south. The site is rated as having a low liquefaction potential and moderate soil erosion hazard.

Injection Well Facilities

The Expanded Injection Well Area is northeast of the existing Injection Well Facilities site and south of Eucalyptus Road. This location is underlain by eolian deposits that are anticipated to consist of weakly to moderately consolidated, moderately to well-sorted silt and fine- to mediumgrained sand. Groundwater is known to be very deep at approximately 450 feet below ground surface (see **Section 4.10 Hydrology and Water Quality: Groundwater**). The northernmost Ord Terrace fault is mapped beneath eolian deposits in the central portion of the project area approximately ¼ mile south of the Expanded Injection Well Area.



CalAm Distribution System Improvements

The CalAm Distribution System Improvements include four Extraction Wells and associated infrastructure (e.g., treatment facilities, electrical buildings, etc.), as well as CalAm Conveyance Pipelines. The proposed locations for the CalAm Distribution System Improvements are in the same general vicinity as the Expanded Injection Well Area described above and exhibit the same general geological and soils characteristics. The entire area is underlain by eolian deposits. The alluvial materials in the area are mapped as having low liquefaction susceptibility. The liquefaction hazard and landslide seismic hazard are mapped as low the soil erosion hazard is mapped as moderate. Soils are characterized as having a moderate potential for pipe corrosion. The nearest fault to the CalAm Distribution System Improvements is the Ord Terrace Fault, which is located approximately 1.2 miles to the south.

4.8.3 Regulatory Framework

4.8.3.1 Federal

Section 4.8.3.1 of the PWM/GWR Project Final EIR and related addenda describe federal regulations related to geology, soils, and seismicity. There have been no changes to the setting information.

4.8.3.2 State

Section 4.8.3.2 PWM/GWR Project Final EIR and related Addenda describe state regulations related to geology, soils, and seismicity. There have been no changes to the setting information.

4.8.3.3 Regional and Local

Section 4.8.3.3 of the PWM/GWR Project Final EIR and related Addenda describe regional and local land use regulations related to geology, soils, and seismicity. See also Table 4.8-2, Applicable State, Regional, and Local Land Use Plans and Policies Relevant to Geology, Soils & Seismicity contained in the PWM/GWR EIR for more information. There have been no changes to the setting information.

4.8.4 Impacts and Mitigation Measures

4.8.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, a project would result in significant impacts related to geology, soils, and seismicity if it would:

- a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
 - Strong seismic ground shaking.
 - Seismic-related ground failure, including liquefaction.

- Landslides.
- b. Result in substantial soil erosion or the loss of topsoil;
- c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property; and/or
- e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the SRF Loan Program administered by the SWRCB.

4.8.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

The potential for impacts related to geology, soils, and seismicity are evaluated according to the significance criteria listed above. Subsurface conditions at each Proposed Modification site have been described using existing published data, mapping, and research. The analysis contained in this section is based in part on the preliminary geotechnical evaluation prepared by Ninyo & Moore and information contained in the MPWSP EIR/EIS concerning CalAm Distribution System Improvements.

The preliminary geotechnical evaluation prepared by Ninyo & Moore did not specifically describe the Proposed Modifications at the Expanded Injection Well Area and at CalAm Extraction Wells; however, existing studies and reports are readily available from the U.S. Army and the Fort Ord Reuse Authority for the environmental services to clean up these areas and from the CPUC's EIR/EIS for the MPWSP for the proposed CalAm Extraction Wells. In addition, each of the Proposed Modifications are in the vicinity (i.e., less than ½ mile northeast) of the components of the approved PWM/GWR Project, such as Well Site #1 and initial monitoring wells and thus have the same general geologic setting. An interactive fault map available on the California Department of Conservation website was used to help determine the proximity of the Proposed Modifications to regional faults. In addition, the Natural Resources Conservation Service (NRCS) Soil Data Survey for Monterey County was reviewed to determine soil types within the area of the Proposed Modifications and their characteristics.

The preliminary geotechnical analysis divided the project area into three general regions with relatively distinct geologic and topographic characteristics. The central region is relevant to the Proposed Modifications. The central region includes rolling hills extending inland from the coast comprised of windblown eolian deposits. This area includes the urbanized developments of Seaside and Marina, as well as the former Fort Ord military base. All the Proposed Modifications are located within the central area.

Site-specific geotechnical investigations would be prepared for all facilities requiring foundations and specialized soils engineering work. Geotechnical studies contain the information necessary to inform the structural design of foundations and determine whether the geologic materials underlying the proposed facilities are capable of supporting the proposed uses without risk of detrimental effects from potential hazards associated with problematic soils, liquefaction, or excessive seismic shaking. Geotechnical investigations are required under the California Building Code for most structures intended for human occupancy, by Monterey County, and by most municipal grading ordinances. Based on field observation and laboratory testing, the geotechnical engineer can assess whether the soils are adequate to support the structure under static (non-earthquake) or seismic conditions. If corrective work is necessary to remedy the problem soils or otherwise unstable ground condition, the geotechnical engineer would recommend approaches to correct the condition. Geotechnical engineering recommendations are typically standard engineering practices that have been proven elsewhere to increase the geotechnical performance of an underlying soil or bedrock material. This impact analysis assumes that final design of the components will incorporate all geotechnical recommendations set forth by the project geotechnical engineer.

Pipelines are constructed to various industry standards. The American Water Works Association (AWWA) is a worldwide nonprofit scientific and educational association that, among its many activities, establishes recommended standards for the construction and operation of public water supply systems, including standards for pipe and water treatment facility materials and sizing, installation, and facility operations. While the AWWA's recommended standards are not enforceable code requirements, they nevertheless can dictate how pipelines for water conveyance are designed and constructed. CalAm would require its contractors to incorporate AWWA Standards into the design and construction of the proposed CalAm Conveyance Pipelines. Other components of the Proposed Modifications would also adhere to AWWA Standards, as applicable. Section 4.8.4.2 of the PWM/GWR Project Final EIR also included a discussion on the geotechnical design approach applicable to pipelines which applies to pipeline components in the Proposed Modifications.

Areas of No Project Impact

The Proposed Modifications would not result in impacts related to some of the significance criteria, as explained below. Impact analyses related to the other criteria are addressed below under **Subsections 4.8.4.3 (Construction Impacts), 4.8.4.4 (Operational Impacts), and 4.8.4.5 (Cumulative Impacts).**

The following criteria are not applicable to some or all the Proposed Modifications during construction:

(*a*) Fault rupture, seismic ground shaking, seismic-related ground failure, including liquefaction, and landslides. Construction of the Proposed Modifications would be temporary and, as such, would not expose people or structures to a substantial risk due to fault rupture, seismic shaking or seismically induced ground failure, liquefaction, or landslides (criterion a) during construction. The effects of seismic hazards on people and structures during operation is evaluated below under Impact GS-2.

(*b*) *Exposure to coastal erosion and sea level rise.* The PWM/GWR Project Final EIR included a discussion of coastal erosion related to sea level rise in Impact GS-5 (criterion b). None of the Proposed Modifications are located within areas that are at risk for coastal erosion, therefore this is not discussed further, and no new or substantially more severe impact would result.

(*d*) *Expansive soils*. Portions of the approved PWM/GWR Project were located in areas containing expansive soils, this is discussed in the PWM/GWR Project Final EIR as Impact GS-7. None of the Proposed Modifications are in areas that contain expansive soils;

therefore, no new or substantially more severe impacts would result from construction or operation of the Proposed Modifications.

(*e*) Septic System Soil Suitability. The Proposed Modifications consist of wastewater collection, treatment, and water supply facilities improvements and does not propose use of septic tanks. Thus, criterion e is not applicable to the Proposed Modifications during construction.

The following criteria are not applicable to some or all the Proposed Modifications during operation:

(*b*) *Exposure to coastal erosion and sea level rise.* The PWM/GWR Project Final EIR included a discussion of coastal erosion related to sea level rise in Impact GS-5 (criterion b). None of the Proposed Modifications are located with areas that are at risk for coastal erosion, therefore this is not discussed further, and no new or substantially more severe impact would result.

(c) Unstable soil resulting in land subsidence. There would be no impact related to land subsidence as a result of operation of the Extraction Wells due to the existing lack of clay in the aquifer units to be pumped and the management of groundwater levels to reduce or eliminate overdraft. Some of the Proposed Modifications could results in potentially significant impact related to unstable soils resulting in landslide, lateral spreading, subsidence, liquefaction or collapse (criteria c), these impacts are discussed below.

(*d*) *Expansive soils*. Portions of the approved PWM/GWR Project were located in areas containing expansive soils, this is discussed in the PWM/GWR Project Final EIR as Impact GS-7. None of the Proposed Modifications are located in areas of identified expansive soils; therefore, no new or substantially more severe impacts would result from construction or operation of the Proposed Modifications.

(e) Septic system soil suitability. The Proposed Modifications consist of construction and operation of water treatment and supply facilities and do not propose use of septic systems or tanks. Thus, criterion e is not applicable to the Proposed Modifications during operation.

Summary of Impacts

Table 4.8-2, Summary of Impacts – Geology, Soils, and Seismicity provides a summary of potential impacts related to geology, soils, and seismicity and significance determinations for each Proposed Modifications component.

	lity	ne		CalAm Distribution System		
Impact Title	Advanced Water Purification Faci	Product Water Conveyance Pipeli	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
GS-1: Construction-Related Erosion or Loss of Topsoil	LS	LS	LS	LS	LS	LS
GS-2: Construction-Related Soils Collapse and Soil Constraints during Pipeline Trenching	LS	LS	LS	LS	LS	LS
GS-3: Operation - Exposure to Seismic Ground Shaking and Liquefaction	LS	LS	LS	LS	LS	LS
GS-4: Operation - Hydro-Collapse of Soils from Well Injection	NI	NI	LS	NI	NI	LS
Cumulative Impacts	LS: The make a c opera	Proposed I cumulatively tional cumu	Modification / consideral lative geolo	s would not o ble contributio gy, seismicity	cause the Plon to construct or soils im	roject to uction or pacts.
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	<u>.</u>					

Table 4.8-2 Summary of Impacts – Geology, Soils, and Seismicity

4.8.4.3 Construction Impacts and Mitigation Measures

Impact GS-1:Construction-Related Erosion or Loss of Topsoil. Construction of
the Proposed Modifications would not result in substantial soil
erosion or the loss of topsoil. (Criterion b) (Less-than-Significant)

The PWM/GWR Project Final EIR found that construction activities could result in temporary erosion impacts during construction due to ground disturbance, including site preparation, grading, and/or trenching for installation of utilities. The PWM/GWR Project Final EIR determined that potential erosion impacts would be less-than-significant due to the implementation of erosion control plans as required by local jurisdictions. Additionally, the PWM/GWR Project Final EIR also identified that standard construction practices would prevent and minimize construction-related erosion. Standard best management practices would be included in contract documents and Stormwater Pollution Prevention Plans (SWPPP) that are required pursuant to federal and state National Pollutant Discharge Elimination System (NPDES) regulations and permits for construction on one acre or more.

Construction of the Proposed Modifications would involve ground disturbing activities. All of the Proposed Modifications are identified as being within areas of moderate erosion hazard. The potential for erosion or loss of topsoil impacts is discussed in more detail below. Like the approved PWM/GWR Project, the Proposed Modifications are not anticipated to result in a significant impact
related to soil erosion during construction. Construction contractors of the Proposed Modifications would be required to adhere to standard construction practices to prevent and minimize construction-related erosion, as well as adhere to the requirements of SWPPPs that are required pursuant to federal and state NPDES regulations and permits for construction on one acre or more.

Advanced Water Purification Facility

Development at the Proposed Modifications at the approved Advanced Water Purification Facility site would not involve grading or earthmoving; thus, there would be no impacts related to erosion or loss of topsoil during construction.

Product Water Conveyance Pipeline

Development of the segments of the Product Water Conveyance Pipeline that are included in the Project Modifications consists of construction of a new pipeline. The estimated area of disturbance is 1.2 acres. Construction is estimated to result in approximately 19,000 cubic yards of trenching excavation and backfill. The entire alignment is located within an area of moderate erosion hazard. The pipeline is sited on slopped terrain. Grading and site disturbance could potentially result in significant erosion impacts. The site is located within the City of Seaside and may be subject to approval of a grading permit. Since the construction site would be greater than one acre in size, implementation of a SWPPP would be required at this site. Implementation of the SWPPP would ensure potential erosion and loss of topsoil impacts would be less-than-significant.

Injection Well Facilities

Construction of the Injection Well Facilities at the Expanded Injection Well Facilities site would consist of the relocation of two deep Injection Well Sites and the construction of an additional deep Injection Well, appurtenant facilities, and an access road. In addition, it would include the relocation of previously evaluated monitoring wells. As a result, the construction related effects associated with the relocated improvements, albeit at a new location, were previously accounted for in the existing environmental documentation. The Proposed Modifications would, however, result in the construction of one additional Well Site beyond the number previously evaluated as part of the PWM/GWR Project Final EIR. The total construction area would involve approximately 3.6 acres and 40,000 cubic yards of total earthmoving and grading (including trenching, and drilling). The site is located within an area of moderate erosion hazard. As a result, grading and site disturbance could result in erosion. These effects would be less than significant due to adherence to existing regulatory requirements related to erosion control, as well as the implementation of standard construction BMPs. The site is located within the City of Seaside and may be subject to city requirements and standards to control excavation, grading, clearing and erosion (pursuant to Chapter 15.32 of the Seaside Municipal Code). Since the construction site would be greater than one acre in size, implementation of a SWPPP would be required at this site. Implementation of the SWPPP would further ensure potential erosion and loss of topsoil impacts would be less-than-significant.

CalAm Distribution System Improvements

The CalAm Distribution System components include construction of new potable and raw water pipelines and four Extraction Wells and associated treatment facilities located within the City of Seaside. The area of disturbance for these facilities would total up to approximately 10 acres, involving approximately 50,000 cubic yards of earthmoving (including trenching and grading). The pipeline alignments and Extraction Well sites are located within an area of moderate erosion hazards. As a result, grading and site disturbance could result in erosion. Since the construction site would be greater than one acre in size, implementation of a SWPPP would be required at this

site. Implementation of the SWPPP would ensure potential erosion and loss of topsoil impacts would be less-than-significant.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Construction of the Proposed Modifications would result in comparable environmental effects as those identified in the PWM/GWR Project Final EIR. The Proposed Modifications could result in soil erosion or loss of topsoil due to ground disturbance and construction. However, implementation of standard construction BMPs, as well as compliance with state requirements for implementation of a SWPPP would ensure this impact would be less-than-significant. No mitigation measures are required.

Impact GS-2:Construction-Related Soil Collapse and Soil Constraints during
Pipeline Trenching. Construction of some Proposed Modifications
pipeline components would be located on geologic units or soils
that are unstable, or that may become unstable during project
construction, and potentially result in soil instability or collapse;
however, this exposure would not result in a substantial risk to
people or structures. (Criterion c) (Less-than-Significant)

Impact GS-2 applies to Proposed Modifications that include installation of underground pipelines located in areas with soil stability concerns.

The PWM/GWR Project Final EIR found that construction of pipelines would be in areas of unstable soil. This could cause potential soil collapse during pipeline trenching. In particular, the PWM/GWR Project Final EIR found that pipeline construction would encounter friable dune sands that have the potential to collapse in some areas. The preliminary geotechnical investigation indicated that trenching conditions can vary depending on presence/absence of cementation and/or groundwater. The PWM/GWR Project Final EIR concluded that this would represent a less-than-significant impact since all pipelines would be designed in accordance with the recommendations of site-specific geotechnical investigations prepared by a California-licensed geotechnical investigations would be prepared for each of the PWM/GWR components to inform design. Moreover, the PWM/GWR Project Final EIR also identified that all recommendations contained in the design-level investigations would be incorporated into the final design. As a result, impacts related to soil collapse during pipeline construction of the PWM/GWR Project would be less-than-significant.

Due to their similar general location, the trenching for the Product Water Conveyance Pipeline, Injection Well Facilities, and the CalAm Conveyance Pipelines could be at risk of collapse during trenching. Like the approved PWM/GWR Project, each of the Proposed Modifications would have a site-specific geotechnical investigation prepared. All recommendations prescribed in the geotechnical investigation would be applicable to the Proposed Modifications. Consistent with the findings of the PWM/GWR Project Final EIR, this analysis concludes that pipeline construction would result in a less-than-significant impact related to unstable soils and soil collapse.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings contained in the

PWM/GWR Project Final EIR, construction of the proposed pipelines could result in exposure to unstable soils due to presence of friable dune sands that may cave continuously in some areas. Construction at these sites may require temporary shoring to protect construction workers from injury due to potential soil collapse. Although there is the potential for soil collapse during pipeline trenching, compliance with the requirements of state and local agencies and professional engineering standards would ensure that this impact would be less-than-significant. No mitigation measures are required.

4.8.4.4 Operation Impacts and Mitigation Measures

Impact GS-3:Exposure to Seismic Ground Shaking and Liquefaction. The
Proposed Modifications would be located in a seismically active
area; however, operations of the Proposed Modifications would
not expose people or structures to a substantial risk of loss, injury,
or death involving exposure to seismic groundshaking and
liquefaction. (Criteria a and c) (Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR found that the approved PWM/GWR Project would be located within a seismically active region. As a result, components of the approved PWM/GWR Project could be exposed to seismic activity on any of the regional faults. The PWM/GWR Project Final EIR found that this impact would be less than significant due to adherence with local regulations, building codes, and the recommendations of site-specific, design-level geotechnical reports. For these reasons, a less-than-significant impact related to seismic groundshaking and liquefaction would result from operation of the approved PWM/GWR Project. The PWM/GWR Project Final EIR also found that broken pipelines could result in localized soil washout that could damage nearby non-project facilities; however, any such breaks would be localized and would be repaired, thus avoiding substantial adverse effects.

All of the Proposed Modifications are mapped as having a low liquefaction susceptibility, except where shallow groundwater may be present in localized low-lying areas. Dynamic settlement of loose dry sands may be a potential hazard to pipelines. Prior to construction, a more detailed geotechnical evaluation of liquefaction potential and dynamic settlement would be completed for the Proposed Modifications and all of the Proposed Modifications would be constructed in accordance with local requirements and the California Building Code. Appropriate measures to protect the public from loss, injury, or death resulting from operation of the Proposed Modifications would be developed based on the site-specific geotechnical evaluations. In comparison to above-ground structures, underground pipelines, and buried structures are generally less susceptible to liquefaction damage because they are imbedded in compacted backfill that can tolerate more seismic wave motion.

The Proposed Modifications would result in environmental effects comparable to those identified in the PWM/GWR Project Final EIR. The Proposed Modifications could potentially be at risk of liquefaction due to ground shaking. These effects would be minimized to a less-than-significant impact through the adherence to the recommendations of design-level geotechnical analyses, as well as compliance with the California Building Code.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the Proposed Modifications would be subject to seismically induced hazards during the design lifetime of the Proposed Modifications. These effects would be addressed through the compliance with the recommendations of design-level geotechnical analyses, as well as adherence with California Building Code. Therefore, the Proposed Modifications would not result in a substantial risk of loss, injury, or death from exposure to seismic ground shaking and liquefaction. This is less-than-significant impact. No mitigation measures are required.

Impact GS-4:Hydro-Collapse of Soils from Well Injection. Operation of the
Proposed Modifications would not create a substantial risk to life
or property due to its facilities being located on a geologic unit or
soils that are unstable, or that would become unstable as a result
of hydro-collapse. (Criterion c) (Less-than-Significant)

Injection Well Facilities

The PWM/GWR Project Final EIR found that operation of the Injection Well Facilities could result in hydro-collapse from water injection. This impact was considered less-than-significant due to the depth of screening in the Injection Wells. The PWM/GWR Project Final EIR identified that the vadose zone wells would be screened lower than 100 feet below ground surface (bgs) and the deep Injection Wells would be screened 500 feet bgs, and due to these depths would not create a substantial risk of hydro collapse during injection.

The Proposed Modifications to the Injection Well Facilities in the Expanded Injection Well Area are anticipated to result in impacts comparable to those identified in the PWM/GWR Project Final EIR. As identified previously, the Proposed Modifications include the relocation of two previously approved Well Sites – the environmental effects of which were previously evaluated in the PWM/GWR Project Final EIR. As a result, the effects associated with the operation of relocated Injection Wells, albeit at a new location, were previously accounted for in the existing environmental documentation. The Proposed Modifications would, however, result in the construction and operation of one additional Well Site beyond the number previously evaluated as part of the PWM/GWR Project Final EIR. The deep Injection Wells would directly replenish the confined Santa Margarita Aquifer at a depth of approximately 800 feet, which also would not be susceptible to hydro-collapse which occurs only if large quantities of water are injected into the ground in the near the surface at the site. Based on the depth to groundwater and minor groundwater mounding that is expected with the Proposed Modifications, the risk of hydro-collapse due to the injection of water into the Seaside Groundwater Basin would be less-than-significant.

Similar to the backflush basin described in the PWM/GWR Project Final EIR, the backflush basin included in the Proposed Modifications would result in a less-than-significant impact related to hydro-collapse. The backflush basin is the only Proposed Modification that would wet upper sediments, a surface depression (three to five feet water depth plus two feet free board) where water would be discharged for several hours three times per week for Injection Well maintenance (assuming one well is in standby mode during any one week). Water percolated through the basin would recharge the Paso Robles aquifer. The overall basin depth would be seven feet. The embankment of the basin would have 3:1 side slopes and 12-foot wide perimeter access road, and it would not contain structures (except a discharge pipe) or other features that would be

negatively impacted from settlement or hydro-collapse. The basin would not be located adjacent to the wells. The proposed backflush basin may cause wetting of the shallow eolian deposits. However, the backflush basin is only expected to receive pumped water for three to four hours approximately three times per week so settlement due to hydro-collapse is anticipated to be relatively minor and limited to the footprint of the backflush basin which can accommodate minor settlement. As such, the impact of hydro-collapse resulting from use of the backflush basins would be less-than-significant.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the operation of the Proposed Modifications in the Expanded Injection Well Area would not result in a significant impact due to potential hydro-collapse. The risk of hydro-collapse resulting from injection of water into the Seaside Groundwater Basin and from use of an additional backflush basin for well maintenance during operations of the Proposed Modifications would constitute a less-than-significant impact. No mitigation measures are required.

4.8.4.5 Cumulative Impacts and Mitigation Measures

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects.

Table 4.1-2 includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that the project's contribution to significant geology, soils, and seismicity impacts would not be cumulatively considerable during construction and operations. Specifically, the cumulative projects did not have additive effects within the immediate vicinity of the approved PWM/GWR Project components.

The Proposed Modifications are anticipated to result in similar seismicity impacts as the approved PWM/GWR Project. Therefore, the Project Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative geology, soils, and seismicity impacts.

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4.9 HAZARDS, HAZARDOUS MATERIALS, AND WILDFIRE

Sections	Tables	Figures
4.9.1 Introduction	4.9-1 Summary of Prior Environmental	4.9-1 Location of Groundwater Plumes
4.9.2 Environmental Setting	Review – Hazards and	4.9-2 Fire Responsibility Areas and
4.9.3 Regulatory Framework	Hazardous Materials	Hazard Zones
4.9.4 Impacts and Mitigation	4.9-2 Hazardous Materials Release	
Measures	Sites within the Vicinity of	
	Proposed Modifications	
	4.9-3 Munitions Cleanup Status for	
	Proposed Modifications	
	4.9-4 Summary of Impacts – Hazards and Hazardous Materials	
	4.9-5 Schools and Daycare Facilities	
	in the Vicinity of Project	
	Components	
	4.9-6 Chemicals to be Utilized at the	
	Advanced Water Purification	
	Facility	

4.9.1 Introduction

This section presents background information on hazards, including exposure to and release of hazardous materials associated with the Proposed Modifications; a summary of existing conditions related to hazards and hazardous materials; and a summary of the regulatory framework. The assessment of hazards and hazardous materials focuses on the following issues:

- whether the Proposed Modifications would result in, or be subject to, adverse effects related to the use, transportation, disposal, or release of hazardous materials or wastes during construction, operation, or maintenance;
- the potential for encountering hazardous substances in soil and groundwater during construction;
- potential public safety hazards associated with construction; and,
- potential hazards associated with the use of chemicals during construction and operation.

In addition, this section also includes evaluates potential wildfire hazards.¹

The effects of hazards and hazardous materials related to the PWM/GWR Project were identified in the PWM/GWR Project Final EIR Section 4.9, Hazards and Hazardous Materials (see 2015 PWM/GWR Project Final EIR Vol. 1 at pg. 4.9-1 through 4.9-54) and in the Addenda to the PWM/GWR Project Final EIR for minor modifications to the PWM/GWR Project. The Addenda did not change any of the conclusions of the Final PWM/GWR EIR. **Table 4.9-1** below summarizes the findings of the PWM/GWR Project Final EIR and Addenda.

¹ Wildfire was added to the CEQA checklist after the approval of the PWM/GWR Project Final EIR although it was briefly discussed in the PWM/GWR Project Final EIR.

Table 4.9-1

	Approved PWM/GWR Project (Overall Impact)
HH-1: Use and Disposal of Hazardous Materials during Construction	LS
HH-2: Accidental Release of Hazardous Materials During Construction	LSM
HH-3: Construction of Facilities on Known Hazardous Material Site	LS
HH-4: Use of Hazardous Materials During Construction Within 0.25-Miles of Schools	LS
HH-5: Wildland Fire Hazard During Construction	LS
HH-6: Use and Disposal of Hazardous Materials During Operation	LS
HH-7: Operation of Facilities on Known Hazardous Material Site	LS
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact Note: The PWM/GWR Project Final EIR did not include a detailed impact analysis of wil PWM/GWR Project Final EIR new significance criteria have been added to CEQA App associated impacts are discussed below in Section 4.9.4 .	dfire. Since the certification of the pendix G. These new criteria and

Summary of Prior Environmental Review – Hazards and Hazardous Materials

Comments received during the public scoping period in response to the Notice of Preparation are included in **Appendix A**. M1W received one comment on the Notice of Preparation regarding potential hazards and hazardous materials. This comment is briefly summarized below.

 The comment letter expressed concern regarding the presence of munitions chemicals at Site 39, a former training range at Fort Ord. Site 39 lies atop the Seaside aquifer; the comment specifically mentioned the potential for contamination at the Expanded Injection Well Area.

The existing groundwater quality (particularly in the Expanded Injection Well Area) and groundwater quality effects of implementation of the Proposed Modifications are addressed in detail in Section 4.10, Hydrology and Water Quality: Groundwater Resources as well as in supporting technical documentation provided in Appendix D, Groundwater Modeling Report, Appendix E, Expanded Pure Water Monterey Groundwater Replenishment Project Water Quality Statutory and Regulatory Compliance Technical Report, and Appendix H Groundwater Quality Update Technical Report.

For the purposes of this analysis, the term "hazardous materials" refers to both hazardous substances and hazardous wastes.² Under Federal and State law, materials and wastes may be considered hazardous if they are specifically listed by statute or if they are toxic, ignitable,

² The California Health and Safety Code defines a hazardous material as "a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, radioactive materials and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment" (Health and Safety Code, Sec. 25501).

corrosive, or reactive. If improperly handled, hazardous materials and wastes can cause public health hazards when released to the soil, groundwater, or air. The four basic exposure pathways through which an individual can be exposed to a chemical agent are inhalation, ingestion, bodily contact, and injection. Exposure can come as a result of an accidental release during transportation, storage, or handling of hazardous materials. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transporting soils contaminated by hazardous materials from previous spills or leaks. Public health issues related to the quality of product water from the Advanced Water Purification Facility and water supply system are addressed in **Chapter 3**, **Water Quality Statutory and Regulatory Compliance Overview**.

4.9.2 Environmental Setting

Section 4.9.2 of the PWM/GWR Project Final EIR classified the project setting as it pertains to hazards, hazardous materials, and wildfire. The environmental setting as described in the PWM/GWR Project Final EIR is generally applicable to the Proposed Modifications, as supplemented by site-specific information provided below.

4.9.2.1 Hazardous Materials in Soil and Groundwater

Section 4.9.2.1 of the PWM/GWR Project Final EIR described the character of the project area as it relates to the potential for occurrence of hazardous materials contamination in soil and groundwater. The PWM/GWR Project Final EIR identified sites with potential soil or groundwater contamination based on their historic or current use. The following discussion provides additional information concerning hazardous materials in soil and groundwater that is pertinent to the Proposed Modifications. Former and existing contaminated sites within the vicinity of the Proposed Modifications are identified in **Table 4.9-2**, **Hazardous Materials Release Sites within the Vicinity of Proposed Modifications**.

Table 4.9-2

Hazardous Materials Release Sites within the Vicinity of Proposed Modifications

Site Name/ Address	Distance from Proposed Modification	Type of Cleanup Site	Cleanup Status	Site History/Substances Released			
Advanced Water Purification Facility							
Monterey Peninsula Class III Landfill	500 feet	Land Disposal Site	Open- Operating	Non-hazardous waste has been deposited since 1966 in both unlined and lined areas of the landfill. On-going monitoring includes groundwater, surface water, leachate, and landfill gas. Groundwater flow in the 35-foot aquifer is generally to the northeast, while flow direction in the 2-foot aquifer is influenced by the Salinas River (downgradient or cross-gradient of the project area). Trace detections of volatile organic compounds (VOCs) are occasionally detected in groundwater (RMC Geoscience, Inc., 2013).			
Product Water Cor	Product Water Conveyance Pipeline						
Former Fort Ord U.S. Army Garrison	Contiguous	Superfund	See Below	In 1990, the United States Environmental Protection Agency (EPA) placed the former military base on the National Priorities List (NPL). The site contained leaking petroleum underground storage tanks, unexploded ordnance, small arms target ranges, a fire range, and a landfill (EPA, 2013). Investigations regarding the locations of munitions and explosions of concern were initiated by the U.S. Army in 1993. These investigations resulted in the delineation of Munitions Response sites and Munitions Response Areas that include approximately 12,000 acres of the former Fort Ord (U.S. Army, 2012a). Cleanup at the former Fort Ord is the responsibility of the U.S. Army, which is conducting			

mazardous materials herease sites within the vicinity of hoposed mountainfations				
Site Name/ Address	Distance from Proposed Modification	Type of Cleanup Site	Cleanup Status	Site History/Substances Released
				ordnance cleanup for 8,000 acres. Approximately 3,500 acres of the former military base is undergoing a privatized cleanup; the U.S. Army has entered into an Environmental Services Cooperative Agreement FORA for munitions and explosives of concern remediation and transfer of the remaining 3,340 acres. For details on specific sites located within the larger Fort Ord area, see entries below for Fort Ord Operable Unit (OU)1, Fort Ord OU 2 (landfill), Fort Ord Sites 2/12, and Fort Ord site OU carbon tetrachloride plume (CTP), Fort Ord Seaside Munitions Response Area (Site #39).
Injection Well Area	I			
Fort Ord Military Base Seaside Munitions Response Area (Site #39)	Co-located with project area	National Priorities List	Open- Remediation	Potential for unexploded ordnance hazards and munitions debris. See additional discussion above in Section 4.9.2.1 and below in Section 4.9.4.4 under Impact HH-3.
CalAm Distribution	System Improv	vements: Con	iveyance Pipelii	ne and Extraction Wells
Site 33 Seaside Resort Contaminated Surface Soil Remediation	0.25 miles	Voluntary Cleanup	Inactive	The Army transferred the former Fort Ord, Site 33 (golf course maintenance area, 1 McClure Way - Site 33, Seaside, CA 93955) to the City of Seaside with a Covenant to Restrict Use of Property (CRUP) which was recorded in 2004. The site was investigated under the Fort Ord Basewide Remedial Investigation and Feasibility Study (RI/FS). The CRUP required a residential use restriction to run with the deed. The current property owner, Seaside Resort Development, L.L.C., plans to conduct further site characterization and remediation to terminate the deed restriction and develop the site for residential use.

Hazardous Materials Release Sites within the Vicinity of Proposed Modifications

Table 4.9-2

Hazardous Materials Near Proposed Modifications

The majority of the Proposed Modifications are located within the boundaries of or adjacent to the former Fort Ord. Due to its historic used as a military training facility, the former Fort Ord contains various hazards and hazardous materials. When the Army closed the military base in 1991, the former Fort Ord contained leaking petroleum underground storage tanks, unexploded ordnance, small arms target ranges, a fire range, and a landfill (EPA, 2013). Cleanup at the former Fort Ord is the responsibility of the U.S. Army, which is conducting ordnance cleanup for 8,000 acres. Approximately 3,500 acres of the site is undergoing a privatized cleanup; the U.S. Army has entered into an Environmental Services Cooperative Agreement (ESCA) with FORA for remediation of munitions and explosives of concern and transfer of the remaining 3,340 acres. FORA and their contractors are working with regulatory agencies including the Department of Toxic Substances Control (DTSC) and the EPA to conduct munitions remediation activities, scheduled for completion by the end of 2019.

The Expanded Injection Well area is located east of General Jim Moore Boulevard and south of Eucalyptus Road. This is part of an area that has been designated as Site 39 (see **Figure 4.9-1**). Site 39 contained at least 28 ranges that were used for small arms and high explosive ordnance training using rockets, artillery, mortars and grenade. Expended and unexploded ordnance have been documented in various areas of Site 39.

Proposed Modifications Groundwater Contamination Plumes as of June 2016 2/12 PCE Upper 180-foor Aquifer OU2 TCE A-Aquifer OU2 TCE Upper 180-foot Aquifer OUCTP A-Aquifer OUCTP Lower 180-foot Aquifer OUCTP Upper 180-foot Aquifer	Advanced Water Purification Facility	
CalAm Extraction Wells	Product Water Conveyance Pipeline	
CalAm Conveyance Pipeline	Expanded Injection Well Area	N
0 1.25 2.5	5 Miles	
Location of Groundwater Plumes	Expanded PWM/GWR Project Supplemental EIR	Figure 4.9-1

Existing Groundwater Quality at the Injection Well Area

The PWM/GWR Project Final EIR included a detailed analysis to determine the groundwater quality at the Injection Well Facilities site. The Expanded Injection Well Area is adjacent to the Injection Well Facilities site and the information presented in the PWM/GWR Project Final EIR is considered applicable to the proposed Expanded Injection Well Area. The following discussion briefly summarizes the information contained in the PWM/GWR Project Final EIR to provide context and facilitate review of the Proposed Modifications.

As identified in the PWM/GWR Project Final EIR, organic compounds have been found in the groundwater beneath the former Fort Ord, specifically, in areas lying in groundwater below the land. Groundwater sampling performed for the U.S. Army clean-up activities at the former Fort Ord found trichloroethylene (TCE) in the vicinity of the former Fritzsche Army Airfield Fire Drill Area (now referred to at operable unit 1 or OU-1) and the former Fort Ord landfill (now referred to as operable unit 2 or OU-2). These two remediation sites have undergone considerable investigation and remediation, including continued operation of groundwater treatment systems. These sites are over 1.7 miles northeast of the Expanded Injection Well Area and more than one mile north of the boundary of the Seaside Groundwater Plumes shows the location of the groundwater plumes with respect to the approved PWM/GWR Project's Product Water Conveyance pipelines and approved Injection Well Facilities. **Figure 4.9-1** shows the location of contaminated groundwater plumes relative to the Proposed Modifications. A more detailed description of the groundwater quality at the former Fort Ord can be found in Section 4.9.2.1 of the PWM/GWR Project Final EIR.

With the exception of the Advanced Water Purification Facility, all of the Proposed Modifications are located within the former Fort Ord. As described above, there is the potential for soil and groundwater contamination at the former Fort Ord. Fort Ord's environmental cleanup program is complex and wide-ranging. The major issues are groundwater contamination, a landfill, soil contamination, and military munitions and the associated prescribed burns conducted to prepare areas for munitions cleanup. The Army has completed many investigations and cleanup actions and transferred much of the property to the identified jurisdictions. Considerable progress has been made toward completing the cleanup; however, additional work remains to be done. The parcels where the Proposed Modifications are located are categorized into different categories based on their transfer status. **Table 4-9-3** below provides a summary of the cleanup status at each of the Proposed Modifications sites.

Component	Parcel Number	Parcel Name	Transfer Status	Environmental Site	Munitions Response Site	Cleanup Status
Advanced Water Purification Facility	NA	NA	NA	NA	NA	NA
Product Water Conveyance Pipeline	E18.1.1	Veterans Cemetery	Transferred to FORA	None	portions of MRS-50 and MRS-44EDC	Land Use Controls Required
	E18.1.2	Habitat Management	Transferred to FORA	None	MRS-27Y; MRS-66; MRS- 45	No further action required
	E20c.2.2	Water Tanks / pumps	Transferred to City of Seaside	None	None	NA
	L20.18	ROW / Eucalyptus Road	Transferred to FORA	None	MRS MOCO 02; MRS- 44PBC	Land Use Controls Required

Table 4.9-3

Munitions Cleanup Status for Proposed Modifications

Multions Cleanup Status for r loposed Mounications						
Component	Parcel Number	Parcel Name	Transfer Status	Environmental Site	Munitions Response Site	Cleanup Status
Injection Well Area	E23.2	ROW / Housing future Singe Family Dwelling medium	Transferred to City of Seaside	RI 39	MRS SEA 04; MRS SEA 03; MRS MOCO 02; MRS BLM	Land Use Controls Required
Extraction Wells 1 and 2	L7.5	School Fitch Middle	Transferred to City of Seaside	None	None	NA
Extraction Wells 3 and 4	F2.3	Commercial area / Fitch Housing / Marshall Housing	Retained	IA 10	MRS-49; MRS- 50	Land Use Controls Required
CalAm Conveyance Pipelines	F2.3	Commercial area / Fitch Housing / Marshall Housing	Retained	IA 10	MRS-49; MRS- 50	Land Use Controls Required
	E20c.1.3	ROW / Gen. Jim Moore Blvd.	Transferred to City of Seaside	None	MRS SEA 03; MRS SEA 02	Land Use Controls Required
Source: Fort Ord Cleanup we	ebsite; Parcel	Search Tool htt	ps://fortordclean	up.com/parcel-sea	rch-tool/	

Table 4.9-3		
Munitions Cleanup Status	for Proposed	Modifications

4.9.2.2 Airports

Section 4.9.2.2 of the PWM/GWR Project Final EIR identified airports in the vicinity of the PWM/GWR Project. Figure 4.9-1 of the PWM/GWR Project Final EIR shows the location of the Monterey Regional Airport and the Marina Municipal Airport. The Proposed Modifications are not located in the vicinities of either the Monterey Regional Airport or the Marina Municipal Airport.

4.9.2.3 Fire Hazards and Wildfire

Section 4.9.2.3 of the PWM/GWR Project Final EIR described fire hazards, including fire threat in wildland urban interface zones. Figure 4.9-4, Fire Hazard Responsibility Zones from the PWM/GWR Project Final EIR shows the designated State Responsibility Areas (SRAs) and the local or Federal Responsibility Areas within the area of the approved PWM/GWR Project. The description contained in the PWM/GWR Project Final EIR regarding potential fire hazards, including fire hazards within the former Fort Ord, as well as information regarding local and SRAs is applicable to the Proposed Modifications. The following discussion below provides supplemental information regarding fire hazards specific to the Proposed Modifications.

All of the Proposed Modifications are located in a local Responsibility Area and are not within the vicinity of an SRA. Portions of the former Fort Ord within the vicinity of the Proposed Modifications are classified as Very High Fire Hazard Severity Zone. Specifically, the Product Water Conveyance Pipeline, Expanded Injection Well Area, and the CalAm Distribution System Improvements are located in a Very High Fire Hazard Severity Zone as designated by Cal Fire. See **Figure 4.9-2 Fire Responsibility Areas and Hazard Zones**.



4.9.3 Regulatory Framework

4.9.3.1 Federal

Section 4.9.3.1 of the PWM/GWR Project Final EIR and Addenda describe Federal regulations related to hazards, hazardous materials, and wildfire. There have been no relevant changes to these regulations.

4.9.3.2 State

Section 4.9.3.2 of the PWM/GWR Project Final EIR and Addenda describe State regulations related to hazards, hazardous materials, and wildfire. There have been no relevant changes to these regulations.

4.9.3.3 Regional and Local

Section 4.9.3.3 of the PWM/GWR Project Final EIR and Addenda describe regional and local land use regulations related to hazards, hazardous materials, and wildfire. Moreover, see also Table 4.9-3, Applicable State, Regional and Local Land Use Plans and Policies Relevant to Hazards and Hazardous Materials contained in the PWM/GWR EIR for more information. There have been no relevant changes to these regulations, plans or policies.

4.9.4 Impacts and Mitigation Measures

4.9.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, a project would have a significant impact relating to hazards and hazardous materials if it would:

- a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Sec. 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or,
- g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Based on Appendix G of the CEQA Guidelines, the Proposed Modifications would have a significant impact relating to wildfire if there would be located in or near SRAs or lands classified as very high fire hazard severity zones if it would:

- h. Substantially impair an adopted emergency response plan or emergency evacuation plan;
- i. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- j. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or,
- k. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the SRF Loan Program administered by the SWRCB.

4.9.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

This impact analysis addresses the potential to encounter hazardous substances in soil and groundwater during construction and/or operation, as well as potential use and disposal of hazardous materials or waste during operation and maintenance of the Proposed Modifications. The above significance criteria are assessed in this section as the basis for determining the significance of impacts related to hazards and hazardous materials. If necessary, mitigation measures are proposed to reduce significant impacts to less-than-significant. Impacts are analyzed for all Proposed Modifications for both construction and operation/maintenance.

The evaluation is based on review of hazardous materials use or release sites databases, the types of chemicals and hazardous materials that may be used during construction or operation of the Proposed Modifications, and the location of the project area in relationship to schools, airports, and fire hazard zones. In addition, groundwater sampling, testing, and modeling was conducted for the approved PWM/GWR Project to determine whether groundwater would be impaired as a result of the Proposed Modifications (see **Appendix D**). Each potential impact is assessed in terms of the applicable regulatory requirements, such as mandatory compliance with various Federal, State, and local regulations that would serve to prevent significant impacts from occurring.

To evaluate wildfire impacts, M1W reviewed maps from Cal Fire, the Monterey County General Plan, and City of Seaside General Plan to determine the established risk level at each of the Proposed Modifications. Based on the location and existing conditions at each of the Proposed Modifications, this impact analysis addresses factors that could expose people or structures to fire or post-fire flooding or landslides, risk or impair emergency response, or require installation of infrastructure that could exacerbate fire risk.

Areas of No Project Impact

Some of the significance criteria outlined above are not applicable to the Proposed Modifications, or the Proposed Modifications would not otherwise result in impacts related to these criteria, as explained below. Impact analyses related to the other criteria are addressed below under Sections 4.9.4.3 (Construction Impacts), 4.9.4.4 (Operational Impacts), and 4.9.4.5 (Cumulative Impacts).

The following criteria are not applicable to some or all the Proposed Modifications during construction or the Proposed Modifications would result in no impacts during construction:

(e) Location Near Airport. The Proposed Modifications do not entail the construction of habitable structures that would result in a safety hazard or excessive noise for people residing in or working within the vicinity of the Monterey Regional Airport or the Marina Municipal Airport. In addition, the only modification within 2 miles of an airport is the CalAm Conveyance Pipelines, which would be below ground and would not constitute a potential hazard. The Proposed Modifications would not result in a safety hazard during construction due to its proximity to an airport.

(*f and h*) *Impair Emergency Access*. The Monterey County Emergency Operations Plan provides an overview of agency roles and responsibilities during emergencies (Monterey County Office of Emergency Services, 2014). Project construction would not interfere with the designated agency responsibilities and reporting in the event of an emergency, and no impact would result.

(*k*) *Expose people or structures to risks in a post-wildfire environment.* Construction of the Proposed Modifications would be temporary in nature and would not exacerbate risks to the public or to structures resulting from downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The Proposed Modification sites are not located in areas that are susceptible to flooding or landslides.

The following criteria are not applicable to some or all the Proposed Modifications during operation or the Proposed Modifications would result in no impacts during operation:

(c) Hazardous Emissions Near Schools. Operation of the Proposed Modifications would not result in hazardous emissions within 0.25 miles of an existing or proposed school. Extraction Wells 1 and 2 would be located at the Seaside Middle School site, directly to the north of the sports fields. Operation would not result in the exposure of sensitive receptors, including students and facility at the Seaside Middle School, to hazardous emissions. No hazardous emissions are associated with the operation of the proposed Extraction Wells.

(e) Location Near Airport. The Proposed Modifications do not entail the operation of habitable structures that would result in a safety hazard or excessive noise for people residing in or working within the vicinity of the Monterey Regional Airport or the Marina Municipal Airport. In addition, the only component within 2 miles of an airport is the CalAm Conveyance Pipelines, which would be below ground and would not constitute a potential hazard for the purposes of this Draft Supplemental EIR. The Proposed Modifications would not result in a safety hazard during operations due to its proximity to an airport.

(*f and h*) *Impair Emergency Access*. The Monterey County Emergency Operations Plan provides an overview of agency roles and responsibilities during emergencies (Monterey County Office of Emergency Services, 2014). None of the aboveground modifications would be located in a roadway, therefore, they would not impede access for emergency

response vehicles, measures to avoid interference with emergency access are addressed in **Section 4.17, Traffic and Transportation**.

(*g and i*) *Wildland Fire Hazard*. The Proposed Modifications would not increase the risk of wildland fire during operations. Operation of the Proposed Modifications would not introduce potentially flammable activities in fire-prone areas. Potential impacts from project construction are discussed below.

(*k*) *Expose people or structures to risks in a post-wildfire environment.* Operation of the Proposed Modifications would not exacerbate risks to the public to structures resulting from downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The Proposed Modification sites are not in located in areas that are susceptible to flooding or landslides.

Summary of Impacts

Table 4.9-4

Table 4.9-4, Summary of Impacts – Hazards, Hazardous Materials, and Wildfire provides a summary of potential impacts related to hazards and hazardous materials, and significance determinations at each Proposed Modifications component site.

	llity	ine		CalAm Distribution System		
Impact Title	Advanced Water Purification Faci	Product Water Conveyance Pipeli	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipeline	Proposed Modifications Overall
HH-1: Use and Disposal of Hazardous Materials during Construction	LS	LS	LS	LS	LS	LS
HH-2: Accidental Release of Hazardous Materials During Construction	LS	LS	LS	LS	LS	LS
HH-3: Construction of Facilities on Known Hazardous Material Site	LS	LS	LS	LS	LS	LS
HH-4: Use of Hazardous Materials During Construction Within 0.25-Miles of Schools	LS	LS	LS	LS	LS	LS
HH-5: Wildland Fire Hazard During Construction	LS	LS	LS	LS	LS	LS
HH-6: Use and Disposal of Hazardous Materials During Operation	LS	LS	LS	LS	LS	LS
HH-7: Operation of Facilities on Known Hazardous Material Site	LS	LS	LS	LS	LS	LS
Cumulative Impacts	LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to construction or operational cumulative impacts related to hazards or hazardous materials.					
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact						

Summary of Impacts - Hazards, Hazardous Materials, and Wildfire

4.9.4.3 Construction Impacts

Impact HH-1:Use and Disposal of Hazardous Materials During Construction.
Construction of the Proposed Modifications would not create a
significant hazard to the public or the environment through the
routine transport, use, or disposal of hazardous materials during
construction. (Criterion a) (Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR found that the approved PWM/GWR Project would have a lessthan-significant impact related to the use and transport of hazardous materials because project contractors would comply with existing regulations imposed by the California Department of Transportation and the California Highway Patrol. The California Highway Patrol regulates container types and packaging requirements as well as licensing and training for truck operators, chemical handlers, and hazardous waste haulers. All vendors must comply with existing and future hazardous materials laws and regulations for the use and transport of hazardous materials; therefore, the risk of accidental releases of hazardous materials during normal (routine) transport operations would not constitute a significant hazard.

The Proposed Modifications would result in impacts comparable to those disclosed in the PWM/GWR Project Final EIR and as such would be addressed through compliance with existing regulatory requirements covering the transport, use, and disposal of hazardous materials. The impacts associated with the potential to create a significant hazard to the public or the environment would be less-than-significant.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified construction significant impacts related to hazards. Construction of the Proposed Modifications would result in a less-than-significant impact due to the routine transport, use, or disposal of hazardous materials during construction. No mitigation measures would be required.

Impact HH-2:Accidental Release of Hazardous Materials During Construction.
Construction of the Proposed Modifications would not create a
significant hazard due to upset and accident conditions involving
the release of hazardous materials into the environment. (Criterion
b) (Less-than-Significant)

The PWM/GWR EIR found that construction of the approved PWM/GWR Project would have a significant impact related to accidental release of hazardous materials. Construction could result in the accidental release of small quantities of hazardous materials, which could pose a risk to construction workers and the environment, such as degradation of soil and groundwater quality and/or surface water quality. This impact would be reduced to a less-than-significant impact with the implementation of Mitigation Measures HH-2a (Environmental Site Assessment), HH-2b (Health and Safety Plan), and HH-2c (Materials and Dewatering Disposal Plan).

The general construction methods described in the PWM/GWR Project Final EIR for the approved PWM/GWR Project would remain the same in the Proposed Modifications. Consistent with the analysis contained in the PWM/GWR Project Final EIR, the Proposed Modifications could cause the two types of releases that could occur during construction: 1) the accidental release of hazardous materials that are routinely used during construction activities; and, 2) the potential for construction activities to encounter and excavate contaminated soil or groundwater that are already present at the construction site and thus release it to expose new receptors to the hazard.

The first type of potential release of hazardous materials results from the accidental release of hazardous materials into the environment. The PWM/GWR Project EIR found that although construction of the approved PWM/GWR Project could result in the accidental release of small quantities of hazardous materials, which could pose a risk to construction workers and the environment, through compliance with applicable hazardous materials storage and stormwater permitting regulations, the impacts from potential releases of hazardous materials or petroleum products during construction would be less-than-significant.

The second type of potential release of hazardous materials into the environment when construction was the potential to encounter existing contamination at the site. Properties with known soil and/or groundwater contamination are referred to as "hazardous materials release sites," as identified in **Table 4.9-1**, **Hazardous Materials Release Sites Identified within Vicinity of Project Modifications**. The greatest potential for encountering contaminated soil and groundwater during construction would be in areas where past or current land uses have resulted in leaking fuel or chemical storage tanks or other releases of hazardous materials. Four environmental cases were identified, pursuant to Government Code Sec. 65962.5 that may have potentially affected soil or subsurface conditions at project sites. Encountering unanticipated soil or groundwater contamination could expose construction workers, the public, or the environment to hazardous conditions. This represents a potentially significant impact. Potential impacts associated with encountering hazardous materials and/or military munitions (or unexploded ordnance) at Fort Ord are discussed separately under Impact HH-3.

The potential for construction at each component to encounter contaminated soil or groundwater is discussed below.

Advanced Water Purification Facility

The PWM/GWR EIR found that there is no known contamination where construction would occur at the Regional Treatment Plant and that construction of the Advanced Water Purification Facility would have a less-than-significant impact due to the potential for release of hazardous materials into the environment. The Proposed Modifications to the Advanced Water Purification Facility are located in the same area analyzed in the PWM/GWR EIR. No contamination has been identified since that time and therefore, this Proposed Modification would also have a less-than-significant impact.

Product Water Conveyance Pipeline

The PWM/GWR Project Final EIR found that construction of the Product Water Conveyance Pipeline would result in a significant impact due to the potential for hazardous materials to be released into the environment. There were several locations along the Product Water Conveyance Pipeline options analyzed in the PWM/GWR Project Final EIR that were identified as having soil and/or groundwater contamination, which could potentially impact subsurface conditions at these locations. Soil disturbance during construction could further disperse existing contamination into the environment and expose construction workers and the public to contaminants. The PWM/GWR Project Final EIR determined that this potentially significant impact could be reduced to less-than-significant levels through the implementation of Mitigation Measures HH-2a (Environmental Site Assessment), HH-2b (Health and Safety Plan), and HH-2c (Materials and Dewatering Disposal Plan).

The new Product Water Conveyance Pipeline segments evaluated in this Draft Supplemental EIR, while located on the former Fort Ord, are not within the vicinity of any other known sites with groundwater or soil contamination. This Proposed Modification component would have a less-than-significant impact related to the potential for release of hazardous materials into the environment. No mitigation measures would be applicable to this modification. Potential hazards related to former military use in connection with unexploded ordinance along the Product Water Conveyance Pipeline is discussed in Impact HH-3 below.

Injection Well Facilities

The PWM/GWR Project Final EIR found that soil disturbance during construction could disperse unknown contaminants at the Injection Well Facilities site due to proximity to identified contamination sites. Existing contamination could expose construction workers and the public to potential hazards. The PWM/GWR Project Final EIR found this to be a less-than-significant impact.

The PWM/GWR Project Final EIR also identified that sites OU 1, OU 2, OUCTP, and 2/12 discussed above are ongoing remediation sites within the former Fort Ord. All of these sites are outside of the Seaside Groundwater Basin and were not found to be a threat to groundwater in the area of the PWM/GWR Project or to construction workers employed to build the project. The PWM/GWR Project Final EIR also identified environmental sites, including numerous leaking underground storage tank sites. It found that none of the other environmental sites were located in the area of the PWM/GWR Project and thus none of these would result in release of hazardous materials due to construction of the approved Injection Well Facilities.

Similar to the approved Injection Well Facilities, the Expanded Injection Well Area is located over two miles south of these existing documented plumes. In addition, this modification and the contamination plumes are separated by a groundwater flow divide that forms a hydrogeologic boundary between the Seaside and Salinas Valley Groundwater Basins. Geotracker identified two adjacent sites on the former Fort Ord lands as gasoline contamination sites: (1) the 14th Engineers Motor Pool and (2) Building 511. These active sites are currently undergoing investigations and cleanup and are located about 1.8 miles northeast of the Injection Well Facilities site (1.5 miles northeast of the Expanded Injection Well Area). Both sites are outside of the Seaside Groundwater Basin and are not a threat to groundwater quality in the Proposed Project area. This represents a less-than-significant impact. No mitigation is warranted for this modification.

CalAm Distribution System Improvements

Extraction Wells

There are no known contamination sites within the vicinity of the Extraction Wells. There is a low potential for CalAm or their contractors to encounter contamination during clearing or excavation activities related to the construction of the Extraction Wells. Impacts related to the potential to encounter unexploded ordinance at EW- 3 and EW-4 is discussed below in Impact HH-3. Hazardous materials used during construction would be handled in accordance with all applicable regulations. This represents a less-than-significant impact. No mitigation is warranted for this modification.

CalAm Conveyance Pipelines

The PWM/GWR EIR found that construction of CalAm Conveyance Pipelines (e.g., Monterey Pipeline) could result in a significant impact due to the potential for contaminated soil and groundwater to be released into the environment during project construction. The PWM/GWR Project determined that this impact could be reduced to a less-than-significant level with the implementation of Mitigation Measures HH-2a, HH-2b, and HH-2c.

Unlike the previously analyzed CalAm Distribution System Improvements, there is only one location within 0.25 miles of the CalAm Conveyance Pipeline and EW-1 with the potential for soil contamination. This site (Site 33 Seaside Resort Contaminated Surface Soil Remediation) does not extend into the CalAm Conveyance Pipeline alignment. Soil disturbance during construction would not disperse contamination into the environment. This represents a less-than-significant impact. No mitigation is warranted for this modification.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of PWM/GWR Project Final EIR, construction of the Proposed Modifications would not result in a significant impact related to the accidental release of hazardous materials during construction; therefore, no mitigation is necessary.

Impact HH-3:Construction of Facilities on Known Hazardous Materials Site.
Construction of the Proposed Modifications would occur on a
known hazardous materials site pursuant to Government Code
Sec. 65962.5; however, the Proposed Modifications would not
result in a significant hazard to people or the environment.
(Criterion d) (Less-than-Significant)

The Advanced Water Purification Facility is not located on the former Fort Ord and therefore is not addressed in the discussion below. All of the Extraction Wells are located on the former Fort Ord. According to the Fort Ord Cleanup Parcel Search Tool, the parcel that contains the Extraction Wells 1 and 2 (parcel L.7.5) does not include any munitions response sites or other environmental sites. The parcel that contains EW-3 and EW-4 (F2.3) does contain the munitions response sites MRS-49 and MRS-50. However, these sites are not in the same location as the EW-3 and EW-4 site. As a result, these modifications are excluded from further discussion.

Remaining Modifications

The PWM/GWR Project Final EIR found that a less-than-significant impact would result from exposure to unexploded ordinance. Although some of the approved PWM/GWR Project components were located on the former Fort Ord, which is a designated superfund site, adherence with land use controls imposed by the City of Seaside, Ford Ord Reuse Authority, and the Army would ensure that the impact is less-than-significant.

As shown in **Table 4-9-2**, the Product Water Conveyance Pipeline, Expanded Injection Well Area, and the CalAm Conveyance Pipelines would be located within the former Fort Ord Seaside Munitions Response Area and the Parker Flats Munitions Response Area. These areas require ongoing Land Use Controls to protect the public from potential hazards due to unexploded ordinance. These are known hazardous materials sites that are identified on the National Priorities List (see **Table 4.9-1**). As identified in the PWM/GWR Project Final EIR, construction

within the former Fort Ord could result in exposure to various organic substances, metals, and petroleum products. Soil disturbance during construction could further disperse existing contamination into the environment and expose construction workers or the public to contaminants.

The SWRCB's EnviroStor and Geotracker listed the 28,016-acre Fort Ord Military Reservation as an active Federal Superfund site and listed munitions as the contaminant of primary concern. Additionally, Geotracker identified two adjacent sites on the former Fort Ord lands as gasoline contamination sites: 1) the 14th Engineers Motor Pool; and, 2) Building 511. These are active sites currently undergoing investigations and are located about 1.5 miles to the north and east. However, both sites are outside of the Seaside Groundwater Basin and are not a threat to groundwater; the public and/or environment would not be exposed to any risks during construction of the Product Water Conveyance Pipeline, Injection Well Facilities, or the CalAm Conveyance Pipelines.

Consistent with the findings of the PWM/GWR Project Final EIR, construction activities within this area have the potential to encounter unexploded ordnance which, if not identified and properly handled, could cause injury or death to construction workers. While site remediation activities have been completed by the Army and their contractors, there is still the potential for previously undiscovered ordnances to be encountered during construction. These potential effects would be addressed through the compliance with FORA's existing Right-of-Entry process. In addition to complying with FORA's Right-of-Entry process, M1W and its contractors must comply with the City of Seaside Municipal Code Chapter 15.34 (i.e., the "Ordnance Remediation District Regulations of the City" in Ordinance 924), and the County of Monterey Code or Ordinance Chapter 16.10.050 (Permit Requirements for Digging and Excavation on the former Fort Ord). These ordinances establish special standards and procedures for digging and excavation on properties in the former Fort Ord which are suspected of containing ordnance and explosives (also called munitions and explosives of concern).

Ordinance 924 requires that a permit be obtained from the City of Seaside for any excavation, digging, development, or ground disturbance of any type involving the displacement of ten cubic yards or more of soil. The permit requirements include providing each site worker a copy of the Ordnance and Explosives Safety Alert; complying with all requirements placed on the property by an agreement between the City, FORA, and DTSC; obtaining ordnance and explosives construction support; ceasing soil disturbance activities upon discovery of suspected ordnance and notifying the Seaside Police department, the Presidio law enforcement, the Army and DTSC; coordinating appropriate response actions with the Army and DTSC; and reporting of project findings. Compliance with existing regulations for construction work at the former Fort Ord would reduce the potential impact of encountering unexploded ordnance during construction to less-than-significant.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, compliance with existing regulations for construction work at the former Fort Ord would reduce the potential impact of encountering unexploded ordnance by construction workers to less-than-significant. Therefore, the Proposed Modifications would have no significant impact associated with the siting of these facilities on a known hazardous materials site and no mitigation measures would be required.

Impact HH-4:Use of Hazardous Materials During Construction Within 0.25-
Miles of Schools. Construction of the Proposed Modifications
would not result in nor create a significant hazard to the public or
the environment due to handling of hazardous materials or
hazardous emissions within 0.25 mile of a school during
construction. (Criterion c) (Less-than-Significant)

All Modifications

The PWM/GWR Project Final EIR found that the approved PWM/GWR Project would have a lessthan-significant impact related to the handling of hazardous materials or hazardous emissions within 0.25 mile of a school during construction. Materials typically used for construction, are not acutely hazardous, and would be used in small quantities. Numerous laws and regulations ensure the safe transportation, use, storage, and disposal of hazardous materials. Hazardous materials storage and stormwater permitting requirements would impose performance standards on the construction activities that would ensure the risk of release of hazardous materials during construction would be low.

There is one school located within 0.25 miles of the Project Modifications, see **Table 4.9-5** below. Similar to the PWM/GWR Project, the Proposed Modifications would use relatively small amounts of hazardous materials during construction. The hazardous materials storage and stormwater permitting requirements discussed under Impact HH-1, above, impose performance standards on the construction activities that would ensure the risk of release of hazardous materials during construction would be low. Therefore, this constitutes a less-than-significant impact.

Project Component	Schools within 0.25-Mile of Project Components
	Schools
Advanced Water Purification	None
Facilities	Daycare Facilities
	None
	Schools
Product Water Conveyance	None
Pipeline	Daycare Facilities
	None
	Schools
Injection Wall Excilition	None
Injection went achities	Daycare Facilities
	None
	Schools
Extraction Wolls 1 and 2	Seaside Middle School, 999 Coe Ave, Seaside, CA 93955
	Daycare Facilities
	None
	Schools
Extraction Walls 2 and 4	None
Extraction Wells 5 and 4	Daycare Facilities
	None
	Schools
CalAm Canyovanaa Binalinaa	Seaside Middle School, 999 Coe Ave, Seaside, CA 93955
CalAm Conveyance Pipelines	Daycare Facilities
	None

Table 4.9-5

Schools and Daycare Facilities in th	he Vicinity of Project Components
Schools and Daycare Lacinties in th	ine vicinity of Flojeet Components

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of PWM/GWR Project Final EIR, construction of the Proposed Modifications would not result in a significant impact related to the handling of hazardous materials or emitting hazardous emissions within 0.25 mile of a school; therefore, no mitigation is necessary.

Impact HH-5: <u>Wildland Fire Hazard during Construction</u>. Construction of the Proposed Modifications would not increase the risk of wildland fires in high fire hazard areas. (Criteria g, i, and j) (Less-than-Significant)

The CEQA Guidelines were updated in 2018 to address potential hazards due to wildfires. As a result, the PWM/GWR Project Final EIR generally considered potential wildland fire hazards but did not devote a separate significance criterion to this topic. The discussion below addresses the updates that were made to the CEQA Guidelines.

All Proposed Modifications

The PWM/GWR Project Final EIR found that some of the approved PWM/GWR Project components would be located near areas that are designated as Very High Fire Hazard areas. The construction contractor must comply with regulations that minimize fire risk. Regulations governing the use of construction equipment in fire prone areas are designed to minimize the risk of wildland fires during construction activity. These regulations restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided onsite for various types of work in fire prone areas. The construction contractor must comply with the Public Resources Code and any additional requirements imposed by Cal Fire, and the local fire protection departments; therefore, potential impacts related to wildland fires due to construction activities would be less-than-significant.

Similar to the approved PWM/GWR Project, some of the Proposed Modifications are located in fire prone areas and are designated as Very High Fire Hazard areas. Construction of the Proposed Modifications would result in similar impacts as the approved PWM/GWR Project. Compliance with existing regulations would ensure that impacts related to wildland fire would be less-than-significant.

The Proposed Modifications would include construction of access roads and electrical facilities (proposed below ground and within buildings on site) near fire prone areas. Specifically, the Expanded Injection Well Area and the Extraction Well sites would include the construction of access roads and electrical buildings to support the new facilities at those sites. M1W and their construction contractors would be required to comply with all applicable safety regulations including the California Fire Code.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Although construction of the Proposed Modifications would include the installation of access roads and electrical buildings, all safety requirements would be followed and there would not be an increase in the potential for wildfire

risk at the Proposed Modification Sites. Consistent with the findings of the PWM/GWR Project Final EIR, construction of the Proposed Modifications would not result in a significant impact from the increase of risk of wildland fires during construction in high fire hazard areas; therefore, mitigation measures would not be required.

4.9.4.4 Operation Impacts

Impact HH-6:Use and Disposal of Hazardous Materials During Operation.
Operations of the Proposed Modifications would not create a
significant hazard to the public or the environment through the
routine transport, use, or disposal of hazardous materials.
(Criterion a) (Less-than-Significant)

The operation of the Product Water Conveyance Pipeline and the CalAm Conveyance Pipelines would not result in the routine storage or use of hazardous materials, except for a very small amount of fuel and lubricants. As a result, the potential impacts associated with these facilities would be negligible. This represents a less-than-significant impact and these facilities are not evaluated further. The following section specifically evaluates the potential hazardous materials impact associated with the Proposed Modifications that would entail the routine use or storage of hazardous materials

Advanced Water Purification Facility

The Proposed Modifications would involve the storage and use of hazardous materials. The types and amounts of chemicals that would be utilized at the Advanced Water Purification Facility are listed in **Table 4.9-6**, **Chemicals to be Utilized at the Advanced Water Purification Facility**. Bulk storage of these chemicals would be located in tanks within the Regional Treatment Plant site.

Table 4.9-6

Chemicals to be Utilized at the Advanced Water Purification Facility (7.6 mgd peak plant capacity for 5,950 AFY yield of purified recycled water production)

Chemical	Application	Average Annual Usage (dry pounds)
Sodium Hypochlorite (as Cl ₂)	Ozone Feed	525,046
Liquid Oxygen (LOX)	Ozone Feed	4,262,247
Sodium Bisulfite	Ozone Effluent	207,628
Sodium Hydroxide	MF Cleaning	108,426
Sulfuric Acid	MF Cleaning /Reverse Osmosis Feed	4,085,546
Threshold inhibitor	Reverse Osmosis Feed	65,877
Hydrogen Peroxide	UV/AOP Feed	62.254
Ammonium Sulfate (as N)	Product Water	33,350
Slurry of Hydrated Lime (as Ca(OH) ₂)	Product Water	800,409
RO high-pH cleaning chemical	Reverse Osmosis Cleaning	9,397

Table 4.9-6Chemicals to be Utilized at the Advanced Water Purification Facility (7.6 mgd peakplant capacity for 5,950 AFY yield of purified recycled water production)

Chemical	Application	Average Annual Usage (dry pounds)	
RO low-pH cleaning chemical	Reverse Osmosis Cleaning	9,451	
Ferric Chloride	Waste Equalization Basin	35,574	
Note: Average annual usage based on scaling the actual specifications and needs for the base project average to the doses needed for building reserve scenario flow scenario (5,950 AFY production). Biologically Active Filtration would require additional chemicals not included in this table. Source: Trussell Technologies, July 2019.			

The PWM/GWR Project Final EIR found that the potential for environmental impacts due to the accidental release of hazardous materials associated with operation of the Advanced Water Purification Facility would be less-than-significant

The PWM/GWR Project Final EIR stated that although the Advanced Water Purification Facility would require chemical deliveries and could indirectly result in an incremental increase in the potential for accidents, that compliance with Department of Transportation and the California Highway Patrol regulations would lessen these risks. In addition, the chemical storage and handling systems at the Advanced Water Purification Facility would be designed and constructed in accordance with specific requirements for the safe storage and handling of hazardous materials set forth in the Uniform Fire Code, Article 80, which would reduce the potential for a release of hazardous materials that could pose a public health or water quality risk. M1W is also required to submit a Hazardous Materials Business Plan (or a revised version) to the Monterey County Environmental Health through the California Environmental Reporting system (CERS) prior to the start of project operations. The PWM/GWR Project Final EIR concluded that compliance with existing State and Federal regulations described above would ensure impacts due to the accidental release of hazardous materials associated with project operations is less-than-significant, and therefore, no mitigation measures are necessary.

Like the hazards associated with the Advanced Water Purification Facility described in the PWM/GWR Project Final EIR, the Proposed Modifications to the Advanced Water Purification Facility could also increase the potential for accidental release of hazardous materials. Compliance with all applicable laws and regulations described above would ensure that a less-than-significant impact would result from the routine transport, use, or disposal of hazardous materials.

Injection Well Facilities

The PWM/GWR Project Final EIR described how typical maintenance activities at the Expanded Injection Well Facilities site would require the use of several of the same vehicles and equipment used during construction and that petroleum products could be utilized to fuel and maintain maintenance vehicles and equipment. Although conditions could result in inadvertent releases of small quantities of these hazardous materials, compliance with the various regulations regarding the safe transport, use, and storage of hazardous materials would ensure this impact is less-than-significant.

Consistent with the analysis for the Injection Well Facilities in the PWM/GWR Project Final EIR, operations of the one additional deep Injection Well and two relocated deep Injection Wells in the Expanded Injection Well area could result in the accidental release of hazardous materials. As stated above, compliance with the various regulations regarding the safe transport, use, and storage of hazardous materials would ensure this impact is less-than-significant.

CalAm Distribution System Improvements

Extraction Wells

Operation of the Extraction Wells would result in a less-than-significant impact resulting from the routine transport, use, or disposal of hazardous materials. Water recovered from the Extraction Wells would be treated prior to being conveyed into the distribution system. The treatment system would be located at EW-3. The chemicals for treatment of extracted water would be stored in a chemical/electrical control building. The proposed treatment building at EW-3 would be approximately 24-feet by 30-feet and 15' tall, and would include

- two tanks; one for chlorination and one for stabilization of water produced from EW 1-4 with chemical containment,
- heating/ventilation. Instrumentation and electrical equipment and SCADA panels with interface, and antenna,
- chemical delivery, storage, and feed systems,
- interior above-ground metering and chemical injection, and
- associated appurtenances, analyzers, electrical, excavation, trenching, backfill, pavement, driveway and fencing.

If an accident occurs, conditions could result in inadvertent releases of small quantities of sodium hypochlorite. However, compliance with the various regulations regarding the safe transport, use, and storage of hazardous materials would ensure this impact is less-than-significant, and therefore, no mitigation measures are necessary.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Operations of the Proposed Modifications would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during project operations; therefore, no mitigation measures would be required.

Impact HH-7:Operation of Facilities on Known Hazardous Materials Site.Proposed Modifications facilities would be located on a known
hazardous materials site; however, the Proposed Modifications
would not result in a significant hazard to people or the
environment. (Criterion d) (Less-than-Significant)

As discussed above in Impact HH-3, the Product Water Conveyance Pipeline, the Expanded Injection Well Area, EW-3 and EW-4, and the CalAm Conveyance Pipelines are located on sites within the former Fort Ord with potential to encounter undiscovered ordnances during ground disturbance. Upon completion, all elements of the Product Water Conveyance Pipeline and the CalAm Conveyance Pipelines would be underground. Operation and maintenance of those pipelines would not require ground disturbance; therefore, there would be no potential to unearth undiscovered ordinances during operation. There would be no impact associated with the siting of those facilities on a known hazardous material site and they are not discussed further. The Expanded Injection Well Facilities and EW-3 and EW-4 would be located on designated known hazardous materials sites. The following analysis is specific to the Injection Well Facilities and EW-3 and EW-4.

Injection Well Facilities and Extraction Wells EW-3 and EW-4

The PWM/GWR Project Final EIR found that a less-than-significant impact would occur due to the Injection Well Facilities location on a hazardous materials site. Although the Injection Wells are located in an area of known potential contamination, the PWM/GWR Project Final EIR found there were no groundwater contamination or contaminant plumes in the vicinity of the Injection Well Facilities. None of the other components of the approved PWM/GWR Project are on or near designated hazardous materials sites.

As discussed above under Impact HH-3, the Expanded Injection Well Area and EW-3 and EW-4 are located on the former Fort Ord military base. As discussed in Section 4.9.2 of the PWM/GWR Project Final EIR, no groundwater contamination or contaminant plumes in the vicinity of the existing Injection Well Facilities. The Proposed Modifications are generally located in the same area as the existing Injection Well Facilities. As a result, these modifications are not anticipated to impact any contaminant plumes or result in a significant hazard to people or the environment. No environmental contaminant sites were identified in the area between the Injection Well Facilities would not be expected to impact any contaminant plumes, even those located outside of this area.

Consistent with the findings of the PWM/GWR Project Final EIR, operations of the Proposed Modifications would not result in a significant impact to groundwater contamination due to its location on a known hazardous materials site. Operations of the Proposed Modifications would not exacerbate existing groundwater contamination or cause plume of contaminants to migrate.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Operations of the Proposed Modifications would not result in a significant hazard impact to the public or environment due to risks associated with its location on or near a site that is listed as a hazardous materials site.

4.9.4.5 Cumulative Impacts

As described in Section 4.1.5, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects.

Table 4.1-2 includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that the approved PWM/GWR Project when combined with cumulative development projects would not result in significant cumulative hazards, hazardous materials and wildfires impacts. Although construction-related transport and use of hazardous materials for cumulative project would occur in the proximity of the approved PWM/GWR Project, all projects would be subject to compliance with applicable Federal and State laws, and the combined projects would not result in significant cumulative impacts.

The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to a cumulative hazards, hazardous materials or wildfires impact. The Proposed Modifications, like the approved PWM/GWR Project and the cumulative projects, would be subject

4.9 Hazards, Hazardous Materials, and Wildfire

to compliance with applicable Federal and State laws. Therefore, a significant cumulative impact related to hazards, hazardous materials, and wildfire would not occur.

4.10 HYDROLOGY AND WATER QUALITY: GROUNDWATER

Sections	Tables
 4.10.1 Introduction 4.10.2 Environmental Setting 4.10.3 Regulatory Framework 4.10.4 Impacts and Mitigation	 4.10-1 Summary of Prior Environmental Review – Hydrology and Water Quality:
Measures	Groundwater 4.10-2 Summary of Impacts –Hydrology and Water Quality: Groundwater

4.10.1 Introduction

This section presents background information on groundwater hydrology and water quality and a summary of the relevant regulatory framework associated with groundwater issues. In addition, it assesses the environmental impacts of the Proposed Modifications on groundwater resources, including on water quantity, storage, water levels, and water quality of the Salinas Valley Groundwater Basin and Seaside Groundwater Basin (hereafter referred to as "Seaside Basin"). A discussion of cumulative groundwater impacts is provided at the end of the section. The effects of the approved PWM/GWR Project related to groundwater hydrology and water quality were identified in the PWM/GWR Project Final EIR Section 4.10, Hydrology and Water Quality: Groundwater (see PWM/GWR Project Final EIR Vol. 1, at pg. 4.10-1 through 4.10-94). The Addenda did not change impact conclusions of the PWM/GWR Project Final EIR. **Table 4.10-1** below summarizes the findings of the PWM/GWR Project Final EIR.

Table 4.10-1

Summary of Prior Environmental Review – Hydrology and Water Quality: Groundwater

	Approved PWM/GWR Project (Overall Impact)
GW-1: Construction Groundwater Depletion and Levels	LS
GW-2: Construction Groundwater Quality	LS
GW-3: Operational Groundwater Depletion and Levels: Salinas Valley Groundwater Basin	BI
GW-4: Operational Groundwater Depletion and Levels: Seaside Basin	LS
GW-5: Operational Groundwater Quality: Salinas Valley Groundwater Basin	BI
GW-6: Operational Groundwater Quality: Seaside Basin	BI/LS*
BI – Beneficial Impact NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable * For concentrations of total dissolved solids and chloride, the impact would be beneficial; for all of the impact would be less than significant.	other water quality parameters,

The section primarily is based on the following key documents prepared as part of development and preparation of this Draft Supplemental EIR; however, information and analysis from other reports prepared on the approved PWM/GWR Project are also key reference documents:

 Montgomery & Associates 2019. Pure Water Monterey Expansion SEIR Groundwater Modeling Analysis. (see Appendix D).

- Todd Groundwater, 2019b. Update of Groundwater Conditions and Water Quality Impacts Evaluation for Pure Water Monterey Groundwater Replenishment Expansion Project Supplemental Environmental Impact Report, October. (see Appendix H).
- Trussell Technologies, 2019. Larry Walker and Associates, and Todd Groundwater, Water Quality and Statutory Compliance Report for the Proposed Modifications to Expand the PWM/GWR Project. (see Appendix E).

Public and agency comments received during the public scoping period in response to the Notice of Preparation are included in **Appendix A**. The following comments were received regarding hydrology and water quality impacts related to groundwater and are addressed in this section:

- CSUMB requested that the SEIR address hydrology and water quality impacts.
- Margaret Thum, Public, commented on concerns regarding Fort Ord's status as a superfund site; PFOS/PFAS contamination of groundwater therein; and migration path of contaminants.
- FOCAG commented on concern of former Fort Ord Site 39 munitions-related uses and that the PWM Injection Wells are located in the Seaside Groundwater Basin.
- California Coastal Commission commented that they had concern for the potential for the Proposed Modifications to contribute to degradation of coastal aquifers or result in saltwater intrusion due to persistent and severe drought and asked for a review of the effects of current in-basin pumping as well as any project effects from the project pumping regime.

One comment letter, from the Seaside Basin Watermaster, requested analysis of coastally-sited Injection Wells for maintaining protective groundwater quality levels. This comment was address in the PWM/GWR Project Final EIR. For more information, please refer to Appendix A from Appendix L of the PWM/GWR Project Final EIR.

4.10.2 Environmental Setting

Section 4.10.2 of the PWM/GWR Project Final EIR described the hydrology and water quality of relevant groundwater basins and then-current local, State, and Federal policies and regulations. Figure 4.10-1, Regional Groundwater Basins and Subareas Map from the PWM/GWR Project Final EIR, shows the relationship between the two relevant groundwater basins, the Salinas Valley and the Seaside Groundwater Basins, and the approved PWM/GWR Project components that overlie each basin.

Injection Well Facilities for the approved PWM/GWR Project and for the Proposed Modifications would be constructed and operated in the two aquifers that are used for water supply in the Seaside Basin–the shallow, unconfined Paso Robles Aquifer and the deeper, confined Santa Margarita Aquifer. Two types of Injection Wells would be used: (1) deep Injection Wells, which will inject purified recycled water directly into the Santa Margarita Aquifer, and (2) shallower vadose zone wells, which will inject recycled water into the unsaturated zone (Aromas Sand Formation) for percolation to the underlying Paso Robles Aquifer. Both aquifers consist of semiconsolidated to consolidated sedimentary units that dip generally northward. Groundwater flow is generally toward the coast for both the Paso Robles and Santa Margarita Aquifers. Flow is altered by local pumping and groundwater depressions resulting from historic over pumping.

Updated information about groundwater level and quality conditions in the Seaside Basin aquifers are presented briefly in this section to provide an updated reference point to assess groundwater level impacts from the Proposed Modifications. Since the PWM/GWR Project Final EIR was

prepared, two deep Injection Wells, two vadose zone wells, and seven monitoring wells have been constructed in the approved Injection Well Area as part of construction of the approved PWM/GWR Project. To comply with DDW requirements, the deep Injection Wells and monitoring wells have been collectively sampled for a comprehensive suite of constituents and parameters from 2017 to 2019 to establish baseline groundwater quality conditions. In addition to the approved PWM/GWR Project wells, groundwater quality data from other wells (water supply, ASR, and monitoring wells) from 2014 through 2019 have also been collected as part of the basin-wide groundwater quality monitoring program managed by MPWMD. Additionally, groundwater levels have continued to be routinely measured by MPWMD in fulfillment of its Seaside Basin Watermaster obligations.

4.10.2.1 Updated Groundwater Level Information

Appendix H (Figures 2 and 3) show groundwater level contour maps of the Paso Robles Aquifer As shown on the figures, minimum groundwater elevation contours range from -40 to -20 feet above mean sea level (feet msl), with some minor seasonal variability. Groundwater levels in Ord Grove #2 were not included in the 4th Quarter 2018 contour map, which may influence the depth of the groundwater depression that is depicted in that area. As shown on the figures, groundwater levels beneath both the approved Injection Well Area and the Expanded Injection Well Area (collectively referred to as the "Injection Well Facilities" in this section), range from 0 to 20 feet msl. A pumping depression (sometimes referred to as a "cone of depression") occurs in the Seaside Basin west of the Injection Well Facilities area; well pumping in this area causes lower groundwater levels or pressures (i.e., a lower water table) such that water from the surrounding areas of the aquifer tend to move toward the center of the depression. Water levels in the adjacent Southern Coastal Subarea are minimally influenced by this pumping depression with a westerly groundwater flow toward the coast. Water year (WY) 2017/2018 groundwater levels are similar to the conditions observed in WY 2013 for the Recharge Impacts Assessment Report.

Appendix H (Figures 4 and 5) show groundwater level contour maps of the Santa Margarita Aquifer. The maps indicate that groundwater level contours in the Santa Margarita Aquifer range from -30 to 0 feet msl across the Northern Coastal Subarea and the western half of the Northern Inland Subarea. The pumping depression in the Santa Margarita Aquifer extends beyond the northern boundary of the Subarea, but does not encroach into the Southern Coastal Subarea. Water levels measured in monitoring and deep Injection Wells beneath the PWM Injection Facilities Area range from -25 to -11 feet msl, in agreement with the contours shown on Figure 4 and 5. Collectively, these maps indicate a downward vertical gradient exists between the Paso Robles and Santa Margarita Aquifers.

4.10.2.2 Updated Groundwater Quality Information

Appendix H (Tables 1 through 3) provides detailed information about sampling and analysis of existing groundwater quality to establish the baseline for the approved PWM/GWR Project and also informs the analysis of the impacts of the Proposed Modifications on groundwater quality. Table 3 in **Appendix H** also presents a comparison between the water quality of the purified recycled water and the groundwater basin. A detailed discussion of the findings of the water quality monitoring/sampling and analysis is also included in **Appendix H**. Key findings from this analysis include:

 Concentrations of Total Dissolved Solids (TDS), specific conductance, and chloride in the purified recycled water are lower than groundwater, consistent with the findings of the PWM/GWR Project Final EIR.

- Geochemical plotting of inorganic constituents (i.e., Stiff Diagrams, Trilinear (Piper) Diagrams, and Schoeller, or Water Source/Fingerprinting, Diagrams) in existing groundwater in the Injection Well Facilities area has been expanded to identify markers of purified recycled water flow paths and travel time as part of the tracer study that will commence in the winter of 2019,
- More than 300 constituents and parameters were analyzed for each sample collected from the two deep Injection Wells and seven monitoring wells constructed to date for the approved PWM/GWR Project. Results show that concentrations for some constituents in groundwater are above the primary maximum contaminant levels (MCLs) drinking water standard. Detections of several other constituents were analyzed to be at concentrations above the California secondary MCL or Notification Level (NL).
- The data indicate that chemicals of concern associated with the former Fort Ord military activities (17 explosive compounds and two metals) have not adversely impacted groundwater in the vicinity of the Injection Well Facilities.
- Regarding chemicals of emerging concern (CECs), the groundwater sampling and analysis campaign analyzed the presence of eight indicators of CECs: caffeine, N,N-Diethyl-meta-toluamide or DEET (an ingredient in insect repellents), N-Nitrosodimethylamine or NDMA (a byproduct of disinfection with chloramines), Perfluorooctane sulfonate (PFOS), Perfluorooctanoic acid (PFOA), Estradiol, Sucralose, and Triclosan. Caffeine was detected in two wells. DEET was detected in one or more samples from each monitoring well – all of which were below method reporting limits. PFOA was detected in six samples out of twelve samples (ranging from 0.00028 to 0.0008 nanograms/liter, ng/L, below levels that would trigger regulatory or health concerns).

4.10.3 Regulatory Framework

4.10.3.1 Federal

The PWM/GWR Project Final EIR describe Federal regulations related to groundwater hydrology and water quality. Please refer to Section 4.10.3.1 of the PWM/GWR Project EIR for more information.

4.10.3.2 State

The PWM/GWR Project Final EIR describe State regulations related to groundwater hydrology and water quality. Please refer to Section 4.10.3.2 of the PWM/GWR Project EIR for more information. Two State regulatory programs have changed since the PWM/GWR Project Final EIR was prepared: (1) the implementation of the Sustainable Groundwater Management Act (SGMA) has progressed and been refined; and, (2) the State Board adopted an updated Recycled Water Policy.

Sustainable Groundwater Management Act. In September 2014, California Governor Jerry Brown enacted legislation that sets forth a path to create local agencies to sustainably manage the State's groundwater resources. SGMA shifts planning and management of groundwater resources to newly formed Groundwater Sustainability Agencies (GSAs), made up of local agencies (cities, counties, water districts) and requires development of Groundwater Sustainability Plans by 2020 for priority basins. The State designated Salinas Valley as a priority basin. The Seaside Basin is an adjudicated basin that must comply with monitoring and reporting SGMA. For requirements of more information on the SGMA. see: water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management. For more information on SGMA requirements for adjudicated basins, please refer to the following water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwaterweblink. Management/Adjudicated-Areas.

Recycled Water Policy. In December 2018, the State Board amended the Recycled Water Policy to add bioanalytical screening and monitoring for CECs, including performance indicators, surrogates, and health-based indicators. The purpose of this amendment is to evaluate performance and integrity of the reverse osmosis and advanced oxidation processes, and to monitor CECs that are of toxicological relevance to human health. Monitoring must be conducted by a three-phased approach, which includes an initial assessment monitoring phase, followed by a baseline monitoring phase, and then a standard operation monitoring phase.

4.10.3.3 Regional and Local

The PWM/GWR Project Final EIR describes regional and local land use regulations related to groundwater hydrology and water quality. Please refer to Section 4.10.3.3 of the PWM/GWR Project Final EIR for more information. Moreover, see also Table 4.10-11, Applicable Local Plans, Policies, and Regulations – Hydrology and Water Quality: Groundwater contained in the PWM/GWR Project Final EIR for more information.

In 2017, several local GSAs were formed in compliance with SGMA to meet the State's deadline. The Salinas Valley GSA covers most of the Salinas Valley, designated in California's Department of Water Resources Bulletin 118, including the Advanced Water Purification Facility site. Other relevant GSAs include the adjudicated area of Seaside Basin within which the approved PWM/GWR Project Injection Well Facilities are located, and the Marina Coast Water District and the City of Marina formed their own GSA within a portion of their service area.

4.10.4 Impacts and Mitigation Measures

4.10.4.1 Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, a project would have a significant impact on hydrology and water quality of groundwater if it would:

- a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality; or
- b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

4.10.4.2 Impacts Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis: Construction Impacts

Groundwater Depletion, Levels, and Recharge

Consistent with the description in the PWM/GWR Project Final EIR, during construction, the Proposed Modifications would use water for soil compaction and dust control. The amount of water use is quantified and the sources of construction water are provided to determine if this use would adversely affect groundwater levels. At some Proposed Modification component sites, there would be new impervious surfaces constructed that may potentially change local recharge characteristics at each site. Along pipeline routes, groundwater recharge characteristics would not change because the existing site surfaces would be restored to pre-construction conditions and there would be no increases in the quantity of impervious surfaces and no loss of recharge ability. Where components are located on existing paved areas, no change in impervious surface area and no change in recharge would result (i.e., the Advanced Water Purification Facility). Where components would be located on existing unpaved areas and would include new impervious surfaces (i.e., Proposed Modifications to Injection Well Facilities and CalAm Distribution System: Extraction Well Facilities), changes to groundwater recharge may occur so those changes are discussed in more detail, below. In particular, the impact analysis includes quantification of the increase in impervious surfaces and a description of the method proposed for ensuring that rainfall runoff from new impervious areas is allowed to flow to adjacent pervious areas and recharge the groundwater basins underlying the Proposed Modification component sites.

Groundwater Quality

The impacts analysis presents information on potential sources of groundwater contaminants during construction and assesses whether those contaminants may be released to the environment resulting in significant groundwater quality impacts due to construction of the Proposed Modifications. These potential impacts are also addressed similarly in other sections of this Draft Supplemental EIR (namely, **4.9 Hazards and Hazardous Materials** and **4.11 Hydrology and Water Quality: Surface Water**).

Approach to Analysis: Operational Impacts

Groundwater Depletion, Levels, and Recharge: Salinas Valley Groundwater Basin

This section describes the approach for analyzing whether operation of the Proposed Modifications may result in a significant impact related to depleting groundwater supplies or interfering substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Operation of the Proposed Modifications would significantly impact groundwater resources if operations were to result in groundwater mounding, changes in groundwater gradients, or lowering of groundwater levels such that nearby municipal or private groundwater production wells experience a substantial reduction in well yield or physical damage due to exposure of well screens. Substantial reduction would occur if wells were to become incapable of supporting existing land uses or planned uses for which permits have been granted. More specifically, the EIR evaluates whether one of the following two conditions could occur that would trigger this condition:

 a decline in average groundwater level is significant if it would lower the water level to a depth below the median depth to the top of the well screen in nearby wells. When the top of the screen is above the water table it tends to corrode, which increases the risk of casing collapse. Also, air is entrained in the water pumped from the well, which
promotes cavitation at the well pump and damage to the pump bowls. Over time, these physical effects will shorten the life of the well and could cause sudden well failure which, in turn, could affect well productivity (Todd Groundwater, February 2015).

 a decline in average groundwater level is significant if it would decrease pump output (in gallons per minute) by more than 10%. Decreases smaller than this amount can usually be accommodated by increasing the duration of pumping for each irrigation cycle (Todd Groundwater, February 2015).

Approach to Analysis for Groundwater Depletion, Levels, and Recharge in the Seaside Basin

The Proposed Modifications' impact assessment related to groundwater depletion, levels, and recharge in the Seaside Basin is based on **Appendix D**, **Groundwater Modeling Technical Memorandum** (Montgomery & Associates, 2019). To predict the transport of the Proposed Modifications' purified recycled water in the groundwater system and to evaluate potential impacts of the Proposed Modifications on groundwater levels and quantity, Montgomery & Associates conducted groundwater modeling using the Seaside Basin Watermaster's groundwater flow model. Modeling of the Proposed Modifications builds on previous modeling runs that were used during development of the approved PWM/GWR Project to allocate and forecast the movement of purified recycled water between PWM/GWR Injection Wells (including approved wells and relocated and new wells) in each of the two Seaside Basin aquifers and the extraction by existing and proposed water supply wells. The initial approved PWM/GWR Project development modeling was described in the Recharge Impacts Assessment report in Section 3.3.5.1 of the Final PWM/GWR Project Final EIR (Todd Groundwater, 2015a). The technical memorandum documenting the project development and impacts analysis modeling results were included as Appendices B and C, respectively, in Appendix L of the PWM/GWR Project Final EIR.

Groundwater modeling of the Proposed Modifications incorporates estimates by the Advanced Water Purification Facility design engineering team (Kennedy/Jenks, Trussell Technologies, and SPI) of the monthly schedule and quantities of delivery of purified recycled water for subsurface injection in various year types under the PWM/GWR Project with the Proposed Modifications, as described in **Chapter 2, Project Description** and in **Appendix D**. The appropriate purified recycled water delivery schedule shown on in **Chapter 2, Project Description** was assigned to each year of project operation in the modeling based on hydrology and the balance of the drought reserve account.

The modeling for the Project with the Proposed Modifications was conducted using the predictive model setup that the Seaside Basin Watermaster developed previously for analyzing future conditions in the Basin. The increased injection associated with the Proposed Modifications would begin in October 2020, which are assumes a startup of the expanded project yield eight years into a 33-year predictive model to allow for a 25-year analysis of the Project with the Proposed Modifications.

The modeling for the Project with the Proposed Modifications was also conducted using reasonable assumptions of future operation of production wells in the Basin. Simulated pumping in the model was based on court-allocated pumping and agreements associated with the Seaside Basin adjudication. Existing CalAm production wells (including the four ASR wells) and the proposed new CalAm Extraction Wells (two of the four proposed wells simulated in the modeling) were assumed to be recovery (extraction) wells for the Project with the Proposed Modifications' purified recycled water based on a modeling analysis of future supply and demand prepared by the MPWMD (Jon Lear, MPWMD, 2019).

Groundwater model simulations also incorporated a quantitative assessment of future operations of the ASR Project. MPWMD coordinates the ASR injection and extraction operations under cooperative agreements with CalAm. The assessment was based on historical hydrologic conditions on the Carmel River between 1987 and 2008 and approved rules of ASR operation. This allowed MPWMD to predict both injection and recovery schedules at relevant ASR wells over the modeling period. By incorporating this assessment into the model setup, the Project with the Proposed Modifications was evaluated during a full range of ASR injection and recovery (pumping) conditions.

Approach to Analysis for Groundwater Quality

Based on the significance criterion (specifically, Criterion b), this Draft Supplemental EIR uses a project-specific approach to determine whether implementation of the Project with the Proposed Modifications would be considered to have a significant impact to groundwater quality. Specifically, this Draft Supplemental EIR assumes a significant impact to groundwater quality would occur if the Project with the Proposed Modifications, taking into consideration the proposed treatment processes and groundwater attenuation and dilution, were to do one of the following:

- Impact groundwater quality so that it no longer met standards (e.g., Basin Plan beneficial uses and water quality objectives, including drinking water MCLs established to protect public health);
- Degrade groundwater quality subject to California Water Code statutory requirements (Sec. 13540), and to the SWRCB Anti-degradation Policy and Recycled Water Policy; or
- Result in changes to groundwater recharge or water levels such that it would adversely
 affect groundwater quality by exacerbating seawater intrusion.

Salinas Valley Groundwater Basin Water Quality Assessment

The only Proposed Modifications' components that are located within, and that would interact with, the Salinas Valley Groundwater Basin during operations would be the expanded Advanced Water Purification Facility. No other components are addressed individually in the impact analysis of the Salinas Valley Groundwater Basin.

Treatment Facilities at the Regional Treatment Plant

The expanded Advanced Water Purification Facility treatment facilities at the Regional Treatment Plant would not result in any adverse impacts to the Salinas Valley Groundwater Basin water quality. Existing regulatory requirements and best management practices at the Regional Treatment Plant site prevent accidental spills and other water pollutants from being discharged to unpaved areas and ultimately reaching groundwater. No groundwater quality impacts due to operations of this component would occur and thus, this component is not addressed further in this section. With the Proposed Modifications, the approved PWM/GWR Project would continue to supply additional tertiary recycled water to the CSIP area for irrigation which would be a beneficial impact on the Salinas Valley Groundwater Basin due to the reduced need to use CSIP supplemental wells, and resulting benefits of reducing adverse seawater intrusion conditions. However, those benefits would be slightly reduced under the Proposed Modifications because M1W would recycle more of the water that it is entitled to recycle under its water rights and contractual rights than it would have recycled without the Proposed Modifications.

Seaside Basin Water Quality Assessment

To evaluate potential impacts on groundwater quality due to the Project with the Proposed Modifications' injection of purified recycled water, both the existing groundwater quality and quality

4.10 Hydrology and Water Quality: Groundwater

of the Project with the Proposed Modifications purified recycled water are characterized. The characterization of existing groundwater quality establishes a baseline for the water quality impacts assessment of the Proposed Modifications' groundwater replenishment component. The Seaside Basin is the basin into which the purified recycled water would be applied via subsurface application using the Injection Well Facilities. In the PWM/GWR Project Final EIR, the water quality characterization for existing Seaside Basin groundwater was prepared by Todd Groundwater (see PWM/GWR Project Final EIR, Appendix H, Section 7.3). The characterization incorporated available data and previous investigations, and also summarized the results of geochemical evaluations regarding the chemistry of the water and its potential for interactions with the existing geologic sediments in the approved PWM/GWR Project area. The approach to the geochemical analyses was presented more fully in a separate report documenting the M1W field investigation program (Todd Groundwater, February 2015). The characterization of existing and proposed purified recycled water is provided in Appendix L of the PWM/GWR Project Final EIR and supports the conclusions related to the impacts of the approved PWM/GWR Project on the Seaside Basin water quality related to Criterion b. above. For the analysis of the Proposed Modifications for this Draft Supplemental EIR, Todd Groundwater has updated the groundwater quality information in a Technical Memorandum included in Appendix H.

The water quality statutory and regulatory requirements that protect groundwater quality and public health and how the approved PWM/GWR Project would comply with those requirements were summarized in Chapter 3, Water Quality Statutory and Regulatory Compliance and detailed in a report in Appendix D of the PWM/GWR Project Final EIR. This section and report are both updated in this Draft Supplemental EIR. See Chapter 3, Water Quality Statutory and Regulatory Compliance, and Appendix E of this Draft Supplemental EIR for a more detailed description and analysis of how the Project with the Proposed Modifications would comply with those requirements (Trussell Technologies, Larry Walker and Associates, and Todd Groundwater, 2019). The original and updated reports reviewed the analytical results of source water monitoring, the water quality results of the Proposed Modifications pilot plant testing (using ozone, microfiltration, and RO), the stabilized RO sample, information on the predicted performance and water quality of the proposed full-scale Advanced Water Purification Facility based on the pilot testing and treatment performance for other existing groundwater replenishment projects, and related research/studies. The updated report analyzes the Project with the Proposed Modifications' ability to comply with Federal and State water quality statutory and regulatory requirements to protect water quality for potable supplies/human health and other beneficial uses of groundwater. Relevant impact analyses and conclusions related to groundwater are presented in this section.

Summary of Impacts

Table 4.10-2 provides a summary of potential impacts to groundwater resources and significance

 determinations at each Proposed Modifications' component site.

		line		CalAm D Sys				
Impact Title	Advanced Water Purification Fac	Product Water Conveyance Pipe	Injection Well Facilities	Extraction Wells	CalAm Conveyance Facilities	Proposed Modifications Overall		
GW-1: Construction Groundwater Depletion and Levels	NI	LS	LS	LS	LS	LS		
GW-2: Construction Groundwater Quality	NI	LS	LS	LS	LS	LS		
GW-3: Operational Groundwater Depletion and Levels: Salinas Valley Groundwater Basin	NI	NI	NI	NI	NI	BI		
GW-4: Operational Groundwater Depletion and Levels: Seaside Basin	LS	LS	LS	LS	LS	LS		
GW-5: Operational Groundwater Quality: Salinas Valley Groundwater Basin	NI	NI	NI	NI	NI	BI		
GW-6: Operational Groundwater Quality: Seaside Basin	NI	NI	BI/LS*	LS	LS	BI/LS*		
Cumulative Impact LS- The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative impacts to hydrology and water quality of groundwater resources.								
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BL – Beneficial Impact	1							

Table 4.10-2 Summary of Impacts –Hydrology and Water Quality: Groundwater

* For concentrations of total dissolved solids and chloride, the impact would be beneficial; for all other water quality parameters, the impact would be less than significant.

4.10.4.3 Construction Impacts and Mitigation Measures

Impact GW-1:Construction Groundwater Depletion, Levels, and Recharge.
Construction of the Proposed Modifications components would
not deplete groundwater supplies nor interfere substantially with
groundwater recharge such that there would be a net deficit in
aquifer volume or a lowering of local groundwater levels.
(Criterion a) (Less-than-Significant)

All Proposed Modifications

Consistent with the PWM/GWR Project Final EIR, construction at all Proposed Modification component sites would result in a limited, temporary demand for water for construction-related purposes, typically associated with watering surfaces for compaction and dust control.

4.10 Hydrology and Water Quality: Groundwater

Construction water is typically acquired by the construction contractor. Contractors prefer local sources of water to fill their water trucks; therefore, for construction of Expanded Injection Well Facilities and CalAm Extraction Wells and Conveyance Pipelines, groundwater from nearby water supply wells or sources of recycled water would be used; however, the water would be allowed to percolate onsite after its use for construction purposes and, therefore, a majority of it would be returned to the groundwater basin. Portable toilets would be installed at construction sites for construction workers, which would not require use of groundwater. The amount of construction water used at any individual construction site is estimated to be a onetime use of approximately 50 AF total, or about 1.1 AF per acre of ground disturbance. Negligible water would be applied at the Advanced Water Purification Facility construction site because no ground disturbing activities are proposed. Water used during construction of the Proposed Modifications to the Injection Well Facilities and to the CalAm Extraction Wells and Conveyance Pipelines would percolate to the Seaside Basin. In comparison to total groundwater pumping in these basins (an average of approximately 5,000 AFY in the Seaside Basin and over 200,000 AFY total in the 180/400-foot Aquifer Subbasin and Eastside Subbasins of the Salinas Valley Groundwater Basin), this small amount of construction water use would not have a significant adverse impact on groundwater recharge, volume or levels.

At some Proposed Modifications component sites, there would be new impervious surfaces constructed that may potentially change local recharge characteristics at these sites (specifically, approximately 1,000 to 1,500 square feet of new paving at each Well Site). Along pipelines routes, groundwater recharge characteristics would not change because the existing site surfaces would be restored to pre-construction conditions and there would be no increases in the quantity of impervious surfaces and no loss of recharge ability. Where components are located on existing paved areas, no change in impervious surface area and no change in recharge would result. For sites proposing new impervious surfaces, all rainfall runoff would be retained on site and allowed to percolate to the groundwater basin underlying the site.

Impact Conclusions

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Construction of the Proposed Modifications operations would not result in significant impacts on groundwater recharge, volume, or levels, and no mitigation measures would be required.

Impact GW-2:Construction Groundwater Quality.
Construction of the Proposed
Modifications would not violate any water quality standards or
otherwise degrade water quality. (Criterion b) (Less-than-
Significant)

All Proposed Modifications

Consistent with the evaluation in the PWM/GWR Project Final EIR, discharges of pollutants to groundwater during well drilling activities has the potential to occur; however, these impacts to groundwater quality during the construction of the Injection Well Facilities and the CalAm Extraction Wells would be less than significant based on compliance with regulatory requirements that require best management practices, including preventative and emergency measures for potential spills. For all other components, there would be a less-than-significant impact based on the compliance with regulatory requirements that insure that there would be a lack of substantial pollutants released or disposed at the sites, and the low amount of flow that would carry any

pollutants such that no contamination of groundwater resources are expected. This represents a less than significant impact.

Impact Conclusions

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Construction of the Proposed Modifications operations would not result in significant impacts on groundwater quality, and no mitigation measures would be required.

4.10.4.4 Operational Impacts and Mitigation Measures

Impact GW-3:Operational Groundwater Depletion and Levels: Salinas Valley
Groundwater Basin. Operation of the Project with the Proposed
Modifications would not deplete groundwater supplies in the
Salinas Valley Groundwater Basin nor interfere substantially with
groundwater recharge such that there would be a net deficit in
aquifer volume or a lowering of the local groundwater levels in the
Salinas Valley Groundwater Basin. (Criterion a) (Less-than-
Significant)

All Proposed Modifications

There are no Proposed Modifications components that would adversely change the Salinas Valley Groundwater Basin water levels or adversely impact wells. Use of source water diversion facilities would not exceed the maximum assumed in the PWM/GWR Project Final EIR, therefore no new significant impact would result and no increase in severity of previously identified significant impacts associated with source water diversions would occur. The Salinas Valley Groundwater Basin would benefit from the Project with Proposed Modifications due to the provision of additional tertiary-treated recycled water and reduced pumping of CSIP supplemental wells and increased groundwater levels. See also **Section 4.18 Water and Wastewater** and **Appendix I** (Schaaf & Wheeler, 2019) for more information on CSIP yields

Impact Conclusions

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Operation of the Project with Proposed Modifications would not result in significant impacts on Salinas Valley Groundwater Basin recharge, volume, or levels, and no mitigation measures would be required.

Impact GW-4:Operational Groundwater Depletion and Levels: Seaside Basin.
Operation of the Project with the Proposed Modifications would
not deplete groundwater supplies in the Seaside Basin nor
interfere substantially with groundwater recharge such that there
would be a net deficit in aquifer volume or a lowering of the local
groundwater levels in the Seaside Basin. (Criterion a) (Less-than-
Significant)

All Proposed Modifications

Consistent with the impact analysis presented in the PWM/GWR Project Final EIR, the Project with the Proposed Modifications would provide additional water for downgradient groundwater extraction, and would result in both higher and lower water levels in existing basin wells over time depending on the timing of extraction and the buildup of storage in the basin. For the approved PWM/GWR Project, Hydrometrics WRI (now Montgomery & Associates) examined changes in water levels for eight key production wells for a 33-year simulation period (including 25 years of the approved PWM/GWR Project operation). The results showed that the water levels would be sometimes lower because of increased pumping at existing Extraction Wells. However, water levels would be lowered by only about 10 feet or less and would be lowered for a relatively short duration, typically for a few months. In addition, water levels would be generally higher than before approved PWM/GWR Project levels. As such, none of the municipal or private production wells were found to experience a reduction in well yield or physical damage.

In addition, Todd Groundwater (2015a) found that the approved PWM/GWR Project would result in no adverse impacts to the quantity of groundwater resources. Because the approved PWM/GWR Project would only recover the amount of purified water injected, there would be no long-term change in groundwater storage because the purified water being injected would eventually be extracted for municipal use.

For the Proposed Modifications, Montgomery & Associates (2019) examined changes in water levels for eight existing and four new production wells¹ for a 33-year simulation period (including 25 years of operations of the PWM/GWR Project with the Proposed Modifications). The results showed that the water levels would sometimes be lower because of increased pumping at existing Extraction Wells. However, water levels would be lowered by only about 10 feet or less and would be lowered for a relatively short duration, typically for a few months. At all wells, water levels would be generally and on average higher than before approved PWM/GWR Project levels.

The analysis of the closest shallow coastal well indicated that increased pumping of the Project with the Proposed Modifications water would also not result in water levels falling below elevations protective of seawater intrusion (Montgomery & Associates, 2019). Although it would take time for the beneficial impacts of recharge to reach coastal pumping wells, the increased pumping of nearby production wells would increase water levels near the coast. The analysis showed that for the duration of the model simulation period, the closest coastal well would remain above protective elevations for seawater intrusion.

In addition, Todd Groundwater (2019) found that there would be no adverse impacts to the quantity of groundwater resources. The Project with the Proposed Modifications would result in higher groundwater levels in wells across the Basin. Groundwater levels under the Project with

¹ The new Extraction Wells were modeled as only one well for each pair due to lack of extraction capacity needs and to provide the a reasonable, yet conservative modeling effort.

the Proposed Modifications could be slightly lower than under No-Project groundwater levels for short periods of time during periods of extended drought, reflecting the extraction of PWM/GWR Project water during droughts. However, the difference in groundwater levels would be temporary and difficult or impossible to detect at any wells. Groundwater levels under the approved PWM/GWR Project with the Proposed Modifications would be higher along the coast in comparison to groundwater elevations under the No-Project scenario, thereby decreasing the potential/risk of seawater intrusion in the future. Because the Project with the Proposed Modifications would recover no more additional water than was injected, there would be no long-term change in groundwater storage. The purified water being injected would eventually be extracted for municipal use.

Impact Conclusions

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Operation of the Project with the Proposed Modifications would not result in significant impacts on Seaside Basin recharge, volume, or levels, and no mitigation measures would be required.

Impact GW-6:Operational Groundwater Quality: Seaside Basin. Operations of
the Project with the Proposed Modifications would not degrade
groundwater quality in the Seaside Basin, including due to
injection of purified recycled water into the basin. (Criterion b)
(Less-than-Significant/Beneficial Impact)

The Proposed Modifications would inject additional purified water within a portion of the adjudicated Seaside Groundwater Basin, a Subbasin of the Salinas Valley Groundwater Basin (Seaside Basin). The 2006 adjudication established a natural perennial yield for the Seaside Basin of 2,581 to 2,913 AFY. Groundwater pumping in the Seaside Basin provides water supply for municipal, (primarily golf course) irrigation, and industrial uses. Prior to the adjudication, pumping exceeded the natural perennial yield, resulting in significant basin-wide water level declines. Over-pumping in the coastal subareas has resulted in water levels near the coast declining below sea level, placing aquifers at risk of seawater intrusion. Since 2008, groundwater pumping has decreased in response to the adjudication. In addition, the Monterey Peninsula ASR Project has provided about 1,500 to 1,800 AFY of treated Carmel River Basin groundwater for injection and recovery into the basin.² The ASR project is located hydraulically downgradient (north) and within about 1,000 feet from the approved PWM/GWR Project Injection Well Facilities (and 6,000 feet east of the relocated/new wells of the Proposed Modifications).

Replenishment will occur in the two aquifer systems used for water supply in the Seaside Basin – the shallow Paso Robles Aquifer and the deeper Santa Margarita Aquifer– and will be accomplished using two types of Injection Wells: (1) deep Injection Wells (deep Injection Wells), which will inject purified recycled water directly into the Santa Margarita Aquifer, and (2) shallower

² Currently, Carmel River Basin water (extracted from wells in the alluvial aquifer) is treated to drinking water standards and conveyed to the ASR wells for recharge when excess water is available. There are two water rights that support ASR. Permit 20808A allows maximum diversion of 2,426 AFY and Permit 20808C allows up to 2,900 AFA for a total of 5,326 AFY. However, these are maximums that may only be close to being achieved in the wettest of years. Based on long-term historical precipitation and streamflow data, ASR is designed to produce 1,920 AFY on average.

vadose zone wells (vadose zone wells), which will inject recycled water into the unsaturated zone (Aromas Sand Formation) for percolation to the underlying Paso Robles Aquifer.

In support of the approved PWM/GWR Project, a series of hydrogeologic investigations/studies were completed to predict future groundwater response to and assess potential impacts from the approved PWM/GWR Project.

- In 2013-2014, Todd Groundwater (Todd) conducted a hydrogeologic investigation evaluating potential project impacts on groundwater levels and water quality. The hydrogeologic study incorporated findings from a field investigation that included drilling and installation of a Paso Robles monitoring well, groundwater quality sampling of local production and monitoring wells, sediment core leaching tests, and aqueous geochemical modeling to evaluate the geochemical compatibility between stabilized RO permeate and ambient groundwater. Results were documented in a report, titled *Hydrogeologic Field Investigation: MRWPCA Monitoring Well 1 (MW-1) Installation, Groundwater Quality Characterization, and Geochemical Assessment* (Todd, February 2015).
- Findings from the field investigation were incorporated in the report titled, *Recharge Impacts Assessment Report* (Todd, March 2015), included as Appendix L of the PWM/GWR Project Final EIR. The Recharge Impacts Assessment Report also described the Injection Well Facilities and general information on project construction and operations and addressed the fate and transport of purified recycled water in the Seaside Basin based on groundwater model simulations.
- Groundwater model simulations for the approved PWM/GWR Project EIR were completed by Montgomery & Associates (formerly HydroMetrics Water Resources, Inc. [Hydrometrics WRI]) to satisfy DDW recycled water recharge regulations. Results are documented in a technical memorandum titled, "Groundwater Replenishment Project Development Modeling" (M&A, October 2013).

At the time of preparation of the approved PWM/GWR Project Final EIR, wells in the Injection Well Facilities area had yet to be constructed or sampled for water quality. Thus, the evaluation of groundwater impacts was based on groundwater level and water quality data from then-existing production and monitoring wells in the Seaside Basin through 2013. Since the PWM/GWR Project Final EIR, two deep Injection Wells, two vadose zone wells, and seven monitoring wells have been constructed in the Injection Well Facilities area as part of two construction phases for the approved PWM/GWR Project. To comply with DDW requirements, the deep Injection Wells and monitoring wells have been collectively sampled for a comprehensive suite of analytes from 2017 to 2019 to establish baseline groundwater quality conditions prior to approved PWM/GWR Project startup. In addition to the approved PWM/GWR Project wells, groundwater quality data from other wells (water supply, ASR, and monitoring wells) from 2014 through 2019 have also been collected as part of the basin-wide groundwater quality monitoring program managed by MPWMD. Additionally, groundwater levels have continued to be routinely measured by MPWMD in fulfillment of its Seaside Basin Watermaster obligations.

In 2019 to support the preparation of this Draft Supplemental EIR, Todd Groundwater completed an updated evaluation of groundwater conditions and water quality impacts. Findings are documented in a Technical Memorandum titled, "*Update of Groundwater Conditions and Water Quality Impacts Evaluation for Pure Water Monterey Groundwater Replenishment Expansion Project Supplemental Environment Impact Report (SEIR)*" (Todd Groundwater, October 2019) which is included in **Appendix H** of this Draft Supplemental EIR. The Technical Memorandum describes the Injection Well Facilities including changes to facilities associated with the Proposed Modifications and presents an updated assessment of potential groundwater impacts based on updated groundwater level and water quality data. Key findings and conclusions on groundwater levels and subsurface travel times from recently completed groundwater model simulations of the Project with the Proposed Modifications are also summarized to address DDW regulations pertaining to pathogen reduction credit and response retention time. Full documentation of groundwater model simulations of the Project with the Proposed Modifications is presented in a separate Technical Memorandum, titled "*Pure Water Monterey Expansion SEIR Groundwater Modeling Analysis*" (Montgomery & Associates, October 2019) which is included in **Appendix D** of this Draft Supplemental EIR.

Additional studies/reports associated with permitting and operational plans for the approved PWM/GWR Project (that have been completed since the certification/approval of the PWM/GWR Project Final EIR) include an Intrinsic Tracer Work Plan that describes the approach and methods to demonstrating the minimum subsurface retention time of purified recycled water under varying hydrologic and operating conditions for the approved PWM/GWR Project, which is used as a reference document herein (Todd Groundwater, 2019a). Additionally, a focused geochemical evaluation by MPWMD was recently completed, involving bench-scale leaching tests of approved PWM/GWR Project recycled water to address leaching concerns by the Seaside Basin Watermaster Technical Advisory Committee's (TAC) from recharge of purified recycled water (Pueblo Water Resources, September 2019). A summary of the findings of this report are provided below (see section titled "*Dissolution of Natural or Anthropogenic Constituents"*).

Compliance with Underground Retention Time Requirements

The Groundwater Replenishment Regulations establish specific requirements for underground retention time of recycled water:

- The Response Retention Time that requires recycled water to be retained underground for a sufficient period of time (as proposed by a project sponsor) to identify and respond to any treatment failure so that inadequately treated recycled water does not enter a potable water system. The Response Retention Time has to be at least two months.
- To meet the 12-log virus reduction requirement, projects can be credited with a 1-log virus reduction per month of time the water is underground up to 6 months (i.e., 6-logs).

Notwithstanding the effectiveness of the Regional Treatment Plant³ and Advanced Water Purification Facility in controlling pathogens, the DDW currently allows the approved PWM/GWR Project to claim a 5.4-log virus reduction credit by keeping the purified water underground for 10.8 months prior to arrival at the closest downgradient production wells. This is consistent with modeling conducted after the PWM/GWR Project Final EIR and before approval of startup operations with only two deep Injection Wells and two vadose zone wells. As discussed above, a tracer test using an intrinsic tracer will be conducted during the initial operations to confirm the underground retention time. The Response Retention Time for the approved PWM/GWR Project is 5.25 months (Nellor Environmental Associates, Trussell Technologies, Inc., Todd Groundwater, *Final Engineering Report, Monterey One Water, Pure Water Monterey Groundwater Replenishment Project*, April 2019), similar to the Response Retention Time approved by DDW for the Alamitos Barrier Groundwater Replenishment Project. The underground retention time will be demonstrated through a field tracer test which must commence with the first three months of operation in compliance with the Groundwater Replenishment Regulations. The injection and

³ The approved PWM/GWR Project is not taking credit for removal of pathogens through primary and secondary treatment, nor through ozonation both of which are known to reduce pathogens.

municipal recovery wells for the Project with the Proposed Modifications would be designed and located so that the Response Retention Time is not expected to change.

The groundwater modeling conducted for the Project with the Proposed Modifications demonstrates a much longer underground retention time of 615 days (20.2 months), which would represent 10.1-log virus reduction credit except that there is a maximum of 6-logs of credit due to the increased distance from injection to extraction.

For the purposes of planning projects, the Groundwater Replenishment Regulations allow for use of models with safety factors to estimate retention times. For the approved PWM/GWR Project, the Seaside Basin Watermaster groundwater model was used to demonstrate underground retention time. Preliminary modeling for the approved PWM/GWR Project indicated that for the approved PWM/GWR Project the minimum travel time for purified water injected at one Injection Well to reach a drinking water well is 328 days under certain pumping conditions. This travel time, with the applicable safety factor of 0.5 for using a model, is 5.4 months. In their approval of the project-specific Engineering Report the State Board DDW approved a project-specific Response Retention Time of 5.25 months based on the various actions that must occur in the event of a treatment process failure consistent with the Title 22 requirements. In accordance with Title 22 Sec. 60320.224, the Response Retention Time can be no less than two months.

The Proposed Modifications would increase travel time to 10.1 months (0.5 x 20.2 months). With a Response Retention Time required of 5.25 months, modeling has found that the Project with Proposed Modifications would have an adequate underground travel time to allow M1W and the water supplier to respond to any safety and public health concerns related to water quality of the purified recycled water.

Compliance with Anti-degradation and Recycled Water Policies

Assessment of Impact of PWM/GWR Project on Contaminant Plumes

The Recycled Water Policy does not limit the authority of a RWQCB to impose additional requirements for a proposed groundwater replenishment project that has a substantial adverse effect on the fate and transport of a contaminant plume. Thus, a study was performed to evaluate the potential impacts of the approved PWM/GWR Project in areas of contamination in the Seaside Basin (Todd Groundwater, 2015a).

The approved PWM/GWR Project Injection Well Facilities would be located on a portion of the former Fort Ord military base (referred to as Site 39), which provided training and staging for U.S. troops from 1917 to 1994. Site 39 contained at least 28 firing ranges that were used for small arms and high explosive ordnance training using rockets, artillery, mortars and grenades. Considerable expended and unexploded ordnance have been documented in various areas of Site 39. Beginning in 1984, numerous environmental investigation and remediation activities have occurred on Site 39. During these investigations, metals and various compounds associated with explosives have been detected in soil. Remediation, including removal of munitions and explosives, has been more extensive in areas targeted for redevelopment, an area that includes the approved PWM/GWR Project Injection Well Facilities site (Todd Groundwater, 2015a). Groundwater analyses do not indicate that former Fort Ord activities have impacted groundwater in the existing wells near the approved PWM/GWR Project Injection Well Facilities site (Todd Groundwater, 2015a). This conclusion also applies to the Expanded Injection Well Facilities Area that is located north and east of the approved PWM/GWR Project Final EIR.

No documented groundwater contamination or contaminant plumes have been identified in the Injection Well Facilities Area, including the Expanded Injection Well Area. Therefore, injection

associated with the approved PWM/GWR Project in combination with the Proposed Modifications would not exacerbate existing groundwater contamination or cause plumes of contaminants to migrate. As a result, additional RWQCB requirements related to groundwater contaminants would not be necessary for the Proposed Modifications.

Dissolution of Natural or Anthropogenic Constituents

The Recycled Water Policy does not limit the authority of a RWQCB to impose additional requirements for a proposed groundwater replenishment project that causes constituents, such as naturally occurring arsenic, to become mobile and impact groundwater quality.

When two water types with different water chemistry are mixed (such as the PWM/GWR Project purified water and groundwater with and without the Proposed Modifications), geochemical reactions could occur in the groundwater system. These reactions could potentially result in leaching of natural or anthropogenic constituents, which could potentially impact groundwater guality. The risk of geochemical impacts from incompatibility would be addressed at the proposed Advanced Water Purification Facility by including a stabilization process to ensure that purified water is stabilized and non-corrosive. Laboratory leaching tests were conducted using the stabilized Advanced Water Purification Facility pilot water⁴, with the results used to conduct a detailed geochemical modeling analysis that will be used to inform the design of the Advanced Water Purification Facility stabilization system (Todd Groundwater, 2015b). The geochemical modeling assessment is summarized in a field investigation report. Based on modeling results, potential changes in groundwater concentrations as a result of the approved PWM/GWR Project are expected to be minor and would not result in exceedances of groundwater quality standards (Todd Groundwater, 2015b). Additional bench scale leaching tests of the purified recycled water modified to be slightly corrosive (Langlier Index of -0.1) indicated leaching of transition metals to be very minor (Pueblo Water Resources, Inc., 2019). The purified recycled water, including with the increased injections associated with the Proposed Modifications, will meet water quality standards and would not cause unacceptable leaching in the groundwater basin.

Salt/Nutrient Management Plan

A Salt/Nutrient Management Plan has been prepared for the Seaside Basin to comply with the Recycled Water Policy (HydroMetrics, 2014). The SNMP was developed with basin stakeholder input through the Seaside Basin Watermaster and has been adopted by the Monterey Peninsula Water Management District.

As documented in the Salt/Nutrient Management Plan, ambient groundwater generally exceeds the TDS Basin Plan groundwater objective in many areas of the Seaside Basin, while nitrate and chloride concentrations generally meet Basin Plan objectives (Todd Groundwater, 2015a). A study that evaluated the water quality of the stabilized RO pilot water found that the concentrations of TDS, nitrate, and chloride in the purified water meet all Basin Plan objectives (Todd Groundwater, 2015a). Further, these concentrations are generally lower than average concentrations in groundwater. As such, replenishment of the Seaside Basin using the purified recycled water afforded by the Project with the Proposed Modifications would not adversely impact salt and nutrient loading in the Seaside Basin and would provide benefits to local groundwater quality.

⁴ The samples were RO permeate collected from the M1W Advanced Water Purification pilot plant. The RO permeate was stabilized using a bench-scale post-treatment stabilization unit to better approximate the water quality anticipated for the proposed Advanced Water Purification Facility.

Anti-degradation

Per the results of the Salt/Nutrient Management Plan, the Project with the Proposed Modifications would not degrade groundwater or utilize assimilative capacity above the 10% threshold cited in the Recycled Water Policy that requires a more detailed anti-degradation analysis. The purified recycled water, including that additional amount associated with the Proposed Modifications, would be treated and stabilized to meet all drinking water quality objectives and other Basin Plan objectives, including not exceeding the assimilative capacity by more than 10% (RWQCB, March 2017). Further, the additional purified recycled water would be expected to be higher quality water than ambient groundwater with respect to TDS, chloride, and nitrate.

As such, the Proposed Modifications will neither cause a violation of a groundwater quality standard nor adversely impact beneficial uses. Rather, the Proposed Modifications would have a beneficial effect on local groundwater quality.

Impact Conclusions

There would be no new significant impact nor an increase in severity of an impact. Based on the groundwater characterization, recent groundwater sampling results, stabilized pilot water quality/chemistry and projected Advanced Water Purification Facility purified recycled water quality, and results from the M1W field program, the following conclusions were made in the relevant technical reports.

- Stabilized pilot plant water samples and projected purified recycled water quality would meet SWRCB Regulations for groundwater replenishment projects and Basin Plan groundwater quality standards, including drinking water MCLs. Further, the treatment processes to be used have already been determined to meet the requirements in the DDW Groundwater Replenishment Regulations and the Advanced Water Purification Facility is required by its existing WDR/WRR to ensure that all water quality standards would be met in both the purified recycled water and groundwater. A monitoring program would document project performance.
- Stabilized pilot plant water samples and projected purified recycled water exhibit much lower concentrations of total dissolved solids and chloride than in ambient groundwater and would be expected to provide a localized benefit to groundwater quality. Such a benefit would expand over time with continuous replenishment from the Proposed Project wells.
- No documented groundwater contamination or contaminant plumes have been identified in the area in the Injection Well Facilities, including in the Expanded Injection Well Area. Therefore, replenishment associated with the Proposed Modifications would not exacerbate existing groundwater contamination or cause plumes of contaminants to migrate.
- Injection of additional purified recycled water from the Advanced Water Purification Facility would not degrade groundwater quality such that a significant impact would occur. This conclusions is consistent with the RWQCB findings in their March 2017 approval of the WDR/WRR for the approved PWM/GWR Proejct. A monitoring plan would be implemented to meet RWQCB and DDW requirements.
- The additional purified recycled water from the Advanced Water Purification Facility would be stabilized to ensure ther would be no adverse geochemical impacts. Geochemical modeling associated with the M1W and the Seaside Basin Watermaster's field programs indicated that no adverse groundwater quality impacts are expected from leaching or other geochemical reactions.

 Groundwater flow modeling indicates that the Project with the Proposed Modifications would not lower water levels below protective levels in coastal wells and would not exacerbate seawater intrusion. The Proposed Modifications would have additional beneficial impacts related to salinity and, in some cases, nutrient concentrations in groundwater and would have a less-than-significant impact on groundwater quality for all other constituents, including those related to the seawater intrusion conditions of the basin, the safety of the water supply for human consumption, and the beneficial use of the Seaside Basin.

Overall, the impacts of the Project with the Proposed Modifications would be the same as those of the approved PWM/GWR Project on groundwater quality in the Seaside Basin. Specifically, the Project with the Proposed Modifications would have a beneficial impact with respect to TDS, chloride, and nitrate and a less-than-significant impact for all other constituents. No mitigation measures would be required.

4.10.4.5 Cumulative Impacts and Mitigation Measures

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

Because the Proposed Modifications would be a back-up plan to the MPWSP 6.4-mgd desalination project, the Proposed Modifications would not operate simultaneously with the MPWSP desalination; therefore, the impacts of operating the projects would not be additive to each other in the analysis of cumulative impacts on the Seaside nor Salinas Valley Groundwater Basin operational water quality and water levels. The cumulative groundwater analysis in the PWM/GWR Project Final EIR evaluated combined effects of the MPWSP desalination plant and the approved PWM/GWR Project and found that cumulative impacts would be less than significant assuming compliance with the Seaside Basin adjudication decision.

The analysis in this Draft Supplemental EIR assumes that CalAm would need to supply all of its demands with water from existing entitlements to Carmel River system water, Seaside Basin native water, water injected into the Seaside Basin from the ASR Project, water injected into the Seaside Basin from the PWM/GWR Project with Proposed Modifications, and Sand City desalination (Jon Lear, personal communication, July 2019). For other issue areas and for construction impacts on groundwater, this Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR, including the MPWSP Project construction, as a worst-case.

The PWM/GWR Project Final EIR and Addenda found that the project's contribution to significant groundwater hydrology and water quality cumulative impacts would not be cumulatively considerable during construction and operations. The approved PWM/GWR Project was found to have only beneficial impacts on the Salinas Valley Groundwater Basin, despite the presence of seawater intrusion conditions adversely affecting the basin. The approved PWM/GWR Project with Proposed Modifications would continue to benefit the Salinas Valley Groundwater Basin because additional source water will be made available for use by the Salinas Valley Reclamation

Project to augment volumes of water available to CSIP, albeit lesser volumes.⁵ As previously described, the approved PWM/GWR Project with Proposed Modifications would have less than significant impacts and beneficial impacts on the Seaside Groundwater Basin, and would result in no new significant or more severe significant impacts. The Proposed Modifications would continue to benefit groundwater quality and levels in both basins as described in **Section 4.10.4.4**. The cumulative projects would not have adverse operational effects within the Seaside Basin that would add to the less than significant groundwater quality impacts of the approved PWM/GWR Project with Proposed Modifications to result in a new significant cumulative impact. See also **Appendices D, E**, and **H** for more information. Therefore, the Project Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative groundwater hydrology and water quality impacts.

⁵ To date, the conditions in Sec. 16.15 of the Amended and Restated Water Recycling Agreement have not been satisfied; however, this Draft Supplemental EIR assumes that those conditions will be satisfied such that the CSIP system will have rights to use the new source water volumes available to it pursuant to that agreement. Completion of the Sec. 16.15 conditions are outside the control of M1W.

4.10 Hydrology and Water Quality: Groundwater

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4.11 HYDROLOGY AND WATER QUALITY: SURFACE WATER

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 4.11.1 Introduction 4.11.2 Environmental Setting 4.11.3 Regulatory Framework 4.11.4 Impacts and Mitigation Measures 	 4.11-1 Summary of Prior Environmental Review – Hydrology and Water Quality: Surface Water 4.11-2 Summary of Impacts – Hydrology and Water Quality: Surface Water 4.11-3 Summary of Estimated Worst-case Water Quality for the Three Waste Streams that would be Discharged Through the Ocean Outfall 4.11-4 Flow Scenarios to Determine Modeled DM Values Used for Ocean Plan Compliance Analysis 4.11-5 Estimated Concentrations of Ocean Plan Constituents at the Edge of the ZID 4.11-6 Estimated Concentrations of all COP Constituents, Expressed as Percent of Ocean Plan Objective

4.11.1 Introduction

This section evaluates the potential impacts to Hydrology and Water Quality: Surface Waters associated with the Proposed Modifications. This section includes updates to background information on surface water resources, including a summary of hydrology and surface water quality, and a summary of the regulatory framework based on information contained in the PWM/GWR Project Final EIR, as supplemented by site-specific information for the Proposed Modifications.

Section 4.11, Hydrology and Water Quality: Surface Water of the PWM/GWR Project Final EIR (see PWM/GWR Project Final EIR Vol. 1, at pg. 4.11-1 through 4.11-112) evaluated the surface water effects associated with the approved PWM/GWR Project. Similarly, the Addenda to the PWM/GWR Project Final EIR also considered the potential effects to surface water resources associated with minor modifications to the PWM/GWR Project Final EIR. The Addenda did not change any of the conclusions of the Final PWM/GWR EIR. **Table 4.11-1** below summarizes the findings of the PWM GWR Project EIR and Addenda.

Table 4.11-1

Summary of Prior Environmental Review – Hydrology and Water Quality: Surface Water

	Approved PWM/GWR Project (Overall Impact)
HS-1: Construction Impacts to Surface Water Quality due to Discharges	LS
HS-2: Construction Impacts to Surface Water Quality due to Earthmoving, Drainage Alterations, and Use of Hazardous Chemicals	LS
HS-3: Operational Impacts to Surface Water Quality due to Well Maintenance Discharges	LS
HS-4: Operational Surface Water Quality Impacts due to Source Water Diversions	LSM
HS-5: Operational Marine Water Quality due to Ocean Discharges	LS
HS-6: Operational Drainage Pattern Alterations	LS
HS-7: Operational Carmel River Flows	BI
HS-8: Operational Risks due to Location within 100-Year Flood Area	LS

4.11 Hydrology and Water Quality: Surface Water

Table 4.11-1

Summary of Prior Environmental Review – Hydrology and Water Quality: Surface Water

	Approved PWM/GWR Project (Overall Impact)
HS-9: Operational Risks due to Flooding due to Levee/Dam Failure, or Coastal Inundation	LS
HS-10: Operational Seiche, Tsunami, or Mudflow Risk	LS
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	

The analysis of hydrology and water quality is separated into two sections in this Draft Supplemental EIR. As discussed in further detail below, the environmental setting related to surface water resources (e.g., surface water hydrology and water, drainage systems, flood and inundation hazards, and existing regulatory requirements) remains unchanged from the PWM/GWR Project Final EIR. Therefore, a detailed description of the existing environmental setting is not included in this section. Please refer to Section 4.11.2 of the PWM/GWR Project Final EIR for more information. **Section 4.10, Hydrology and Water Quality: Groundwater**, addresses groundwater hydrology and water quality, including recharge and surface water/groundwater interaction characteristics of the groundwater basin. The analysis of how potential changes in ocean water quality would impact marine benthic species is discussed in **Section 4.13, Marine Biological Resources**.

M1W received public comments related to surface water and marine hydrology and water quality in response to the Notice of Preparation. Public comments involving potentially significant effects on the environment are summarized below. For a complete list of public comments received during the public scoping period, refer to **Appendix A**.

- California State University Monterey Bay (CSUMB) requested that the Draft Supplemental EIR consider hydrology and water quality impacts associated with the Proposed Modifications. The following analysis evaluates the Proposed Modifications' potential hydrology and water quality effects.
- MCWRA requested a water balance analysis to support the Proposed Modifications. In addition, the comment further indicated that the water balance analysis should be consistent with the ARWRA as well as other contractual rights to source water, including the MCWRA's Appropriative Water Rights for Blanco Drain and Reclamation Ditch. MCWRA also requested that M1W conduct a water quality analysis of agricultural wash water as a new source. Schaaf & Wheeler prepared a source water availability analysis to identify the availability of sources waters to accommodate the Proposed Modifications. Please refer to Section 4.18, Water Supply & Wastewater Systems. Please see also Chapter 3.0, Water Quality Statutory and Regulatory Compliance Overview for a discussion of water quality related requirements.

4.11.2 Environmental Setting

The PWM/GWR Project Final EIR included a comprehensive description of surface water resources. This description included an overview of: 1) existing natural drainages and water bodies and man-made drainage features in the region; 2) climate and precipitation; 3) watersheds

and waterbodies; 4) surface water quality; and, 5) floods, seiche, and ocean-related inundation. The existing environmental setting as it relates to surface water hydrology and water quality remains unchanged from the PWM/GWR Project Final EIR. Therefore, for a complete description of the environmental related to hydrology and water quality topics related to surface water, please refer to Section 4.11.2 of the PWM/GWR Project Final EIR.

4.11.3 Regulatory Framework

4.11.3.1 Federal and State Regulations

Section 4.11.3.1 of the PWM/GWR Project Final EIR described federal and state regulations related to surface water hydrology and water quality. While there have not been any relevant changes to existing federal and state regulations, M1W would need to amend their existing NPDES permit (Order No. R3-2018-0017) to accommodate increased discharges of RO concentrate associated with modifications to the Advanced Water Purification Facility as discussed below.

4.11.3.2 Regional and Local

Section 4.11.3.3 of the PWM/GWR Project Final EIR described regional and local land use regulations related to surface water hydrology and water quality. See also Table 4.11-12, Applicable Local Land Use Plans, Policies, and Regulations – Hydrology and Water Quality: Surface Water contained in the PWM/GWR Project Final EIR for more information. There have been no relevant changes to these regulations.

4.11.4 Impacts and Mitigation Measures

4.11.4.1 Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, a project would have a significant impact on surface water hydrology and water quality if it would:

- a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- b. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - 1. Result in substantial erosion or siltation on- or off-site;
 - 2. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
 - 3. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - 4. Impede or redirect flood flows;
- c. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or

d. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the State Revolving Fund Loan Program administered by the State Water Resources Control Board.

4.11.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

Construction

Construction of the Proposed Modifications could impact surface water hydrology and water quality of surface water resources, including the ocean. The following analysis evaluates whether construction of the Proposed Modifications has the potential to degrade existing water quality, increase erosion, modify drainage patterns, or exceed capacities of existing drainage facilities.

Construction dewatering and erosion was analyzed by Ninyo and Moore in their project-specific Preliminary Geotechnical Analysis as part of the approved PWM/GWR Project.¹ Regional data, plans, reports, and maps were reviewed to identify surface water resources that could be directly or indirectly affected by construction of the Proposed Modifications. No construction activities are proposed within the marine study area (defined in the PWM/GWR Project Final EIR). As a result, no direct construction impacts to marine resources would occur in connection with the Proposed Modifications. Indirect temporary construction impacts on the marine water quality relative to discharges to surface waters that may lead to the ocean are also addressed.

Criteria "b(2)," "b(4)," and "c" are not evaluated for construction-related impacts because temporary construction activities would not have a potential to: 1) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site due to the alteration of existing drainage pattern on the site; 2) impede or redirect flood flows due to alterations to the existing drainage pattern of the site; and, 3) risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. As a result, these criteria are not discussed in **Section 4.11.4.3**.

Operation

The impact analysis describes whether and to what degree operation of the Proposed Modifications would change the existing hydrology, water quality, and flooding conditions and how the Proposed Modifications would comply with or exceed any applicable regulatory requirements.

The impact analysis in this section on marine water quality describes whether, and to what degree, the Proposed Modifications would change the existing ocean water quality and how the Proposed Modifications would comply, or be consistent, with applicable regulatory requirements.

¹ The preliminary geotechnical evaluation did not specifically evaluate the Proposed Modifications, however, each of the Proposed Modifications are within the same general vicinity and geologic setting as components of the approved PWM/GWR Project. As a result, the information contained in the preliminary geotechnical evaluation, as supplemented by site specific information related to the Proposed Modifications, is considered relevant for the purposes of evaluating the potential impacts associated with the Proposed Modifications.

Potential adverse impacts to marine water quality could occur from operation of the modifications to the Advanced Water Purification Facility. Specifically, discharges of reverse osmosis concentrate to Monterey Bay through the existing ocean outfall could potentially affect water quality in the Monterey Bay. M1W consultants, Larry Walker & Associates, conducted modeling of the dilution characteristics of the Proposed Modifications' ocean discharge from the outfall to the edge of the zone of initial dilution (ZID) to determine minimum initial dilution values for the various discharge scenarios. The ocean modeling results were used to assess compliance with the Ocean Plan using a water quality modeling conducted by Trussell Technologies (see **Appendix J**). See also **Section 4.13, Marine Biological Resources,** for more information on impacts to marine biological resources.

Areas of No Impact

The Proposed Modifications would not result in impacts related to some of the significance criteria, as explained below. Impact analyses related to the other criteria are addressed below under **Sections 4.7.4.4** (construction impacts), **4.7.4.5** (operational impacts), and **4.7.4.6** (cumulative impacts).

The following criteria are not applicable to or would not be affected by some or all the Proposed Modifications during construction:

b(2) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite. Temporary construction-related effects associated with the Proposed Modifications would not entail the alteration of the existing drainage pattern on the site such that it would substantially increase the rate or amount of surface runoff in a manner which would in on- or off-site flooding. Construction-related activities would result in temporary ground-disturbing activities, but these activities would not result in the introduction of impervious surfaces. As a result, construction would not substantially increase the rate or amount of surface runoff. Therefore, there would be no impact during construction. Operational impacts associated with the increase in impervious surfaces are addressed separately below.

b(4) Impede or redirect flows. Temporary construction-related effects associated with the Proposed Modifications do not entail any modifications to existing drainage patterns due to the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner that would impede or redirect flows. No streams or rivers would be affected by the Proposed Modifications and temporary construction activities would not result in an increase in impervious surfaces. There would be no impact during construction. As a result, there would be no impact under this criterion related to construction. Operational impacts associated with the increase in impervious surfaces are addressed separately below.

(c) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation. The Proposed Modifications are not located in a flood hazard zone, tsunami zone, or seiche zone. As a result, construction of the Proposed Modifications would not risk the release of pollutants due to inundation. There would be no impact during construction. Therefore, this criterion is not discussed further.

The following criteria are not applicable to some or all the Proposed Modifications during operation:

(c) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation. The Proposed Modifications are not located in a flood hazard zone, tsunami

zone, or seiche zone. As a result, operation of the Proposed Modifications would not risk the release of pollutants due to project inundation. There would be no impact during operation. Therefore, this criterion (c) is not discussed further.

Summary of Impacts

Table 4.11-2, Summary of Impacts – Hydrology and Water Quality: Surface Water, provides a summary of potential impacts to the surface water hydrology and water quality environment and significance determinations at each of the Proposed Modifications.

Table 4.11-2

Summary of Impacts - Hydrology and Water Quality: Surface Water

				CalAm Dis Syst	CalAm Distribution System					
Impact Title	Advanced Water Purification Facility	Product Water Conveyance Pipeline	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overal				
HS-1: Construction Impacts to Surface Water Quality due to Discharges	LS	LS	LS	LS	LS	LS				
HS-2: Construction Impacts to Surface Water Quality due to Earthmoving, Drainage Alterations, and Use of Hazardous Chemicals	LS	LS	LS	LS	LS	LS				
HS-3: Operational Impacts to Surface Water Quality due to Well Maintenance Discharges	NI	NI	LS	LS	NI	LS				
HS-4: Operational Marine Water Quality due to Ocean Discharges	LS	NI	NI	NI	NI	LS				
HS-5: Operational Drainage Pattern Alterations	LS	LS	LS	LS	LS	LS				
HS-6: Operational Carmel River Flows	BI	BI	BI	BI	BI	BI				
Cumulative Impacts- Inland	ve Impacts- Inland LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative construction or operational impacts to hydrology or water quality of inland surface waters.									
Cumulative Impacts- Marine	LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative construction or operational impacts to hydrology or water quality of marine waters.									
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact										

4.11.4.3 Construction Impacts and Mitigation Measures

Impact HS-1:Construction Impacts to Surface Water Quality due to Discharges.
Construction of the Proposed Modifications involve well drilling
and development. Dewatering of shallow groundwater during
excavation would generate water requiring disposal. Compliance
with existing regulatory requirements would ensure that water
disposal during construction would not violate any water quality
standards or waste discharge requirements or substantially
degrade surface water quality, would not cause substantial erosion
or siltation, and would not otherwise substantially degrade
surface water quality. (Criteria a, b(1), and d) (Less-than-
Significant)

Injection Well Facilities and CalAm Distribution System (Extraction Wells)

The PWM/GWR Project Final EIR identified that the approved PWM/GWR Project would involve surface water discharges as part of well drilling activities. The PWM/GWR Project Final EIR identified that muds and clay slurry generated during the drilling and development of new wells would fall under the categories of "Water Supply Well Drilling Muds" and "Water Supply" in the General Waiver of Waste Discharge Requirements for Specific Types of Discharges (General Waiver) (see PWM/GWR Project Final EIR Section 4.11.3.1 for more information).² The PWM/GWR Project Final EIR further identified that the water extracted during well development falls under the category of "water supply discharges" in the General Waiver. As a result, the PWM/GWR Project Final EIR identified that water supply discharges during construction that would occur under the General Waiver include all water produced during well drilling and development. Under the General Waiver, these discharges would be waived from waste discharge requirements and from the requirement of submitting a waste discharge report; however, they would be subject to conditions of the General Waiver. The PWM/GWR Project Final EIR concluded that construction activities requiring water disposal during well drilling and development would have a less-than-significant impact and no mitigation is necessary because the disposal of water in connection with these activities would be required to comply with the conditions of the General Waiver.

Construction of the Proposed Modifications would result in comparable environmental effects the Proposed Modifications would result in surface water discharges as part well drilling and development activities. These activities, consistent with the findings of the PWM/GWR Project Final EIR, would be characterized as "Water Supply Well Drilling Muds" and "Water Supply Discharges from Pipelines, Storage Tanks, Pump Tests, and Well Development" in Order No. R3-2019-0089, *General Waiver of Waste Discharge Requirements for Specific Types of Discharges* (General Waiver) and would be subject to the conditions within the General Waiver. Compliance with conditions of the General Waiver would ensure that all temporary impacts associated with

² See also State Water Resources Control Board Order No. 2003-0003, *Statewide General Waste Discharge Requirements (WDRs) for Discharges to Land with a Low Threat to Water Quality,* and California Regional Water Quality Control Board Central Coast Region Order No. R3-2019-0089, *General Waiver for Specific Types of Discharges.*

construction discharges would have a less-than-significant impact. Therefore, no mitigation is necessary.

All Proposed Modifications Requiring Excavation and Dewatering

The PWM/GWR Project Final EIR identified that, due to varying subsurface water levels in the region, construction activities involving excavation could intercept shallow or perched groundwater. This could necessitate temporary localized dewatering to facilitate construction. The PWM/GWR Project Final EIR further identified that absent regulatory controls, the discharge from construction dewatering could contaminate downstream surface water. The PWM/GWR Project Final EIR identified that compliance with the General Waste Discharge Requirements for Discharges with a Low Threat to Water Quality (Order No. 2003-0003) would ensure that potential temporary construction-related effects would be reduced to a less-than-significant level. Moreover, the PWM/GWR Project Final EIR also identified that suspended sediment and/or trace amounts of construction-related chemicals (i.e., fuels, lubricants, cement products) could be present in the dewatering effluent. The dewatering effluent could also contain other chemicals and contaminants present in local soil and groundwater. If the dewatering effluent contains contaminants that do not comply with the requirements of the General Waste Discharge Requirements Order No. 2003-0003, the PWM/GWR Project Final EIR identified that the contractor must contain the dewatering effluent in a portable holding tank for appropriate offsite disposal or discharge. The contractor could either dispose of the effluent at a permitted waste management facility or discharge the dewatering effluent to a publicly owned treatment works such as the M1W Regional Treatment Plant. The PWM/GWR Project Final EIR concluded that adherence to applicable regulatory requirements, including compliance with Order No. 2003-0003, would ensure that the approved PWM/GWR Project would not have a less-than-significant impact on water quality. Therefore, no mitigation measures would be required.

The Proposed Modifications would result in comparable environmental effects - the Proposed Modifications would involve temporary construction-related activities including excavation, which could encounter shallow or perched groundwater. This would necessitate temporary and localized dewatering to facilitate construction. Consistent with the findings of the PWM/GWR Project Final EIR, compliance with Order No. 2003-0003 would ensure that temporary construction-related effects would be less-than-significant. As identified in the PWM/GWR Project Final EIR, compliance with the conditions of Order No. 2003-0003 would entail the following: the construction contractor(s) would be required to control, test, and treat the extracted water as needed to minimize or avoid water quality degradation, erosion, and sedimentation in the receiving waters. In addition, the contractor would be required to submit a Notice of Intent along with the required supporting information to the Central Coast RWQCB. Compliance with these requirements would ensure that construction of the Proposed Modifications would not result in a significant impact on surface water quality due to construction dewatering. Therefore, no mitigation measures would be required.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, all water extracted during well drilling and development would be disposed of in accordance with the General Waiver of *Waste Discharge Requirements for Specific Types of Discharges* (Resolution R3-2019-0089). Disposal of water produced during general construction dewatering would be conducted in accordance with the Order 2003-0003. Therefore, the Proposed Modifications would result in a less-than-significant water quality impact. No mitigation measures would be required.

Impact HS-2:Construction Impacts to Surface Water Quality due to
Earthmoving and Drainage Alterations. Construction of the
Proposed Modifications would not violate any water quality
standards or waste discharge requirements, would not cause
substantial erosion or siltation, and would not otherwise
substantially degrade surface water quality including marine
water quality, due to earthmoving, drainage alterations, and use of
hazardous chemicals. (Criteria a and b(1)) (Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR identified that construction of the approved PWM/GWR Project could degrade water quality due to erosion and siltation caused by earthmoving activities during construction or the accidental release of hazardous construction chemicals. More specifically, the PWM/GWR Project Final EIR identified that earthmoving activities would temporarily alter existing drainage patterns potentially resulting in erosion or siltation on- or off-site. For instance, exposed soil from excavated areas, stockpiles, and other areas where groundcover would be removed could be inadvertently transported offsite by wind or water. If not properly managed, this could increase sediment loads in surface water bodies and adversely impact surface water quality. The PWM/GWR Project Final EIR also identified that construction activities could also result in the accidental release of hazardous construction chemicals, such as adhesives, solvents, lubricants, and fuels. If not managed appropriately, these chemicals could adhere to soil particles, become mobilized by rain or runoff, and flow to downstream water bodies.

The PWM/GWR Project Final EIR concluded that potential temporary construction effects would be reduced to a less-than-significant level through the compliance with standard constructionphase Best Management Practices (BMPs), as well as compliance with the requirements of the NPDES Construction General Permit and the Municipal Stormwater Permit requirements. Permit compliance would ensure that the contractor(s) prepare and implement a SWPPP. The SWPPP, which would include specific measures and conditions to reduce or eliminate stormwater flow carrying any pollutants or sediment from the earthmoving activities and related construction activities, would be implemented throughout the duration of construction activities.

The PWM/GWR Project Final EIR also identified that the construction contractor(s) would also be required to develop and implement a monitoring program as required under the NPDES Construction General Permit. The contractor would be required to conduct inspections of the construction site prior to anticipated storm events and after the actual storm events. During extended storm events, the inspections would be conducted after every 24-hour period. The inspections would be conducted to: identify areas contributing to stormwater discharge; evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate, were properly installed, and are functioning in accordance with the Construction General Permit; and determine whether additional control practices or corrective measures are needed. As a result, the PWM/GWR Project Final EIR concluded that this would represent a less-than-significant impact and no mitigation measures would be required.

Mandatory compliance with the NPDES Construction General Permit requirements would prevent significant construction-related impacts to surface water quality during general construction activities. Therefore, the water quality impacts (including on inland surface waters and marine waters) associated with construction of all Proposed Modifications would be less-than-significant.

Construction of the Proposed Modifications would result in impacts comparable to those identified in the PWM/GWR Project Final EIR. Construction-related activities would result in temporary ground-disturbing activities that could result in erosion and siltation on- or off-site. Consistent with the findings of the PWM/GWR Project Final EIR, implementation of construction BMPs, as well as compliance with existing regulatory requirements, including the NPDES General Construction Permit, would ensure that temporary construction-related effects would be minimized to a lessthan-significant level. The incremental increase in construction activities associated with the Proposed Modifications would not substantially increase the severity of a previously identified impact. Like the approved PWM/GWR Project, the Proposed Modifications would result in a lessthan-significant temporary construction-related impact. **Section 4.9, Hazards, Hazardous Materials, and Wildfire** addresses the potential impacts associated with the accidental release of a hazardous substance during construction. As identified in **Section 4.9, Hazards, Hazardous Materials, and Wildfire** potential impacts due to the use of hazardous chemicals during construction would be less-than-significant.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, construction-related activities associated with the Proposed Modifications could result in potential temporary impacts related to siltation on- and off-site, as well as potential impacts related to hazardous materials usage during construction. Potential temporary construction-related impacts would be minimized through compliance with applicable regulatory requirements, including compliance with NPDES Construction General Permit, local grading ordinances, and implementation of erosion and stormwater quality control measures in a SWPPP. This would ensure that all impacts would be less-than-significant. No mitigation is warranted.

4.11.4.4 Operational Impacts and Mitigation Measures

Impact HS-3:Operational Impacts to Surface Water Quality due to Well
Maintenance Discharges. Operation of the Proposed
Modifications would not violate any water quality standards or
waste discharge requirements, would not cause substantial
erosion or siltation, and would not otherwise substantially
degrade surface water quality due to well maintenance discharges.
(Criteria a and b(1)) (Less-than-Significant)

The only Proposed Modifications that would require additional periodic well maintenance that would be additive to the approved PWM/GWR Project are the one additional Injection Well in the Expanded Injection Well Area and the proposed Extraction Wells. None of the other modifications include the construction of wells nor involve any well maintenance discharges. As a result, the following analysis focuses upon the potential environmental effects associated with the additional Injection Well and Extraction Wells. Potential marine water quality impacts due to operational discharges of reverse osmosis concentrate from the Advanced Water Purification Facility are addressed in **Impact HS-5, below**.

Injection Well Facilities and Extraction Wells

As identified in the PWM/GWR Project Final EIR, well capacity can decrease over time and maintenance would be required to backflush the wells. The PWM/GWR Project Final EIR identified that the Injection Wells would require periodic backflushing (approximately four hours weekly) and would require discharge of the back-flush water to on-site backflush basins. According to the PWM/GWR Project Final EIR, water discharged into the backflush basin would consist of water extracted from the Santa Margarita groundwater aquifer, an aquifer whose water quality consistently meets all water quality standards. Moreover, the PWM/GWR Project Final EIR also identified that there were no surface water bodies, wetlands, or riparian areas that would be affected due to operational well maintenance discharges. As a result, the PWM/GWR Project Final EIR concluded that well discharges as part of on-going maintenance would not violate any water quality standards or waste discharge requirements and would not otherwise substantially degrade surface quality. This was identified as a less-than-significant impact and no mitigation was identified as necessary.

Operation of the additional injection and Extraction Wells would result in comparable environmental effects - operation of proposed wells would require on-going maintenance that would entail periodic well discharges into backflush basins. Well discharge from the Injection Well Facilities, including the new deep well and the two relocated deep wells, would be disposed of on-site at a new backflush basin proposed in the Expanded Injection Well Area. Well discharge from the Extraction Wells would be conveyed via the proposed CalAm Conveyance Pipelines to the existing Phase 1 ASR Pump-to-Waste System. As with the approved PWM/GWR Project, none of the Proposed Modifications are in an area where surface water bodies, wetlands, or riparian areas are present. The RWQCB Order No. 2019-0089 General Waiver for Specific Types of Discharges includes well development water in Section A of Attachment A; thus, these discharges are specifically waived from receiving Waste Discharge Requirements, and from submitting a Report of Waste Discharge, provided the discharge complies with the General Conditions and specific conditions for Section A discharges. As a result of meeting water quality standards, distance from surface water bodies, wetlands and riparian areas, and compliance with the requirements of the General Waiver, the Proposed Modifications would not violate any water guality standards or waste discharge requirements and would not otherwise substantially degrade surface water quality. This represents a less-than-significant impact. No mitigation measures are required.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the Proposed Modifications would result in a less-than-significant impact due to on-going well maintenance. The water consistently meets all water quality standards and there are no surface water bodies, wetlands, or riparian areas that would be affected by the Proposed Modifications. The discharge of backflush water also would comply with the General Order. Therefore, the discharge water associated with well maintenance discharge would not violate any water quality standards or waste discharge requirements. In addition, the Proposed Modifications would not otherwise substantially degrade surface water quality. The Proposed Modifications would have a less-than-significant impact due to discharge of well maintenance water. No mitigation measures would be required.

Impact HS-4: <u>Operational Marine Water Quality due to Ocean Discharges</u>. The Proposed Modifications' operational discharges of reverse osmosis concentrate to the ocean through the M1W outfall would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade water quality. (Criteria a and d) (Less-than-Significant)

The PWM/GWR Project Final EIR evaluated the potential environmental effects associated with whether operational discharge of reverse osmosis concentrate from the approved PWM/GWR Project into the Monterey Bay would adversely affect water quality. As part of that analysis, the PWM/GWR Project Final EIR evaluated whether the approved PWM/GWR Project would comply with the Ocean Plan water quality objectives established to protect marine life and human life. The analysis contained in the PWM/GWR Project Final EIR was based on the results of a technical report prepared by Trussell Technologies, Inc. (Trussell Tech) entitled Ocean Plan Compliance Assessment for the Pure Water Monterey Groundwater Replenishment Project. That analysis consisted of a conservative approach to estimate the water qualities of the Regional Treatment Plant secondary effluent, reverse osmosis concentrate associated with the approved PWM/GWR Project, and hauled saline waste. Based on the results of Trussell Tech's analysis, the PWM/GWR Project Final EIR concluded that the approved PWM/GWR Project would comply with the Ocean Plan objectives and therefore would have a less-than-significant impact on water quality. Moreover, the PWM/GWR Project Final EIR further identified that the approved PWM/GWR Project would have a net beneficial impact on water quality due to pollutant load reductions that would occur due to diversions of waters of marginal quality to the Regional Treatment Plant for treatment and disposal.

The Proposed Modifications are anticipated to result in comparable environmental impacts to those identified in the PWM/GWR Project Final EIR. The following analysis specifically evaluates the Proposed Modifications' compliance with the Ocean Plan objectives established to protect marine life and human life based on the results of an updated technical report prepared by Trussell Tech. The Proposed Modifications to the Advanced Water Purification Facility are the only modifications that would result in the discharge of reverse osmosis concentrate into the Monterey Bay. Therefore, the following analysis only evaluates impacts associated with the Proposed Modifications to the Advanced Water Purification Facility.

Advanced Water Purification Facility

To support this Draft Supplemental EIR, Trussell Tech prepared a new report evaluating the potential water quality effects (ability to comply with California Ocean Plan water quality objectives) due to increased capacity of the Advanced Water Purification Facility, which would increase the amount of reverse osmosis concentrate discharged into Monterey Bay. Assumptions for the water quality analysis were provided by Larry Walker Associates (LWA) who modeled ocean dilution, and Trussell Tech and M1W staff who characterized the water quality of the commingled secondary effluent, hauled saline waste, and reverse osmosis concentrate. A copy of Trussell Tech's technical report is included in **Appendix J**; a summary of the report is provided herein.

For their analysis, Trussell Tech developed a conservative approach, which involved assuming the worst-case conditions for discharge. The estimated worst-case water quality of the discharge was compared to the Ocean Plan objectives to assess compliance. Based on the data, assumptions, modeling, and analytical methodology presented in Trussell Tech's report, the expansion of the Advanced Water Purification Facility is expected to comply with all Ocean Plan objectives. Consistent with the findings of the PWM/GWR Project Final EIR, this represents a less-than-significant impact.

Table 4.11-3 presents a summary of the estimated water qualities of Regional Treatment Plant secondary effluent, reverse osmosis concentrate, and hauled saline waste. Additional considerations and assumptions for each constituent are documented in the **Table 4.11-3** notes.

Table 4.11-3

Summary of Estimated Worst-case Water	r Quality	for the	Three	Waste	Streams	that	would
be Discharged Through the Ocean Outfa	11						

Constituent	Units	Secondary Effluent	Hauled Saline Waste	RO Concentrate	Notes			
Ocean Plan water quality objectives for protection of marine aquatic life								
Arsenic	μg/L	45	45	12	1,11			
Cadmium	μg/L	1.1	1.1	5.8	2,10			
Chromium (Hexavalent)	μg/L	11.0	130	58	1,10			
Copper	µg/L	13.7	39	72	2,10,15			
Lead	µg/L	0.83	0.83	4.4	2,10			
Mercury	µg/L	0.075	8.1	0.51	5,11			
Nickel	µg/L	11.0	11.0	58	2,10			
Selenium	µg/L	44.0	75	232	1,10			
Silver	µg/L	0.25	0.25	1.32	2,10			
Zinc	µg/L	51.9	170.0	273	2,10			
Cyanide	µg/L	92.7	92.7	143	2,11			
Total Chlorine Residual	µg/L	ND(<200)	ND(<200)	ND(<200)	n/a			
Ammonia (as N), 6-month median	µg/L	43,950	43,950	231,316	9			
Ammonia (as N), daily maximum	µg/L	49,700	49,700	261,579	1,10,16			
Acute Toxicity	TUa	2.3	2.3	0.77	1,10,16			
Chronic Toxicity	TUc	40	40	100	1,6,11			
Phenolic Compounds (non-chlorinated)	µg/L	69	69	363	1,6,11			
Chlorinated Phenolics	µg/L	ND(<20)	ND(<20)	ND(<20)	1,8,10			
Endosulfan	ua/L	0.045	0.045	0.24	4.10			
Endrin	ua/L	0.000113	0.000113	0.00059	5.8.10			
HCH (Hexachlorocyclohexane)	µg/L	0.054	0.054	0.287	3,10			
Radioactivity (Gross Beta)	pCi/L	32	307	34.8	5,8,10			
Radioactivity (Gross Alpha)	pCi/L	18	457	14.4	1,6,11			
Objectives for protection of human health - I	noncarcinogen	s	•	•				
Acrolein	µg/L	7.9	7.9	42	2,10			
Antimony	µg/L	1.02	1.02	5.4	2,10			
Bis (2-chloroethoxy) methane	µg/L	3.3	3.3	1.0	5,13			
Bis (2-chloroisopropyl) ether	µg/L	ND(<3.5)	ND(<3.5)	ND(<1)	4,13			
Chlorobenzene	µg/L	ND(<0.5)	ND(<0.5)	ND(<0.5)	4,13			
Chromium (III)	µg/L	6.9	87	36	2,10			
Di-n-butyl phthalate	µg/L	ND(<6)	ND(<6)	ND(<1)	4,13			
Dichlorobenzenes	µg/L	1.6	1.6	8.4	5,10			
Diethyl phthalate	µg/L	0.46	5	1	5,13			
Dimethyl phthalate	µg/L	ND(<2)	ND(<2)	ND(<0.5)	4,13			
4,6-dinitro-2-methylphenol	µg/L	35	35	5	5,13			
2,4-dinitrophenol	µg/L	ND(<7.2)	ND(<7.2)	ND(<5)	4,13			
Ethylbenzene	µg/L	ND(<0.5)	ND(<0.5)	ND(<0.5)	4,13			
Fluoranthene	µg/L	0.0079	0.0079	0.0417	3,10			
Hexachlorocyclopentadiene	µg/L	ND(<1.7)	ND(<1.7)	ND(<0.05)	4,13			
Nitrobenzene	ua/L	ND(<1.9)	ND(<1.9)	ND(<1)	4.13			
Thallium	µg/L	0.33	0.50	1.7	2,10			
Toluene	µa/L	0.47	0.47	2.5	5,10			
Tributyltin	µg/L	ND(<0.06)	ND(<0.06)	ND(<0.02)	4,13			
1,1,1-trichloroethane	µg/L	ND(<0.5)	ND(<0.5)	ND(<0.5)	4,13			
Objectives for protection of human health - o	carcinogens		,		,			
Acrylonitrile	ug/L	3.5	3.5	19	2.10			
Aldrin	µa/L	ND(<0.01)	ND(<0.01)	ND(<0.01)	4,13			
Benzene	µg/L	ND(<0.5)	ND(<0.5)	ND(<0.5)	4,13			

Table 4.11-3

Summary of Estimated Worst-case Water Quality for the Three Waste Streams that would be Discharged Through the Ocean Outfall

Constituent	Units	Secondary Effluent	Hauled Saline Waste	RO Concentrate	Notes
Benzidine	µg/L	ND(<15.9)	ND(<15.9)	ND(<0.05)	4,13
Beryllium	µg/L	ND(<0.64)	0.07	ND(<0.5)	4,13
Bis(2-chloroethyl)ether	µg/L	ND(<3.5)	ND(<3.5)	ND(<1)	4,13
Bis(2-ethyl-hexyl)phthalate	µg/L	78	78	411	1,10
Carbon tetrachloride	µg/L	0.5	0.5	2.63	2,10
Chlordane	µg/L	0.00122	0.00122	0.0064	3,8,10
Chlorodibromomethane	µg/L	1.9	1.9	10	2,10
Chloroform	µg/L	31	31	163	2,10
DDT	µg/L	0.0018	0.0018	0.0002	8,10,14
1,4-dichlorobenzene	µg/L	1.6	1.6	8.4	5,10
3,3-dichlorobenzidine	µg/L	ND(<15.6)	ND(<15.6)	ND(<2)	4,13
1,2-dichloroethane	µg/L	ND(<0.5)	ND(<0.5)	ND(<0.5)	4,13
1,1-dichloroethylene	µg/L	ND(<0.5)	0.5	ND(<0.5)	4,13
Dichlorobromomethane	µg/L	4.9	4.9	26	2,10
Dichloromethane (methylenechloride)	µg/L	1.60	1.60	8.4	1,10
1,3-dichloropropene	µg/L	0.54	0.54	2.8	2,10
Dieldrin	µg/L	0.0030	0.0030	0.0008	2,10,14
2,4-dinitrotoluene	µg/L	ND(<2)	ND(<2)	ND(<0.1)	4,13
1,2-diphenylhydrazine (azobenzene)	µg/L	ND(<3.5)	ND(<3.5)	ND(<1)	4,13
Halomethanes	µg/L	1.2	1.2	6.4	8,10
Heptachlor	µg/L	ND(<0.02)	ND(<0.02)	ND(<0.01)	4,13
Heptachlor epoxide	µg/L	0.000088	0.000088	0.000463	3,10
Hexachlorobenzene	µg/L	0.000088	0.000088	0.000463	3,10
Hexachlorobutadiene	µg/L	0.000009	0.000009	0.000047	3,10
Hexachloroethane	µg/L	ND(<1.9)	ND(<1.9)	ND(<0.5)	4,13
Isophorone	μg/L	ND(<0.7)	ND(<0.7)	ND(<0.5)	4,13
N-Nitrosodimethylamine	μg/L	0.871	0.871	0.150	2,11,12
N-Nitrosodi-N-Propylamine	μg/L	0.455	0.455	0.019	5,11,12
N-Nitrosodiphenylamine	μg/L	ND(<1.9)	ND(<1.9)	ND(<1)	4,13
PAHs	μg/L	0.44	0.44	2.32	5,10
PCBs	μg/L	0.00119	0.00119	0.00628	3,8,10
TCDD Equivalents	µg/L	1.37E-07	1.37E-07	7.23E-07	7,8,10
1,1,2,2-tetrachloroethane	µg/L	ND(<0.5)	ND(<0.5)	ND(<0.5)	4,13
Tetrachloroethylene	μg/L	ND(<0.5)	ND(<0.5)	ND(<0.5)	4,13
Toxaphene	μg/L	0.0071	0.0071	0.0373	3,10
Trichloroethylene	µg/L	ND(<0.5)	ND(<0.5)	ND(<0.5)	4,13
1,1,2-trichloroethane	µg/L	ND(<0.5)	ND(<0.5)	ND(<0.5)	4,13
2,4,6-trichlorophenol	µg/L	ND(<1.9)	ND(<1.9)	ND(<1)	4,13
Vinyl chloride	µg/L	0.22	0.22	1.15	5,10

Regional Treatment Plant Effluent and Hauled Waste Data

1. Existing Regional Treatment Plant secondary effluent exceeds concentrations observed in other proposed source waters; the value reported is the existing secondary effluent value.

2. The proposed new source waters may increase the secondary effluent concentration; the value reported is based on estimated source water blends.

3. Regional Treatment Plant secondary effluent value is based on CCLEAN data; no other source waters were considered due to Method Reporting Limit (MRL) differences.

4. MRL provided represents the maximum flow-weighted MRL based on the blend of source waters.

5. The only water with a detected concentration was the Regional Treatment Plant effluent, however the flow-weighted concentration increases due to higher MRLs for the proposed new source waters.

6. Calculation of the flow-weighted concentration was not feasible due to the constituent, and so the maximum observed value is reported.

7. This constituent was detected in water diverted to the Regional Treatment Plant from the Salinas Industrial Wastewater Treatment Facility (pond return/recovery water) and data are based on an aerated sample, instead of a raw water sample.

8. This value in the Ocean Plan is an aggregate of several congeners or compounds. Per the approach described in the Ocean Plan, for cases where the individual congeners/compounds were less than the MRL, a value of 0 is assumed in calculating the aggregate value. 9. For all waters, dechlorination will be provided when needed such that the total chlorine residual will be below detection.

RO Concentrate Data

10. The value presented represents a calculated value assuming no removal prior to RO, complete rejection through RO membrane, and an 81% RO recovery.

11. The value represents the maximum value observed during the pilot testing study.

Table 4.11-3 Summary of Estimated Worst-case Water Quality for the Three Waste Streams that would be Discharged Through the Ocean Outfall

Constituent	Units	Secondary Effluent	Hauled Saline Waste	RO Concentrate	Notes			
12. The calculated value for the RO concentrate data (described in note 11) was not used in the analysis because it was not considered								
representative. It is expected that the value would incre	ase as a result of t	reatment through th	ne Advanced Water	r Purification Facility (e.	g. formation			
of N-Nitrosodimethylamine as a disinfection by-product), or that it will not concentrate linearly through the RO (e.g. toxicity and radioactivity).								
The MRL provided represents the limit from the source	rce water and pilot	testing monitoring	programs.					
General								
14. The value presented represents a calculated value	assuming 93% and	d 84% removal thro	ugh primary and se	econdary treatment for I	DDT and			
dieldrin, respectively, 36% and 44% removal through o	zone for DDT and o	dieldrin, respectivel	y, 92% and 97% re	moval through MF for D	DT and			
dieldrin, respectively, recycling of the MF backwash to	the Regional Treatr	ment Plant, comple	te rejection through	the RO membrane, ar	nd an 81%			
RO recovery. The assumed removals are based on res	ults from ozone be	nch-scale testing of	f Blanco Drain wate	er blended with second	ary effluent			
and low detection sampling through the Regional Treat	ment Plant.							
15. The value reported for the secondary effluent was of	alculated using the	e median of the data	a collected for the r	new source waters and	is an			
estimate of the potential increase in concentration of th	e secondary effluer	nt based on estimat	ted source water bl	ends. The median value	e was used			
because the maximum values detected in new source	waters appear to be	e outliers, and beca	use the Ocean Pla	n objective is a 6-month	n median			
concentration, it is reasonable to use the median value	detected from thes	se source waters.						
16 Ammonia (as N) represents the total ammonia cond	entration is the s	um of unionized an	nmonia (NH₂) and i	onized ammonia (NH ₄)				

Ocean Modeling Results

LWA modeled various ocean discharge scenarios that included combinations of Regional Treatment Plant secondary effluent, hauled saline waste, and RO concentrate associated with the Proposed Modifications. Year-round compliance with the Ocean Plan objectives was assessed through the evaluation of ten representative discharge scenarios covering the expected range of secondary effluent discharge flows. These scenarios encompass the best- and worst-case ocean dilution conditions. All scenarios assume the maximum flow rate of RO concentrate, which is a conservative assumption in terms of constituent loading and minimum dilution.

The ten scenarios used for the compliance assessment, in terms of secondary effluent flow rates to be discharged with the other waste streams, are shown in **Table 4.11-4**, and include:

- Minimum Wastewater Flow Scenario 1: the maximum influence of the Project RO concentrate on the ocean discharge (i.e., no secondary effluent discharged). The Oceanic ocean condition was used since it represents the worst-case dilution for this flow scenario.
- Low Wastewater Flow Scenarios 2-3: significant influence of the Project RO concentrate on the ocean discharge (i.e., minimal secondary effluent discharged). The Oceanic ocean condition was used as it represents the worst-case dilution for these flow scenarios.
- Moderate Wastewater Flow Scenarios 4-7: conditions with a moderate wastewater flow when the Project RO concentrate has a greater influence on the in-pipe water quality than in Scenario 8, but where the ocean dilution (Dm) is reduced due to the higher overall discharge flow (i.e., compared to Scenarios 1-3). The Oceanic or Upwelling ocean conditions were used as they represent the worst-case dilution for these scenarios.
- High Wastewater Flow Scenarios 8-10: conditions with high wastewater flow. The Upwelling ocean condition was used as it represents the worst-case dilution for these flow scenarios.

Table 4.11-4

Flow	Scenarios	to	Determine	Modeled	Dм	Values	Used	for	Ocean	Plan	Compliance
Analy	/sis										

Flow			0.000			
Scenario No.	enario No. Secondary Effluent RO Concentrate Ble		Blended Hauled Saline Waste	D _M ²	Condition	
1	0	1.78	0	451	Oceanic	
2	0.4	1.78	0	431	Oceanic	
3	0.6	1.78	0	422	Oceanic	
4	2	1.78	0	372	Oceanic	
5	4	1.78	0	324	Upwelling	
6	4.5	1.78	0	314	Upwelling	
7	5	1.78	0	306	Upwelling	
8	10	1.78	0	249	Upwelling	
9	18	1.78	0	206	Upwelling	
10	29.6	1.78	0	175	Upwelling	

Notes:

1: A sensitivity analysis was conducted to determine the impacts of hauled saline waste on the modeled Dm results. It was concluded that neither the flow nor total dissolved solids from the addition of hauled waste had a significant impact on the modeled Dm result and was therefore excluded from the Dm calculation.

2: The Ocean Plan defines Dm differently than typical modeling software. LWA provided dilution results defined as S = [total volume of a sample]/[volume of effluent contained in the sample]. The Dm referenced in Equation 1 of the California Ocean Plan is defined as Dm = <math>S - 1. A value of 1 was subtracted from the dilution estimates provided by LWA prior to using Equation 1, and the Dm values used in the analysis are presented in this table.

Ocean Plan Compliance Results

The flow-weighted in-pipe concentration for each constituent was calculated for each modeled discharge scenario using the water quality presented in **Table 4.11-3** and the flows presented in **Table 4.11-4**. The in-pipe concentration was then used to calculate the concentration at the edge of the ZID using the Dm values presented in **Table 4.11-4**. The resulting concentrations for each constituent in each scenario were compared to the Ocean Plan objective to assess compliance. The estimated concentrations for all ten flow scenarios are presented as concentrations at the edge of the ZID (**Table 4.11-5**) and as a percentage of the Ocean Plan objective (**Table 4.11-6**). As shown, none of the constituents are expected to exceed their Ocean Plan objective.³ Ammonia is estimated to reach a concentration closest to its objective, where it is 82% of the objective in Scenario 1 and that calculated concentration is shaded in **Table 4.11-5** and calculated percentage is shaded in **Table 4.11-6**.

³ Aldrin, benzidine, 3,3-dichlorobenzidine, and heptachlor were not detected in any source waters, however their MRLs are greater than the Ocean Plan objective. Therefore, no percentages are presented Table 4.11-6 as no compliance conclusions can be drawn for these constituents. This is a typical occurrence for ocean discharges since the MRL is higher than the Ocean Plan objective for some constituents.

4.11 Hydrology and Water Quality: Surface Water

Table 4.11-5	

Estimated Concentrations of Ocean Plan Constituents at the Edge of the ZID

		Ocean		Estima	ted Con	centratio	ns at Ed	ge of ZIC) by Disc	harge So	cenario	-
Constituent	Units	Plan Objective	1	2	3	4	5	6	7	8	9	10
Objectives for prot	ection o	of marine ad	uatic life	<u>,</u>								
Arsenic	µg/L	8	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.2	3.2
Cadmium	µg/L	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Chromium		2	0.14	0.12	0.12	0.10	0.09	0.00	0.09	0.00	0.00	0.00
(Hexavalent)	µg/L	2	0.14	0.12	0.12	0.10	0.00	0.00	0.00	0.08	0.00	0.00
Copper	µg/L	3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lead	µg/L	2	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Mercury	µg/L	0.04	0.003	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001
Nickel	µg/L	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Selenium	µg/L	15	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Silver	µg/L	0.7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Zinc	µg/L	20	8.6	8.5	8.5	8.4	8.3	8.3	8.3	8.3	8.3	8.3
Cyanide	µg/L	1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5
Total Chlorine Residual	µg/L	2	-	-	-	-	-	-	-	-	-	-
Ammonia (as N) - 6-mo median	µg/L	600	490	441	422	348	310	305	302	288	294	310
Ammonia (as N) - Daily Max	µg/L	2,400	-	-	-	-	-	-	-	-	-	-
Acute Toxicity ^a	TUa	0.3										
Chronic Toxicity ^a	TUc	1										
Phenolic Compounds (non- chlorinated)	µg/L	30	0.8	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chlorinated Phenolics	µg/L	1	<0.04	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan	µg/L	0.009	5E-04	5E-04	4E-04	4E-04	3E-04	3E-04	3E-04	3E-04	3E-04	3E-04
Endrin	µg/L	0.002	1E-06	1E-06	1E-06	9E-07	8E-07	8E-07	8E-07	7E-07	8E-07	8E-07
HCH												
(Hexachlorocyc	µg/L	0.004	6E-04	5E-04	5E-04	4E-04						
lohexane)												
Radioactivity	pci/L	_										
(Gross Beta) ^a	F											
Radioactivity (Gross Alpha) ^a	pci/L	-										
Objectives for prote	ction of	f human hea	alth - nor	ncarcino	gens			.				
Acrolein	µg/L	220	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Antimony	µg/L	1200	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Bis (2-chloroe	µg/L	4.4	0.002	0.003	0.004	0.01	0.01	0.01	0.01	0.01	0.02	0.02
noxy) meinane												
opropyl) ether	µg/L	1200	<0.003	<0.004	<0.004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
Chioro	µg/L	570	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.003
Denzene		100000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.05
Di n hutul nhthalata	µg/L	190000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.05
Di-h-butyi pritrialate	µg/∟	3300	~0.003	\0.01	\0.01	\0.01	\0.01	<u>∼0.02</u>	<u>∼0.02</u>	<u>∼0.02</u>	~0.03	NU.03
benzenes	µg/L	5100	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Diethyl phthalate	µg/L	33000	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003
Dimethyl phthalate	µg/L	820000	< 0.001	< 0.002	< 0.002	< 0.004	<0.005	< 0.01	<0.01	< 0.01	<0.01	<0.01
4,6-dinitro-2-methyl phenol	µg/L	220	0.01	0.03	0.03	0.1	0.1	0.1	0.1	0.1	0.2	0.2
2,4-Dinitro phenol	µg/L	4.0	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.03	<0.03	<0.04
Ethylbenzene	µg/L	4100	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.003
Fluoranthene	µg/L	15	9E-05	8E-05	8E-05	6E-05	6E-05	6E-05	5E-05	5E-05	5E-05	6E-05
Hexachloro cyclopenta diene	µg/L	58	<3E-04	<1E-03	<1E-03	<3E-03	<4E-03	<4E-03	<4E-03	<6E-03	<8E-03	<9E-03
Nitrobenzene	µg/L	4.9	< 0.002	< 0.003	< 0.003	< 0.004	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Thallium	µg/L	2	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002

		Ocean	Estimated Concentrations at Edge of ZID by Discharge Scenario									
Constituent	Units	Plan		Lotinia			_					
		Objective	1	2	3	4	5	6	7	8	9	10
Toluene	µg/L	85000	0.01	0.005	0.005	0.004	0.003	0.003	0.003	0.003	0.003	0.003
Tributyltin	µg/L	0.0014	<5E-05	<7E-05	<8E-05	<1E-04	<2E-04	<2E-04	<2E-04	<2E-04	<3E-04	<3E-04
1,1,1-Trichloro	ua/l	540000	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.003
ethane	µ9,∟	040000	-0.001	.0.001	-0.001	-0.001	-0.00Z	-0.00Z	-0.00Z	-0.00Z	-0.00Z	-0.000
Objectives for prote	ction of	f human hea	alth - car	cinogens	5							
Acrylonitrile	µg/L	0.10	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.03
Aldrin [®]	µg/L	0.000022	<2E-05	<2E-05	<2E-05	<3E-05	<3E-05	<3E-05	<3E-05	<4E-05	<5E-05	<6E-05
Benzene	µg/L	5.9	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.002	<0.002	< 0.002	<0.002	< 0.003
Benzidine	µg/L	0.000069	< 0.002	< 0.01	< 0.01	< 0.02	< 0.03	< 0.04	< 0.04	<0.1	< 0.1	< 0.1
Beryllium	µg/L	0.033	1E-03	1E-03	1E-03	2E-03	2E-03	2E-03	2E-03	2E-03	3E-03	4E-03
BIS(2-	µg/L	0.045	< 0.003	< 0.004	< 0.004	<0.01	< 0.01	<0.01	<0.01	< 0.01	<0.02	<0.02
Chioroethyr)ether												
DIS(Z-ELITYI-	µg/L	3.5	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.6
Carbon												
tetrachloride	µg/L	0.90	0.01	0.01	0.005	0.004	0.004	0.003	0.003	0.003	0.003	0.004
Chlordane	ua/l	0.000023	1E-05	1E-05	1E-05	1E-05	9E-06	8E-06	8E-06	8E-06	8E-06	9E-06
Chlorodibro	µg/⊏	0.000020	12 00		12 00							
momethane	µg/L	8.6	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Chloroform	ua/L	130	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
DDT	ua/L	0.00017	6E-07	1E-06	1E-06	3E-06	4E-06	4E-06	5E-06	6E-06	8E-06	1E-05
1.4-		40	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Dichlorobenzene	µg/L	18	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
3,3-		0.0001	-0.04	-0.04	-0.01	-0.00	-0.04	-0.04	-0.04	-0.1	-0.1	-0.1
Dichlorobenzidine ^b	µg/∟	0.0061	<0.01	<0.01	<0.01	<0.03	<0.04	<0.04	<0.04	<0.1	<0.1	<0.1
1,2-Dichloroethane	µg/L	28	<0.001	<0.001	< 0.001	<0.001	< 0.002	< 0.002	<0.002	< 0.002	< 0.002	< 0.003
1,1-	ug/l	0.0	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.003
Dichloroethylene	µy/L	0.9	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.003
Dichlorobromo	ua/l	6.2	0.1	0.0	0.05	0.04	0.03	0.03	0.03	0.03	0.03	0.03
methane	µg/∟	0.2	0.1	0.0	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Dichloromethane												
(methylene	µg/L	450	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
chloride)			0.04	0.04	0.04	0.004	0.004	0.004	0.004	0.004	0.004	0.004
1,3-dichioropropene	µg/L	8.9	0.01	0.01	0.01	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Dielarin	µg/L	0.00004	2E-00	3E-00	3E-00	5E-06	7E-00	8E-00	8E-00	1E-05	1E-05	2E-05
2,4-Dinitrotoluene	µg/L	2.0	<0.000	<0.001	<0.002	<0.003	<0.004	<0.005	<0.005	<0.01	<0.01	<0.01
1,2- Dinhonylhydrazino	ug/l	0.16	~0.003	~0.004	~0.004	~0.01	<0.01	~0.01	<0.01	<0.01	<0.02	<0.02
	µg/L	0.10	~0.003	~0.004	~0.004	~0.01	~0.01	~0.01	~0.01	~0.01	∼0.0 ∠	<i>∼</i> 0.02
Halomethanes	ua/l	130	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Hentachlor ^b	µg/∟ ua/l	0.00005	<2E_05	<3E_05	<3E_05	<4E_05	<4E-05	<4E-05	<5E-05	<6E-05	<7E-05	<9E-05
Heptachlor Epoxide	ua/l	0.00002	1E-06	9E-07	8E-07	7E-07	6E-07	6E-07	6F-07	6F-07	6E-07	€F-07
Hexachlorobenzene	<u>µg</u> /⊑ ua/l	0.00021	1E-06	9E-07	8E-07	7E-07	6E-07	6E-07	6E-07	6E-07	6E-07	6E-07
Hexachloro	<u>µg</u> ,⊏	0.00021		02 07	02 07						02 07	02 01
butadiene	µg/L	14	1E-07	9E-08	9E-08	7E-08	6E-08	6E-08	6E-08	6E-08	6E-08	6E-08
Hexachloroethane	ua/L	2.5	< 0.001	< 0.002	< 0.002	< 0.003	< 0.005	< 0.005	< 0.005	< 0.007	< 0.009	< 0.011
Isophorone	µg/L	730	< 0.001	< 0.001	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.003	< 0.003	< 0.004
N-Nitrosodime	10	7.0	0.0004	0.004	0.004	0.004	0.000	0.000	0.000	0.000	0.004	0.005
thylamine	µg/∟	7.3	0.0004	0.001	0.001	0.001	0.002	0.002	0.002	0.003	0.004	0.005
N-Nitrosodi-N-	ug/l	0.29		25.04	2E 04	75.04	1E 02	1E 02	1E 02	25 02	25 02	25 02
Propylamine	µg/∟	0.30	9E-00	3E-04	3 ⊑- 04	7 ⊑-04	TE-03	1E-03	1E-03	2E-03	2E-03	2E-03
N-Nitrosodip	ua/l	25	<0.002	<0.003	<0.003	<0.004	<0.005	<0.005	<0.005	<0.007	<0.000	<0.011
henylamine	µ9/⊏	2.0	-0.002	-0.003	-0.003	-0.004	-0.003	-0.003	-0.003	-0.007	-0.003	10.011
PAHs	µg/L	0.0088	0.005	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
PCBs	µg/L	0.000019	1E-05	1E-05	1E-05	9E-06	8E-06	8E-06	8E-06	8E-06	8E-06	8E-06
TCDD Equivalents	µg/L	3.9E-09	2E-09	1E-09	1E-09	1E-09	1E-09	1E-09	9E-10	9E-10	9E-10	1E-09
1,1,2,2-	ua/L	2.3	< 0.001	< 0.001	< 0.001	<0.001	<0.002	< 0.002	<0.002	<0.002	<0.002	< 0.003
I etrachloroethane	r-9 [,] =											
I etrachioroe	µg/L	2.0	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	< 0.002	<0.003
unyiene		245.04										
roxaphene	µg/L	∠.1⊏-04	0E-00	/ E-UD	/ E-UD	00-00	J⊏-UD	JE-05	JE-05	J⊏-05	JE-05	JE-05

Table 4.11-5

Estimated Concentrations of Ocean Plan Constituents at the Edge of the ZID

4.11 Hydrology and Water Quality: Surface Water

Estimated Concentrations of Ocean Plan Constituents at the Edge of the ZID												
Ocean Estimated Concentrations at Edge of ZID by Disch							harge So	cenario				
Constituent	Units	Plan Objective	1	2	3	4	5	6	7	8	9	10
Trichloroethylene	µg/L	27	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.003
1,1,2- Trichloroethane	µg/L	9.4	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.003
2,4,6- Trichlorophenol	µg/L	0.29	<0.002	<0.003	<0.003	<0.004	<0.005	<0.005	<0.005	<0.007	<0.009	<0.011
Vinyl chloride	µg/L	36	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.002

Table 4.11-5 Estimated Concentrations of Ocean Plan Constituents at the Edge of the ZII

Notes:

a Calculating flow-weighted averages for toxicity (acute and chronic) and radioactivity (gross beta and gross alpha) is not appropriate based on the nature of the constituents. These constituents were measured individually for the secondary effluent and RO concentrate, and these individual concentrations would comply with the Ocean Plan objectives.

b All observed values from all data sources were below the MRL, and the flow-weighted average of the MRLs is higher than the Ocean Plan objective. No compliance conclusions can be drawn for these constituents.

Table 4.11-6

Estimated Concentrations of all COP Constituents, Expressed as Percent of Ocean Plan Objective

		Ocean	Estimated Concentrations at Edge of ZID by Discharge Scenario											
Constituent	Units	Plan Objective	1	2	3	4	5	6	7	8	9	10		
Objectives for protection of marine aquatic life														
Arsenic	µg/L	8	38%	38%	38%	38%	39%	39%	39%	39%	40%	40%		
Cadmium	µg/L	1	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%		
Chromium (Hexavalent)	µg/L	2	7%	6%	6%	5%	4%	4%	4%	4%	4%	4%		
Copper	µg/L	3	72%	71%	71%	70%	70%	70%	70%	69%	69%	70%		
Lead	µg/L	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Mercury	µg/L	0.04	6%	6%	5%	4%	4%	4%	4%	3%	3%	3%		
Nickel	µg/L	5	2%	2%	2%	2%	2%	2%	2%	1%	1%	2%		
Selenium	µg/L	15	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%		
Silver	µg/L	0.7	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%		
Zinc	µg/L	20	43%	43%	42%	42%	42%	42%	42%	42%	42%	42%		
Cyanide	µg/L	1	31%	31%	30%	31%	33%	34%	34%	40%	47%	54%		
Total Chlorine Residual	µg/L	2												
Ammonia (as N) - 6-mo median	µg/L	600	82%	73%	70%	58%	52%	51%	50%	48%	49%	52%		
Ammonia (as N) - Daily Max	µg/L	2,400	-	-	-	-	-	-	-	-	-	-		
Acute Toxicity ^a	TUa	0.3												
Chronic Toxicity ^a	TUc	1												
Phenolic Compounds (non- chlorinated)	µg/L	30	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%		
Chlorinated Phenolics	µg/L	1	<4%	<5%	<5%	<5%	<6%	<6%	<7%	<8%	<10%	<11%		
Endosulfan	µg/L	0.009	6%	5%	5%	4%	4%	4%	3%	3%	3%	4%		
Endrin	µg/L	0.002	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
HCH (Hexachlorocyc lohexane)	µg/L	0.004	15%	14%	13%	11%	10%	9%	9%	9%	9%	10%		
Radioactivity (Gross Beta)ª	pci/L	_												
Radioactivity (Gross Alpha)ª	pci/L	-												
Objectives for prote	ction of	f human hea	alth - nor	ncarcino	gens			-	-					
Acrolein	μg/L	220	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Antimony	µg/L	1200	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		

Table 4.11-6

Estimated	Concentrations	of all COP	' Constituents,	Expressed	as Percent	of Ocean	Plan
Objective							

		Ocean	Estimated Concentrations at Edge of ZID by Discharge Scenario									
Constituent	Units	Plan Objective	1	2	3	4	5	6	7	8	9	10
Bis (2-chloroe thoxy) methane	µg/L	4.4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bis (2-chlorois opropyl) ether	µg/L	1200	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Chloro benzene	µg/L	570	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Chromium (III)	µg/L	190000	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Di-n-butyl phthalate	µg/L	3500	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Dichloro benzenes	µg/L	5100	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Diethyl phthalate	µg/L	33000	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Dimethyl phthalate	µg/L	820000	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
4,6-dinitro-2-methyl phenol	µg/L	220	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2,4-Dinitro phenol	µg/L	4.0	<0%	<0%	<0%	<0%	<1%	<1%	<1%	<1%	<1%	<1%
Ethylbenzene	µg/L	4100	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Fluoranthene	µg/L	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hexachloro cyclopenta diene	µg/L	58	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Nitrobenzene	µg/L	4.9	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Thallium	µg/L	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Toluene	µg/L	85000	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tributyltin	µg/L	0.0014	<4%	<5%	<5%	<8%	<11%	<11%	<12%	<16%	<20%	<24%
1,1,1-Trichloro ethane	µg/L	540000	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Objectives for prote	ction of	f human hea	alth - car	cinogen	s							
Acrylonitrile	µg/L	0.10	39%	35%	34%	28%	25%	25%	24%	23%	24%	25%
Aldrin ^b	µg/L	0.000022										
Benzene	µg/L	5.9	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Benzidine ^₅	µg/L	0.000069										
Beryllium	µg/L	0.033	3%	4%	4%	5%	5%	6%	6%	7%	9%	11%
Bis(2- chloroethyl)ether	µg/L	0.045	<6%	<8%	<9%	<14%	<19%	<20%	<21%	<28%	<35%	<42%
Bis(2-ethyl- hexyl)phthalate	µg/L	3.5	25%	22%	21%	18%	16%	15%	15%	15%	15%	16%
Carbon tetrachloride	µg/L	0.90	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%
Chlordane	µg/L	0.000023	59%	53%	51%	42%	37%	37%	36%	35%	35%	37%
Chlorodibro momethane	µg/L	8.6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Chloroform	µg/L	130	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
DDT	µg/L	0.00017	0%	1%	1%	2%	2%	3%	3%	4%	5%	6%
1,4- Dichlorobenzene	µg/L	18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3,3- Dichlorobenzidine ^b	µg/L	0.0081										
1,2-Dichloroethane	µg/L	28	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
1,1- Dichloroethylene	µg/L	0.9	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Dichlorobromo methane	µg/L	6.2	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Dichloromethane (methylene chloride)	µg/L	450	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1,3-dichloropropene	µg/L	8.9	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Dieldrin	µg/L	0.00004	5%	8%	9%	13%	18%	19%	20%	27%	34%	41%
2,4-Dinitrotoluene	µg/L	2.6	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Table 4.11-6

Estimated	Concentrations	of all COI	' Constituents,	Expressed	as Percent	of Ocean	Plan
Objective							

		Ocean	Estimated Concentrations at Edge of ZID by Discharge Scenario									
Constituent	Units	Plan Objective	1	2	3	4	5	6	7	8	9	10
1,2- Diphenylhydrazine (azobenzene)	µg/L	0.16	<2%	<2%	<3%	<4%	<5%	<6%	<6%	<8%	<10%	<12%
Halomethanes	µg/L	130	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heptachlor ^b	µg/L	0.00005										
Heptachlor Epoxide	µg/L	0.00002	5%	4%	4%	3%	3%	3%	3%	3%	3%	3%
Hexachlorobenzene	µg/L	0.00021	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hexachloro butadiene	µg/L	14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hexachloroethane	µg/L	2.5	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Isophorone	µg/L	730	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
N-Nitrosodime thylamine	µg/L	7.3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
N-Nitrosodi-N- Propylamine	µg/L	0.38	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
N-Nitrosodip henylamine	µg/L	2.5	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
PAHs	µg/L	0.0088	56%	50%	48%	40%	35%	35%	34%	33%	34%	35%
PCBs	µg/L	0.000019	70%	63%	60%	50%	44%	44%	43%	41%	42%	44%
TCDD Equivalents	µg/L	3.9E-09	39%	35%	34%	28%	25%	24%	24%	23%	24%	25%
1,1,2,2- Tetrachloroethane	µg/L	2.3	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Tetrachloroe thylene	µg/L	2.0	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
Toxaphene	µg/L	2.1E-04	38%	34%	32%	27%	24%	23%	23%	22%	23%	24%
Trichloroethylene	µg/L	27	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
1,1,2- Trichloroethane	µg/L	9.4	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%	<0%
2,4,6- Trichlorophenol	µg/L	0.29	<1%	<1%	<1%	<1%	<2%	<2%	<2%	<2%	<3%	<4%
Vinyl chloride	µg/L	36	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Notes:

a Calculating flow-weighted averages for toxicity (acute and chronic) and radioactivity (gross beta and gross alpha) is not appropriate based on the nature of the constituents. These constituents were measured individually for the secondary effluent and RO concentrate, and these individual concentrations would comply with the Ocean Plan objectives (see Section 4.4). b All observed values from all data sources were below the MRL, and the flow-weighted average of the MRLs is higher than the

Ocean Plan objective. No compliance conclusions can be drawn for these constituents.

c Note that if the percentage was determined to be less than 0.5 percent, then the value is shown as "0%" (e.g., if the constituent was estimated to be 0.1% of the objective, for simplicity, it is displayed as 0%). Also, orange shading indicates constituent is expected to be greater than 80 percent of the ocean plan objective for that discharge scenario.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the Project with the Proposed Modifications would comply with the Ocean Plan objectives established to protect marine life and human health. Trussell Tech used a conservative approach to estimate the water qualities of the Regional Treatment Plant secondary effluent, reverse osmosis concentrate, and hauled saline waste for the Proposed Modifications. These water quality data were then combined for various discharge scenarios, and a concentration at the edge of the ZID was calculated for each constituent and scenario. Compliance assessments could not be made for selected constituents, as noted, due to analytical limitations, but this is a typical occurrence for these Ocean Plan constituents. Based on the data, assumptions, modeling, and analytical methodology presented in the Trussell Tech report, the Project with the Proposed Modifications would comply with the Ocean Plan objectives and the Project with the Proposed

Modifications would have a less-than-significant impact on water quality in the Monterey Bay and Pacific Ocean. No mitigation measures are warranted.

Impact HS-5: <u>Operational Drainage Pattern Alterations</u>. The Proposed Modifications would alter existing drainage patterns by increasing impervious surfaces, but would not substantially increase the rate or amount of runoff such that it would: (1) cause erosion or siltation on- or off-site, (2) cause flooding on- or offsite, (3) exceed the existing storm drainage system capacity, or (4) impede or redirect flood flows. (Criteria b1, b2, b3, and b4) (Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR identified that implementation of the approved PWM/GWR Project would alter existing drainage patterns due to the introduction of impervious surfaces. This could result in localized impacts due to the increases in the rate or amount of runoff. This could cause siltation or erosion on- or off-site, cause localized increases in flooding on- or off-site, as well as exceed the capacity of the existing storm drainage system. The PWM/GWR Project Final EIR identified that potential adverse environmental effects associated with the introduction of new impervious surfaces would be addressed through compliance with post-construction stormwater management requirements and the implementation of post-construction stormwater BMPs as part of final site design and construction. As a result, the PWM/GWR Project Final EIR concluded that impacts would be less-than-significant, and no mitigation measures were warranted.

The Proposed Modifications would result in comparable environmental effects as those disclosed in the PWM/GWR Project Final EIR. The Proposed Modifications would result in the introduction of additional impervious surfaces. More specifically, the Proposed Modifications would entail the construction of an electrical building, motor control buildings, paved parking areas, addition of concrete/asphalt areas, as well as a paved access road the Injection Well Sites. The introduction of impervious surfaces could cause siltation or erosion on- or off-site, cause localized increases in flooding on- or off-site, as well as increase stormwater flows that could potentially exceed the capacity of the existing storm drainage system. As with the approved PWM/GWR Project, the increase in impervious surfaces associated with the Proposed Modifications would not substantially increase the rate or amount of runoff. The extent of impervious surfaces would be limited to the improvements described above and the surrounding area would remain unpaved. Additionally, the PWM/GWR Project Final EIR previously evaluated the effects associated with two of the Injection Well Facilities that would be relocated as part of the Proposed Modifications. As a result, the environmental effects, albeit at a different location, were previously accounted for in the PWM/GWR Project Final EIR. Finally, consistent with the findings of the PWM/GWR Project Final EIR, the potential adverse environmental effects associated with the Proposed Modifications would be addressed through adherence with post-construction stormwater management requirements, as well as the implementation of post-construction stormwater BMPs as part of final site design and construction (see Table 4.11-11 in the PWM/GWR Project Final EIR for an overview of post-construction requirements for stormwater management.). This represents a lessthan-significant impact. No mitigation measures are warranted.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the Proposed Modifications would be subject to the post-construction stormwater management requirements and post-construction stormwater BMPs would be incorporated into final design and construction. With adherence to the post-construction requirements, the Proposed Modifications would result in a less-than-significant impact. No mitigation measures would be required.

Impact HS-6:Operational Carmel River Flows. Operations of the Proposed
Modifications would result in reduced pumping of the Carmel
River alluvial aquifer resulting in increased flows in Carmel River
that would benefit habitat for aquatic and terrestrial species.
(Criteria b, c, and d) (Beneficial Impact)

All Proposed Modifications

The PWM/GWR Project Final EIR identified that the approved PWM/GWR Project would reduce pumping from the Carmel River alluvial aquifer and would result in a net beneficial impact on habitat for aquatic and terrestrial species. Although the habitat and stability/health of the riparian corridor would be improved, the PWM/GWR Project Final EIR identified that the approved PWM/GWR Project could cause increased flows in the river and could create a significant impact if the flows would cause adverse effects such as flooding and/or stream bank instability. The PWM/GWR Project Final EIR, however, concluded that reduced diversions would not affect peak flood flows and would not adversely affect stream bank stability, erosion, or water quality. In fact, the PWM/GWR Project Final EIR concluded that potential impacts in terms of stream erosion, bank stability, and water quality would be beneficial.

Implementation of the Proposed Modifications would result in substantially the same impacts as those identified in the PWM/GWR Project Final EIR. The Proposed Modifications would reduce the extent of Carmel River diversions by CalAm, which would have a net beneficial effect in terms of habitat for aquatic and terrestrial species. Like the approved PWM/GWR Project, the Proposed Modifications could also result in indirect effects related to flooding. According to the PWM/GWR Project Final EIR, reduced diversions from the Carmel River by CalAm could result in increased flows and thereby potential flooding related hazards. These effects would not, however, be significant for the same reasons described in the PWM/GWR Project Final EIR. Reduced Carmel River diversions would not result in a noticeable impact on river flows during significant storm events. As identified in the PWM/GWR Project Final EIR, the maximum instantaneous pumping capacity of CalAm wells reported in the lower reach of the Carmel River represents approximately 0.15% of the estimated peak flow in a 100-year flood. As a result, reduced Carmel River diversions associated with the Proposed Modifications would not affect the magnitude of peak flood flows. Moreover, the Proposed Modifications would also have a beneficial effect on stream bank stability/erosion/water guality because reduced Carmel River diversions would improve habitat guality of the riparian corridor. This would represent a beneficial impact on stream erosion, bank stability, and water quality due to improved habitat quality.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the Proposed Modifications would have a net beneficial effect on the Carmel River.

4.11.4.5 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that there would be no cumulatively considerable contributions to cumulative construction or operational impacts to inland (and indirect marine) surface water quality. The PWM/GWR Project Final EIR did, however, identify a potential cumulatively considerable contribution to a significant cumulative impact to marine water quality in connection with the operation of the MPWSP and the approved PWM/GWR Project. Specifically, the PWM/GWR Project Final EIR identified that there would be a significant impact to marine water quality, which could be reduced to a less-than-cumulatively considerable level through the implementation of Mitigation Measure HS-C (Implement Measures to Avoid Exceedances over Water Quality Objectives at the Edge of the Zone of Initial Dilution (ZID)). The implementation of Mitigation Measure HS-C would ensure that there would be a less-than-significant cumulative impact to marine water quality.

The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative construction or operational impacts related to surface water quality. The Proposed Modifications would not result in any direct impacts to inland surface waters. The Proposed Modifications would result in localized impacts that would be site-specific and would be addressed through the adherence with standard construction BMPs, as well as construction and post-construction phase stormwater control measures. These effects would not be cumulatively considerable, and all effects associated with the Proposed Modifications would be site-specific. As noted above, the PWM/GWR Project Final EIR identified that there would be a significant cumulative impact to marine water quality in connection with the operation of the MPWSP and the approved PWM/GWR Project. The approved PWM/GWR Project's contribution to that effect would be reduced to a less-than-significant level through the implementation of Mitigation Measure HS-C. The Proposed Modifications would not operate at the same time as the MPWSP because the Proposed Modifications are a backup to the MPWSP. As a result, the Proposed Modifications, if constructed, would not generate impacts to marine water quality that would combine with the impacts of operation of MPWSP. Therefore, the Proposed Modifications would not cause the Project to make a new or substantially more severe cumulatively considerable contribution to the significant cumulative impact to marine water quality.

4.12 LAND USE, AGRICULTURE, AND FOREST RESOURCES

Sections	Tables	Figures
 4.12.1 Introduction 4.12.2 Environmental Setting 4.12.3 Regulatory Framework 4.12.4 Impacts and Mitigation Measures 	 4.12-1 Summary of Prior Environmental Review – Land Use, Agriculture, and Forest Resources 4.12-2 Land Use Designations of Proposed Modifications 4.12-3 Summary of Impacts – Land Use 4.12-4 Mitigation Measures Required for Consistency with Policies 	 4.12-1 Land Use Designation Map 1: Monterey County 4.12-2 Land Use Designation Map 2: Seaside

4.12.1 Introduction

This section addresses potential land use, agriculture, and forestry effects that could occur in connection with the implementation of the Proposed Modifications compared to the effects identified in the PWM/GWR Project Final EIR and Addenda. Potential land use impacts would include inconsistency with applicable land use plans or policies or the division of an established community. Potential effects on agriculture and forestry resources would include temporary or permanent conversion of such resources to another use.

This section presents background information on land use, a summary of existing land use conditions, and a summary of the regulatory framework that pertains to the project. The land use effects of the approved PWM/GWR Project were identified in the PWM/GWR Project EIR Section 4.12, Land Use, Agriculture, and Forest Resources (see PWM/GWR Project Final EIR, Vol. 1, at pg. 4.12-1 through pg. 4.12-54). Addenda to the PWM/GWR Project Final EIR also considered the potential impacts related to land use associated with minor modifications to the approved PWM/GWR Project. The Addenda did not change any of the conclusions of the Final PWM/GWR Project Final EIR. Table 4.12-1 below summarizes the findings of the PWM/GWR Project Final EIR and Addenda.

Table 4.12-1

Summary of Prior Environmental Review – Land Use, Agriculture, and Forest Resources

	Approved PWM/GWR Project (Overall Impact)
LU-1: Construction Temporary Farmland Conversion	LSM*
LU-2: Operational Consistency with Plans, Policies, Regulations	LSM
LU-3: Operational Indirect Farmland Conversion	LS*
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact *This impact is not applicable to the Proposed Modifications.	

Public and agency comments received during the public scoping period in response to the Notice of Preparation are included in **Appendix A**. M1W received a comment letter from the City of Seaside on the Notice of Preparation regarding compliance with local land use requirements, the comments included in that letter are summarized briefly below:

- 1) Acquire easements for property where Proposed Modifications would be located.
- 2) Coordinate with the City regarding monitoring wells that may be located in future development areas.
- 3) Coordinate with City Public Works Department to ensure compliance with the Ordnance Ordinance.
- 4) Apply for and receive an encroachment permit for new driveways that comply with City engineering standards.
- 5) Limit above-ground facilities to the 125-foot buffer zone that exists parallel to Bureau of Land Management lands.
- 6) Locate pipelines that cross from Monterey County into the City within the 125-foot buffer zone that exists parallel to the Bureau of Land Management land.

M1W also received a comment letter from the Monterey County Agricultural Commissioner's office asking about the potential for flooding of agricultural land due to any potential failure of the product water conveyance pipeline that crosses agricultural land. The pipeline that crosses agricultural land immediately south of the Regional Treatment Plant and north of the City of Marina has already been constructed as part of the approved PWM/GWR Project. The life of the pipeline material is more than 40 years, and the integrity of the pipeline would be continually monitored (24 hours per day, seven days per week) by the M1W control room.

Section 4.12, *Land Use, Agriculture, and Forest Resources,* of PWM/GWR Project Final EIR also included an evaluation of potential impacts to agricultural and forestry resources. As identified in **Table 4.12-1, Summary of Prior Environmental Review – Land Use, Agriculture, and Forest Resources,** the PWM/GWR Project Final EIR identified potential temporary construction-related effects associated with farmland conversion, as well as indirect effects associated with operation of the PWM/GWR Project. The Proposed Modifications would not, however, result in any potential direct or indirect effects to agricultural or forest resources.

The Proposed Modifications would not result in new impacts or substantial changes in impacts that were analyzed in the PWM/GWR Project Final EIR related to agricultural and forestry resources.¹ None of the Proposed Modifications would be located on agricultural or forest land. Therefore, the Proposed Modifications would not result in in any direct impacts to those resources. The analysis contained in Section 4.12, Land Use, Agriculture, and Forest Resources, adequately addresses the potential impacts to agricultural and forest resources associated with the approved PWM/GWR Project; no additional effects would occur in connection with the Proposed Modifications. Therefore, no additional significant impacts or substantial increases in the severity of significant impacts would occur as a result of the Project Modifications.

Under the Proposed Modifications, up to 3,600 AFY of tertiary treated water would be delivered to the CSIP. This represents a decrease in the water that would be delivered to CSIP compared to 4,750 AFY under the previously approved PWM/GWR Project. Any additional water delivered to CSIP beyond the "No PWM/GWR Project" condition would be considered a beneficial impact to agricultural resources. Under the Proposed Modifications, there would be a reduction in the level of benefit to CSIP, however, this would still represent a beneficial impact and is discussed

¹ In accordance with CEQA Guidelines Sec.15163(c), a Supplemental EIR need only contain the information necessary to make the previous EIR adequate for the project as revised. Additionally, CEQA Guidelines Sec. 15128, "[a]n EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."

in *Impact LU-3: Operation Indirect Farmland Conversion* in the PWM/GWR Project Final EIR. For this reason and the reasons described above, agricultural and forest resources are not discussed further in this Draft Supplemental EIR.

4.12.2 Environmental Setting

The PWM/GWR Project Final EIR described the existing environmental setting. The PWM/GWR Project Final EIR identified existing land uses for each of the components of the PWM/GWR Project. Figures 4.12-1 through 4.12-5 of the PWM/GWR Project EIR provide the local government jurisdictional boundaries, land use designation types, and extent of coastal zone in the PWM/GWR Project area. For a complete description of the environmental setting, please refer to Section 4.12.2 of the PWM/GWR Project Final EIR.

4.12.2.1 Existing Land Use

The PWM/GWR Project Final EIR described existing land uses associated with the PWM/GWR Project. Table 4.12-1 of the PWM/GWR Project Final EIR provided a summary of the land use designations, existing land uses, and applicable plans for each of the PWM/GWR Project sites. For a complete description of the environmental setting of the PWM/GWR Project as it relates to land use, please refer to Section 4.12.2.1 of the PWM/GWR Project Final EIR.

The general description of existing land uses contained in the PWM/GWR Project Final EIR is applicable to the Proposed Modifications and remains unchanged since certification of the PWM/GWR Project Final EIR. Moreover, there have been no changes to applicable parts of relevant General Plans since certification of the PWM/GWR Project Final EIR. As a result, information contained in the PWM/GWR Project Final EIR adequately describes existing land uses. The information contained in the PWM/GWR Project Final EIR is supplemented by the following site-specific land use information related to the Proposed Modifications. **Table 4.12-2**, **Land Use Designation of Proposed Modifications**, includes a summary of the existing land use designations for each of the Proposed Modifications. None of the Proposed Modifications are located within the Coastal Zone.

Advanced Water Purification Facility

The Proposed Modifications to the Advanced Water Purification Facility would be located within the existing footprint of the Regional Treatment Plant. No changes to the land use have been made since the certification of the PWM/GWR Project Final EIR. This modification component is located in unincorporated Monterey County; land use is guided by the 2010 Monterey County General Plan, specifically by the Greater Monterey Peninsula Area Land Use Plan. This land is designated as Public/Quasi-Public. See **Figure 4.12-1** for more information. The area adjacent to the Advanced Water Purification Facility contains industrial-type wastewater and solid waste management equipment and facilities similar to the Proposed Modification facilities, including the MRWMD Landfill, leased land on which composting and other industrial-type operations occur, and row crops (strawberries) to the west and south.



Product Water Conveyance Pipeline

The Product Water Conveyance Pipeline segments that are included in the Proposed Modifications are located partially in the City of Seaside and partially in unincorporated Monterey County. The pipeline alignment would begin at the existing Blackhorse Reservoir site and would traverse southeast along an existing dirt road. The pipeline would then turn west and continue within the right of way of Eucalyptus Road, a paved roadway, until it terminates at the Expanded Injection Well Area. No changes have been made to the General Plans of Monterey County or the City of Seaside since the certification of the PWM/GWR Project Final EIR. In the 2010 Monterey County General Plan, specifically the Fort Ord Master Plan, the Product Water Conveyance Pipeline is designated at Low Density Residential and School/University. In the 2003 City of Seaside General Plan, the Product Water Conveyance Pipeline is designated as Medium Density Residential.² See **Figure 4.12-2** for more information. The area around this modification is primarily open space.

Injection Well Facilities

The Expanded Injection Well Area is located directly to the northeast of the approved Injection Well Facilities. This modification component is located within the City of Seaside. The Expand Injection Well Facilities Area is designated as Low-Density Single Family Residential in the 2003 Seaside General Plan.³ The area surrounding this modification is currently open space.

CalAm Distribution System Improvements

Extraction Wells EW-1 and EW-2

EW-1 and EW-2 would be located on the Seaside Middle School site, just north of the athletic fields. This modification component is located within the City of Seaside. This area is designated as Public/Institutional in the 2003 Seaside General Plan.⁴ The area to the west and north of EW-1 and EW-2 is the Blackhorse Bayonet Golf Course. The Seaside Middle School is located directly to the south of the site. General Jim Moore Boulevard is located to the east of the site.

Extraction Wells EW-3 and EW-4

EW-3 and EW-4 would be located within the Fitch Park Military Housing Community. This modification component is located within the City of Seaside. The EW-3 and EW-4 area is designated as Military in the 2003 Seaside General Plan.⁵ The areas to the north, south, and east of EW-3 and EW-4 are residential. General Jim Moore Boulevard is located to the west of the site.

² The City of Seaside General Plan is currently being updated. The Seaside 2040 General Plan has completed public review but has not yet been adopted by the City. Under the Seaside 2040 General Plan, the zoning designation for the Product Water Conveyance Pipeline would be Future Specific Plan.

³ Under the Seaside 2040 General Plan, the zoning designation of the Expanded Injection Well Facilities would change to Future Specific Plan.

⁴ Under the Seaside 2040 General Plan, the zoning designation of EW-1 and EW-2 would also be Public/Institutional.

⁵ Under the Seaside 2040 General Plan, the zoning designation of EW-3 and EW-4 would be Military.



CalAm Conveyance Pipelines

The CalAm Conveyance Pipelines would be located primarily within the right-of-way of General Jim Moore Boulevard. This modification component is located within the City of Seaside. Because the pipelines are located within a right-of-way, they do not have a zoning designation in the 2003 Seaside General Plan. The area to the west of the CalAm Conveyance Pipelines is primarily residential and the area to the east is primarily open space.

Table 4.12-2

Proposed Modification	Location Description	Jurisdiction	Designation	Applicable Plans
Advanced Water Purification Facility	Within the footprint of the existing M1W Regional Treatment Plant north of Marina	Unincorporated Monterey County	Public/Quasi- Public	2010 Monterey County General Plan, Greater Monterey Peninsula Area Land Use Plan, Monterey County Zoning Ordinance
Product Water Conveyance Pipeline	Within an existing right of way on Eucalyptus Road, east of the Fitch Park Military Housing Community	Unincorporated Monterey County and City of Seaside	Low Density Residential and School/University (Monterey County); Medium Density Residential (Seaside)	2010 Monterey County General Plan, Fort Ord Master Plan, Monterey County Zoning Ordinance, 2003 Seaside General Plan, City of Seaside Zoning Ordinance, Fort Ord Reuse Plan
Injection Well Facilities	Northeast of the approved Injection Well Facilities, south of Eucalyptus and east of General Jim Moore Boulevard	City of Seaside	Low Density Single Family Residential	2003 Seaside General Plan, City of Seaside Zoning Ordinance, Fort Ord Reuse Plan
Extraction Wells EW-1 and EW-2	Seaside Middle School	City of Seaside	Public/Institutional	2003 Seaside General Plan, City of Seaside Zoning Ordinance, Fort Ord Reuse Plan
Extraction Wells EW-3 and EW-4	Fitch Park Military Housing Community	City of Seaside	Military	2003 Seaside General Plan, City of Seaside Zoning Ordinance, Fort Ord Reuse Plan
CalAm Conveyance Pipelines	Within the right-of-way of General Jim Moore Boulevard	City of Seaside	Not Applicable.	2003 Seaside General Plan, City of Seaside Zoning Ordinance, Fort Ord Reuse Plan

4.12.3 Regulatory Framework

The PWM/GWR Project Final EIR and related Addenda describe the regulatory framework related to land use. Please refer to Section 4.12.3 of the PWM/GWR Project Final EIR for more information. There have been no changes to the regulatory framework since the certification of the PWM/GWR Project Final EIR.

4.12.3.1 Federal

Section 4.12.3.1 of the PWM/GWR Project Final EIR and related Addenda describe Federal regulations related to land use. There have been no changes to the setting information.

4.12.3.2 State

Section 4.12.3.2 of the PWM/GWR Project Final EIR and related Addenda describe State regulations related to land use. There have been no changes to the setting information.

4.12.3.3 Regional and Local

Section 4.12.3.3 of the PWM/GWR Project Final EIR and related Addenda describe regional and local land use regulations related to land use. There have been no relevant changes to the setting information. Moreover, see also Table 4.12-3 Applicable State, Regional, And Local Land Use Plans, and Policies – Land Use, Agriculture, and Forest Resources contained in the PWM/GWR Project Final EIR for more information.

4.12.4 Impacts and Mitigation Measures

4.12.4.1 Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, the project would have a significant impact on land use if it would:

- a. Physically divide an established community; or
- b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.12.4.2 Impact Analysis Overview

The approach to the impact analysis regarding potential land use effects remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

This analysis evaluates short-term impacts resulting from temporary construction of the Proposed Modifications, as well as long-term impacts resulting from the siting and operation of the Proposed Modifications, either of which may result in potential conflicts or inconsistencies with existing adopted plans and regulations. Construction equipment and materials associated with the various components of the Proposed Modifications would be staged and stored within the respective construction work areas. Construction equipment and materials associated with pipeline installation would be stored along the pipeline alignments and at nearby designated staging areas. Staging areas would not be sited in sensitive areas such as riparian areas or critical habitat for protected species. Parking for construction equipment and worker vehicles would be accommodated within the construction work areas and on adjacent roadways where permitted.

The analysis compares the existing land use setting with the conditions of the Proposed Modifications during construction and operations. Local planning documents and maps were reviewed, and site surveys were conducted to characterize existing land uses on and adjacent to the Proposed Modifications. The evaluation of consistency with applicable plans, policies, and regulations included the following steps:

- determining the applicability of relevant land use plans, policies and regulations to the Proposed Project based on location, applicability to this type of project, and authority of each jurisdiction;
- (2) assessing whether the plan, policy, or regulation was adopted for the purpose of reducing an environmental effect; and,

(3) analyzing whether the Proposed Modifications would be fundamentally inconsistent with each policy, plan or regulation.

The discussion in Impact LU-1, below, addresses potential land use conflicts and inconsistencies.

Areas of No Project Impact

The Proposed Modifications would not result in impacts related to some of the significance criteria, as explained below. The Impact analysis related to the other criteria is included in **Section 4.12.4.3** below.

(a) Physically divide an established community. (No impact due to construction or operations.) Criterion "a" is not applicable to the Proposed Modifications because none of the modifications or construction activities would physically divide an established community. During construction, immediate access to neighborhoods, commercial areas, schools, and parks could be temporarily disrupted by pipeline construction in the public right-of-way due to lane closures or detours; but only for short (less than one month) periods of time as discussed in **Section 4.17, Traffic and Transportation**. All proposed above-ground facilities would be located at sites that are part of existing public facilities or sites reserved for such uses and, as such, they would not divide an established community or established land uses.

Summary of Impacts

Table 4.12-3, Summary of Impacts provides a summary of potential impacts related to land use and significance determinations at each Proposed Modifications.

Table 4.12-3

	lity	ne		CalAm Dis Syst	stribution tem	
Impact Title	Advanced Water Purification Faci	Product Water Conveyance Pipeli	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
LU-1: Construction and Operational Consistency with Plans, Policies, Regulations	LSM	LSM	LSM	LSM	LSM	LSM
Cumulative Impact	LS - The P cumulative	roposed Modif ly considerabl	fications would le contribution	not cause the to a cumulativ	e Project to n e land use ir	nake a npact.
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact						

Summary of Impacts – Land Use

4.12.4.3 Operational Impacts and Mitigation Measures

Impact LU-1:Operational Consistency with Plans, Policies, and Regulations.
The Proposed Modifications would have one or more components
that would potentially conflict, or be inconsistent with, applicable
land use plans, policies, and regulations without implementation
of mitigation measures identified in this Supplemental EIR.
(Criterion b) (Less-than-Significant with Mitigation)

All Proposed Modifications

The PWM/GWR Project Final EIR found that many of the approved PWM/GWR Project components and other facilities that would be located within rights-of way and existing public facilities sites. Other PWM/GWR Project component sites would be located on sites that have land use designations and zoning allowing water and wastewater infrastructure. Potential physical environmental effects of the approved PWM/GWR Project on existing allowable uses onsite and on adjacent sites were analyzed in other sections of the PWM/GWR Project Final EIR.

The PWM/GWR Project Final EIR included an evaluation of the approved PWM/GWR Project's consistency with the California Coastal Act, and with municipal and county general plans, area plans, specific plans, local coastal programs/plans, and municipal and zoning codes, of the jurisdictions that have land use authority for one or more components of the PWM/GWR Project. The PWM/GWR Project Final EIR includes tables in each section that contain the consistency analysis of the approved PWM/GWR Project with plans, policies, and regulations. The PWM/GWR Project Final EIR found that a significant impact would occur resulting from inconsistency with plans and policies, however, this impact could be lowered to a less-than-significant level with the implementation of the mitigation measures included in the PWM/GWR Project Final EIR. These findings were summarized in Table 4.12-5, Mitigation Measures Required for Consistency with Policies on page 4.12-39 of the PWM/GWR Project Final EIR. This table identified policies that were potentially inconsistent with the approved PWM/GWR Project, the specific components to which the policy applied, and the applicable mitigation measures that would ensure consistency with local plans and policies.

Similar to the approved PWM/GWR Project, the Proposed Modifications would result in comparable land use impacts. Specifically, the Proposed Modifications could conflict with applicable land use plans, policies, and regulations intended to avoid or mitigate an adverse environmental effect. These policies are summarized in **Table 4.12-4 Mitigation Measures Required for Consistency with Policies**. **Table 4.12-4** identifies the inconsistency with an applicable plan, identifies which proposed modification the plan or policy applies to, and the relevant mitigation measure that would ensure consistency with the applicable plan or policy. All of the mitigation measures included in **Table 4.12-4** can be found in other sections of this Draft Supplemental EIR.

The Proposed Modifications would result in substantially the same land use effects as the approved PWM/GWR Project. These effects would, however, be addressed through the implementation of mitigation measures identified in this Draft Supplemental EIR. The implementation of the measures included in **Table 4.12-4** would ensure that the Proposed Modifications would not result in any additional land use effects beyond those identified in the PWM/GWR Project Final EIR. This represents a less-than-significant impact with mitigation. No additional mitigation is warranted in addition of what is identified in **Table 4.12-4**.

Jurisdiction ⁶	Plan	Proposed Project Components	Policy	Applicable Mitigation Measures Needed for Ensuring Proposed Modifications Consistency with Policies
4.3 Air Quality a	nd Greenhouse Ga	is		
Monterey County	Monterey County General Plan	 Modifications to Advanced Water Purification Facility Portion of Project Water Conveyance Pipeline 	Policy OS-10.6	AQ-1: Construction Fugitive Dust Control Plan.
Monterey County	Monterey County General Plan	 Modifications to Advanced Water Purification Facility Portion of Project Water Conveyance Pipeline 	Policy OS-10.9	AQ-1: Construction Fugitive Dust Control Plan.
4.5 Biological Re	esources: Terrestr	ial	D # 00 5 4	
Monterey County	Monterey County General Plan	Portion of Project Water Conveyance Pipeline	Policy OS-5.4 Policy OS-5.6 and Policy OS- 5.16 Policy OS- 5.25 Policy OS- 4.1	BT-1a: Implement Construction Best Management Practices. BT-1b: Implement Construction- Phase Monitoring. BT-1c: Implement Non-Native, Invasive Species Controls. BT-1d: Conduct Pre-Construction Surveys for California Legless Lizard. BT-1e: Prepare and Implement Rare Plant Restoration Plan to Mitigate Impacts to Sandmat Manzanita, Monterey Ceanothus, Monterey Spineflower, Eastwood's Goldenbush, Coast Wallflower, and Kellogg's Horkelia. BT-1f: Conduct Pre-Construction Protocol-Level Botanical Surveys within the remaining portion of the Biological Study Area. BT-1h: Implementation of s BT-1a and BT-1b to Mitigate Impacts to the Monterey Ornate Shrew, Coast Horned Lizard, Coast Range Newt, Two-Striped Garter Snake, and Salinas Harvest Mouse. BT-1i: Conduct Pre-Construction Surveys for Monterey Dusky-Footed Woodrat. BT-1j: Conduct Pre-Construction Surveys for American Badger. BT-1k: Conduct Pre-Construction Surveys for Protected Avian Species, including, but not limited to, white- tailed kite and California horned lark. BT-1m: Minimize effects of nighttime acaptive for a for a set of the
Monterey	Monterey	Portion of Project Water	Sec. 21.64.260	BT-1a through BT-1m (as applicable,
County	County Code	Conveyance Pipeline		applicable components, above)

Table 4.12-4Mitigation Measures Required for Consistency with Policies

⁶ The proposed EW-3 and EW-4 extraction wells would be constructed entirely on federally-owned land within the former Fort Ord, which is under the jurisdiction of the U.S. Army and guided by the Real Property Master Plan. The U.S. Army analyzed the potential land use effects of the EW-3 and EW-4 sites (as ASR-5 and ASR-6 in the Aquifer Storage and Recovery Final Environmental Assessment (EA) and Finding of No Significant Impact). The Final EA concluded the proposed ASR-5 and ASR-6 wells would have no impact with respect to conflict with any applicable land use plans, policies, or regulations.

Table 4.12-4	
Mitigation Measures Required for Consistency with Poli	cies

Jurisdiction ⁶	Plan	Proposed Project Components	Policy	Applicable Mitigation Measures Needed for Ensuring Proposed Modifications Consistency with Policies
City of Seaside	Seaside General Plan	 Portion of Project Water Conveyance Pipeline Injection Well Facilities CalAm Distribution System Improvements 	COS-4.1	BT-1a through BT-1m (as applicable, see Mitigation Measures titles and applicable components, above)
City of Seaside	Seaside Municipal Code	 Portion of Project Water Conveyance Pipeline Injection Well Facilities CalAm Distribution System Improvements 	Chapter 8.54	BT-1a (see Mitigation Measures titles and applicable components, above)
Fort Ord Reuse Authority	Fort Ord Reuse Plan	 Project Water Conveyance Pipeline Injection Well Facilities CalAm Distribution System Improvements 	Biological Resources Policies A-9 and C-3	BT-1a through BT-1m (as applicable, see Mitigation Measures titles and applicable components, above)
4.6 Cultural and	Paleontological R	esources		
Monterey County	Monterey County General Plan	 Modifications to Advanced Water Purification Facility Portion of Project Water Conveyance Pipeline 	Policy PS-12.1.6	CR-2b: Discovery of Archaeological Resources or Human Remains. CR-2c: Native American Notification.
City of Seaside	Seaside General Plan	 Portion of Project Water Conveyance Pipeline Injection Well Facilities CalAm Distribution System Improvements 	COS-5.1.1	CR-2b: Discovery of Archaeological Resources or Human Remains. CR-2c: Native American Notification.
Fort Ord Reuse Authority	Fort Ord Base Reuse Plan	 Project Water Conveyance Pipeline Injection Well Facilities CalAm Distribution System Improvements 	Cultural Resources Policy A-1	CR-2b: Discovery of Archaeological Resources or Human Remains. CR-2c: Native American Notification.
4.16 Public Serv	ices, Recreation, a	and Utilities		
All	California Green Building Standards Code California Code of Regulations, Title 24, Part 11 (CALGreen)	 Modifications to Advanced Water Purification Facility Project Water Conveyance Pipeline Injection Well Facilities CalAm Distribution System Improvements 	Diversion rates related to construction are from the California Green Building Standards Code. Sec. 5.408.1	PS-3: Construction Waste Reduction and Recycling Plan
4.17 Traffic and	Transportation		Delieu O. 1.0	TD 0. Troffic Construction of Output
County	Monterey County General Plan	Modifications to Advanced Water Purification Facility Portion of Project Water Conveyance Pipeline	Policy C-4.3	Assurance Plan.
Seaside	Seaside General Plan	 Portion of Project Water Conveyance Pipeline Injection Well Facilities CalAm Distribution System Improvements 	Policy C-1.7	TR-2: Traffic Control and Safety Assurance Plan.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the Proposed Modifications could potentially conflict with policies adopted for the purposes of avoiding or mitigating an adverse environmental effect. Construction and operation of the Proposed Modifications could result in inconsistencies with plans and policies. The implementation of mitigation measures identified in this Draft Supplemental EIR would ensure that potential land use effects would be reduced to a less-than-significant level.

4.12.4.4 Cumulative Impacts and Mitigation Measures

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects.

Table 4.1-2 includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that, in cases where a potential conflict or inconsistency is identified, the approved PWM/GWR Project, with implementation of mitigation, would result in no contribution to cumulative land use impacts.

The Proposed Modifications would not result in new inconsistencies with land use plans or policies, and therefore would not cause the Project to contribute to a cumulative land use impact.

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4.13 MARINE BIOLOGICAL RESOURCES

Sections	Tables
4.13.1 Introduction	4.13-1 Summary of Prior Environmental Review – Marine Biological Resources
4.13.2 Environmental Setting	4.13-2 Summary of Impacts – Marine Biological Resources
4.13.3 Regulatory Framework	
4.13.4 Impacts and Mitigation Measures	

4.13.1 Introduction

This section describes the existing marine biological resources and evaluates the potential for the Proposed Modifications to affect marine habitats and resources within the identified Marine Biological Resources Study Area, compared to the effects identified in the PWM/GWR Project Final EIR.

The effects of the PWM/GWR Project on marine biological resources were identified in Section 4.13, Marine Biological Resources of the PWM/GWR Project Final EIR (see PWM/GWR Project Final EIR Vol. 1, Section 4.13, Marine Biological Resources, at pg. 4.13-1 through 4.13-30) using scientific literature, existing information, and supporting analysis. Similarly, the Addenda to the PWM/GWR Project Final EIR also considered effects associated with minor modifications to the approved PWM/GWR Project on marine resources. The Addenda did not change any of the conclusions of the Final PWM/GWR Project Final EIR in reference to marine resources. **Table 4.13-1** below summarizes the findings of the PWM/GWR Project Final EIR and Addenda.

Table 4.13-1

Summary of Prior Environmental Review – Marine Biological Resources

	Approved PWM/GWR Project (Overall Impact)
MR-1: Operational Impacts on Marine Biological Resources	LS
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	

The only aspect of the Proposed Modifications with the potential to adversely affect marine biological resources is the increased operational discharge of reverse osmosis by-product wastewater generated by the expansion of the Advanced Water Purification Facility (herein referred to as reverse osmosis concentrate) via the M1W existing ocean outfall. The outfall is currently used to discharge treated wastewater effluent from the Regional Wastewater Treatment Plant and will also be used for the approved Advanced Water Purification Facility upon operation.

Public and agency comments received during the public scoping period in response to the Notice of Preparation are included in **Appendix A**. No comments were received with regard to impacts to marine resources.

This section summarizes the previous analysis prepared to assess effects on marine resources and habitats from discharges via the existing M1W ocean outfall into the marine environment. The analysis of impacts of reverse osmosis focuses on the Monterey Bay and relies on the results of source water assessments, PWM/GWR Project pilot plant and water quality sampling, and monitoring, ocean dilution modeling by FlowScience (November 2014), and water quality quantitative analysis of the approved PWM/GWR Project's ability to meet the Ocean Plan objectives. In particular, the technical analysis conducted by Larry Walker and Associates and Trussell Technologies (2015a and 2017) is described in detail in PWM/GWR Project Final EIR and Addenda (see PWM GWR/Final EIR Addendum No. 3; see also PWM/GWR Project Final EIR Section 4.11 Hydrology and Water Quality: Surface Water).¹ Additional ocean dilution modeling and water quality analyses has been completed by Larry Walker and Associates and Trussell Technologies respectively for the Proposed Modifications and is included as **Appendix E**.

4.13.2 Environmental Setting

The PWM/GWR Project Final EIR described the existing environmental setting related to marine biological resources. The PWM/GWR Project Final EIR describes the marine biological resources setting of the Marine Biological Resources Study Area and also addresses the Monterey Bay National Marine Sanctuary, special status species, and habitats and natural communities in the vicinity of the M1W outfall diffusers. The impact analysis presented in Section 4.13.4, of the PWM/GWR Project Final EIR focuses on those resources located within the Marine Resources Study Area (also referred to as Marine Study Area).

As identified in the PWM/GWR Project Final EIR, the Marine Study Area encompassed the nearshore waters of Monterey Bay and extended to the areas surrounding the M1W ocean outfall. See Figure 4.13-1, Marine Biological Resources Study Area contained in the PWM/GWR Project Final EIR. The environmental setting and Marine Study Area under the Proposed modifications are consistent with the PWM/GWR Project Final EIR. For a complete description of the environmental setting as it relates to marine resources, please refer to Section 4.13.2 of the PWM/GWR Project Final EIR. Please also refer to Section 4.11, Hydrology and Water Quality: Surface Water of the PWM/GWR Project Final EIR for additional information concerning the hydrology and water quality of Monterey Bay.

4.13.2.1 Monterey Bay National Marine Sanctuary

The PWM/GWR Project Final EIR included a description of the Monterey Bay National Marine Sanctuary and the Marine Study Area. The existing description of the Monterey Bay National Marine Sanctuary remains unchanged from the PWM/GWR Project Final EIR and is included below for context.

The Marine Study Area is located in the coastal area of the MBNMS, which was designated as a federally protected area in 1992. The MBNMS is managed by the National Oceanographic Atmospheric Administration and includes coastal waters from Marin to Cambria. The MBNMS includes approximately 276 miles of shoreline, extends an average distance of 30 miles from shore, and encompasses 5,322 square miles of ocean and is more than two miles deep at its deepest point. The MBNMS was established for the purpose of research, education, public use, and resource protection. The MBNMS includes a variety of habitats that support extensive marine life. (Monterey Bay National Marine Sanctuary, 2008).

¹ In 2017, Trussell Technologies (Trussell Tech) performed quantitative analysis of an expanded 5.0 mgd Advanced Water Purification Facility to assess the project's ability to meet water quality objectives. That analysis found that the approved 4.0 mgd capacity treatment facility and approved 5.0 mgd expansion of the Advanced Water Purification Facility would have a less than significant impact related to ocean discharges on marine resources.

4.13.2.2 Special Status Species

The PWM/GWR Project Final EIR includes a comprehensive discussion of special-status species within the MBNMS. The information contained in the PWM/GWR Project Final EIR regarding special-status species within the MBNMS is applicable to the Proposed Modifications. The existing information contained in the PWM/GWR Project Final EIR adequately describes existing special-status species within the MBNMS and no additional information is necessary to supplement the information contained in the PWM/GWR Project Final EIR. Figure 4.13-1 in the PWM/GWR Project Final EIR shows the existing setting of the Marine Study Area, including habitat designations. For a complete description of the environmental setting as it relates to special status species, please refer to Section 4.13.2.2 of the PWM/GWR Project Final EIR.

4.13.2.3 Habitats and Natural Communities

The PWM/GWR Project Final EIR described existing habitats and natural communities within the MBNMS. The existing description contained in the PWM/GWR Project Final EIR adequately describes the various different marine and shoreline habitats within the Marine Study Area. The information contained in the PWM/GWR Project Final EIR remains unchanged and no additional information is necessary to supplement the information regarding existing habitats and natural community. For a complete description of the environmental setting as it relates to habitats and natural communities, refer to Section 4.13.2.3 of the PWM/GWR Project Final EIR.

4.13.3 Regulatory Framework

4.13.3.1 Federal

Section 4.13.3.1 of the PWM/GWR Project Final EIR describes Federal regulations related to marine biological resources. The following updates this discussion as applicable and also summarizes key provisions to provide context for the reader.

Clean Water Act

Under the Clean Water Act (CWA) the EPA seeks to restore and maintain the chemical, physical, and biological integrity of the nation's waters by implementing water quality regulations. Section 4.11, Hydrology and Water Quality: Surface Water in the PWM/GWR Project Final EIR summarizes applicability of the CWA. In particular, CWA Sec. 402(p) requires NPDES permits to control discharges of waste into waters of the United States and prevent the impairment of the receiving water for beneficial uses, which includes harm to marine biota. M1W administers an approved pretreatment program under NPDES Permit R3-2018-0017. These activities are conducted in accordance with M1W Ordinance No. 2019-01 and Federal pretreatment regulations pursuant to 40 Code of Federal Regulations Part 403 (40 CFR 403) and Sec. 307 and 402 of the CWA. The *Waste Discharge Requirements for the Monterey One Water (M1W) Regional Wastewater Treatment Plant and Advanced Water Purification Facility* (Order No. R3-2018-0017, NPDES Permit No. CA0048551) allows M1W to discharge treated effluent from the M1W Regional Wastewater Treatment Plant and the reverse osmosis concentrate from the approved Advanced Water Purification Facility to Monterey Bay via the existing outfall.

National Marine Sanctuary Program Regulations

The MBNMS implements the Water Quality Protection Program for sanctuary and tributary waters. The program is a partnership of 27 local, State, and Federal government agencies (Monterey Bay National Marine Sanctuary, 2008).

The National Oceanic and Atmospheric Administration (NOAA) entered into a Memorandum of Agreement (MOA) with the State of California, the EPA, and the Association of Monterey Bay Area Governments regarding the MBNMS regulations relating to water quality within State waters within the Sanctuary (Monterey Bay National Marine Sanctuary, 2008). With regard to regulatory permits, the MOA encompasses:

- NPDES permits issued by the State of California under Sec. 13377 of the California Water Code
- Waste Discharge Requirements (WDR) issued by the State of California under Sec. 13263 of the California Water Code.

The MOA specifies how the review process for applications for leases, licenses, permits, approvals, or other authorizations will be administered within State waters within the MBNMS in coordination with NPDES and waste discharge requirements and permitting processes.

The Office of National Marine Sanctuaries (ONMS) will conduct a separate National Environmental Policy Act (NEPA) review of the Proposed Modifications after M1W submits a request to amend Order No. R3-2018-0017. MBNMS previously prepared and adopted an EA on the approved PWM/GWR Project's NPDES waste discharge permit.²

4.13.3.2 State

Section 4.13.3.2 of the PWM/GWR Project Final EIR fully describes State regulations related to marine biological resources (see also Addendum No. 3 at pg. 42). The following discussion provides updated information concerning the Ocean Plan.

California Ocean Plan

The California Ocean Plan (Ocean Plan) is also described in Section 4.11, Hydrology and Water Quality: Surface Water of the PWM/GWR Project Final EIR. The Ocean Plan establishes water quality objectives and beneficial uses for waters of the Pacific Ocean adjacent to the California Coast (SWRCB, 2012). NPDES waste discharge permits set discharge limits that are required to prevent exceedances of the water quality objectives in the Ocean Plan. The Proposed Modifications would result in a minor change in the discharge into Monterey Bay and therefore is subject to all Ocean Plan water quality objectives and NPDES requirements.

The basis for water quality objectives established in the Ocean Plan is the protection of beneficial uses including for protecting marine biological resources (species and habitats) designated for each section of coastline by Regional Water Boards.

For typical wastewater discharges, when released from an outfall, the wastewater and ocean water undergo rapid mixing due to the momentum and buoyancy of the discharge. The mixing occurring in the rising plume is affected by the buoyancy and momentum of the discharge, a process referred to as initial dilution. The Ocean Plan objectives are to be met after the initial dilution of the discharge into the ocean. The initial dilution occurs in an area known as the ZID. The extent of dilution in the ZID is quantified as the minimum probable initial dilution (Dm). The water quality objectives established in the Ocean Plan are adjusted by the Dm to derive the NPDES ocean discharge limits for a wastewater discharge prior to ocean dilution. Compliance with numeric water quality objectives in the California Ocean Plan to protect marine aquatic life

² ONMS, EA for the Authorization of the National Pollutant Discharge Elimination System Permit for the Monterey One Water Regional Wastewater Treatment Plant and Advanced Water Purification Facility, March 2019.

and human health was previously evaluated in the PWM/GWR Project Final EIR and Addendum No. 3 for discharge of the approved PWM/GWR Project's reverse osmosis concentrate to the Pacific Ocean (Monterey Bay) through the Regional Treatment Plant's ocean outfall (Trussell Technologies, 2017). The assessment determined that all potential discharge scenarios would comply with the Ocean Plan as further addressed below.

M1W wastewater discharges to the existing outfall are governed by NPDES permit Order No. R3-2018-0017 recently issued by the RWQCB. Order No. R3-2018-0017 was also authorized by the MBNMS. Construction of the Advanced Water Purification Facility is almost complete. For the Proposed Modifications, M1W will need to obtain an amended permit or a new permit from the RWQCB to discharge the additional reverse osmosis concentrate to be generated by the expanded Advanced Water Purification Facility through the existing outfall.

4.13.3.3 Regional and Local

Section 4.13.3.3 and Table 4.13-1 of the PWM/GWR Project Final EIR describe regional and local land use regulations related to marine biological resources. There have been no relevant changes to these regulations.

4.13.4 Impacts and Mitigation Measures

4.13.4.1 Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, the project would have a significant impact on marine biological resources if it would:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any *marine* species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, USFWS, *or NOAA Fisheries*;
- b. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan governing the Marine Study Area; or,
- c. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

4.13.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

The impact analysis in this section describes if, and to what degree, the Proposed Modifications would change the existing ocean conditions affecting marine biological resources and how the Proposed Modifications would comply, or be consistent, with applicable regulatory requirements. The significance of an impact is determined using the criteria identified in **Section 4.13.4.1**.

No construction activities are proposed within the Marine Study Area. No direct construction impacts to marine resources would occur because none of the components of the Proposed Modifications involve construction within the Marine Study Area defined above. Indirect temporary

construction impacts on the marine environment relative to discharges to surface waters that may lead to the ocean are addressed in **Section 4.10 Hydrology and Water Quality: Surface Water** and are not repeated here.

The impact analysis for marine biological resources addresses increased operation of the Proposed Modifications to the Advanced Water Purification Facility, specifically discharges of reverse osmosis concentrate to Monterey Bay through the existing M1W ocean outfall. In this analysis, the special-status species considered are those with a moderate or high probability of occurring in the Marine Study Area.

Modeling of ocean discharge was conducted to determine minimum initial dilution values for the various discharge scenarios. The ocean modeling results were used to assess compliance with the Ocean Plan. To determine whether impacts to marine biological impacts would be significant, the analysis was based on compliance with the Ocean Plan objectives (specifically, whether the discharge would meet quantified numeric limits in Tables 1 and 2 of the Ocean Plan). The discharge of reverse osmosis concentrate would not involve high salinities causing toxicity or avoidance behavior on marine biological species because the concentrate would be far less saline than ambient ocean water (5,800 mg/L of total dissolved solids compared to 33,000 to 34,000 mg/L). In addition, the reverse osmosis concentrate discharge would not result in a negatively buoyant (or sinking) plume.

In both the PWM/GWR Project Final EIR and Addenda, detailed quantitative analysis was provided to document the approved PWM/GWR Projects ability to meet the Ocean Plan Water Quality objectives. In both the 2015 and 2017 technical memoranda, the analysis estimated a worst-case water quality under different scenarios. To assess Ocean Plan compliance with the reverse osmosis concentrate flow, Trussell Technologies conservatively used a number of worst-case assumptions for waste discharge such as (a) no constituent removal through treatment at the Regional Treatment Plant (with exceptions), (b) worst-case constituent concentrations for each source water, (c) 100% rejection of constituents via reverse osmosis, yielding a conservatively high concentration in the concentrate, and (d) the worst-case blends of available source waters to result in the highest constituent concentrations. The 2015 memoranda and supporting documentation are included in the PWM/GWR Project Final EIR (see Appendices T, U-1, and U-2).

Similar to the 2015 technical memoranda, the 2017 Trussell Tech analysis used a conservative approach to estimate the water qualities of the secondary effluent, reverse osmosis concentrate, and hauled brine waste under anticipated worst-case scenario and conditions. These water quality data were then combined for various discharge scenarios, and a concentration at the edge of the ZID was calculated for each constituent and scenario. The 2017 Trussell Technologies analysis addressed the previous expansion to the Advanced Water Purification Facility and evaluated that modification's ability to meet Water Quality objectives. In addition to the water quality analysis of Ocean Plan Table 1 and 2 constituents by Trussell Technologies, M1W conducted a toxicity test on reverse osmosis concentrate produced during the pilot plant program for the approved PWM/GWR Project and Proposed Modifications; these results are summarized in the PWM/GWR Project Final EIR and Addenda and referenced in this section. This analysis concluded that an expanded 5.0 mgd Advanced Water Purification Facility would have a less-than-significant impact related to ocean discharges on marine resources. Further, the analysis reported this increase would not change the conclusions in the PWM/GWR Project Final EIR in

terms of benefits to groundwater and surface water. For the 2017 technical analysis, please see Addendum No. 3 (Appendices C and D).³

The Proposed Modifications would further increase the peak or maximum capacity of the Advanced Water Purification Facility from 5.0 mgd to 7.6 mgd. In September 2019, Trussell Technologies performed an updated water quality quantitative analysis of the expansion of the Advanced Water Purification Facility to determine the ability to meet the Ocean Plan Water Quality objectives. Updated ocean dilution modeling for the Proposed Modifications' ocean discharge was conducted to determine minimum initial dilution values for the various discharge scenarios and assess compliance with the Ocean Plan. Similar to the 2015 and 2017 technical memoranda, the analysis estimated a worst-case water quality under different conservative operational scenarios for the waste stream that would be discharged through the ocean outfall and compared that discharge to the Ocean Plan objectives to determine whether there would be a significant effect on marine and ocean water quality. The technical analysis and updated results are provided in **Appendix J** and reported below.

Areas of No Impact

As discussed above, no construction activities would be located within the Marine Study Area. Therefore, construction of the Proposed Modifications would result in no direct impacts on marine biological resources in accordance with Criteria a, b, or c. The Proposed Modifications would not have any indirect effects on marine resources due to construction activities because site distances from proposed facilities limit impacts and compliance with existing regulatory requirements would prevent substantial water pollution from traveling within runoff to the marine environment. Moreover, the Proposed Modifications would not result in any construction or operational noise/vibration that would result in an increase in ambient noise levels within the Marine Study Area. There are no applicable local, regional, or State habitat or natural community conservation plans; thus, the Proposed Modifications would result in no impacts related to Criterion b.

Summary of Impacts

Table 4.13-2, Summary of Impacts – Marine Biological Resources, provides a summary of potential impacts to marine resources and significance determinations for each component of the Proposed Modifications.

³ Addendum No. 3, Appendix C, Trussell Technologies September 2017 Ocean Plan Compliance Assessment for the PWM/GWR Project and Appendix D, Trussell Tech September 2017 Comparison of Dilution Results.

	lity	ne		CalAm Distribution System		
Impact Title	Advanced Water Purification Faci	Product Water Conveyance Pipeli	Injection Well Facilities	Extraction Wells	CalAm Conveyance Facilities	Proposed Modifications Overall
MR-1: Operational Impacts on Marine Biological Resources	LS	NI	NI	NI	NI	LS
Cumulative Impact	LS- The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative impacts to marine biological resources.					
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BL – Beneficial Impact	·					

Table 4.13-2 Summary of Impacts – Marine Biological Resources

4.13.4.3 Construction Impacts and Mitigation Measures

As discussed above in **Section 4.13.4.2**, construction of the Proposed Modifications would not result in substantial adverse effects on candidate, sensitive, or special-status species, would not substantially interfere with the movement of any native resident or migratory fish or wildlife species, and would not conflict with the provision of any habitat or natural community conservation plans.

4.13.4.4 Operational Impacts and Mitigation Measures

Impact MR-1:Operational Impacts on Marine Biological Resources. Operation of
the Proposed Modifications would not result in substantial
adverse effects on candidate, sensitive, or special-status species
and would not interfere substantially with the movement of any
native resident or migratory fish or wildlife species. (Criterion a)
(Less-than-Significant)

The PWM/GWR Project Final EIR identified that a benefit of the approved PWM/GWR Project is that it would divert and treat contaminated waters rather than allowing those waters to flow to the Monterey Bay. Under the Proposed Modifications, source waters would continue to be diverted to the municipal wastewater collection system for conveyance to the M1W Regional Treatment Plant and the Advanced Water Purification Facility.

The existing Regional Treatment Plant treatment process includes screening, primary sedimentation, secondary biological treatment and then clarification. Secondary effluent

undergoes one of two additional treatment steps: 1) tertiary treatment (coagulation, flocculation, granular media filtration and disinfection) at the Salinas Valley Reclamation Project to produce recycled water used for agricultural irrigation; or, 2) advanced purification by the approved Advanced Water Purification Facility for groundwater replenishment and other urban uses. Secondary effluent not needed to meet recycled water demand is discharged to the Monterey Bay through an existing ocean outfall. The Regional Treatment Plant also accepts trucked saline waste from water treatment systems ("hauled saline waste") for ocean disposal, which is stored in a pond prior to being discharged.

The approved Advanced Water Purification Facility includes advanced treatment technologies for purifying the secondary effluent prior to aquifer injection: ozone (O_3), membrane filtration, reverse osmosis, an advanced oxidation process using ultraviolet light and hydrogen peroxide, and finished water stabilization. The various treatment processes produce highly-purified recycled water that complies with the California Water Recycling Criteria for Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application (Groundwater Replenishment Regulations) (SWRCB, 2018) and Central Coast Water Quality Control Plan (Basin Plan) standards, objectives and guidelines for groundwater (RWQCB, 2011).

Advanced Water Purification Facility

Proposed Modifications would expand the Advanced Water Purification Facility from a capacity of 5.0 mgd to a capacity of 7.6 mgd. With the expanded operational capacity, the amount of reverse osmosis concentrate produced by the Advanced Water Purification Facility would increase from 1.17 mgd to 1.78 mgd. A new or amended NPDES permit amendment would be needed to authorize the increase in reverse osmosis concentrate discharge into Monterey Bay.

To assess Ocean Plan compliance with the increased reverse osmosis concentrate flow, Trussell Technologies, Inc. developed a conservative approach, which involved assuming the worst-case conditions for waste discharge such as (a) no constituent removal through treatment at the Regional Treatment Plant (with exceptions specified in the report), (b) worst-case constituent concentrations for each source water, (c) 100% rejection of constituents via reverse osmosis, yielding a conservatively high concentration in the reverse osmosis concentrate, and (d) the worst-case blends of available source waters to result in the highest constituent concentrations.

Trussell Tech used a conservative approach to estimate the water qualities of the Regional Treatment Plant secondary effluent, reverse osmosis concentrate, and hauled brine waste under anticipated worst-case scenario and conditions. These water quality data were then combined for various discharge scenarios, and a concentration at the edge of the ZID was calculated for each constituent and scenario. The analysis of impacts of the disposal of reverse osmosis concentrate on the marine biological resources in the Monterey Bay/Pacific Ocean focused on the water quality changes that may occur in the vicinity of the M1W ocean outfall. Dilution modeling was conducted for various ocean climatic conditions, incorporating conservative assumptions regarding the M1W ocean outfall, constituents, ocean conditions, and other factors that affect the dilution of wastewater in the area near the outfall's diffuser ports (i.e., the openings in the outfall through which discharges flow out).

In addition to conservative assumptions about dilution characteristics of the discharge, numerous conservative assumptions were integrated into the approach for estimating the concentrations of contaminants in the reverse osmosis concentrate to be discharged into the M1W ocean outfall. For each Ocean Plan constituent, Trussell Tech conducted a blended water quality analysis of concentrations expected in the various scenarios of discharge using worst-case measured concentrations and the range of expected flow rates of each source water and measured and calculated concentrations of each type of wastewater (i.e., in the reverse osmosis concentrate, brine waste hauled to the Regional Treatment Plant for discharge, and secondary-treated effluent

discharges). Using the blended water quality concentrations, the relative flow volumes (by month), and the relevant minimum dilution, Trussell Technologies estimated the combined discharge concentrations that could occur at the edge of the ZID and compared those to Ocean Plan water quality objectives.

The resulting concentrations for each constituent under the Proposed Modifications were compared to the Ocean Plan objective to assess compliance. Trussell Tech concluded that the Proposed Modifications would not result in a significant effect on ocean water quality and marine resources because the waste stream discharged through M1W's ocean outfall, including the reverse osmosis concentrate from the expanded 7.6 mgd Advanced Water Purification Facility, would consistently meet the water quality objectives of the Ocean Plan.⁴ Thus, the Proposed Modifications would have a less-than-significant operational marine water quality impacts due to ocean discharges.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the Proposed Modifications would comply with the Ocean Plan objectives, including toxicity of the discharges. The Proposed Modifications would have a less-than-significant impact related to toxicity of ocean discharges on marine resources. Operations of the Proposed Modifications would not create a significant effect on marine biological resources during project operations; therefore, no mitigation measures would be required.

4.13.4.5 Cumulative Impacts and Mitigation Measures

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The geographic scope for cumulative impact analysis on marine biological resources includes the area near the M1W ocean outfall diffusers (the Marine Study Area shown in PWM GWR Final EIR Figure 4.13-1).

The PWM/GWR Project Final EIR and Addenda found that there would be a potential cumulatively considerable impact to marine water quality in connection with the operation of the MPWSP and the approved PWM/GWR Project. Specifically, the PWM/GWR Project Final EIR identified that there would be a significant impact to marine water quality, which could be reduced to a less-than-cumulatively considerable level through the implementation of Mitigation Measure HS-C (Implement Measures to Avoid Exceedances over Water Quality Objectives at the Edge of the Zone of Initial Dilution (ZID)). The implementation of Mitigation Measure HS-C would ensure that there would be a less-than-significant cumulative impact to marine water quality.

⁴ As shown in **Appendix J**, none of the constituents are expected to exceed 80% of their Ocean Plan objective with the exception of Ammonia. Ammonia is estimated to reach a concentration closest to its objective, where it is 82% of the objective in Scenario 1, still within compliance objectives.

The Proposed Modifications would not contribute to the cumulative impact to marine water quality because the Project Modifications would not operate at the same time as the MPWSP. As a result, the Proposed Modifications, if constructed, would not generate impacts to marine water quality that would combine with the impacts of operation of MPWSP. The Project with the Proposed Modifications' ocean discharges would meet all Ocean Plan objectives (i.e., concentrations of the constituents in the ocean at the edge of the zone of initial dilution would be less than the Ocean Plan objectives) and thus, would have a less-than-significant impact on marine biological resources. As a result, the Proposed Modifications would not cause the Project to make a new or substantially more severe cumulatively considerable contribution to the significant cumulative impact to marine water quality.

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4.14 NOISE AND VIBRATION

Sections	Tables	Figures
4.14.1 Introduction 4.14.2 Environmental Setting	 4.14-1 Summary of Prior Environmental Review - Noise and Vibration 4.14-2 Summary of Impacts – Noise and Vibration 	4.14-1 Noise Measurement Locations
4.14.3 Regulatory Framework 4.14.4 Impacts and	 4.14-3 Construction Equipment Noise Levels Modeled at 50 Feet 4.14-4 Maximum Construction Noise Levels – Product Water Conveyance Pipeline. 	
Mitigation Measures	4.14-5 Maximum Construction Noise Levels – Injection Well Facilities	

4.14.1 Introduction

This section describes the existing noise and vibration conditions in the area of the Proposed Modifications and evaluates the potential noise and vibration effects associated with the implementation of the Proposed Modifications compared to the effects identified in the PWM/GWR Project Final EIR and Addenda.

The noise and vibration effects of the approved PWM/GWR Project were identified in Section 4.14, Noise and Vibration, of the PWM/GWR Project Final EIR (see 2015 PWM/GWR Final EIR Vol. 1, at pg. 4.14-1 through 4.14-72) and Addenda to the PWM/GWR Project Final EIR. The Addenda did not change any of the conclusions of the PWM/GWR Project Final EIR. **Table 4.14-1** below summarizes the findings of the PWM/GWR Project Final EIR and Addenda.

Table 4.14-1Summary of Prior Environmental Review – Noise and Vibration

	Approved PWM/GWR Project (Overall Impact)
NV-1: Construction Noise	SU
NV-2: Construction Noise Exceeds Local Standards	SU
NV-3: Construction Vibration	LS
NV-4: Operational Noise	LS
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	

This section evaluates the potential noise and vibration impacts that could result from temporary construction and long-term operation of the Proposed Modifications. This section is based on an updated noise and vibration study prepared for this Draft Supplemental EIR by Illingworth & Rodkin (September 24, 2019), which is contained in **Appendix K**.

4.14.2 Environmental Setting

Section 4.14.2 of the PWM/GWR Project Final EIR described the noise and vibration conditions in the Project Study Area. The general description of these conditions contained in the PWM/GWR Project Final EIR is applicable to the Proposed Modifications and remains unchanged since certification of the PWM/GWR Project Final EIR. The following discussion, however, supplements

existing information contained in the PWM/GWR Project Final EIR to provide additional information concerning site-specific conditions at each of the sites of the Proposed Modifications.

4.14.2.1 Fundamentals of Environmental Noise and Vibration

The PWM/GWR Project Final EIR described the fundamentals of noise and vibration in Section 4.14.2.1. Technical terms used in the analysis of noise and vibration related impacts were identified in the PWM/GWR Project Final EIR in Table 4.14-1.

4.14.2.2 Existing Noise Levels and Conditions at the Proposed Modifications

The PWM/GWR Project Final EIR described the noise environment of the project area and the existing noise level measurements. The locations of sensitive receptors in proximity to the Proposed Modifications is presented in the noise and vibration study in **Appendix K**. **Figure 4.14.1, Proposed Modifications and Noise Measurement Locations** illustrate the noise measurement locations utilized for each of the Proposed Modifications.¹

Advanced Water Purification Facility

Proposed Modifications to the Advanced Water Purification Facility would include installation and operation of additional treatment and pumping equipment, chemical storage, pipelines, and facility appurtenances within the existing facility footprint. The nearest sensitive receptors are located off Neponset Road in Monterey County, 5,000 feet to the northwest of the Advanced Water Purification Facility site, and residences along Cosky Drive in Marina located approximately 5,400 feet to the southwest of the Advanced Water Purification Facility site, and residences along Cosky Drive in Marina located approximately 5,400 feet to the southwest of the Advanced Water Purification Facility site. Existing sensitive receptors were identified in the PWM/GWR Project Final EIR (See Figure 4.14-1B in the PWM/GWR Project Final EIR); no new sensitive receptors were identified in the updated noise and vibration study prepared by Illingworth and Rodkin. Ambient noise measurements made as part of the MPWSP EIR/EIS, which represent the most recent noise measurements in the vicinity of the Advanced Water Purification Facility, indicate that noise levels along Charles Benson Road, which is located to the northwest of the Advanced Water Purification Facility site, averaged 62 dBA Leq during the daytime and 49 dBA Leq at night (Site L1). Noise levels measured near residences along Cosky Drive (Site S2) averaged 66 dBA Leq during the daytime and nighttime average noise levels at the same site were 42 dBA Leq.

Product Water Conveyance Pipeline

To convey purified recycled water to new and relocated wells in the Injection Well Area, the Proposed Modifications would include an approximately two-mile conveyance pipeline and appurtenances. The proposed pipeline would be located within existing unpaved and paved roads. The pipeline would extend from MCWD's Blackhorse Reservoir to a new Injection Well Area located on the south side of Eucalyptus Road near the eastern boundary of the City of Seaside. The nearest sensitive receptors are located on Ardennes Circle, approximately 300 feet southwest of the Blackhorse Reservoir site. Average noise levels from noise measurement site S4 are 54 dBA Leq during the daytime and 52 dBA Leq at night.

¹ These noise measurements consist of data from the noise analyses for the PWM/GWR Final EIR and the MPWSP EIR/EIS. This information represents the most recent noise data in the vicinity. Illingworth and Rodkin determined that existing noise measurements were suitable for the purposes of evaluating the effects of the Proposed Modifications on the existing receptors.

Injection Well Facilities

For the Injection Well Facilities, the remaining two approved (but not constructed) deep Injection Well Sites, which were previously evaluated in the PWM/GWR Project Final EIR, would be relocated farther to the northeast and one additional new Injection Well would be constructed northeast of the original Injection Well Area. This area is referred to as the Injection Well Area. Due to the change in location of the deep injection wells, the location of each associated monitoring well has been relocated. Monitoring wells could be within 850 feet of one or more residences in the Fitch Park neighborhood. A new electrical building and percolation basin for backwash water disposal would be included at a central location within the Injection Well Area (east of the current Injection Well Facilities). The nearest sensitive receptors are Ardennes Circle residences located approximately 850 feet north-northwest of the proposed Injection Well Facilities. Noise measurement (at Site S4) averaged 54 dBA Leq during the daytime and averaged 52 dBA Leq at night.

CalAm Distribution System Improvements

Extraction Wells

The Proposed Modifications include four new CalAm Extraction Wells (numbered EW-1 through EW-4). EW-1 and EW-2 would be located north of Seaside Middle School. EW-3 and EW-4 would be located to the east of General Jim Moore Boulevard, near the southeast corner of the intersection of General Jim Moore Boulevard and Ardennes Circle in the Fitch Park neighborhood. Each Extraction Well would include a well pump and motor, water treatment dosing equipment, and associated electrical equipment. CalAm may elect to install emergency generators at one or more Extraction Well Sites, depending upon their need for system reliability.

Conveyance Pipelines

CalAm would construct and operate new treatment facilities, and potable and raw water pipelines to convey the water from the new Extraction Wells to treatment facilities and to the existing CalAm distribution system located in the General Jim Moore Boulevard right of way extending approximately 2 ½ miles in length. The nearest sensitive receptors are residences located west and east of General Jim Moore Boulevard and Seaside Middle School. These receptors are shown in the figures in **Appendix K**. Noise levels in the area are represented by MPWSP EIR/EIS noise measurement site S4 and PWM/GWR Project Final EIR noise measurement sites LT-1 and ST-2. Noise levels at Site S4 are discussed above. Hourly average noise levels at Site LT-1 typically range from 57 to 66 dBA Leq during the day, and from 47 to 56 dBA Leq at night. General Jim Moore Boulevard traffic produced noise levels ranging from 47 to 48 dBA Leq at ST-2.

4.14.3 Regulatory Framework

Section 4.14.3 of the PWM/GWR Project Final EIR describes the Federal, State, and local regulations related to noise and vibration. There have been no relevant changes to these regulations.

4.14.4 Impacts and Mitigation Measures

4.14.4.1 Significance Criteria

Based on Appendix G of the State CEQA Guidelines, a project would result in significant impacts related to noise and vibration if it would:

- a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- b. Generate excessive groundborne vibration or groundborne noise levels; or
- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the CWSRF administered by the State Board.

4.14.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

This noise and vibration impact assessment evaluates short-term impacts associated with construction and long-term operational impacts of the Proposed Modifications. This approach is consistent with the PWM/GWR Project Final EIR. The impact discussion analyzes substantial increases in ambient noise levels in the vicinity of the Proposed Modifications, based on the results of the noise and vibration study. The assessment of vibration impacts was conducted using information on anticipated vibration during construction and operation of the Proposed Modifications based on anticipated equipment and activities to occur at each site.

For the purposes of this analysis, only construction noise is considered under the criterion that addresses temporary or periodic increase in ambient noise. Periodic noise increases are defined as intermittent or short-term and, for the purposes of this evaluation, only construction activities would apply to this criterion.

Noise

The methodologies and thresholds used to determine the significance of noise and vibration impacts are described in detail in the PWM/GWR Project Final EIR in Section 4.14.4.2. This Supplemental EIR identifies significance criteria based on the 2019 CEQA Checklist, which vary slightly from the thresholds used in the PWM/GWR Final EIR and are presented in **Section 4.14.4.1** above.

Areas of No Impact

The Proposed Modifications would not result in impacts related to some of the significance criteria, as explained below. Impact analyses related to the other criteria are addressed below under **Sections 4.14.4.4 (for construction impacts), 4.14.4.5 (for operational impacts), and 4.14.4.6 (for cumulative impacts)**.

(*b*) *Excessive Groundborne Noise During Construction.* Groundborne noise occurs when vibrations transmitted through the ground result in secondary radiation of noise. Groundborne noise is generally associated with the movement of trains through tunnels and activities such as blasting, neither of which are proposed as part of the Proposed Modifications. As a result, construction-related groundborne noise levels are not considered in the impact analysis below. In addition, the results of the noise and vibration

assessment (**Appendix K**) concluded that the Proposed Modifications would not result in cosmetic or structural damage to surrounding structures from vibration generated during construction. There would be no impact associated with the Proposed Modifications.

(*b*) *Vibration During Operations.* The proposed underground pipeline components of the Proposed Modifications (Product Water Conveyance System and CalAm Conveyance Pipelines) would not have any mechanical equipment that would result in vibration. None of the other permanent facilities have equipment that would result in generation of vibration. The permanent facilities (Advanced Water Purification Facility and Injection Well Facilities) would have equipment and/or pumps that would be enclosed or underground and would not result in excessive groundbourne vibration. As a result, the Proposed Modifications would not result in any operational impacts.

(c) Exposure to Aircraft Noise. The Proposed Modifications would not involve the development of noise-sensitive land uses that would be exposed to excessive aircraft noise. The Proposed Modifications do not entail the construction of any habitable structures intended for extended use; the Proposed Modifications are associated with the expansion of existing infrastructure. Therefore, there would be no impacts associated with exposure to airport or aircraft noise.

4.14.4.3 Summary of Impacts

Table 4.14-2, Summary of Impacts – Noise and Vibration provides a summary of potential impacts related to noise and vibration and significance determinations for the Proposed Modifications.

Table 4.14-2

Summary of Impacts –	Noise and	Vibration	

	sility	line		CalAm Distribution System		
Impact Title	Advanced Water Purification Fac	Product Water Conveyance Pipe	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
NV-1: Construction Noise	LS	LSM	LS	SU	LSM	SU
NV-2: Operational Noise	LS	LS	LS	LSM	LS	LSM
Cumulative Impacts	LS: The Project Modifications would not cause the Project to make a cumulatively considerable contribution to construction or operational cumulative noise and vibration impacts.					
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact						

4.14.4.4 Construction Impacts and Mitigation Measures

Impact NV-1:Construction Noise. Construction would result in a temporary
increase in ambient noise levels in the vicinity of all Proposed
Modifications sites. Temporary construction noise would not be
substantial at most construction sites, except at the CalAm
Extraction Wells. (Criterion a) (Significant and Unavoidable)

The PWM/GWR Project Final EIR evaluated potential noise related effects associated with construction of the approved PWM/GWR Project. The PWM/GWR Project Final EIR identified that noise levels generated during construction of the approved PWM/GWR Project would vary during the construction period, depending on the construction phase and the types of construction equipment used. Noise would be generated by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, compactors, cranes, pavers, and other heavy-duty construction equipment. The PWM/GWR Project Final EIR found that construction activities would result in a temporary increase in noise that would not be substantial with the exception of nighttime construction for the Monterey Pipelines. Mitigation was identified to reduce nighttime construction noise levels; however, the impact was found to be unavoidable.

Construction activities for the Proposed Modifications would occur intermittently at several locations during a period of approximately 24 months. Truck trips generated during construction would be dispersed throughout the day and over the local road network. Commute trips by construction workers would primarily occur before and after construction delivery truck trips occur. Daily transportation of materials and construction workers would not be a substantial source of traffic noise levels along local roadways serving the project area. These activities would result in comparable construction-related noise impacts as those identified in the PWM/GWR Project Final EIR.

Construction noise levels were calculated using the Federal Highway Administration's Roadway Construction Noise Model (RCNM). The maximum (L_{max}) and hourly average (L_{eq}) noise levels for each phase of construction at the Proposed Modification component sites are presented in **Table 4.14-3**, **Construction Equipment Noise Levels Modeled at 50 feet.** The methodology used for assessing the noise impacts of the Proposed Modifications is consistent with the approach used in PWM/GWR Project Final EIR.

Construction equipment noise levels were modeled at a distance of 50 feet from the center of the construction site. From these source data, calculations were made to estimate construction noise levels at receptors within 50 feet of the construction site or at more distant receptors assuming that the noise attenuation rate was 6 dBA for each doubling of distance from the source where the distance is over roadways and 7.5 dBA for each doubling of distance from the source where the distance is over fields.
Project Component	Duration	Construction Phase	L _{max}	L _{eq}
		Demolition	90	85
		Site preparation	84	83
Improvements to Advanced	10 Months	Grading/Excavation	85	87
Water Purification Facility		Trenching/Pipelines	90	87
		Building Facilities	90	89
		Paving	90	86
		Site Preparation – Access Road Grading	85	85
	19 Months	Grading/Excavation – Backflush Basin	85	87
Injection Well Facilities and		Trenching/Pipelines (1,000 feet/week)	90	89
Product Water Conveyance Pipeline		Building Facilities – Deep Injection Wells, Monitoring Wells	84	85
		Building Facilities – Electrical Building	90	87
		Paving	85	86
		Site Preparation – Access Road Grading	85	85
		Trenching/Pipelines (1,000 feet/week)	90	89
CalAm Extraction Well Facilities	19 Months	Building Facilities – Extraction Wells	84	85
		Building Facilities – Electrical Building	90	87
		Paving	85	86
CalAm Conveyance Pipeline	7 Months	Pipeline Installation (800 feet/week)	81	84

Table 4.14-3Construction Equipment Noise Levels Modeled at 50 Feet

Advanced Water Purification Facility

Improvements to the Advanced Water Purification Facility would result in comparable impacts as those identified in the PWM/GWR Project Final EIR (see Section 4.14.4.4). Due to the Advanced Water Purification Facility's distance from any sensitive receptors (nearly one mile), construction noise levels would not exceed the daytime speech interference or nighttime sleep disturbance thresholds at the nearest residences. Therefore, temporary noise increases due to construction of this Proposed Modification would be less-than-significant, consistent with the findings in the PWM/GWR Project Final EIR.

Product Water Conveyance Pipeline

For the purpose of modeling the construction noise for the Product Water Conveyance Pipeline, worst-case construction noise levels would occur when construction activities are located closest to the nearest receptors (i.e., residences on Ardennes Circle approximately 300 feet to the southwest). The pipeline would be installed at a rate of about 1,000 feet per week, eventually reaching a distance of 2,300 feet from Ardennes Circle residences as the pipeline reaches its easternmost point. The pipeline would then return to the southwest toward the Injection Well Area, which is approximately 1,400 feet from the nearest Ardennes Circle residences.

The maximum construction noise levels for the Product Water Conveyance Pipeline are presented in **Table 4.14-4**. Assuming a source noise level of up to 89 dBA Leq at a distance of 50 feet, and an attenuation rate of 7.5 dBA per doubling of distance between the noise source and receptor, pipeline construction activities occurring within 290 feet (in either direction) of a sensitive receptor would yield noise levels below 70 dBA Leq. The nearest receptors are located

300 feet or more from the pipeline alignment. Therefore, existing sensitive receptors would not be exposed to noise levels greater than 70 dBA Leq. Construction noise resulting from the Product Water Conveyance Pipeline would not exceed the noise level that could result in temporary annoyance and duration thresholds. This represents a less-than-significant impact.

Table 4.14-4

Maximum Construction Noise Levels – Product Water Conveyance Pipeline

Construction Activity Source	Receptors	Distance to Receptor	L _{max}	L _{eq}
	Ardennes Circle Residences	300 feet (southwest)	67	70
Construction of Product Water Conveyance Pipeline	Ardennes Circle Residences	2,300 feet (west)	44	47
	Ardennes Circle Residences	1,400 feet (northwest)	50	53

Injection Well Facilities

The Injection Well Facilities are located within the boundary of the former Fort Ord. The nearest sensitive receptors are located more than 850 feet from the Injection Well Area in the City of Seaside. Maximum noise levels generated during the loudest construction phase (i.e., trenching/pipelines) are calculated to be 90 dBA Lmax and 89 dBA Leq at a distance of 50 feet. These source noise levels would be attenuated due to distance, resulting in noise levels of up to 59 dBA Lmax and 58 dBA Leq at a distance of 850 feet. This represents the distance from the construction activities to the closest sensitive residential receptors on Ardennes Circle.

The PWM/GWR Project Final EIR evaluated monitoring wells between the deep Injection Well Sites and the nearest downgradient Extraction Well. Due to the change in location of the deep Injection Wells, the locations of each associated monitoring well were relocated to the area between General Jim Moore Boulevard and the Injection Well Area. The relocated monitoring wells could be within 850 feet of one or more residences in the Fitch Park neighborhood.

The maximum construction noise levels at the Injection Well Area are presented in **Table 4.14-5**. Well drilling activity was assumed to occur for 24 hours a day at a noise level of 85 dBA Leq at a distance of 50 feet. The noise level from drilling would be attenuated due to distance resulting in noise levels up to 54 dBA Leq at a distance of 850 feet. The City of Seaside has not adopted quantitative construction noise limits. Daytime construction activities would not exceed the daytime threshold of 70 dBA Leq. Drilling activities during nighttime hours would result in noise levels of up to 54 dBA Leq at the nearest sensitive receptors during the construction of deep Injection Wells or monitoring wells. This would be below the sleep disturbance threshold of 60 dBA Leq, and would be a less-than-significant impact.

Table 4.14-5

Maximum Construction Noise Levels – Injection Well Facilities

Construction Activity Source	Receptors	Distance to Receptor	L _{max}	L_{eq}			
Construction of Injection Well Facilities – Trenching/Pipelines	Ardennes Circle Residences	850 feet (north)	59	58			
Construction of Injection Well Facilities – Deep Injection Wells/Monitoring Wells	Ardennes Circle Residences	850 feet (north)	53	54			
Note: The noise attenuation rate is assumed to be approximately 6 dBA for each doubling of distance from the source where the distance is over and/or along roadways and developed areas and would be approximately 7.5 dBA for each doubling of distance from the source where the distance is over fields.							

CalAm Distribution System Improvements

Extraction Wells

The Proposed Modifications include the construction of four Extraction Wells, including two (EW-1 and EW-2) near Seaside Middle School and two (EW-3 and EW-4) located near the Fitch Park community.

EW-1 and EW-2 would be located north of Seaside Middle School. The Blackhorse Bayonet Golf Course is located to the north and west of wells EW-1 and EW-2. The nearest residences are located approximately 700 feet to the northeast along Hatten Road. Assuming a maximum source noise level of 89 dBA Leq at 50 feet for trenching and pipeline construction, daytime noise levels would reach 62 dBA Leq at the Seaside Middle School and 60 dBA Leq at the Hatten Road residences. Daytime well drilling would produce noise levels up to 85 dBA Leq at 50 feet, resulting in noise levels about 4 dBA lower at the Seaside Middle School and Hatten Road residences. Daytime construction activities would not exceed the daytime threshold of 70 dBA Leq. Nighttime well drilling would also produce noise levels up to 85 dBA Leq at 50 feet. Well drilling noise levels are calculated to reach 56 dBA Leq at the Hatten Road residences and would not exceed the nighttime threshold of 60 dBA Leq.

The MPWSP EIR/EIS analyzed noise resulting from construction of ASR-5 and ASR-6 at the same locations as proposed EW-3 and EW-4. The proposed Extraction Wells (EW-3 and EW-4) would be constructed at the intersection of General Jim Moore Boulevard and Ardennes Circle, in the Fitch Park military housing area. The closest residential receptors are located 50 feet away on Ardennes Circle. Each Extraction Well would require 24-hour construction activities for up to 7 days during well drilling. Temporary noise barriers would be installed at each Well Site to reduce construction noise. A 10-foot noise barrier would be constructed to reduce noise levels at the nearest receptors to EW-3, and a 15-foot noise barrier would be constructed to reduce noise levels at the nearest receptors to EW-4. Accounting for the attenuation provided by the temporary barrier, the resultant daytime and nighttime construction noise levels at the nearest sensitive receptors could be as high as 80 dBA Leq. This level exceeds the speech interference and sleep interference thresholds of 70 dBA and 60 dBA (with windows closed, or 35 dBA with windows open), respectively. This represents a significant impact because the nighttime noise would disturb sleep. The noise contours for construction of EW-3 and EW-4 with and without mitigation are located in the noise and vibration assessment in **Appendix K**.

While it is possible that implementation of mitigation identified in the MPWSP EIR/EIS would reduce the daytime noise impact to a less-than-significant level, this mitigation would not be sufficient to reduce noise to below the more stringent nighttime threshold. Therefore, the nighttime noise impact from construction of EW-3 and EW-4 would remain significant and unavoidable.

Conveyance Pipelines

The potable and raw water pipelines proposed within General Jim Moore Boulevard would be installed as close as 300 feet east of Seaside Middle School. The average noise level produced by construction of the pipelines would be 84 dBA L_{eq} at 50 feet. The attenuated construction equipment noise level at 300 feet would be 65 dBA L_{eq} . These pipeline alignments are also as close as 100 feet from residential receptors, including residences on Ardennes Circle. The resultant daytime noise level at residential receptors during pipeline construction would be as high as 77 dBA L_{eq} . The pipelines would be constructed at a rate of 800 feet per week. Therefore, these receptors would be exposed to noise levels at or above the 70 dBA L_{eq} threshold for less than one week, which would be less than the two-week exposure threshold. This represents a less-than-significant impact.

Impact Conclusion

The Proposed Modifications would result in a new significant and unavoidable noise impact at the sites of CalAm Extraction Wells EW-3 and EW-4. Significant impacts related to temporary increases in daytime noise levels would be reduced to less-than-significant levels with implementation of the mitigation below. However, significant nighttime noise impacts during construction of this component would remain significant and unavoidable, even with implementation of mitigation measures.

Mitigation Measures

The MPWSP EIR/EIS identified mitigation measures to address potential temporary construction impacts associated with the construction of ASR system improvements (i.e., ASR-5 and ASR-6). These measures will be implemented for Extraction Wells EW-3 and EW-4. These are presented as new mitigation measures, Mitigation Measures NV-1e and NV-1f.

MM NV-1a: Drilling Contractor Noise Measures. (Applies to CalAm Extraction Wells). Contractor specifications shall include a requirement that drill rigs located within 700 feet of noise-sensitive receptors shall be equipped with noise reducing engine housings or other noise reducing technology and the line of sight between the drill rig and nearby sensitive receptors shall be blocked by portable acoustic barriers and/or shields to reduce noise levels such that drill rig noise levels are no more 75 dBA at 50 feet. This would reduce the nighttime noise level to less than 60 dBA L_{eq} at the nearest residence.

The contractor shall submit to the M1W and the Seaside Building Official, a "Well Construction Noise Control Plan" for review and approval. The plan shall identify all feasible noise control procedures that would be implemented during night-time construction activities. At a minimum, the plan shall specify the noise control treatments to achieve the specified above noise performance standard.

- **MM NV-1c:** <u>Neighborhood Notice.</u> (Applies to CalAm Extraction Wells). Residences and other sensitive receptors within 900 feet of a nighttime construction area shall be notified of the construction location and schedule in writing, at least two weeks prior to the commencement of construction activities. The notice shall also be posted along the proposed pipeline alignments, near the proposed facility sites, and at nearby recreational facilities. The contractor shall designate a noise disturbance coordinator who would be responsible for responding to complaints regarding construction noise. The coordinator shall determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact number for the noise disturbance coordinator shall be conspicuously placed on construction site fences and included in the construction schedule notification sent to nearby residences.
- MM NV-1e Additional Noise Controls for Nighttime Construction of Wells. (Applies to CalAm Extraction Wells) The construction contractor(s) shall identify feasible noise controls for implementation during well drilling development activities within 500 feet of the Fitch Park military housing community. The construction contractor(s) shall locate all stationary noise-generating equipment as far as possible from nearby noise-sensitive receptors. Drill rigs within 500 feet of noise-sensitive receptors shall be equipped with noise-reducing engine housings or other noise-reducing technology. Additionally, acoustic barriers and/or enclosures shall be used with a goal of reducing noise from well drilling activities to 60 dBA Leq or less at residences. There are a number of options available to achieve this

performance standard. Barrier blankets are available with a sound transmission class rating of 32, which can provide 16 to 40 dBA of sound transmission loss, depending on the frequency of the noise source (ENC, 2014). The realized sound transmission reduction of barrier blankets needs to be sufficient to achieve the performance standard of 60 dBA Leq or less at residences.

- MM NV-1f Offsite Accommodations for Substantially Affected Nighttime Receptors near Wells. (Applies to CalAm Extraction Wells) CalAm shall provide temporary hotel accommodations for all residences and any other nighttime sensitive receptors:
 - 1. That would be exposed to 24-hour project construction activities and
 - 2. Where nighttime construction noise would exceed 60 dBA with windows closed or 35 dBA with windows open, even with implementation of acoustic barriers and/or shielding measures.

The accommodations shall be provided for the duration of 24-hour construction activities. CalAm shall provide accommodations reasonably similar to those of the impacted residents in terms of number of beds and amenities. If identified accommodations do not include typical residential kitchen facilities (e.g., cooktop, oven, full size refrigerator), then CalAm shall provide displaced individuals with a per diem allowance to offset costs of meals for the period of relocation.

4.14.4.5 Operation Impacts and Mitigation Measures

Impact NV-2:Operational Noise.Operation of the Proposed Modifications
would potentially increase existing noise levels, but would not
exceed noise level standards except at CalAm Extraction Wells.
(Criteria a) (Less-than-Significant with Mitigation)

The PWM/GWR Final EIR found that operational noise would be less-than-significant. Operation of the Product Water Conveyance and CalAm Distribution Pipelines would not result in operational noise impacts as no new permanent noise-generating equipment, such as pumps, are proposed at these locations. As a result, these modifications are not discussed further below. Sources of noise associated with the operation of the Proposed Modifications would include new pumps and other equipment at the Advanced Water Purification Facility, the Injection Well Facilities, and CalAm Extraction Wells. Employee traffic and maintenance activities would not be considerable sources of noise.

Advanced Water Purification Facility

Advanced Water Purification Facility improvements would require the installation of additional treatment and pumping equipment, chemical storage, pipelines, and facility appurtenances. Noise resulting from new facilities would be generated from proposed stationary sources associated with facility operations, including primarily electric water pumps. Typical operating conditions would result in pump reference noise levels of approximately 85 dBA Leq at 50 feet assuming the pumps were at grade and not inside an enclosure. Maximum noise levels generated by operations at the RTP would be 35 dBA Leq at a distance of approximately 1 mile, where the nearest sensitive residential receptors are located. These noise levels would not result in a substantial increase in ambient noise levels and would not exceed the City of Marina or Monterey County noise standards.

Injection Well Facilities

The primary operational noise source at each Injection Well would be a well pump to backflush the well. The estimated motor size for each pump is approximately 400 hp. The 400 hp backflush pump has an estimated noise level of 85 dBA L_{eq} at 50 feet assuming the pumps are at grade and not enclosed. The nearest residences to the backflush pump are located 1,300 feet to the north along Ardennes Circle in Seaside. The maximum noise level, generated by backflush operations, is calculated to be 50 dBA Leq. These noise levels would not result in a substantial increase in ambient noise levels and would not exceed the City of Seaside noise standard of 65 dBA CNEL.

CalAm Distribution System Improvements

Extraction Wells

EW-1 and EW-2 would be at least 600 feet north of the nearest classroom building at Seaside Middle School and 700 feet southwest of residences on Hatten Road. At 600 to 700 feet, noise levels would be reduced by 27 to 29 dBA respectively, due to distance alone. The pump motors would be enclosed in a standard concrete pump house that would attenuate noise levels by at least 20 dBA, resulting in operational noise levels of 29 dBA at the Seaside Middle School and 27 dBA at the Hatten Road residences. Operational noise levels related to EW-1 and EW-2 would be well below ambient conditions at the Seaside Middle School and nearest residential receptors. This would represent a less-than-significant impact.

EW-3 and EW-4 would be 50 feet west of residences on Ardennes Circle. Each well would be equipped with a permanent 500-hp multistage vertical turbine pump. The pump would be housed in a fiberglass soundproof enclosure. Well pump motors would generate noise levels of up to 76 dBA Lmax at 50 feet; however, placing the motors in a standard concrete pump house would attenuate noise levels by at least 20 dBA (to 56 dBA Lmax at 50 feet) (MPWPS EIR/EIS). The increase in ambient noise levels at the residences on Ardennes Circle would be 5 to 6 dBA Leq, which is above the 5 dBA Leq threshold for a perceptible change in noise levels.² This would represent a significant permanent operational noise increase over existing conditions. The current design identifies a fiberglass enclosure that may not provide comparable attenuation to the concrete pump house. Furthermore, the fiberglass enclosure may not provide sufficient attenuation to achieve the interior sleep interference noise standard of 35 dBA Leg inside the nearest residences assuming windows are open for ventilation. There is a potential that interior noise levels that were previously designed to meet the 60 dBA CNEL exterior noise threshold with the use of a concrete block enclosure, would result in interior noise levels of approximately 38 dBA Leq inside the nearest residential units exceeding the 35 dBA Leg sleep interference threshold by 3 dBA. This represents a significant impact that would be reduced to a less-than-significant level through the implementation of Mitigation Measure NV-2 (Stationary-Source Noise Controls).

Impact Conclusion

Operation at the Product Water Conveyance and CalAm Distribution Pipelines would not result in operational noise impacts as no new permanent noise-generating equipment, such as pumps, are proposed at these locations. Operation of the remaining Proposed Modifications would generate less-than-significant noise levels, with the exception of Extraction Wells EW-3 and EW-4. Noise from operation of EW-3 and EW-4 represents a new significant impact that can be reduced to a less-than-significant level with the following mitigation.

² An increase of at least 5 dBA is considered a "readily perceptible" difference or the change required to elicit a noticeable change in human response (MPWSP EIR/EIS).

Mitigation Measures

The Proposed Modifications would result in a new potentially significant impact related to operational noise associated with Extraction Wells EW-3 and EW-4. The PWM/GWR Project Final EIR did not identify any significant operational noise impacts nor required mitigation. The MPWSP EIR/EIS identified mitigation to reduce potential operational impacts associated with EW-3 and EW-4 to a less-than-significant level. That mitigation measure (identified as Mitigation Measure 4.12-5 in the MPWSP EIR/EIS) has been incorporated into this Supplemental EIR to ensure that potential operational impacts are reduced to a less-than-significant level.

MM NV-2 <u>Stationary-Source Noise Controls.</u> (EW-3 and EW-4) CalAm shall retain an acoustical engineer to design stationary-source noise controls and ensure the applicable noise standards are met. At a minimum, all stationary noise sources at EW-3 and EW-4 shall be located within enclosed structures and with adequate noise control to maintain noise levels to no greater than 55 CNEL (or 48 dBA Leq assuming 24-hour per day operation), at the property lines of nearby residences. Once the stationary noise sources have been installed, the contractor(s) shall conduct a single long-term (24-hour) monitoring of noise levels to ensure that noise levels resulting from the operation of the well comply recommended noise limits.</u>

4.14.4.6 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that the project's contribution to significant noise and vibration impacts when combined with cumulative development projects would not be cumulatively considerable during construction and operations. Specifically, the cumulative projects did not have overlapping or close construction schedules or construction phasing would avoid cumulative construction noise and vibration impacts. In addition, operation of the cumulative development projects would result in substantial permanent operational noise impacts because most are residential, commercial, and/or institutional land uses that would not result in substantial noise-producing equipment or uses.

The Proposed Modifications similarly would not result in noise impacts that would combine with noise from other cumulative projects during construction or operations. No other projects are anticipated to be constructed in the vicinity of CalAm Extraction Wells EW-3 and EW-4, and no other new permanent operational noise sources are anticipated in the vicinity of CalAm Extraction Wells EW-3 and EW-4. Therefore, although the Proposed Modifications would result in new project-specific significant noise impacts, the Proposed Modifications would not cause the PWM/GWR Project to make a cumulatively considerable contribution to a significant cumulative noise impact.

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4.15 POPULATION AND HOUSING

Sections	Tables	Figures
 4.15.1 Introduction 4.15.2 Environmental Setting 4.15.3 Regulatory Framework 4.15.4 Impacts and Mitigation Measures 	 4.15-1 Summary of Prior Environmental Review – Population and Housing 4.15-2 Monterey County Population Growth by Jurisdiction 4.15-3 Comparison of Population and Housing Characteristics 4.15-4 Monterey County Projected Population Growth by Jurisdiction 4.15-5 Employment Population Growth Rate in Monterey County and AMBAG Region. 4.15-6 5th Cycle: Regional Housing Need Allocation (RHNA) for Monterey County 4.15-7 Summary of Impacts – Population and Housing 	4.15-1 Population Growth Rate in Monterey County, AMBAG Region and California (statewide) 1940-2010

4.15.1 Introduction

This section presents background information on population and housing, a summary of existing population and housing, and a summary of the relevant regulatory framework pertinent to the project. The effects of the approved PWM/GWR Project related to population and housing were identified in the PWM/GWR Project Final EIR Section 4.15, Population and Housing EIR (see PWM/GWR Project Final EIR Vol. 1, at pg. 4.15-1 through 4.15-12). Similarly, the Addenda did not change any of the conclusions of the Final PWM/GWR Project Final EIR. **Table 4.15-1** below summarizes the findings of the PWM GWR Project Final EIR and Addenda.

Table 4.15-1

Summary of Prior Environmental Review – Population and Housing

	Approved PWM/GWR Project (Overall Impact)
PH-1: Construction-Related Growth Inducement	LS For Project As A Whole
PH-2: Operations and Infrastructure-Related Growth Inducement	NI For Project As A Whole
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	

This section identifies existing and projected population and housing within local jurisdictions within which the Proposed Modifications' components would be located. The section analyzes potential impacts on population growth and housing as a result of implementation of the approved PWM/GWR Project and Proposed Modifications. Facilities for the approved PWM/GWR Project with Proposed Modifications would be constructed and operated in the cities of Salinas, Marina, Seaside, Sand City, Del Rey Oaks Monterey, and Pacific Grove, and within unincorporated areas of northern Monterey County. These jurisdictions incorporate the CalAm service area and comprise the Project Study Area for this analysis.

The population and housing background and analysis in this section is based on review of the 2010 U.S. Census population and housing data, population estimates by the California Department of Finance and updated population, housing and employment projections developed

by the Association of Monterey Bay Area Governments (AMBAG) and the State Department of Finance. Estimates of the number of construction and permanent employees anticipated for construction and operation of the approved PWM/GWR Project and Proposed Modifications were provided by M1W.

Public and agency comments received during the public scoping period in response to the Notice of Preparation are included in **Appendix A**. No comments were received with regard to population and housing related impacts.

4.15.2 Environmental Setting

The PWM/GWR Project Final EIR described the character of the Project Study Area as it relates to population and housing. The PWM/GWR Project Final EIR classified the population and housing setting based on then-current local, State, and Federal policies and regulations and available data sources. The available sources include citations of population and housing units from the 2010 census, and projected population growth by jurisdiction according to the 2014 AMBAG Regional Forecast. The following updates information from the environmental setting as it relates to population and housing in the area of the approved PWM/GWR Project and Proposed Modifications.

Monterey County has twelve incorporated cities with a total population of approximately 445,414 people. **Table 4.15-2, Monterey County Population Growth by Jurisdiction** shows the population growth by jurisdiction since the 2010 Census. This updates information from the PWM/GWR Project Final EIR which reported Monterey County population in 2010. Additionally, Table 4.15-2 provides population totals by jurisdiction through 2019 and identifies the population increase and percent change. **Table 4.15-3, Monterey County Estimated Population and Housing Units by Jurisdiction (2010 - 2014)** breaks down the total population and housing units by jurisdiction according to the most recent census (2010) and as shown in the 2014 Housing and Community Development data.¹

According to the 2010 U.S. Census, unincorporated Monterey County had a population of approximately 415,057 persons in 2010. More recent 2014 data on population and housing units are shown in Table 4.15-3 Comparison of Population and Housing Characteristics (2010 - 2014) for Project Area Jurisdictions. This data below is specific only to the jurisdictions within the approved PWM/GWR Project and Proposed Modifications project areas, as shown below.

¹ See Table 4.15-1, Monterey County Estimated Population and Housing Units by Jurisdiction (2010) from the PWM/GWR Project Final EIR.

4.15 Population and Housing

Table 4.15-2

Monterey County Population Growth by Jurisdiction

	4/1/2010	1/1/2011	1/1/2012	1/1/2013	1/1/2014	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019	Cumulative Change 2010 to 2019	% Change 2010 to 2019
Monterey County												
Carmel-By-The-Sea	3,722	3,732	3,747	3,755	3,791	3,854	3,868	3,941	3,967	3,987	265	7.12%
Del Rey Oaks	1,624	1,635	1,649	1,652	1,668	1,682	1,685	1,719	1,727	1,734	110	6.77%
Gonzales	8,187	8,249	8,325	8,384	8,433	8,489	8,543	8,629	8,640	8,677	490	5.99%
Greenfield	16,330	16,465	16,661	17,023	17,082	17,174	17,629	17,938	17,932	18,009	1,679	10.28%
King City	12,874	13,026	13,240	13,569	13,618	13,885	14,254	14,450	14,527	14,724	1,850	14.37%
Marina	19,718	19,822	20,121	20,265	20,376	21,179	21,669	22,263	22,548	22,957	3,239	16.43%
Monterey	27,810	28,069	28,515	28,486	28,437	28,535	28,594	28,697	28,473	28,448	638	2.29%
Pacific Grove	15,041	15,123	15,205	15,359	15,416	15,596	15,734	15,816	15,807	15,883	842	5.60%
Salinas	150,441	151,744	154,179	157,005	157,965	158,551	160,916	161,624	161,899	162,797	12,356	8.21%
Sand City	334	336	339	341	345	367	371	375	393	397	63	18.86%
Seaside	33,025	32,910	33,407	33,644	33,747	34,172	34,088	34,295	34,382	33,776	751	2.27%
Soledad	25,738	26,357	26,402	25,759	25,180	24,846	25,652	25,996	25,890	26,079	341	1.32%
Balance of County	100,213	101,028	102,130	102,628	103,556	104,634	105,156	106,155	106,755	107,946	7,733	7.72%
County Total	415,057	418,496	423,920	427,870	429,614	432,964	438,159	441,898	442,940	445,414	30,357	7.31%
Source: State Departm http://www.dof.ca.gov/	Source: State Department of Finance. Population Estimates for Cities, Counties, and the State, 2011-2019 with 2010 Census Benchmark											

Table 4.15-3 Comparison of Population and Housing Characteristics (2010 - 2014) for Project Area Jurisdictions

Jurisdiction	2010 Population	2014 Population	2010 Total Housing Units	2014 Total Housing Units
Carmel-by-the-Sea**	3,722	3,791	3,417	3,417
Del Rey Oaks**	1,624	1,665	741	741
Marina*	19,718	20,268	7,200	7,201
Monterey*,**	27,810	28,381	13,584	13,631
Pacific Grove*,**	15,041	15,431	8,169	8,181
Salinas*	150,441	155,205	42,651	42,948
Sand City**	334	343	145	146
Seaside*,**	33,025	33,534	10,872	10,913
Unincorporated Areas*,**	100,213	103,697	39,434	38,710
Total	351,928	362,246	126,213	125,888
*PWM/GWR areas of approved and proposed project component	ents.			
**Jurisdictions within MPWMD/CalAm areas subject to CDO				

Source: U.S. Census Bureau, 2010, and Housing and Community Development (HCD 5th Cycle), Dept of Finance, State of California, 2014 data.

Table 4.15-4, Monterey County Projected Population Growth by Jurisdiction shows the projected population growth by jurisdiction according to the 2018 AMBAG Regional Forecast. The current regional population and employment projections are included in the "2018 Regional Growth Forecast" (Association of Monterey Bay Area Governments, 2018).² The "Regional Housing Needs Allocation Plan 2014-2023" (Association of Monterey Bay Area Governments, 2014) provides information on housing allocation and housing needs assessment.

The 2018 Regional Growth Forecast projects that the region will add approximately 32,272 jobs between 2015 and 2040 in Monterey County. Regional employment forecasts are presented in **Table 4.15-5, Employment Population Growth Rate in Monterey County and AMBAG Region.**

The 2018 Regional Growth Forecast projects that the region's population will grow by approximately 69,100 people in Monterey County. To house the region's expected population growth, the Regional Growth Forecast shows an increase of approximately 24,000 houses in Monterey County. Housing growth rates do not exactly parallel population growth rates because of local variations in average household size and vacancy rate, and because some population (e.g., at UCSC and CSUMB) is expected to be housed in group quarters facilities.

² The final 2018 regional growth forecast was adopted on June 13, 2018 by the AMBAG Board of Directors.

4.15 Population and Housing

lunia diation / Anon	0045	2020	0005	2020	0005	20.40	Change 2015-2040	
Jurisdiction/ Area	2015	2020	2025	2030	2035	2040	Numeric	Percent
Monterey County								
Carmel-By-The- Sea	3,824	3,833	3,843	3,857	3,869	3,876	52	1%
Del Rey Oaks	1,655	1,949	2,268	2,591	2,835	2,987	1,332	80%
Gonzales	8,411	8,827	10,592	13,006	15,942	18,756	10,345	123%
Greenfield	16,947	18,192	19,425	20,424	21,362	22,327	5,380	32%
King City	14,008	14,957	15,574	15,806	15,959	16,063	2,055	15%
Marina	20,496	23,470	26,188	28,515	29,554	30,510	10,014	49%
Marina balance	19,476	20,957	22,205	22,957	23,621	24,202	4,726	24%
CSUMB (portion)	1,020	2,513	3,983	5,558	5,933	6,308	5,288	518%
Monterey	28,576	28,726	29,328	29,881	30,460	30,976	2,400	8%
Monterey balance	24,572	24,722	25,324	25,877	26,456	26,972	2,400	10%
DLI & Naval Postgrad	4,004	4,004	4,004	4,004	4,004	4,004	0	0%
Pacific Grove	15,251	15,349	15,468	15,598	15,808	16,138	887	6%
Salinas	159,486	166,303	170,824	175,442	180,072	184,599	25,113	16%
Sand City	376	544	710	891	1,190	1,494	1,118	297%
Seaside	34,185	34,301	35,242	36,285	37,056	37,802	3,617	11%
Seaside balance	26,799	27,003	27,264	27,632	28,078	28,529	1,730	6%
Fort Ord (portion)	4,450	4,290	4,340	4,490	4,690	4,860	410	9%
CSUMB (portion)	2,936	3,008	3,638	4,163	4,288	4,413	1,477	86%
Soledad	24,809	26,399	27,534	28,285	29,021	29,805	4,996	20%
Balance Of County	104,613	105,361	105,682	106,007	106,323	106,418	1,805	2%
Total Monterey County	432,637	448,211	462,678	476,588	489,451	501,751	69,114	16%

Table 4.15-4Monterey County Projected Population Growth by Jurisdiction

Table 4.15-5

Employment Population Growth Rate in Monterey County and AMBAG Region.

luriadiation/Pagian	2015	2020	2025	2020	2035	0 2035	2040	Change 2	2015-2040
Julisaiction/Region	2015	2020	2025 2030	2030		2040	Numeric	Percent	
AMBAG Region	337,600	351,800	363,300	374,100	384,800	395,000	57,400	17%	
Monterey County	203,550	211,799	218,203	224,207	230,212	235,822	32,272	16%	
Source: "2018 Regional Growth Forecast" (Association of Monterey Bay Area Governments, 2018). AMBAG Sources: Data for									

2015 from InfoUSA and the California Employment Development Department. Note: Forecast years were prepared by AMBAG.

Historic population growth in Monterey County and the Project Study Area has fluctuated since the 1990s. As a result of the closure of Fort Ord, Monterey County experienced a population decline in the middle of the 1990s, yet population growth rebounded later in the decade. The county registered 13 percent growth (an increase of 46,100) between 1990 and 2000. While the County as a whole grew during this period, six of the county's jurisdictions experienced population loss during the 1990s (Carmel-By-The-Sea, -4%; Del Rey Oaks, -1%, Marina, -29%, Monterey, -7%, Pacific Grove, -4%, Seaside, -15%).

The following decade saw much slower growth, with an increase of less than 13,300 (3%) between 2000 and 2010 countywide. Five jurisdictions lost population (Carmel-By-The-Sea, -9%; Del Rey Oaks, -2%, Monterey, -6%, Pacific Grove, -3%, unincorporated Monterey County, -1%). The city of Seaside remained virtually unchanged. In the five years since the decennial census, population growth began to return to historical levels. The entire AMBAG region population grew by nearly 30,000 (4%) during the period between 2010 and 2015, including Monterey County.

This recovery in population growth reflects post-recession recovery according to the Regional Growth Forecast. Figure 4.15-1: Population Growth Rate in Monterey County, AMBAG Region and California, 1940-2010 illustrates historic growth in the region.

As the regional planning agency, AMBAG is responsible for allocating the region's share of the statewide housing need to each jurisdiction based on population projections and regional population. AMBAG assigns each community within its jurisdiction a fair share of the regional housing needs in the Regional Housing Needs Allocation (RHNA), which provides an estimate of the number of housing units that should be provided in the community to meet its share of new households in the region.



Figure 4.15-1 Population Growth Rate in Monterey County, AMBAG Region and California

Each community then shows how they will endeavor to meet these needs in the required periodic Housing Element for each RHNA. Under the requirements of State law, all local governments are required to prepare a housing element that lays out how the community will plan for its housing needs. Housing elements are developed to identify and analyze a city's housing needs; identify various governmental and non-governmental constraints to meeting those need; establish reasonable goals, objectives and policies based on those needs; and set forth a comprehensive list of actions to achieve the identified goals and objectives to achieve or meet the RHNA. Each jurisdiction's element must also be reviewed and certified by the State Department of Housing and Community Development (HCD).

Table 4.15-6 Regional Housing Need Allocation (RHNA) for Monterey County shows the total number of housing units which need to be planned by jurisdictions in Monterey County between 2014 and 2023 in order to meet its fair share of the regional housing need (based on the 2014 AMBAG Regional Housing Needs Allocation Plan, 5th Cycle). Total Regional Housing Needs Allocation within Monterey County and area jurisdictions is shown below.

Source: https://ambag.org/sites/default/files/documents/2018 Regional Growth Forecast.pdf

Jurisdiction/Area	Very Low	Low	Mod	Above Mod	TOTAL		
Carmel-by-the-Sea	7	5	6	13	31		
Del Rey Oaks	7	4	5	11	27		
Gonzales	71	46	53	123	293		
Greenfield	87	57	66	153	363		
King City	43	28	33	76	180		
Marina	315	206	239	548	1308		
Monterey	157	102	119	272	650		
Pacific Grove	28	18	21	48	115		
Salinas	537	351	407	934	2229		
Sand City	13	9	10	23	55		
Seaside	95	62	72	164	393		
Soledad	46	30	35	80	191		
Unincorporated Monterey County	374	244	282	651	1551		
Total for Monterey	1,780	1,162	1,348	3,096	7,386		
Source: AMBAG RHNA 5th Housing Ele	ment Cycle (AN	/IBAG, 2014) ar	nd RHNA Determi	nation HCD (HCD, 1	2019)		

5th Cycle: Regional Housing Need Allocation (RHNA) for Monterey County

The RHNA totals 7,386 new housing units, including 1,780 very low income, 1,162 low income, 1,348 moderate income, and 3,096 above moderate-income households for the 5th Cycle planning period (2014-2023). These represent the number of new housing units that will be needed by income category to meet each jurisdiction's "fair share" of the Monterey Bay Area's regional housing needs. AMBAG's allocations are based on an analysis of the following:

- The vacancy rate in each city and the existing need for housing it implies;
- The projected growth in the number of households;
- The local and regional distribution of income; and
- The need for housing generated by local job growth.

The AMBAG Regional Housing Needs Determination figures for all jurisdictions in the Monterey Bay area can be found on the AMBAG website at <u>http://www.ambag.org</u>. AMBAG will also be overseeing the 6th cycle RHNA, which covers the planning period from 2024-2032.

4.15.3 Regulatory Framework

Table 4.15-6

Section 4.15 of the PWM/GWR Project Final EIR describes the regulatory framework for population and housing in the area. There are no new Federal, State, or local regulations governing population and housing that apply specifically to the Proposed Modifications. The Proposed Modifications are infrastructure and water supply improvements. However, a number of new housing laws in the State related to provision of affordable housing have been signed into law. These include SB 35 and AB 68. SB 35 authorizes proponents of residential developments that meet specified statutory criteria to apply for approval under a streamlined, ministerial approval process. (§ 65913.4(a).) Under AB 68, homeowners who apply to build accessory dwelling units (ADUs), or "granny flats," can also apply to build a second, "junior" ADU on their property. Currently, ADU's under State law are allowed "by right". AB 881 and SB 13 provide additional incentives for ADU creation by streamlining permit processes, reducing fees, and removing rules that inhibited the construction of ADUs by requiring homeowners to live on-site.

4.15.4 Impacts and Mitigation Measures

4.15.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, a project would have a significant population and housing impact if the project would:

- a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the CWSRF administered by the State Board.

4.15.4.2 Impact Analysis Overview

Approach to Impact Analyses

This analysis evaluates the potential for direct impacts on population growth and housing as a result of the implementation of the Proposed Modifications. For the construction phase, this analysis considers whether the Proposed Modifications would induce substantial population growth in an area directly, as a result of increased construction workers moving to the area. The potential secondary effects of growth inducement associated with removing limitations on water supply as an obstacle to growth are addressed in **Section 5.2, Growth Inducement**. This section addresses whether the Proposed Modifications would directly result in population growth as a result of increased permanent workers moving to the area.

Areas of No Project Impact

Some of the significance criteria outlined above (b) are not applicable to the Proposed Modifications or the Proposed Modifications would not result in impacts related to these criteria, as explained below. The impact analyses related to criterion "a" are addressed below under **Subsections 4.15.4.4 (Construction Impacts)** and **4.15.4.5 (Operational Impacts)**.

(b). Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing. No housing units are located within the boundary of any Proposed Modifications component. Construction and operation of the Proposed Modifications would not require construction of any replacement housing. Neither construction nor operation of the Proposed Modifications would result in removal of housing that would displace existing residents and necessitate the construction of replacement housing elsewhere. (No impact related to construction or operations)

Summary of Impacts

Table 4.15-6, Summary of Impacts – Population and Housing provides a summary of potential impacts related to population and housing and significance determinations.

				CalAm Dis Syst	stribution em	
Impact Title	Advanced Water Purification Facility	Product Water Conveyance Pipeline	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
PH-1: Construction-Related Direct Population Inducement		LS	For Project a	s A Whole		
PH-2: Operations -Related Direct Population Growth		LSI	For Project a	s A Whole		
Cumulative Impacts	LS: The Proposed Modifications would not cause the Project to make a considerable contribution to significant cumulative impacts related to population and housing*.					
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact\ *Note: The impacts of growth that could be indirectly Growth Inducement.	induced by the	e Proposed N	Iodifications	are addresse	ed in Sectio	n 5.2,

Table 4.15-7 Summary of Impacts – Population and Housing

4.15.4.3 Construction Impacts and Mitigation Measures

Impact PH-1:Construction-Related Growth Inducement.Construction of the
Proposed Modifications would result in temporary increases in
construction employment but would not induce substantial
population growth. (Criterion a) (Less-than-Significant)

During construction of the Proposed Modifications, construction workforce on a peak day would be less than the construction workforce for the approved PWM/GWR Project. There would not be a noticeable increase in construction workers temporarily coming to the area to work on construction of the Proposed Modifications. The workforce would be available and met primarily within the local labor force in the Monterey Bay Area. This temporary employment condition would not create demand for additional housing. While some workers might temporarily relocate from other areas, the increase would be minor and temporary, and would not result in a substantial permanent increase in population or an associated need for housing. Construction of the Proposed Modifications would not result in any new significant population and housing impacts nor a more severe significant population and housing impact. Thus, project construction would not result in substantial population growth in the region, and no mitigation measures are required.

4.15.4.4 Operation Impacts and Mitigation Measures

Impact PH-2:Operations-Related Growth Inducement. Operation of the
Proposed Modifications would not result in substantial
population growth directly during project operations. (Criterion a)
(Less-than-Significant Impact)

The Proposed Modifications would not include the construction of new homes or businesses in the area. Thus, the Project would not directly result in population growth. Long-term operation and maintenance of the Proposed Modifications facilities is discussed in **Chapter 2, Project Description, Section 2.6**. Once construction is completed, the Proposed Modifications would not require any additional staff at the Advanced Water Purification Facility at the Regional Treatment Plant, and there would be no increase in jobs in the area from the operation of the Proposed Modifications (beyond the jobs generated by the approved PWM/GWR Project). Operation of the Proposed Modifications would not result in any new significant population and housing impacts nor a more severe significant population and housing impact.

4.15.4.5 Cumulative Impacts and Mitigation Measures

The geographic scope for cumulative impact analysis related to population and housing consists of the County of Monterey and the tri-County area in which construction and operational employees of the Proposed Modifications may live.

This impact analysis also considers regional population growth, employment and housing projections developed by AMBAG for the AMBAG Region³. As the Metropolitan Planning Organization (MPO), AMBAG carries out many planning functions for the tri-county area including development of regional growth forecasts. The overall cumulative impacts analysis considers the degree to which all relevant past, present and probable future projects could result in cumulative growth impacts based on adopted regional growth forecasts.

Regional population forecasts are presented in **Table 4.15-2**. Population growth in Monterey County is projected to increase to 476,588 residents by the year 2030 from a base of County population of 432,637 in 2015. Regional employment forecasts for Monterey County and the AMBAG region are presented in **Table 4.15-5**. Employment growth in Monterey County is projected to increase to 235,822 employees by the year 2040 from a base of County employment of 203,550 in 2015.

The Proposed Modifications would not make any direct contributions to population growth. No new residents would be expected to be directly added to this geographic area due construction and operation of the Proposed Modifications. Thus, the Proposed Modifications would not directly contribute to long-term cumulative population growth. (Please see **Section 5.2** for a discussion of the Project Modifications' indirect potential to induce growth.)

Cumulative Impact Conclusion

The Proposed Modifications would not contribute to any significant cumulative impacts related to population and housing.

³ The AMBAG Region includes the County of Monterey, County of Santa Cruz and County of San Benito also referred to as the tri-county area.

4.16 PUBLIC SERVICES, UTILITIES, AND RECREATION

Sections	Tables
4.16.1 Introduction4.16.2 Environmental Setting4.16.3 Regulatory Framework4.16.4 Impacts and Mitigation Measures	 4.16-1 Summary of Prior Environmental Review – Public Services, Utilities, and Recreation 4.16-2 Summary of Impacts – Public Services, Utilities, and Recreation

4.16.1 Introduction

This section addresses potential impacts to public services, recreation and utilities that could occur due to the Proposed Modifications compared to the effects identified in the PWM/GWR Project Final EIR and Addenda. Public services include fire and police protection services, emergency services, schools, parks, and recreational facilities. Recreational resources include parks, trails, beaches, and similar facilities. The utilities discussed in this section include solid waste facilities. Water service and systems, wastewater service, and recycled water delivery are addressed under Section 4.18, Water Supply and Wastewater Systems. Potential impacts on energy resources (electricity and natural gas) are addressed in Section 4.7, Energy and Mineral Resources. Storm water infrastructure and utility systems are described and addressed in Section 4.11, Hydrology and Water Quality: Surface Water.

Related effects of the approved PWM/GWR Project were evaluated in Section 4.16, Public Services, Utilities, and Recreation (see PWM/GWR Project Final EIR Vol. 1, at pg. 4.16-1 through 4.16-24). Similarly, the Addenda to the PWM/GWR Project Final EIR also considered the potential impacts to public services, utilities, and recreation associated with minor modifications to the approved PWM/GWR Project. The Addenda did not change any of the conclusions contained in the PWM/GWR Project Final EIR. **Table 4.16-1** below summarizes the findings of the PWM/GWR Project Final EIR and Addenda.

Table 4.16-1

Summary of Prior Environmental Review – Public Services, Utilities, and Recreation

	Approved PWM/GWR Project (Overall Impact)
PS-1: Construction Public Services Demand	LS
PS-2: Construction Landfill Capacity	LS
PS-3: Construction Solid Waste Policies and Regulations	LSM
PS-4: Public Services Demand During Operation	LS
PS-5: Landfill Capacity for Operations	LS
NI – No Impact LS – Less-than-Significant LSM – Less-than-Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	•

No comments were received during the public scoping period in response to the Notice of Preparation regarding public services, utilities, or recreation related impacts.

4.16.2 Environmental Setting

Section 4.16.2 of the PWM/GWR Project Final EIR describes the environmental setting for public services, utilities, and recreation and the setting is also applicability to the Proposed Modifications. The PWM/GWR Project Final EIR identified applicable services providers, schools, parks and recreational facilities, and solid waste disposal services. There have been no changes to the setting information.

4.16.3 Regulatory Framework

4.16.3.1 Federal and State

Section 4.16.3.1 of the PWM/GWR Project Final EIR describes Federal and State regulations related to utilities. There have been no relevant changes to these regulations.

4.16.3.2 Regional and Local

Section 4.16.3.2 of the PWM/GWR Project Final EIR describes regional and local land use regulations related to public services, recreation, and utilities.¹ There have been no relevant changes to these regulations.

4.16.4 Impacts and Mitigation Measures

4.16.4.1 Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, the Proposed Modifications would have a significant impact on public services, utilities, and recreation if they would:

- a. Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, parks, or other services;
- B. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals;
- c. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste;
- d. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or,
- e. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

¹ See also Table 4.16-4, Applicable State, Regional and Local Land Use Plans and Policies Relevant to Public Services, Utilities, and Recreation, contained in the PWM/GWR Project Final EIR.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the SRF Loan Program administered by the SWRCB.

4.16.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

This impact analysis focuses on the potential for construction or operation of the Proposed Modifications to directly affect public services, utilities, and recreation. Potential effects related to wildland fire hazards are evaluated in **Section 4.9 Hazards and Hazardous Materials**. Potential construction-related effects on emergency access and access to schools and recreational facilities are addressed in **Section 4.16 Traffic and Transportation**.

Operational impacts affecting public services, utilities (solid waste disposal), and recreation considers whether the implementation of the Proposed Modifications affects the ability of fire, police or emergency services, schools, parks and recreational facilities, and solid waste disposal facilities to maintain acceptable service or other performance objectives, resulting in the need for new or expanded facilities or deterioration of existing park facilities.

Areas of No Project Impact

The Proposed Modifications would not result in impacts related to some of the significance criteria, as explained below. Impact analyses related to the other criteria are addressed below under **Subsections 4.7.4.4 (Construction Impacts), 4.7.4.5 (Operational Impacts), and 4.7.4.6 (Cumulative Impacts).**

(*d*) Increased use of existing parks causing deterioration of facilities. (No impact during construction or operation). Construction activities would not result in use of recreational facilities or result in an increase in permanent residents that would demand use of parks and recreational facilities. In addition, operation of the Proposed Modifications would not increase the demand for existing recreational facilities. Thus, neither construction nor operation of the Proposed Modifications would result in use of parks and recreational facilities that would lead to physical deterioration of such facilities, and the significance criterion (d) is not discussed further.

(e) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. (No impact during construction or operation). The Proposed Modifications do not include construction of recreational facilities. In addition, the Proposed Modifications would not result in the need for new or expanded recreational facilities because the Proposed Modifications would not permanently increase the local population or employees such that there would be an increase in demand for recreational facilities. Thus, the significance criterion (e) related to the construction or expansion of recreational facilities is not applicable to the Proposed Modifications and is not discussed further.

Summary of Impacts

Table 4.16-2, Summary of Impacts – Public Services, Utilities, and Recreation provides a summary of potential public services, utilities, and recreation impacts and significance determinations for each component of the Proposed Modifications.

	lity	пе		CalAm Dis Syst	stribution tem	
Impact Title	Advanced Water Purification Facil	Product Water Conveyance Pipeli	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
PS-1: Construction Public Services Demand	LS	LS	LS	LS	LS	LS
PS-2: Construction Landfill Capacity	LS	LS	LS	LS	LS	LS
PS-3: Construction Solid Waste Policies and Regulations	LSM	LSM	LSM	LSM	LSM	LSM
PS-4: Public Services Demand during Operation	LS	LS	LS	LS	LS	LS
PS-5: Landfill Capacity for Operations	LS	LS	LS	LS	LS	LS
Cumulative Impacts LS: The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative impacts related to schools, parks, recreational facilities or other public services and utilities (fire and police protection, solid waste).						
NI – No Impact LS – Less-than-Significant LSM – Less-than-Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact			,		,	

Table 4.16-2 Summary of Impacts – Public Services, Utilities, and Recreation

4.16.4.3 Construction Impacts and Mitigation Measures

Impact PS-1:Construction Public Services Demand.Construction of the
Proposed Modifications would not result in increased demands
for fire and police protection services, schools, or parks that would
result in the need for new or physically altered facilities to
maintain service capacity or performance objectives. (Criterion a)
(Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR concluded that construction of the approved PWM/GWR Project would result in a less-than-significant impact to public services. Specifically, the PWM/GWR Project Final EIR identified that construction activities could result in minor incidents requiring law enforcement, fire protection, or emergency services. The PWM/GWR Project Final EIR concluded that these minor incidents would not exceed the capacity of local services providers to a degree that would require new or expanded facilities that would result in significant physical environmental impacts. In addition, the PWM/GWR Project Final EIR also identified that

construction of the approved PWM/GWR Project would not result in a substantial increase in local population such that there would be an increase demand for existing services. As a result, the PWM/GWR Project Final EIR concluded that temporary construction-related impacts due to an increased demand for public services would be less-than-significant.

Implementation of the Proposed Modifications would result in impacts similar to those identified in the PWM/GWR Project Final EIR. Construction-related activities could result in minor incidents that would temporarily increase demands for public services. These temporary increases in demand would not exceed the capacity of local services providers such that new or expanded facilities would be required that could result in a significant physical impact. Therefore, this is a less-than-significant impact, and no mitigation measures would be required.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Construction of the Proposed Modifications would not result in a significant impact on public services. Any demand for public services would be met through existing service providers without the need for new or physically altered governmental facilities to maintain existing service levels. Moreover, any increase in demand for services would be temporary in nature. Therefore, this is a less-than-significant impact, and no mitigation measures would be required.

Impact PS-2:Construction Landfill Capacity.Construction of the Proposed
Modifications would result in generation of solid waste; however,
the solid waste would be disposed at a landfill with sufficient
permitted daily and overall capacity to accommodate the project's
solid waste disposal needs. (Criterion b) (Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR concluded that construction of the approved PWM/GWR Project would not generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure. The PWM/GWR Project Final EIR identified that construction waste would generally consist of spoils, rock, and other excavated materials – most of which would be diverted for recycling and reuse. While most of the waste would be diverted, the PWM/GWR Project Final EIR conservatively estimated anticipated construction waste and determined that the addition of construction generated waste would not exceed the permitted capacity of the MRWMD Landfill, which is permitted to receive 3,500 tons of waste per day. The PWM/GWR Project Final EIR identified that construction debris generated by the approved PWM/GWR Project would represent less than 1% of the landfill's permitted capacity. As a result, this PWM/GWR Project Final EIR concluded that this represents a less-than-significant impact.

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. The Proposed Modifications would result in effects comparable to those identified in the PWM/GWR Project Final EIR. Implementation of the Proposed Modifications would generate construction debris that would be disposed of at the MRWMD Landfill. Construction of the Proposed Modifications would generate approximately 100,000 cubic yards of construction debris.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Construction waste generated by the Proposed Modifications would not exceed the current landfill permitted capacity. The Proposed Modifications would contribute less than 1% of the landfill's permitted capacity. The impact is less-than-significant; no mitigation is required.

Impact PS-3:Construction Solid Waste Policies and Regulations. Construction
of the Proposed Modifications would potentially conflict with
State and local statutes, policies and regulations related to solid
waste. (Criterion c) (Less-than-Significant with Mitigation)

All Proposed Modifications

The PWM/GWR Project Final EIR identified that the approved PWM/GWR Project would generate construction debris that could conflict with State and local programs related to solid waste disposal. The PWM/GWR Project Final EIR concluded that this represented a potentially significant impact requiring the implementation of mitigation. The PWM/GWR Project Final EIR identified that Mitigation Measure PS-3 (Construction Waste Reduction and Recycling Plan) would reduce impacts to a less-than-significant level. This mitigation measure requires the preparation and implementation of a construction waste reduction and recycling plan identifying the types of debris the project would generate and describing the manner in which these waste streams would be handled to comply with State and local solid waste requirements.

With implementation of Mitigation Measure PS-3, the Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. As discussed above, construction of the Proposed Modifications would generate construction debris. The Proposed Modifications would result in similar impacts related to solid waste disposal as those identified in the PWM/GWR Project Final EIR – construction generated debris could conflict with State and local programs related to solid waste disposal. Although the amount of construction debris associated with the Proposed Modifications combined with the approved PWM/GWR Project would be less than the amount identified in the PWM/GWR Project Final EIR, the Proposed Modifications would still generate construction waste that could conflict with existing State and local waste diversion policies and goals by resulting in the disposal of solid waste in excess of State-mandated reductions in solid waste generation under the California Integrated Waste Management Act of 1989, which requires all California cities and counties to implement programs to reduce, recycle, and compost at least 50% of waste. This represents a potential significant impact that would be reduced to a less-than-significant level through the implementation of Mitigation Measure PS-3.

Impact Conclusion

With implementation of existing Mitigation Measure PS-3, the Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, construction of the Proposed Modifications would generate solid waste requiring disposal at the MRWMD's landfill. Construction-generated solid waste disposal could conflict with State and local waste diversion policies and goals, resulting in a significant impact. Implementation of Mitigation Measure PS-3 would reduce the potentially significant solid waste impact to a less-than-significant level.

Mitigation Measure

The PWM/GWR Project Final EIR identified Mitigation Measure PS-3 (Construction Waste Reduction and Recycling Plan) to reduce potential construction-related impacts to a less-thansignificant level. The requirements of Mitigation Measure PS-3 remain unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR includes minor modifications to this mitigation measure to identify the Proposed Modifications that would be subject to this mitigation measure.

MM PS-3: Construction Waste Reduction and Recycling Plan. (Applies to all Proposed **Modifications).** The construction contractor(s) shall prepare and implement a construction waste reduction and recycling plan identifying the types of construction debris generated and the manner in which those waste streams will be handled. In accordance with the California Integrated Waste Management Act of 1989, the plan shall emphasize source reduction measures, followed by recycling and composting methods, to ensure that construction and demolition waste generated is managed consistent with applicable statutes and regulations. In accordance with the California Green Building Standards Code and local regulations, the plan shall specify that all trees, stumps, rocks, and associated vegetation and soils, and 50% of all other nonhazardous construction and demolition waste, be diverted from landfill disposal. The plan shall be prepared in coordination with the Monterey Regional Waste Management District and be consistent with Monterey County's Integrated Waste Management Plan. Upon project completion, M1W and CalAm shall collect the receipts from the contractor(s) to document that the waste reduction, recycling, and diversion goals have been met.

4.16.4.4 Operational Impacts and Mitigation Measures

Impact PS-4:Public Services Demand During Operation. Operation of the
Proposed Modifications would not result in increased demands
for fire and police protection services, schools, or parks that would
result in the need for new or physically altered facilities to
maintain service capacity or performance objectives. (Criterion a)
(Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR determined that operation of the approved PWM/GWR Project would not result in a substantial increase in demand for public services (e.g., fire, police, schools, parks) that would result in the need for new or physically altered facilities. The PWM/GWR Project Final EIR concluded that any demand for public services would be met through existing service providers without the need for new or physically altered government facilities to maintain existing service levels. This was identified as a less-than-significant impact.

The Proposed Modifications would result in impacts comparable to those identified in the PWM/GWR Project Final EIR. According to M1W, the Proposed Modifications would not result in any new employees. As a result, the operation and maintenance of facilities associated with the Proposed Modifications would not result in an increased demand for school or park facilities, and any demand for police or fire protection services would be minor. These incremental increases in

demand for services would not exceed the capacity of local service providers such that new or expanded facilities would be required. Moreover, the Proposed Modifications would not substantially increase population growth in the region such that there would be an increase demand for public services (See Section 4.15, Population and Housing).

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Based on the above analysis, construction of the Proposed Modifications would result in impacts comparable to those identified in the PWM/GWR Project Final EIR. The Proposed Modifications would not result in significant impacts on public services. Any demand for public services would be met through existing service providers without the need for new or physically altered governmental facilities to maintain existing service levels. Therefore, this is a less-than-significant impact; no mitigation measures would be required.

Impact PS-5:Landfill Capacity for Operations. Operation of the Proposed
Modifications would not result in adverse effects on landfill
capacity or be out of compliance with Federal, State, and local
statutes and regulations related to solid waste. (Criterion b) (Less-
than-Significant)

The PWM/GWR Project Final EIR concluded that once constructed, the operation of the proposed underground pipelines would not generate solid waste. Similarly, the PWM/GWR Project Final EIR found that operation and maintenance at the Injection Well Facilities also would not be expected to result in generation of solid waste due to the nature of the facilities as operating infrastructure facilities, except for occasional minor servicing and/or replacement of equipment parts, trash found, occasional weed removal, and dirt and dust from sweeping electrical buildings.

Similarly, the Proposed Modifications associated with the Product Water Conveyance Pipeline, Injection Well Facilities, and CalAm Distribution System Improvements would not result in substantial generation of solid waste.

Advanced Water Purification Facility

The PWM/GWR Project Final EIR identified that operation of the Advanced Water Purification Facility would result in generation of minor amounts of solid waste. The PWM/GWR Project Final EIR found that additional solid waste generated in connection with the operation of the Advanced Water Purification Facility would not exceed the existing landfill capacity at the MRWMD Landfill. Moreover, the PWM/GWR Project Final EIR also noted that operation of the Advanced Water Purification Facility would not conflict with Federal, State, or local regulations related to solid waste disposal. As a result, the PWM/GWR Project Final EIR concluded that operation of the Advanced Water Purification Facility would have a less-than-significant impact related to landfill capacity and solid waste disposal.

Similarly, the Proposed Modifications to the Advanced Water Purification Facility are not anticipated to result in any significant environmental effects due to solid waste generated during operation. The modifications to the Advanced Water Purification Facility would generate a negligible increase in solid waste disposal in connection with facility operation. Operation of the Proposed Modifications to the Advanced would generate less than 200 pounds per day of biosolids (wet waste) or less than 0.1 tons per day. Solid waste would be disposed of at the adjacent MRWMD Landfill, which has capacity to accommodate solid waste generated in connection with the operation of the Advanced Water Purification Facility. The MRWMD Landfill

is permitted to accept up to 3,500 tons per day but, on average, receives less than 1,000 tons per day. As a result, Proposed Modifications to the Advanced Water Purification Facility would not result in any additional environmental effects associated with landfill capacity or solid waste disposal beyond those previously identified in the PWM/GWR Project Final EIR since the relatively small amount of additional solid waste can be accommodated at the landfill and would not deplete long-term capacity and would not be out of compliance with Federal, State, and local statutes and regulations related to solid waste.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. As detailed above, modifications to the Advanced Water Purification Facility would generate some additional solid waste that would be routinely disposed at the MRWMD Landfill in addition to solids generated from the existing wastewater treatment facilities. The landfill could accept the waste without exceeding its permitted daily capacity or substantially depleting long-term capacity. All other proposed facilities would have a very limited potential to generate waste during operations or maintenance. Impacts related to solid waste disposal and landfill capacity during operations and maintenance would be less-than-significant; no mitigation measures are required.

4.16.4.5 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that the approved PWM/GWR Project would result not contribute to any cumulative impacts related to schools, parks, and recreational facilities. Moreover, the PWM/GWR Project Final EIR also identified that the approved PWM/GWR Project's contribution to cumulative impacts related to other public services and utilities (fire and police protection, solid waste) would not be cumulatively considerable. The PWM/GWR Project Final EIR further identified that the approved PWM/GWR Project's contribution towards potential solid waste disposal cumulative impacts would be "less than-cumulatively considerable given the small amount of solid waste generation of the project..." and existing mitigation measures identified in the PWM/GWR Project Final EIR would ensure that solid waste related effects associated with the approved PWM/GWR Project would ensure that potential impacts would not be considerable.

The Proposed Modifications, when combined with past, present, and reasonably foreseeable future projects, would result in comparable cumulative effects to those identified in the PWM/GWR Project Final EIR and Addenda. The Proposed Modifications consist of underground pipelines, Injection Well Facilities, Extraction Well Facilities, and improvements to the Advanced Water Purification Facility. Consistent with the findings of the PWM/GWR Project Final EIR, these facilities would have a negligible impact on public services. Therefore, the Proposed Modifications' contribution to cumulative public service impacts would not be cumulatively considerable. Moreover, the Proposed Modifications' contribution to potential solid waste related cumulative impacts would also be considered less-than-cumulatively considered given the negligible amount of solid waste generated in connection with the Proposed Modifications.

4.16 Public Services, Utilities, and Recreation

Moreover, mitigation measures identified above would ensure that solid waste related effects would be not be considerable. As a result, the Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative impacts to schools, parks, recreational facilities and public services.

4.17 TRAFFIC AND TRANSPORTATION

Sections	Tables
4.17.1 Introduction	4.17-1 Summary of Prior Environmental Review – Traffic and
4.17.2 Environmental Setting	Iransportation
4.17.3 Regulatory Framework	4.17-2 Characteristics of Roadways in the Vicinity of the Proposed
4.17.4 Impacts and Mitigation Measures	Modifications
	4.17-3 Construction Traffic Assumptions for Proposed
	Modifications
	4.17-4 Summary of Impacts Traffic and Transportation

4.17.1 Introduction

This section summarizes the existing transportation network and traffic conditions in the area of the Proposed Modifications, including the existing roadway network, bicycle and pedestrian facilities, public transit, and emergency access. This section evaluates the potential traffic-related effects associated with implementation of the Proposed Modifications compared to the effects identified in the PWM/GWR Project Final EIR and Addenda. Cumulative traffic and transportation impacts are also addressed in this section.

The traffic and transportation environmental setting, effects, and mitigation measures for the approved PWM/GWR Project were identified in Section 4.17, Traffic and Transportation, of the PWM/GWR Project Final EIR (see 2015 PWM/GWR Project Final EIR Vol. 1, at pg. 4.17-1 through 4.17-52) and subsequent Addenda to the PWM/GWR Project Final EIR. The Addenda did not change any of the conclusions of the PWM/GWR Project Final EIR. **Table 4.17-1** below summarizes the findings of the PWM/GWR Project Final EIR.

Table 4.17-1

Summary of Prior Environmental Review – Traffic and Transportation

	Approved PWM/GWR Project (Overall Impact)
TR-1: Construction Traffic	LS
TR-2: Construction Traffic Delays, Safety and Access Limitations	LSM
TR-3: Construction-Related Road Deterioration	LSM
TR-4: Construction Parking Interference	LSM
TR-5: Operational Traffic	LS
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	

Public and agency comments received during the public scoping period in response to the Notice of Preparation are included in **Appendix A**. M1W received one comment related to transportation and traffic. Specifically, Caltrans indicated that any work in the State's right-of-way will require an encroachment permit. Caltrans further requested early consultation for any underground alignments that would encroach on the State's right-of-way. *This comment is not applicable to the Proposed Modifications because none of the components would be located in or near any Caltrans rights-of-way.*

4.17.2 Environmental Setting

The PWM/GWR Project Final EIR description of the traffic and transportation conditions in the Project Study Area is applicable to the sites of the Proposed Modifications. The Proposed Modifications consist of facilities in the City of Seaside and unincorporated Monterey County. Construction workers, construction vehicles, permanent employees, and maintenance crews would use regional highways and local roadways to access the Proposed Modifications sites. Figure 4.17-1 in the PWM/GWR Project Final EIR shows the regional transportation network, including US Highway 101 and several State Routes (Highways 1, 68, 156, 183, and 218). The local transportation facilities in the immediate vicinity of the Proposed Modifications are described in **Table 4.17-2** below.

4.17.2.1 Regional and Local Roadways and Traffic Operations

Section 4.17.2.1 of the PWM/GWR Project Final EIR includes a comprehensive discussion of regional and local roadways and traffic operations. The information contained in the PWM/GWR Project Final EIR is applicable to the Proposed Modifications. The existing information contained in the PWM/GWR Project Final EIR is supplemented by the following information. More specifically, the local transportation facilities in the immediate vicinity of the Proposed Modifications, including traffic volumes, bike lanes, on-street parking, public transit lines, and jurisdiction are presented in **Table 4.17-2** below.

Table 4.17-2

Characteristics of Roadways in the Vicinity of the Proposed Modifications

Roadway/Segment	Lanes	Traffic Volumes ¹	Bike Lanes	On-Street Parking	Public Transit Lines ²	Jurisdiction	
Advanced Water Purification Facility							
Charles Benson Road: Del Monte Boulevard to M1W Facility	2	NA	No	No	No	Unincorporated Monterey County	
Product Water Conveyance System (2.0 miles of Product Water Conveyance Pipelines)							
Dirt Road	NA	NA	NA	No	No	City of Seaside	
Eucalyptus Road (currently closed)	4 lanes	none	Yes	No	No		
Injection Well Area							
Dirt Road	NA	NA	NA	No	No		
Eucalyptus Road (currently closed)	4 lanes	none	Yes	No	No	City of Seaside	
CalAm Conveyance Pipelines (along G	eneral Jim	Moore Boule	vard)	-	-	-	
General Jim Moore Boulevard: Bayonet Drive (N) to McClure Way	4 lanes (median)	See below	Yes	No	MST 12, 74		
General Jim Moore Boulevard: McClure Way to Coe Avenue	4 lanes (median)	6,499	Yes	No	MST 12, 74	City of Seaside	
General Jim Moore Boulevard: Coe Avenue to Broadway Avenue	4 lanes (median)	6,715	Yes	No	MST 12, 74		
General Jim Moore Boulevard: Broadway Avenue to South Boundary	4 lanes (median)	5,928	Yes	No	MST 94		
Extraction Wells (Seaside Middle School and east of General Jim Moore Boulevard in Fitch Community)							
General Jim Moore Boulevard: Bayonet Drive (N) to McClure Way	4 lanes (median)	See below	Yes	No	MST 12, 74	City of Coopido	
General Jim Moore Boulevard: McClure Way to Coe Avenue	4 lanes (median)	6,531	Yes	No	MST 12, 74	City of Seaside	
¹ Average daily traffic volumes provided by the Transportation Agency for Monterey County (TAMC, 2019). ² Public transit information provided by Monterey-Salinas Transit (MST, 2014). NA = Not Available							

Traffic Operating Conditions on Roadways

Section 4.17.2 of the PWM/GWR Project Final EIR describes the environmental setting for traffic conditions on relevant roadways, including definitions of key terms. This section summarizes key information related to the effects of the Proposed Modifications.

The PWM/GWR Project Final EIR evaluated traffic conditions, measured by average daily traffic (ADT), peak hour traffic volumes, level of service (LOS), average delay, and volume to capacity (V/C) ratio; however, the 2019 CEQA Guidelines eliminated the requirement for proposed projects to be evaluated by these methods. The 2019 CEQA Checklist now requires transportation impacts to be evaluated based on vehicle miles traveled (VMT) or the total miles of travel by personal motorized vehicles from a project in a day. The intent of the VMT analysis is to shift the focus of transportation analysis under CEQA from vehicle delay and roadway capacity to a reduction in total vehicle traveled and associated air pollutant and greenhouse gas emissions.

The LOS of a roadway is used to identify the magnitude of traffic congestion and delay at intersections and along highways and roadways. Although this metric is no longer used as the basis for significance thresholds in CEQA documents it is included as a standard or goals in some jurisdictions and on Caltrans roadways (State highways). Caltrans endeavors to maintain a target LOS at the transition between LOS C and D for its facilities (California Department of Transportation, 2002). Additionally, if an existing State highway facility is operating below the target LOS, the Caltrans Guide states that the existing LOS should be maintained.

Most local jurisdictions have developed LOS standards or goals as part of their General Plans. LOS goals and standards for the jurisdictions in which the Proposed Modifications are located are summarized below:

<u>Monterey County</u>. Per the County's 2010 General Plan, the acceptable level of service for County roads and intersections is LOS D except in specified situations.

<u>City of Seaside.</u> Per the City's General Plan (2004), Seaside has established LOS C as the level of service standard for signalized and unsignalized intersections. The City is currently in the process of completing its Draft 2040 General Plan although it is not yet adopted. The Draft 2040 General Plan policies focus on VMT rather than LOS, in accordance with the latest 2019 CEQA Guidelines. The new City policies support development and transportation improvements that help reduce VMT.

4.17.2.2 Bicycle and Pedestrian Network

Section 4.17.2.2 of the PWM/GWR Project Final EIR, supplemented by information in **Section 4.17.4.3** below, provides the environmental setting related to bicycle and pedestrian networks of the Proposed Modifications.

4.17.2.3 Public Transit Service

Section 4.17.2.3 of the PWM/GWR Project Final EIR describes the character of the project area related to public transit service. **Table 4.17-1** above identified the roadways that are shared with public transit routes. Additionally, **Section 4.9, Hazards and Hazardous Materials** of the PWM/GWR Project Final EIR, contains further discussion of airport safety issues.

4.17.3 Regulatory Framework

Section 4.17.3 of the PWM/GWR Project Final EIR describes Federal, State, and local regulations related to transportation. There have been no relevant changes to these regulations.

4.17.4 Impacts and Mitigation Measures

4.17.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, a project would have a significant transportation impact if it would:

- a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- b. Conflict or be inconsistent with CEQA Guidelines Sec. 15064.3, subdivision (b);
- c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or,
- d. Result in inadequate emergency access.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the CWSRF administered by the State Board.

4.17.4.2 Impact Analysis Overview

The transportation analysis is based on estimates of: 1) construction workers and vehicle trips associated with construction and operation of the Proposed Modifications; 2) Transportation Agency for Monterey County (TAMC) data on local roadway traffic volumes; 3) traffic data available from other jurisdictions; and 4) a review of available maps of transit routes, bike routes, and recreational paths.

Approach to Impact Analyses

The impact analysis in this section evaluates the potential for short-term construction-related traffic impacts that may result in hazards, or that may impede pedestrian, bicycle and transit access, including access to recreational resources, consistent with the analysis provided in the PWM/GWR Project Final EIR. Construction traffic would not generate a permanent increase in vehicle miles traveled. Construction traffic is also assessed in terms of delay, consistent with the analysis provided in the PWM/GWR Project Final EIR even though that analysis is no longer required for the purposes of CEQA compliance. Long-term traffic impacts associated with operation of the Proposed Modifications are also addressed consistent with the approach used in the PWM/GWR Project Final EIR and in terms of vehicle miles traveled.

Construction-related trip and traffic assumptions have been developed for each of the Proposed Modifications, and are summarized on **Table 4.17-3**, **Construction Traffic Assumptions for Proposed Modifications**. Final construction scheduling of specific facilities would result in simultaneous (concurrent) construction for more than one component of the Proposed Modifications; the analysis of potential impacts assumes that the Proposed Modifications would be constructed during an approximately 24-month construction period, with some activities occurring concurrently. Following is a summary of assumptions used for the analysis in this section.

Construction Assumptions

Construction Duration and Schedule

- Construction of each of the Proposed Modifications at their respective locations lasting approximately 24 months, with some activities occurring concurrently. In addition, the last four months of construction period, involves minor traffic/transportation effects with only painting, paving, testing, and start-up activities.
- All improvements to the Advanced Water Purification Facility are expected to occur over ten months in 2021.
- Construction is anticipated to begin in fall of 2020 and be substantially completed by fall 2022. General work hours are assumed to be between 7:00 AM and 8:00 PM, Monday through Saturday. Construction at the Advanced Water Purification Facility may occur 24 hours per day and 7 days a week with up to 4 daily work shifts.
- For the Product Water Conveyance Pipeline, construction would be performed at an anticipated installation rate of 250 feet per day within roadway rights-of-way and at a rate of up to 400 feet per day in undeveloped areas.
- For the CalAm Conveyance Pipeline, construction would be performed at the anticipated installation rate of 150 to 250 feet per day.
- Upon the completion of construction activities, roadways disturbed during pipeline installation would be restored to their preconstruction condition.

Construction Trip Assumptions

- Traffic-generating construction activities for all of the Proposed Modifications is assumed to consist of the daily arrival and departure of construction work crews; trucks hauling equipment and materials to the work sites; hauling of excavated spoils from the site; and importing fill to the site.
- Workers are assumed to commute to/from the construction areas earlier or later than project-related construction truck trips.
- All workers are assumed to drive separately in single occupancy vehicles for the purpose of the traffic analysis.
- The average capacity for haul trucks would be 10 cubic yards per truck.
- The truck (haul) trip counts include the number of trucks that would come to the site and leave the site: one incoming trip and one outgoing trip. The worst-case daily assumption would be that all trucks are heavy duty (semi-trucks). The purpose of the trips would be to deliver construction equipment, vehicles, materials, and new treatment plant facilities and to remove construction materials, soils, and waste.

Construction Staging Areas and Construction Techniques

- Staging areas for the Advanced Water Purification Facility modification would be located within the existing 3.5-acre facility footprint.
- Staging areas would be set up along the pipeline alignments, and construction equipment and other materials would be located at selected locations to facilitate the movement of materials, equipment, and construction crews. Staging areas would be selected to minimize hauling distances. To the extent feasible, parking for construction

and worker vehicles would be accommodated within the construction work areas and on adjacent roadways.

- Construction of the modifications to the Advanced Water Purification Facility would include equipment and materials delivery and installation, with no grading and earthmoving and negligible paving and structure modifications.
- Construction of the Injection Well Facilities and Extraction Wells would include site preparation, grading and excavation, equipment and materials deliveries, concrete formwork, building construction, installation of support equipment, installation of security fencing, and revegetation. Earthmoving activities would be performed using heavy construction equipment such as bulldozers, backhoes, cranes, and graders.
- Most linear facilities (conveyance pipelines) would be installed using conventional open-trench construction techniques. However, trenchless technologies such as boring and jacking, microtunneling, or horizontal directional drilling may be used where open-cut trenching is not feasible or desirable for the CalAm Conveyance Pipeline, as described in **Section 2.6.5.1** of this Draft Supplemental EIR.

Construction Traffic and Roadway Controls

 Construction activities within roadways would be restricted to the right-of-way (ROW) approved by the applicable agency for public ROWs and property owner for private roads. All roadways disturbed during pipeline installation would be restored. Generally, trench spoils would be temporarily stockpiled within the construction easement, then backfilled into the trench after pipeline installation.

Operational Assumptions

Permanent Employees and Hours of Operation

- Upon completion of construction, all of the Proposed Modifications would be in operation 24 hours a day.
- No new employees would be hired for operation and maintenance of the Proposed Modifications.
- A total of six heavy duty truck trips per weekday (i.e., three trucks) would be needed for operation of the Proposed Modifications.

Areas of No Project Impact

Some of the significance criteria outlined above (a and c) are not applicable to the Proposed Modifications, or the Proposed Modifications would not result in any new impacts nor increased severity of previously identified significant impacts related to these criteria, as explained below. Impact analyses related to criteria "a" and "e" are addressed below under **Subsections 4.17.4.4** (**Construction Impacts**) and **4.17.4.5** (**Operational Impacts**).

(a) Conflict with a Program, Plan, Ordinance or Policy Addressing the Circulation System, including Transit, Roadway, Bicycle and Pedestrian Facilities. The intent of significance criterion "a" is to account for potential project conflicts with adopted policies, plans, and programs regarding public transit, roadway, bicycle, or pedestrian facilities. Impacts to roadways from the Proposed Modifications are addressed for construction and operational conditions. However, the Proposed Modifications do not include changes in policies or programs that support alternative transportation, and operation of the Proposed Modifications would not conflict with adopted policies, plans, or programs supporting alternative

transportation. The Proposed Modifications would not directly or indirectly eliminate, alter or conflict with alternative transportation corridors or facilities (e.g., bike paths, lanes, bus turnouts, etc.). Therefore, there would be no impact. Temporary impacts related to alternative modes of transportation and access during construction are addressed in Impact TR-2 (construction-related traffic safety hazards and access limitations).

(c) Increased Hazards Due to Design. Significance criterion "c" does not apply to either the Proposed Modifications' design or temporary construction impacts. The Proposed Modifications would not include new road designs or alterations of existing features (e.g., road realignment) that could substantially increase hazards. In addition, traffic generated by the Proposed Modifications would be compatible with the mix of vehicle types (autos and trucks) currently using nearby roads. Therefore, the Proposed Modifications would not result in hazards caused by a design feature or use that is incompatible with roadway designs. Temporary impacts related to roadway safety during construction are addressed in Impact TR-2 (construction-related traffic delays, safety hazards and access limitations).

4.17 Traffic and Transportation

Table 4.17-3

Construction Traffic Assumptions for Proposed Modifications

Proposed Modifications		Length of Construction (months)	Truck Trips Per Day		Worker Trips Per Day		Worker Shifts (assumes
	Potential Access Routes and Access to Component Site for Construction Vehicles ¹		Typical	Worst- case	Typical	Worst- case	compressed construction schedule for worst case daily trips)
Improvements to Advanced Water Purification Facility	 North 101 to West 183 to west 156 to South SR1 to Del Monte Blvd to Charles Benson Rd 						
	 North Hwy 101 to Abbott St to Blanco Rd to Reservation Rd to Del Monte Blvd to Charles Benson Rd 	10	4	14	6	12	24 hours/day, 7 days/week (up to
	 South 101 to SR 156 to SR1 to Del Monte Blvd to East Charles Benson Rd 						four shifts)
	North or South on SR1 to Del Monte Blvd to Charles Benson Rd						
Product Water Conveyance System	 North or South 101 to SR 68 to SR 218 to General Jim Moore Blvd to Eucalyptus Rd 	5	4	12	3	10	2 daytime shifts
	 North or South SR1 to Lightfighter Dr to General Jim Moore Blvd to Eucalyptus Rd 	5					
Injection Well Facilities	 North or South 101 to SR 68 to SR 218 to General Jim Moore Blvd to Eucalyptus Rd 	10		10	4	15	24 hours/day, 7
	 North or South SR1 to Lightfighter Dr to General Jim Moore Blvd to Eucalyptus Rd 	19	4	12			days/week (up to four shifts)
CalAm Extraction Wells & Conveyance Pipeline	 North or South 101 to SR 68 to SR 218 to General Jim Moore Blvd North or South SR1 to Lightfighter Dr to General Jim Moore Blvd 	19 (pipeline) 7 (wells)	10	24	9	24	2 daytime shifts, with occasional 24-hour shifts for the wells

¹ Construction vehicle routes and access to the component site are based on the most direct route. Actual route may vary depending on the time of year, concurrent projects, and the contractor's construction management plan.
Summary of Impacts

Table 4.17-4, Summary of Impacts Traffic and Transportation provides a summary of potential impacts related to traffic and transportation and significance determinations at each of the Proposed Modifications.

Table 4.17-4

				CalAm Dis Syst	stribution tem	
Impact Title	Advanced Water Treatment Facility	Product Water Conveyance Pipeline	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipeline	Proposed Modifications Overall
TR-1: Construction Traffic	LS	LS	LS	LS	LS	LS
TR-2: Construction Traffic Delays, Safety and Access Limitations	LS	LS	LS	LS	LSM	LSM
TR-3: Construction-Related Road Deterioration	LSM	LSM	LSM	LSM	LSM	LSM
TR-4: Construction Parking Interference	LS	LS	LS	LS	LSM	LSM
TR-5: Operational Traffic	LS	LS	LS	LS	LS	LS
Cumulative Impacts LS: The Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to significant cumulative traffic and transportation impact.						
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact						

4.17.4.3 Construction Impacts and Mitigation Measures

Impact TR-1: <u>Construction Traffic</u>. Construction of the Proposed Modifications would result in a temporary increase in traffic volumes on regional and local roadways due to construction-related vehicle trips, which would not result in conflicts with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. (Criterion a) (Less-than-Significant)

The PWM/GWR Project Final EIR found that construction activities could result in a temporary increase in traffic on the regional roadway circulation system during the construction period.

Traffic generated during construction activities would include the daily arrival and departure of construction work crews; trucks hauling equipment and materials to the work sites; hauling of excavated debris and spoils from the site; and importing of fill to the construction sites. The Final PWM/GWR Project EIR determined that potential construction-related traffic impacts would be less-than-significant due to the temporary nature of construction-related activities and no mitigation would be required.

Construction of the Proposed Modifications would take place at the various locations. Some modifications may be constructed simultaneously, and the construction traffic for some of the modifications could use the same roads. Construction workers and construction vehicles would use regional highways and local roadways to access the construction work areas. **Table 4.17-3** identifies the likely access routes and estimated construction duration for each of the Proposed Modifications, and also presents the estimated number of daily workers and trucks at each of the Proposed Modifications. Construction characteristics and timeframes, including excavation quantities and estimated truck trips have been estimated in **Table 4.17-3** to allow a reasonable assessment of the nature and magnitude of potential construction impacts from the Proposed Modifications.

Most prior traffic analyses (including for analyses on projects for consistency with policies and ordinances) rely on an analysis of changes in an intersection or roadway LOS standards relevant to local jurisdictions to evaluate the long-term effects of projects on the operations of roadways and intersections. However, construction projects that increase traffic only temporarily, or that result in traffic fluctuations, do not have a long-term effect on LOS, on regional VMT, or on the transportation system overall. In addition, most traffic analyses focus on the peak hours of traffic (typically morning and evening commute times). By contrast, many of the worker trips for the construction period would occur outside of these typical peak hours. Construction workers are also expected to commute to and from the construction work areas earlier and/or later than project-related construction truck trips, which are expected to be distributed throughout the day at any one work site. Additionally, daily traffic volumes on public roads typically vary from day to day by 5 to 10%, and any temporary increase in traffic due to construction would be within the typical daily fluctuation. As a result, temporary increases in construction traffic would not be perceptible to the average motorist. Construction-related vehicle trips on local, two-lane roadways in the vicinity of the Proposed Modifications would not substantially affect traffic flow if the traffic volumes remained within the carrying capacity of the roads (roughly 10,000 to 15,000 vehicles per day for two-lane roads, depending on design features).

For the reasons described above, the analysis of the Proposed Modifications construction traffic impacts focuses on overall roadway capacity and traffic safety, rather than the various cities' or the county's LOS standards, consistent with the findings of the PWM/GWR Project Final EIR.

Unincorporated Monterey County

Advanced Water Purification Facility

Construction of the Advanced Water Purification Facility improvements would occur entirely within the existing facility footprint, which is located within the unincorporated portion of Monterey County north of the City of Marina. Ingress and egress to the site is from a private road off Charles Benson Road via Del Monte Boulevard. The facility is gated for security. The construction duration is anticipated to be 10 months. Construction at this site would be expected to result in up to approximately 6 daily construction worker trips that would be distributed throughout the road system. At worst-case, approximately 12 worker trips would occur during the weekday morning peak period with the arrival of workers for the first work shift. Assuming approximately 10% of the 14 worst-case total daily truck trips could occur during the morning peak hour and also split among

a minimum of two routes, construction traffic would result in 1.4 peak hour trips along any one route. This represents a negligible increase in peak hour trips due to the low volumes along the routes to the site and the short duration of the construction period.

City of Seaside

Construction of the Proposed Modifications within the City of Seaside include the Product Water Conveyance Pipelines, the Injection Well Facilities, and CalAm Extraction Wells and Conveyance Pipeline. The CalAm pipeline would be located along the paved right-of-way for General Jim Boulevard. The Injection Facilities and Product Water Conveyance Pipeline would be located primarily in undeveloped areas. Construction access to the sites of each Proposed Modification would likely be from regional highways (US 101, SR 1, SR 68, SR 156, SR 183, and SR 218) to several local roads as summarized on **Table 4.17-3**.

Product Water Conveyance Pipeline

The Proposed Modifications would result in the construction of approximately two miles of new Product Water Conveyance Pipeline from the existing Blackhorse Reservoir to the Expanded Injection Well Area. The northern portion of the proposed pipeline would be located within an existing dirt road and the southern portion of the pipeline would be located entirely in the existing roadway right of way portions of Eucalyptus Road (currently closed to vehicle traffic).

At worst-case, construction at this site would generate approximately 10 daily construction worker trips and 12 construction truck trips over a period of approximately 5 months. These trips would be distributed throughout the regional and local roadway system. This analysis assumes that construction would access the site from Eucalyptus Road and nearby roads as shown in **Table 4.17-3.** At worst-case, approximately 1.0 worker trips would occur during the weekday morning peak period with the arrival of workers for the first work shift (10% of daily trips). In addition, approximately and 1.2 truck trips would be generated during the AM peak hour. This would not be considered a substantial increase in peak hour trips due to the low volumes along the routes to the site and the relatively short duration of the construction period.

Injection Well Facilities

The Proposed Modifications include additional Injection Well Facilities in an area referred to as the Expanded Injection Well Area. These facilities would be located east of General Jim Boulevard in the vicinity of Eucalyptus Road. Construction access to site would likely be from regional highways (US 101, SR 1, SR 68, SR 156, SR 183, and SR 218) to General Jim Moore Boulevard as summarized on **Table 4.17-3**. The PWM/GWR Project Final EIR evaluated the construction traffic impacts from the previously approved Injection Wells, including two of the previously approved Well Sites that would be relocated as part of the Proposed Modifications, and found that the potential construction-related effects would be less-than-significant.

Construction hours at this site are estimated to occur 24 hours/day, seven days/week, as feasible, (with up to four work shifts) over an approximately 19-month construction period. Construction of the Injection Wells would occur over the 24-hour period, but other construction activities (e.g., for the pad site, backflush basin, electrical buildings, conduit installation, etc.) would occur during typical workday hours. Construction access would be limited to General Jim Moore Boulevard and Eucalyptus Road. At worst-case, construction at this site would generate approximately 15 daily construction worker trips and 12 daily truck trips. At worst-case, approximately 1.5 worker trips would occur during the weekday morning peak period with the arrival of workers for the first work shift (10% of daily trips). In addition, approximately and 1.2 truck trips would be generated during the AM peak hour. This would not be considered a substantial increase in peak hour trips

due to the low volumes along the routes to the site and the relatively short duration of the construction period.

CalAm Facilities

The Proposed Modifications include the construction of four Extraction Wells, including two at Seaside Middle School and two located near the Fitch Park community as well as conveyance pipelines along General Jim Boulevard between approximately Bayonet Drive and Hilby Avenue.² At worst-case, construction at these sites would generate approximately 24 daily construction worker trips and 24 daily truck trips. At worst-case, approximately 2.4 worker trips would occur during the weekday morning peak period with the arrival of workers for the first work shift (10% of daily trips). In addition, approximately and 2.4 truck trips would be generated during the AM peak hour. These trips would be distributed throughout the regional and local roadway system. This analysis assumes that construction would take access from General Jim Bouleavard and nearby roads as shown in **Table 4.17-3**. This would not be considered a substantial increase in peak hour trips due to the low volumes along the routes to the site and relatively short duration of the construction period.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, construction of the Proposed Modifications would result in a temporary increase in traffic from construction workers and trucks traveling to and from the construction work areas. The temporary construction traffic would not cause a substantial increase in traffic relative to existing conditions and roadway capacity, nor contribute substantial volumes of traffic during peak hours. Therefore, construction-related traffic impacts would be comparable to those identified in the PWM/GWR Project Final EIR, resulting in less-than-significant traffic effects.

Impact TR-2:Construction-Related Traffic Increases, Safety and Access
Limitations. Construction activities could result in temporary
traffic increases, safety hazards, and/or disruption of access.
(Criterion a) (Less-than-Significant with Mitigation)

The PWM/GWR Project Final EIR found that traffic delays, safety hazards, and access limitations resulting from temporary lane closures and detours could result in delays to motorists and would be a potentially significant impact for bicyclists, pedestrians, transit operations, and emergency access during construction of the pipeline projects located in public ROWs, but the effects would be short-term in duration for any one location. Mitigation Measure TR-2 (Traffic Control and Safety Assurance Plan) was identified to reduce the impact to a less-than-significant level. As discussed above, delay is no longer a significance criterion under CEQA. This analysis will focus on traffic increases, safety hazards, and disruption.

All Proposed Modifications

All of the Proposed Modifications would result in construction activities and increased truck trips that could result in temporary increases in vehicular traffic, and potential hazards for public buses,

²Note: the two new Extraction Wells located off General Jim Moore Boulevard are located at the same sites as two of the ASR wells that were included in the MPWSP (ASR Wells 5 and 6). The potential environmental effects associated with the construction and operation of these wells were considered in the MPWSP EIR/EIS.

bicyclists, and pedestrians. The greatest number of daily construction-related truck trips would likely occur along Highway 1, Del Monte Boulevard, and General Jim Boulevard. Potential disruptions to non-automobile users would occur primarily along local roadways. The Expanded Injection Well Facilities are also located adjacent to the boundary with the U.S. Bureau of Land Management open space, and is currently closed to the public.

CalAm Conveyance Pipelines

The Proposed Modifications include installation of the CalAm Conveyance Pipelines within the ROW of General Jim Boulevard that could directly affect traffic operations along this roadway. During construction in the public ROW, bicyclists and pedestrians may be required to enter the adjacent road shoulder or use other temporary detours to circumvent construction work areas. Project construction activities could also affect safety of bicyclists and pedestrians in the project area. Construction of the CalAm Conveyance Pipeline could temporarily affect public transportation, bicycle travel, and pedestrian travel along General Jim Boulevard. Construction activities for the pipeline in travel lanes could disrupt access to bus stops operated by MST, require that bus stops be temporarily relocated, and/or conflict with bicycle traffic in designated bike lanes along General Jim Boulevard. Construction-related impacts on alternative transportation modes and facilities during CalAm pipeline installation activities would be potentially significant. Construction of the CalAm Conveyance Pipeline within General Jim Boulevard would also temporarily result in potential emergency access delays along the affected stretch of the roadway. This represents a potentially significant impact that can be reduced through the implementation of mitigation.

Impact Conclusion

With implementation of existing Mitigation Measure TR-2 (Traffic Control and Safety Assurance Plan), the Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. The PWM/GWR Project Final EIR found that traffic delays, safety hazards, and access limitations resulting from temporary lane closures and detours could result in delays to motorists and would be a potentially significant impact for bicyclists, pedestrians, transit operations, and emergency access during construction of the pipeline projects in public ROWs. The Proposed Modifications include installation of the CalAm Pipeline in the ROW for General Jim Boulevard, which could result in increased traffic, safety hazards, and access limitations during construction. This represents a potentially significant impact to reflect the relevant components of the Proposed Modifications, would reduce the impact to a less-than-significant level.

Mitigation Measures

The PWM/GWR Project Final EIR identified Mitigation Measure TR-2 (Traffic Control and Safety Assurance Plan) to reduce potential temporary construction-related effects to a less-thansignificant level. The general requirements of Mitigation Measure TR-2 remain unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR includes minor modifications to this mitigation measure to identify the modifications that would be subject to mitigation.

MM TR-2: Traffic Control and Safety Assurance Plan. (Applies to CalAm Conveyance Pipeline). Prior to construction, MW1 and CalAm shall prepare and implement a traffic control plan for the roadways and intersections affected by the Product Water Conveyance Pipeline, Injection Well Facilities, and CalAm Conveyance Pipeline. The traffic control plan(s) shall comply with the affected jurisdiction's encroachment permit requirements and shall be based on detailed design plans. The plan shall include measures that would provide for continuity of vehicular,

pedestrian, and bicyclist access; reduce the potential for traffic accidents; and ensure worker safety in construction zones. Where project construction activities could disrupt mobility and access for bicyclists and pedestrians, the plan shall include measures to ensure safe and convenient access would be maintained.

The traffic control and safety assurance plan shall be developed on the basis of detailed design plans for the approved project. The plan shall include, but not necessarily be limited to, the elements listed below:

General

- a. Develop circulation and detour plans to minimize impacts on local streets. As necessary, signage and/or flaggers shall be used to guide vehicles to detour routes and/or through the construction work areas.
- b. Implement a public information program to notify motorists, bicyclists, nearby residents, and adjacent businesses of the impending construction activities (e.g., media coverage, email notices, websites, etc.). Notices of the location(s) and timing of lane closures shall be published in local newspapers and on available websites to allow motorists to select alternative routes.

Roadways

- c. Haul routes that minimize truck traffic on local roadways and residential streets shall be used to the extent feasible.
- d. Schedule truck trips outside of peak morning and evening commute hours to minimize adverse impacts on traffic flow.
- e. Limit lane closures during peak hours. Travel lane closures, when necessary, shall be managed such that one travel lane is kept open at all times to allow alternating traffic flow in both directions along affected two-lane roadways.
- f. Restore roads and streets to normal operation by covering trenches with steel plates outside of normal work hours or when work is not in progress.
- g. Comply with roadside safety protocols to reduce the risk of accidents. Provide "Road Work Ahead" warning signs and speed control (including signs informing drivers of State-legislated double fines for speed infractions in a construction zone) to achieve required speed reductions for safe traffic flow through the work zone. Train construction personnel to apply appropriate safety measures as described in the plan.
- h. Provide flaggers in school areas at street crossings to manage traffic flow and maintain traffic safety during the school drop-off and pickup hours on days when pipeline installation would occur in designated school zones.
- i. Maintain access to private driveways.
- j. Coordinate with MST so the transit provider can temporarily relocate bus routes or bus stops in work zones as deemed necessary.

Pedestrian and Bicyclists

k. Perform construction that crosses on-street and off-street bikeways, sidewalks, and other walkways in a manner that allows for safe access for

bicyclists and pedestrians. Alternatively, provide safe detours to reroute affected bicycle/pedestrian traffic.

Recreational Trails

I. At least two weeks prior to construction, post signage along all potentially affected recreational trails; Class I, II, and II bicycle routes; and pedestrian pathways, to warn bicyclists and pedestrians of construction activities. The signs shall include information regarding the nature of construction activities, duration, and detour routes. Signage shall be composed of or encased in weatherproof material and posted in conspicuous locations, including on park message boards, and existing wayfinding signage and kiosks, for the duration of the closure period. At the end of the closure period, CalAm, M1W or either of its contractors shall retrieve all notice materials.

Emergency Access

- m. Maintain access for emergency vehicles at all times. Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, transit stations, hospitals, and schools.
- n. Provide advance notification to local police, fire, and emergency service providers of the timing, location, and duration of construction activities that could affect the movement of emergency vehicles on area roadways.
- o. Avoid truck trips through designated school zones during the school dropoff and pickup hours.

Impact TR-3: <u>Construction-Related Roadway Deterioration</u>. Construction truck trips could result in increased wear-and-tear on the designated haul routes, which could result in temporary impacts to performance of the regional circulation system. (Criterion a) (Lessthan-Significant with Mitigation)

The PWM/GWR Project Final EIR found that use of trucks to transport construction equipment and materials could significantly adversely affect road conditions on local roadways. Mitigation Measure TR-3 (Roadway Rehabilitation Program) was identified to reduce this impact to a lessthan-significant level. The Proposed Modifications would require trucks to transport equipment and material to and from construction sites, which could impact road conditions by increasing the rate of road wear. Since freeways and major arterials are designed to carry most vehicle types including heavy trucks, the roadway deterioration from construction traffic would be limited to local roadways that may not have been designed to support heavy construction vehicles.

Impact Conclusion

With implementation of existing Mitigation Measure TR-3 (Roadway Rehabilitation Program), the Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. This impact would be reduced to a less-than-significant level with implementation of Mitigation Measure TR-3 (Roadway Rehabilitation Program) that has been modified to be specific to relevant components of the Proposed Modifications.

Mitigation Measure

The PWM/GWR Project Final EIR identified Mitigation Measure TR-3 (Roadway Rehabilitation Program) to reduce potential temporary construction-related effects to a less-than-significant level. The general requirements of Mitigation Measure TR-3 remain unchanged from the PWM/GWR Project Final EIR. This Draft Supplemental EIR includes minor modifications to this mitigation measure to identify the project facilities that would be subject to mitigation.

MM TR-3 Roadway Rehabilitation Program (Applies to All Proposed Modifications). Prior to commencing project construction, M1W and CalAm shall detail the preconstruction condition of all local construction access and haul routes proposed for substantial use by project-related construction vehicles. The construction traffic control and safety assurance plan developed under Mitigation Measure TR-2. After construction is completed, the same roads shall be surveyed again to determine whether excessive wear and tear or construction damage has occurred. Roads damaged by project-related construction vehicles shall be repaired to a structural condition equal to, or greater than, that which existed prior to construction activities.

Impact TR-4:Construction Parking Interference.Construction activities may
temporarily affect parking availability. (Criterion a) (Less-than-
Significant with Mitigation)

The PWM/GWR Project Final EIR identified that construction activities could result in potentially significant parking impacts due to temporary increases in parking demand and the displacement of on-street parking along pipeline alignment corridors. Construction activities associated with some segments of pipelines in public ROWs were found to result in potentially significant parking impacts due to temporary increases in parking demand and the displacement of on-street parking along pipeline alignment corridors. Mitigation Measure TR-4 (Construction Parking Requirements) was identified to minimize potential conflicts related to parking to address neighborhood concerns. The construction of the proposed CalAm Conveyance Pipelines could result in impacts comparable to those identified in the PWM/GWR Project Final EIR (i.e., temporary increases in parking demand that could displace on-street parking). This represents a potentially significant impact that would be minimized to a less-than-significant level through the implementation of Mitigation Measure TR-4 (Construction Parking Requirements).

Impact Conclusion

With implementation of existing Mitigation Measure TR-4 (Construction Parking Requirement), the Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Construction of the CalAm Conveyance Pipeline in the General Jim Boulevard ROW could result in temporary increases in parking demand and the displacement of on-street parking along the pipeline alignment. Mitigation Measure TR-4 (Construction Parking Requirements) would minimize potential parking-related effects to a less-than-significant level.

Mitigation Measure

MM TR-4: <u>Construction Parking Requirement (CalAm Conveyance Pipeline)</u>. Prior to commencing project construction, the construction contractor(s) shall coordinate with the City of Seaside to identify designated worker parking areas that would

avoid or minimize parking displacement in congested areas of Seaside. The contractors shall provide transport between the designated parking location and the construction work areas. The construction contractor(s) shall also provide incentives for workers that carpool or take public transportation to the construction work areas. The engineering and construction design plans shall specify that contractors limit time of construction within travel lanes and public parking spaces and provide information to the public about locations of alternative spaces to reduce parking disruptions.

4.17.4.4 Operational Impacts and Mitigation Measures

Impact TR-5: <u>Operational Traffic</u>. Operation and maintenance of the Proposed Modifications would result in small traffic increases on regional and local roadways, but would not substantially affect the performance of the regional circulation system or result in a significant increase in VMT. (Criteria a and b) (Less-than-Significant)

The PWM/GWR Project Final EIR identified that operation and maintenance activities would not generate a significant increase in traffic to the existing circulation system nor result in a level of service degradation over the long-term. As a result, the PWM/GWR Project Final EIR concluded that operation and routine maintenance of the PWM/GWR Project would not substantially increase traffic volumes, including VMT, on local or regional roadways; therefore, the impact would be less-than-significant, and no mitigation measures are required. Operational and maintenance changes due to the Proposed Modifications would not increase traffic or VMT on the existing circulation system and would result in the same level of impact as identified in the PWM/GWR Project Final EIR. This would represent a less-than-significant impact.

Criterion "b" was included in the 2019 CEQA Checklist to address the significance of transportation impacts based on VMT. VMT is the total miles of travel by personal motorized vehicles from a project in a day. The intent of the VMT analysis is to shift the focus of transportation analysis under CEQA from vehicle delay and roadway capacity to a reduction in total vehicle miles traveled and associated vehicle emissions and the creation of multimodal networks that support integrated land uses. VMT exceeding an applicable threshold of significance may indicate a significant impact. Neither Monterey County nor the City of Seaside have developed thresholds related to VMT. The Proposed Modifications are water-related infrastructure and would generate negligible new operations-related vehicle trips would be created. This represents a less-than-significant impact.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, operation and maintenance activities for the Proposed Modifications would not result in a significant impact related to an increase in traffic on the existing circulation system.

4.17.4.5 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of

varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. **Table 4.1-2** includes a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that the PWM/GWR Project's contribution to cumulative traffic impacts would not be cumulatively considerable. Specifically, the Final EIR found that construction and operation of the project would generate minimal new trips that would be divided among different work shifts and distributed along different roadways, resulting in minor traffic impact that would not contribute to significant cumulative traffic and transportation impacts.

The Proposed Modifications would generate fewer trips than the PWM/GWR Project. Construction of the Proposed Modifications would result in a temporary increase in traffic during development activities; however, temporary construction traffic would not cause a substantial increase in traffic relative to existing conditions and roadway capacity, nor contribute substantial volumes of traffic during peak hours. Therefore, the Proposed Modifications would not cause the Project to make a cumulatively considerable contribution to cumulative traffic impacts.

4.18 WATER SUPPLY AND WASTEWATER SYSTEMS

Sections	Tables
 4.18.1 Introduction 4.18.2 Environmental Setting 4.18.3 Regulatory Framework 4.18.4 Project Impacts and	 4.18-1 Summary of Prior Environmental Review – Water Supply and Wastewater
Mitigation Measures	Systems 4.18-2 Summary of Impacts – Water Supply and Wastewater Systems 4.18-3 Status of Water Rights

4.18.1 Introduction

This Section provides information on the water supply and wastewater systems in the vicinity of the Proposed Modifications and evaluates potential impacts on these systems due to implementation of the Proposed Modifications.

Section 4.18, Water Supply and Wastewater Systems (see PWM/GWR Final EIR, Vol. 1, at pg. 4.18-1 through 4.18-42) of the PWM/GWR Project Final EIR and addenda evaluated the approved PWM/GWR Project's potential water supply and wastewater related impacts. The Addenda did not change any of the conclusions of the PWM/GWR Project Final EIR. **Table 4.18-1** below summarizes the findings of the PWM GWR Project Final EIR and Addenda.

Table 4.18-1

Summary of Prior Environmental Review – Water Supply and Wastewater Systems

	Approved PWM/GWR Project (Overall Impact)
WW-1: Impact of Construction on Water Supplies or Entitlements	LS
WW-2: Impact of Construction on Wastewater Treatment Capacity	LS
WW-3: Impact of Operations on Water Supplies or Entitlements	LS
WW-4 Impact of Operations on Wastewater Treatment Capacity	LS
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact	

M1W received one public comment related to water supply and wastewater systems in response to the Notice of Preparation, as summarized below. For a complete list of public comments received during the public scoping period, refer to **Appendix A**.

 MCWRA requested a water balance analysis to support the expansion. In addition, the comment further indicated that the water balance analysis should be consistent with the ARWRA as well as other contractual rights to source water, including MCWRA's SWRCB Appropriative Water Rights for Blanco Drain and Reclamation Ditch (Permits 21376 and 21377, respectively). MCWRA also requested that M1W conduct a water quality analysis of agricultural wash water as a new source.

As part of this Draft Supplemental EIR, Schaaf & Wheeler was contracted to perform a source water availability analysis to evaluate the availability of source waters to accommodate the

Proposed Modifications. This analysis is summarized below and provided as **Appendix I** *Proposed Modifications to the Pure Water Monterey Groundwater Replenishment Project – Source Water Availability, Yield, and Use Memorandum*.

Use of agricultural wash water as source water is part of the approved PWM/GWR Project and would not change as a result of the Proposed Modifications. Please see also the following sections of the PWM/GWR Project Final EIR for water quality analyses of the agricultural wash water as a source water:

- Chapter 3.0, Water Quality Statutory and Regulatory Compliance Overview and Section 4.10, Hydrology and Water Quality: Groundwater discuss and analyze water quality of the purified recycled (product) water from the Advanced Water Purification Facility.
- Section 4.11, Hydrology and Water Quality: Surface Water discusses and analyzes water quality related to the increase in discharge of reverse osmosis concentrate from the Advanced Water Purification Facility.
- Section 4.12, Land Use, Agriculture, and Forest Resources discusses and analyzes indirect impacts of the approved PWM/GWR Project on quality of irrigation water for designated farmland in the Castroville Seawater Intrusion Project area.

Other Water-related Issues in this Draft Supplemental EIR. Many of the issues related to water supply and wastewater systems are addressed in other sections of this Draft Supplemental EIR, including the following:

- Chapter 3, Water Quality Statutory and Regulatory Compliance Overview, discusses how the Proposed Modifications would comply with standards and requirements for the protection of human health and the environment related to groundwater recharge of recycled water, including the quality of treated and recycled water for well injection.
- Section 4.10, Hydrology and Water Quality: Groundwater, assesses the impacts of the Proposed Modifications on groundwater, including water levels, storage, and water quality in the aquifers in the area of the Proposed Modifications.
- Section 4.11, Hydrology and Water Quality: Surface Water, addresses water quality and hydrology of surface water bodies, including regulatory requirements for dry and wet weather runoff, impacts to storm drain infrastructure and systems, flooding and inundation issues.
- Section 4.13, Marine Biological Resources, assesses the impacts of discharging reverse osmosis concentrate from the expanded Advanced Water Purification Facility on marine water quality and biological resources.
- Section 4.15, Population and Housing and Chapter 5, Other CEQA Required Sections, addresses whether the provision of new water supplies may induce population growth or demand for new housing.
- Section 4.16, Public Services and Utilities, addresses potential impacts resulting from the Proposed Modifications to other public services and utilities, including fire and police protection, and solid waste.

The information and analysis in this section is based on the existing information contained in the PWM/GWR Project Final EIR, including associated appendices, as well as the *Source Water Availability, Yield, and Use Memorandum* prepared by Schaaf and Wheeler (**Appendix I**) and the *Water Rights Analysis Memorandum* prepared by Perkins Coie (**Appendix B**).

4.18.2 Environmental Setting

The PWM/GWR Project Final EIR described existing water supply and wastewater service facilities, service providers, applicable regulations, and legal agreements related to use of water resources. The existing environmental setting information contained in the PWM/GWR Project Final EIR has generally remained unchanged since the certification of the PWM/GWR Project Final EIR. As a result, a detailed description of the existing environmental setting related to these topical areas is not included in this Draft Supplemental EIR. The following discussion supplements the environmental setting information in the PWM/GWR Project Final EIR specific to the Proposed Modifications. For more information, please refer to Section 4.18.2 of the PWM/GWR Project EIR.

4.18.2.1 Potable Water Service

The PWM/GWR Project Final EIR included a detailed description of applicable potable water service providers, including the Monterey Peninsula Water Management District, Monterey Peninsula Regional Water Authority, MCWRA, Monterey County Department of Environmental Health, California American Water Company, MCWD, Seaside Municipal Water System, Sand City Coastal Desalination Water System, and California Water Services Company. No changes have occurred to existing services providers as described in Section 4.18.2.1 of the PWM/GWR Project Final EIR. Thus, no further information is necessary to supplement the existing environmental setting information contained in the PWM/GWR Project Final EIR. Please refer to Section 4.18.2.1 of the PWM/GWR Project Final EIR for more information concerning potable water service.

4.18.2.2 Wastewater and Recycled Water Service

As with potable water service providers, the PWM/GWR Project Final EIR also included a detailed description of wastewater and recycled water services in the project area. This included a description of M1W, Salinas Valley Reclamation Plant/Castroville Seawater Intrusion Project, Municipal Wastewater Collection Systems (i.e., MCWD and Seaside County Sanitation District), and the Salinas Industrial Wastewater Conveyance and Treatment System. No relevant changes have occurred to existing wastewater and recycled water service providers. Thus, no further information is necessary to supplement the existing environmental setting information contained in the PWM/GWR Project Final EIR. Please refer to Section 4.18.2.2 of the PWM/GWR Project Final EIR for more information concerning wastewater and recycled water service.

4.18.3 Regulatory and Legal Framework

4.18.3.1 Federal

Section 4.18.3.1 of the PWM/GWR Project Final EIR did not identify any applicable Federal regulations related to water supply and wastewater systems. There have been no relevant changes to these regulations.

4.18.3.2 State

Section 4.18.3.2 of the PWM/GWR Project Final EIR describes State regulations related to water supply and wastewater systems There have been no relevant changes to these regulations, except as described previously in the **4.10 Hydrology and Water Quality: Groundwater** of this Draft Supplemental EIR.

4.18.3.3 Local Policies and Regulations

Section 4.18.3.3 of the PWM/GWR Project EIR describes regional and local land use regulations related to water supply and wastewater systems. There have been no relevant changes to these regulations. Moreover, see also Table 4.18-4, Applicable Local Plans and Policies – Water Supply and Wastewater Systems contained in the PWM/GWR Project Final EIR for more information.

4.18.3.4 Water Rights and Legal Agreements

The PWM/GWR Project Final EIR included a detailed discussion of existing agreements for source water, surface water, and wastewater/recycled water between various agencies. The various agreements are summarized in this section. The existing information contained in the PWM/GWR Project Final EIR described the agreements in effect at that time regarding source water, surface water, and wastewater/recycled water agreements amongst the relevant local agencies. Please refer to Section 4.18.3.4 of the PWM/GWR Project Final EIR for more information. The following information supplements the information in the PWM/GWR Final EIR related to the Proposed Modifications and is based on **Appendix B, Water Rights Analysis Memorandum**.

M1W has entered into a number of relevant contracts, including contracts that assigned wastewater rights to MCWD and MCWRA. M1W has entered into the following:

- The 1989 Annexation Agreement between M1W and the MCWD provides the MCWD with the right to obtain treated wastewater from M1W. The MCWD has not exercised its recycled water rights but may do so in the future.
- The 1992 agreement between M1W and MCWRA (including amendments) (1992 Agreement) provides for the construction and operation of the Salinas Valley Reclamation Plant by M1W to provide water treated to a level adequate for agricultural irrigation for use by the Castroville Seawater Intrusion Project. In particular, Section 3.03 of the 1992 Agreement (Amendment 3) provides that M1W commits all of its incoming wastewater flows to the treatment plant from sources within the 2001 M1W service area, up to 29.6 million gallons per day, except for flows taken by the MCWD under the Annexation Agreements, losses, flows not needed to meet the Water Resource Agency's authorized demand, and flows to which M1W is otherwise entitled under the agreement.
- In 1996, pursuant to another Annexation Agreement, the MCWD received the right to tertiary-treated water from the Salinas Valley Reclamation Plant, in satisfaction of the 1989 agreement rights.
- In 2009, the MCWD and M1W entered into a Memorandum of Understanding relating to the Regional Urban Water Augmentation Agreement (RUWAP MOU). In the RUWAP MOU, the M1W assigned a portion of its allotment from the Amendment 3 of the 1992 Agreement between M1W and MCWRA. M1W agreed to, among other things, provide 650 AFY of recycled waters during the months of May through August each year from M1W entitlements. MCWD agreed to commit 300 AFY of recycled water during the months of April through September from MCWD's entitlements.

Prior to publication of the PWM/GWR Final EIR in 2015, the stakeholder agencies entered into a Memorandum of Understanding (Source Waters MOU). The Source Waters MOU reaffirmed the MCWD's and MCWRA's recycled water entitlements and presented a proposal for collection of additional source waters to meet the PWM/GWR Project objectives. The Source Waters MOU was not binding; rather, it was intended to provide a framework for negotiation of a future,

definitive agreement that would establish the contractual rights and obligations of the parties. Subsequently, a definitive agreement was reached. That definitive agreement between M1W and the MCWRA, approved by the M1W Board in November 2015, is called the ARWRA. The ARWRA supersedes and rescinds the Source Waters MOU and several other agreements, including the 1992 Agreement, Amendments 1, 2, and 3 dated May 30, 1994, February 16, 1998, and May 28, 2002, respectively, and the SRDF Agreement dated February 3, 2011 (Section 16.09).

ARWRA Conditions and Amendment

The ARWRA provides for the responsibilities for construction, operation and financing of new source waters from the Blanco Drain, Reclamation Ditch, and the City of Salinas (produce wash water) for the CSIP and the PWM/GWR Project. However, the portions of the ARWRA applicable to the new source water facilities associated with the PWM/GWR Project do not become effective until the following six conditions in ARWRA Section 16.15 have been met:

- 1. Water Rights for the Blanco Drain and Reclamation Ditch are obtained from the SWRCB;
- 2. A fully executed, and California Public Utilities Commission approved, Water Purchase Agreement, between M1W, MPWMD, and California-American Water has been achieved;
- 3. Written findings are made by the Regional Water Quality Control Board that utilization of the Blanco Drain dry weather flows as new source water meets all treatment requirements for the aforesaid dry weather flows;
- 4. An independent third-party review of proposed capital and operating costs and preparation of an Engineer's Report is approved by the MCWRA Board of Directors and Board of Supervisors. The costs of the aforesaid third-party review shall be shared equally between MCWRA and M1W;
- 5. A successful assessment or Proposition 218 process for rates and charges related to the operation and maintenance of the new source water facilities and proportional primary and secondary treatment charges; and,
- 6. A separate agreement between the Parties addresses inclusion of Salinas Pond Water Return Facilities as new source water facilities.

Due to delays in completing the cost-based Engineer's Report (condition 4 above), delays in regulatory activity, and changes in MCWRA personnel, the conditions noted above have not yet been completed. Specifically, as of June 2019, conditions 1 and 2 had been satisfied; but conditions 3, 4, 5, and 6 have not yet been completed.

As a result, M1W and the MCWRA developed an amendment to the ARWRA that allows additional time to address the conditions precedent, delay in payments by the MCWRA, and allowance for M1W to use all of the new source waters for the PWM/GWR Project until such time as the conditions are met. The M1W Board approved the amendment in June 2019.

Under the amendment, therefore, M1W currently has the near-term rights to use the new source waters from the Blanco Drain, Reclamation Ditch, and the City of Salinas (produce wash water) discussed in greater detail below. After the conditions precedent have been met, M1W and MCWRA will share the long-term rights to these new source waters as outlined in the ARWRA, as amended and other agreements described above.

City of Salinas Agricultural Wash Water

Water from the City of Salinas agricultural industries, 80% to 90% of which is water used for washing produce, is currently conveyed to ponds at the Salinas Industrial Wastewater Treatment Facility for treatment (aeration) and disposal by evaporation and percolation in three ponds. The approved PWM/GWR Project enables the agricultural wash water to be conveyed to the Regional Treatment Plant to be recycled. The approved PWM/GWR Project also includes improvements at the Salinas Industrial Wastewater Treatment Facility to allow storage of agricultural wash water and south Salinas stormwater in the winter and recovery of that water to the RTP for recycling and reuse in the spring, summer and fall.¹

The City of Salinas has the exclusive right to the treated wastewater it collects in its system and treats at the Salinas Industrial Wastewater Treatment Facility, unless modified in a contractual agreement.² Prior to making a change in the point of discharge of treated wastewater, the owner of a wastewater treatment plant shall obtain approval from the SWRCB for that change if the proposed change would result in decreased flow of any portion of a watercourse.³

Since the City of Salinas would otherwise have exclusive right to its treated wastewater, M1W entered into a contract with the City of Salinas for the diversion and use of agricultural wash water. M1W entered into an agreement with the City of Salinas to utilize agricultural wash water (Salinas industrial wastewater) for recycling through the Salinas Valley Reclamation Plant for CSIP and for use by the PWM/GWR Project for groundwater replenishment in the Seaside Groundwater Basin.⁴ If the conditions precedent in ARWRA Sec. 16.15 are not met, Sec. 16.16 states "WRA will retain the right to utilize the Agricultural Wash Water component from the City of Salinas." As discussed above, M1W currently has rights to use Agricultural Wash Water pursuant to Amendment No.1 to the ARWRA.

To comply with the State Board requirements, the City of Salinas filed a Wastewater Change Petition with the State Water Board in October 2015, proposing a change in wastewater operation that would redirect wastewater treated at the Salinas Industrial Wastewater Treatment Facility to M1W's existing Regional Treatment Plant. In November 2015, the State Water Board issued its Order Approving Change in Place of Use, Purpose of Use, and Quantity of Discharge found at. Thus, this approval has been obtained.

4.18.4 Impacts and Mitigation Measures

4.18.4.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, a project would result in significant impacts related to water supply and wastewater services and facilities if it would:

a. Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or

¹ The recovery of Salinas Industrial Wastewater Treatment Facility pond water to the Regional Treatment Plant is going to be enabled by the construction and operation of the Salinas Storm Water Phase 1B project that is grant-funded and currently under construction. The facilities are scheduled to be operational in early 2021. Rights and responsibilities for operational, maintenance, repair, and replacement costs of this new source water would be subject to a future agreement pursuant to the ARWRA Sec. 16.15(6). ² Cal. Water Code § 1210.

³ Cal. Water Code § 1211(a), (b).

⁴ Agreement for Conveyance and Treatment of Industrial Waste Water By and Between the City of Salinas and the Monterey Regional Water Pollution Control Agency (Oct. 27, 2015) included in **Appendix C**.

telecommunications facilities, the construction or relocation of which could cause significant environmental effects;

- b. Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years; or
- c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

No additional significance criteria are needed to comply with the CEQA-Plus considerations required by the State Revolving Fund Loan Program administered by the SWRCB.

Based on Appendix G of the CEQA Guidelines, a project would also result in a significant impact if it would violate any water quality standards or waste discharge requirements. **Section 4.11**, **Hydrology and Water Quality: Surface Water** addresses the potential for the Proposed Modifications to violate applicable water quality standards or waste discharge requirements. Additionally, **Section 4.13**, **Marine Biological Resources**, also addresses potential impacts associated with reverse osmosis concentrate (RO concentrate) being discharged from the approved PWM/GWR Project with the Proposed Modifications to the Advanced Water Purification Facility through M1W's existing ocean outfall and diffuser. Please refer to those sections for more information.

4.18.4.2 Impact Analysis Overview

The approach to the impact analysis remains generally unchanged from the PWM/GWR Project Final EIR. This information is included to facilitate review of the Proposed Modifications.

Approach to Analysis

Construction

The approach to evaluating construction-related activities on water supply and wastewater system consists of reviewing whether temporary water demand and/or wastewater generation would result in the need for new or expanded water or wastewater treatment facilities, and, thus, result in potentially significant impacts. The maximum number of construction workers would range between three and nine at any one construction site. The average number of daily workers is nine to twelve throughout all of the component sites. Typical water use and wastewater generation for workers at construction sites is low, less than 1 gallon per worker per day for a total of up to 12 gallons per day.

Operation

Long-term impacts on water supply and wastewater systems could occur as a result of water demand and/or wastewater generation associated with periodic facility operations and maintenance activities and new employees. This section evaluates whether identified source water supplies and wastewater treatment capacity are sufficient to accommodate the Proposed Modification to operations or whether new or expanded water supply sources are required to serve the Proposed Modifications and whether adequate wastewater treatment capacity exists.

The Proposed Modifications would rely on existing source waters and associated water rights to accommodate the incremental increased water demand associated with the Proposed Modifications. No modifications to source water facilities and no increase in peak (worst-case) use of source waters evaluated in the PWM/GWR Project Final EIR would be required to meet

the anticipated demand associated with the Proposed Modifications. Therefore, the following analysis focuses on whether there is sufficient water supply from existing sources.

This section relies on technical investigations prepared in support of the PWM/GWR Project Final EIR, as supplemented by additional analysis conducted by M1W staff and Schaaf and Wheeler to estimate source water availability and the long-term ability for the Proposed Modifications to meet yield objectives, including whether volumes of waste source waters are adequate to augment existing secondary-treated wastewater flows. Operational impacts are analyzed based on the results of Schaaf and Wheeler's updated technical memorandum.

Summary of Impacts

Table 4.18-2, Summary of Impacts – Water Supply and Wastewater Systems, provides a summary of potential impacts related to water supply and wastewater systems and significance determinations at each site relevant to the Proposed Modifications.

	ility	ine		CalAm Distribution System		
Impact Title	Advanced Water Purification Fac	Product Water Conveyance Pipel	Injection Well Facilities	Extraction Wells	CalAm Conveyance Pipelines	Proposed Modifications Overall
WW-1: Impact of Construction on Water Supplies	LS	LS	LS	LS	LS	LS
WW-2: Impact of Construction on Wastewater Treatment Capacity	LS	LS	LS	LS	LS	LS
WW-3: Impact of Operations on Water Supplies	LS	LS	LS	LS	LS	LS
WW-4: Impact of Operations on Wastewater Treatment Capacity	LS	LS	LS	LS	LS	LS
WW-5: Impact of Operations on need	LS	LS	LS	LS	LS	LS
Cumulative Impacts LS: The Proposed Modifications would not cause the project as a whole to contribute to a new significant cumulative impact or substantially increase the severity of the project's contribution to a significant cumulative impact on water supply or wastewater system						
NI – No Impact LS – Less than Significant LSM – Less than Significant with Mitigation SU – Significant Unavoidable BI – Beneficial Impact						

Table 4.18-2

Summary of Impacts – Water Supply and Wastewater Systems

4.18.4.3 Construction Impacts and Mitigation Measures

Impact WW-1:Construction-RelatedWaterDemand.TheProposedModifications would result in a temporary increase in water use
due to construction-related demand. Existing water supplies
would be sufficient to serve this construction-related demand. No
new or expanded water supply sources are warranted. (Criterion
b) (Less-than-Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR identified that construction of the approved PWM/GWR Project would result in a temporary demand for water for construction-related purposes (e.g., dust suppression, watering for compaction, etc.). The PWM/GWR Project Final EIR identified that water for dust suppression purposes (as required pursuant to Mitigation Measure AQ-1) would come from local sources, including the Salinas Valley Reclamation Plant, groundwater from the A-aquifer beneath the Regional Treatment Plant, and groundwater from the Seaside Basin for dust suppression for the construction of injection well facilities. The PWM/GWR Project Final EIR

identified that construction water would result in a onetime use of approximately 70 acre-feet – or about 1.1 acre-foot per acre of ground disturbance. The PWM/GWR Project Final EIR concluded that no new or expanded water supplies, entitlements or facilities would be needed to accommodate temporary construction-related demand. As a result, the PWM/GWR Project Final EIR concluded that this would represent a less-than-significant impact and no mitigation would be required.

Like the approved PWM/GWR Project, the Proposed Modifications would result in the temporary use of water during construction of the Proposed Modifications. Similarly, it is anticipated that construction water would come from local sources, including those identified above. As with the approved PWM/GWR Project, the Proposed Modifications would not necessitate new or expanded water supplies to accommodate temporary construction demand associated with the Proposed Modifications. Overall construction water demand is anticipated to be less than 40 acrefeet. This is a negligible increase in water demand in comparison to total water demand in the region, which is estimated to be tens of thousands of acre-feet every year. This represents a less-than-significant impact; no mitigation measures are required.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, construction activities would result in temporary increases in construction-related water demand. This represents a less-than-significant impact. No mitigation measures are warranted.

Impact WW-2:Construction-Related Wastewater Generation. The Proposed
Modifications would result in a temporary increase in wastewater
generation due to demand from construction workers, but existing
wastewater treatment facilities have sufficient capacity to serve
construction-related demands. (Criterion c) (Less-than-
Significant)

All Proposed Modifications

The PWM/GWR Project Final EIR concluded that construction of the approved PWM/GWR Project would result in minimal wastewater generation from construction workers – portable toilets would be provided at each of the construction sites and the wastewater would be disposed of at the Regional Treatment Plant. The PWM/GWR Project Final EIR estimated that construction-related activities could generate up to 250 gallons per day of wastewater. The PWM/GWR Project Final EIR concluded that the Regional Treatment Plant, which has an excess average dry weather treatment capacity of 12 to 13 mgd, has more than sufficient capacity to serve the temporary construction-related increases in wastewater generation. As a result, the PWM/GWR Project Final EIR concluded that this would represent a less-than-significant impact and no mitigation measures would be required.

The Proposed Modifications would result in comparable impacts to those identified in the PWM/GWR Project Final EIR. The Proposed Modifications would result in a temporary increase in wastewater generation during construction. Specifically, the Proposed Modifications could generate up to 25 gallons per day of wastewater. The Regional Treatment Plant has adequate capacity available to accommodate the temporary increase in wastewater generated during

construction of the Proposed Modifications. This represents a less-than-significant impact, and thus, no mitigation measures are required.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, construction activities would result in a temporary increase in wastewater generation. This would represent a less-than-significant impact. No mitigation measures are warranted.

4.18.4.4 Operational Impacts and Mitigation Measures

Impact WW-3:Operational Water Supply.Sufficient water supplies are available
for operation of the Proposed Modifications. (Criterion b) (Less-
than-Significant)

Potable Water to Serve Facilities and Employees of the Proposed Modifications

The PWM/GWR Project Final EIR concluded that there were existing potable water supplies available to serve the operational demand associated with the approved PWM/GWR Project. The PWM/GWR Project Final EIR identified that the approved PWM/GWR Project would not substantially increase the number of permanent workers in the area. As a result, the PWM/GWR Project Final EIR concluded that there would be no substantial changes in water demand or water distribution from the addition of new permanent employees or landscaping irrigation needs during operation. As a result, the PWM/GWR Project Final EIR concluded that impacts related to new potable demand from operation of the approved PWM/GWR Project would be less-than-significant.

The Proposed Modifications would not result in any additional adverse environmental effects beyond those identified in the PWM/GWR Project Final EIR. According to M1W, no new permanent employees are anticipated to facilitate operation and maintenance of the Proposed Modifications. As a result, the Proposed Modifications would not substantially increase demand for potable water service such that existing water supplies would be insufficient. This represents a less-than-significant impact. No mitigation is required.

Source Water to Serve Project Operations

The PWM/GWR Project Final EIR included a detailed evaluation of the availability of Regional Treatment Plant secondary effluent from municipal wastewater, as well as the ability of the approved PWM/GWR Project to obtain supplemental source waters to augment these flows to meet yields for the approved PWM/GWR Project, including for the secondary benefit of augmentation of CSIP demands. The PWM/GWR Project Final EIR also considered the availability of source water supplies and the need to secure rights and agreements for the source water to meet the objectives of the approved PWM/GWR Project. Thus, the PWM/GWR Final EIR included a comprehensive discussion of water rights, including M1W's rights to municipal wastewater, rights to agricultural wash water, rights to surface waters (Reclamation Ditch, Tembladero Slough, Blanco Drain, and Lake EI Estero Diversions), and rights to urban runoff captured in municipal stormwater infrastructure.

For the Proposed Modifications, Perkins Coie prepared an overview of water rights information which is included in **Appendix B** of this Draft Supplemental EIR. This section describes M1W's

legal rights to collect/divert, treat, and recycled wastewaters and new source waters, all of which are conveyed in M1W infrastructure to the RTP, and M1W's ability to meet the purified recycled water yield objectives of the Proposed Modifications and to augment CSIP flows. The following types of source waters are discussed:

- Municipal wastewater from within and outside of M1W's 2001 service area;
- Agricultural Wash Water conveyed from the City of Salinas' industrial wastewater system;
- Urban stormwater runoff from the City of Salinas stormwater system; and
- Surface water diversions from the Reclamation Ditch and Blanco Drain diversions.

The memo describes the ARWRA and its recent amendment (Amendment No. 1, dated July 2019), summarizes each water source, and provides the legal framework and status of water rights for each source. The status of water rights is summarized in the **Table 4.18-3** below:

Table 4.18-3

Status of Water Rights

Source of Water	Status of Water Rights
Municipal Wastewater Collection and Treatment System	Secured . The ARWRA is now in effect to address and resolve competing water rights of M1W, MCWD, and MCWRA. The ARWRA also provides that rights to additional wastewater flows—that are treated at the Regional Treatment Plant and are from areas outside of the 2001 M1W service area—are evenly divided between M1W and the MCWRA. ⁵
Salinas Agricultural Wash Water System	Secured . A contract is in place between M1W and the City of Salinas assigning rights for diversion and use of the agricultural wash water to M1W. Under the ARWRA as amended, M1W currently has rights to use the new source waters from this source. In addition, the State Water Board has approved the diversion of the agricultural wash water away from the percolation ponds. Recovery of seasonally-stored agricultural wash water, mixed with storm water, from the City's system ("SIWTF Return Flows" on Figure 1) requires a contract between M1W and the City of Salinas.
Salinas Storm Water Collection System	Pending . A contract is needed between M1W and the City of Salinas for diversion of storm water, mixed with agricultural wash water, from the City's SIWTF ("SIWTF Return Flows" on Figure 1).
Reclamation Ditch and Blanco Drain Surface Water Systems	Secured . The State Water Board has issued two permits authorizing the MCWRA to divert and use water from the Blanco Drain and the Reclamation Ditch. Under the ARWRA as amended, M1W currently has the rights to use the new source waters from the Blanco Drain and Reclamation Ditch.

Availability and Use of Source Water

While the PWM/GWR Project Final EIR identified that substantial new sources water supplies would be necessary to meet both of the PWM/GWR Project's objectives, the PWM/GWR Project Final EIR identified that it would be reasonably likely that sufficient quantities of surplus water could be made available to serve the PWM/GWR Project. Further, the PWM/GWR Project Final EIR recognized that prior to construction of each source water diversion component and prior to diversion of secondary-treated wastewater effluent to the Advanced Water Treatment Facility, the Project proponent(s) would obtain approval of each applicable water rights permit or agreement with the relevant entities with ownership or jurisdiction over that source water. Accordingly, the PWM/GWR Project Final EIR concluded that the approved PWM/GWR Project would result in a less-than-significant impact related to the need to obtain new or expanded entitlements to divert

⁵ The volume of these waters available for M1W and the MCWRA totals between 3,400 and 3,800 AFY and includes: backwash flows from the Salinas River Diversion Facility screens and from the tertiary and advanced purification recycling facilities' filters, domestic wastewater generated at the Regional Treatment Plant and at the landfill site, and several areas in and near the City of Salinas and Castroville.

source waters for recycling and reuse. The indirect impacts of entering into agreements and receiving water rights to divert the proposed source waters were described in Sections 4.2 through 4.17 of the PWM/GWR Final EIR.

The Proposed Modifications are not anticipated to result in any additional environmental effects pertaining to acquisition of source water beyond those previously identified in the PWM/GWR Project Final EIR. The Proposed Modifications would rely on existing rights to source waters and the same volumes of new source waters that were described in the PWM/GWR Project Final EIR.

In order to determine whether existing wastewater plus new source waters would be sufficient to meet the yield objectives of the Proposed Modifications, Schaaf & Wheeler and M1W staff evaluated source water availability and yield for the Proposed Modifications. A copy of Schaaf & Wheeler's technical memorandum is included in **Appendix I** and is summarized below.

Schaaf & Wheeler modeled the monthly volumes of each source water (surface water diversions, agricultural wash water, urban stormwater runoff, and municipal wastewater) available for diverting to the collection and treatment system under a variety of climatic conditions, or water year types - specifically, under typical (or normal/wet) and drought conditions. Schaaf & Wheeler's analysis determined that adequate volumes of source waters would be available to meet the yield objectives of the Proposed Modifications in all water year types (see Tables 8 through 11 in Appendix I). Approximately 7,098 AFY of source waters would need to be conveyed to the Advanced Water Purification Facility to meet to objective of injecting an average of 5,750 AFY into the Seaside Groundwater Basin. M1W identified that the increased capacity at the Advanced Water Purification Facility could be varied seasonally to produce higher volumes in the wetter seasons and lower volumes during the irrigation season, thereby maximizing wastewater availability for use by CSIP during peak irrigation months. Schaaf & Wheeler concluded that adequate volumes of source waters would be available to meet the yield objectives of the Proposed Modifications in all water year types (see Appendix I). Existing sources have sufficient capacity to meet the incremental demand associated with the Proposed Modifications. As a result, the incremental increased demand associated with the Proposed Modifications would be accommodated through existing source waters.

While adequate source waters are available, the Proposed Modifications would result in a reduced project benefit to CSIP as compared to the approved PWM/GWR Project due to M1W's increased use of its rights to municipal wastewater and new source waters under the ARWRA. Under the Proposed Modifications with the ARWRA Section 16.15 satisfied, CSIP would have an increased available SVRP yield of approximately 2,852 AFY in a drought year, and 3,600 AFY in normal and wet years. During normal and wet years, this would represent a reduced maximum benefit by approximately 781 AFY as compared to the approved PWM/GWR Project under the terms of the ARWRA. While the Proposed Modifications would reduce the overall benefit to CSIP as compared to the approved PWM/GWR Project, the Proposed Modifications would still result in a substantial benefit to CSIP and the underlying Salinas Valley Groundwater Basin. CSIP and the underlying Salinas Valley Groundwater Basin.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Adequate source water supplies are reasonably likely to be available to accomplish the yield objectives of the Proposed Modifications during normal, dry and multiple dry years, and rights to such source waters would be fully secured prior to operation of the Proposed Modifications. This represents a less-than-significant impact.

Moreover, the Project with the Proposed Modifications would be beneficial in terms of enhancing the reliability of supplies of potable water. No mitigation is warranted.

Impact WW-4: <u>Operational Wastewater Treatment Capacity</u>. Operation of the Proposed Modifications would not result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the Proposed Modifications' projected demand in addition to M1W's existing commitments. (Criterion c) (Less-than-Significant)

Wastewater Generated by Project Employees

The PWM/GWR Project Final EIR concluded that wastewater generated during operation of the PWM/GWR Project would not result in any substantial changes in wastewater treatment. The Final EIR identified that operation of the PWM/GWR Project would not substantially increase the number of permanent workers in the area. Moreover, as previously identified, the Regional Treatment Plant has an average dry weather design capacity of 29.6 mgd and a peak wet weather design capacity of 75.6 mgd compared to its then-current treatment of approximately 16 to 17 mgd. As a result, the PWM/GWR Project Final EIR concluded that there was sufficient treatment capacity to accommodate the negligible increase in wastewater generated by an increase in project employees during operation.

The Proposed Modifications would not result in any additional adverse environmental effects beyond those identified in the PWM/GWR Project Final EIR related to wastewater generated by project employees. No new permanent employees are anticipated as part of the Proposed Modifications, and as a result, the Proposed Modifications would not substantially increase demand for wastewater services. This represents a less-than-significant impact and thus no mitigation is warranted.

Wastewater Treatment and Outfall Disposal Capacity for Project Operations

The PWM/GWR Project Final EIR identified that approximately 8,225 AFY of secondary effluent was being discharged to the Monterey Bay through the Regional Treatment Plant outfall that is not treated at the tertiary level at the Salinas Valley Reclamation Plant for Castroville Seawater Intrusion Project irrigation water supplies. The PWM/GWR Project Final EIR identified that less secondary effluent would be discharged with implementation of the approved PWM/GWR Project because additional secondary effluent would be treated at the Advanced Water Purification Facility for recharge into the Seaside Basin. The PWM/GWR Project Final EIR concluded that the Regional Treatment Plant has capacity to treat additional wastewater flows and the existing outfall also has capacity (i.e., between 11 mgd to 29.6 mgd remaining) to accommodate disposal of reverse osmosis concentrate from the approved PWM/GWR Project. As a result, the PWM/GWR Project Final EIR concluded that the existing Regional Treatment Plant and ocean outfall have sufficient capacity.

The Proposed Modifications would not result in any additional environmental effects beyond those described in the PWM/GWR Project Final EIR. With the Proposed Modifications, the maximum amounts of new source waters that would be conveyed to the Regional Treatment Plant would not increase above the approved PWM/GWR Project assumptions and thus would not exceed the average dry weather flow design capacity of the Regional Treatment Plant of 29.6 mgd. The PWM/GWR Project Final EIR identified that the amount of wastewater (reverse osmosis concentrate) to be disposed from the Advanced Wastewater Purification Facility under the

approved PWM/GWR Project would be approximately 1 mgd (maximum of 1.17 mgd). The Proposed Modifications would result in less wastewater being discharged compared to the amount assumed in the PWM/GWR Project Final EIR. Although the maximum amount of reverse osmosis concentrate would increase to 1.78 mgd (average of would increase to approximately 1.5 mgd), the Advanced Water Purification Facility increased production would decrease secondary wastewater flows during winter and spring of every year compared to the flows that would occur without the Project Modifications. Therefore, consistent with the findings of the PWM/GWR Project Final EIR, the existing Regional Treatment Plant and ocean outfall would have sufficient capacity to treat additional flows of over 10 mgd compared to existing flows. This represents a less-than-significant impact. No mitigation is warranted.

Impact Conclusion

The Proposed Modifications would not result in any new significant impacts or worsen the severity of any previously identified significant impacts. Consistent with the findings of the PWM/GWR Project Final EIR, the Proposed Modifications would not increase demand for wastewater treatment. This represents a less-than-significant impact on wastewater treatment services. No mitigation measures are required.

Impact WW-5:Operational Need for New Water or Wastewater Treatment
Facilities or Expansion. Operation of the Proposed Modifications
would not result in the construction of new water or wastewater
treatment facilities or the expansion of existing facilities beyond
those evaluated in this Supplemental Draft EIR. (Criterion c)
(Less-than-Significant)

The Proposed Modifications include increased use of existing wastewater treatment facilities at the Regional Treatment Plant, which currently operates at about 40% less than its design flow capacity Specifically, the plant operates at an average dry weather flow of approximately 17 to 18 million gallons per day (mgd) in recent years compared to the design capacity of 29.6 mgd. The Proposed Modifications also include construction of new water facilities at the expanded Advanced Water Purification Facility, Injection Well Facilities, and as part of the CalAm Water Distribution System Improvements, which are the subject of the analysis contained in this Draft Supplemental EIR. This Draft Supplemental EIR addresses the potential construction and operational impacts associated with the Proposed Modifications in each topical section in **Chapter 4, Environmental Setting, Impacts, and Mitigation Measures**. The Proposed Modifications would not result in any other impacts beyond those evaluated in this Draft Supplemental EIR. This is a less than significant impact and no mitigation are required beyond those identified in this Draft Supplemental EIR.

4.18.4.5 Cumulative Impacts

As described in **Section 4.1.5**, the PWM/GWR Project Final EIR included a comprehensive analysis of cumulative impacts. That analysis evaluated the cumulative effects of 35 projects of varying type and scale within the geographical proximity of the various components of the approved PWM/GWR Project. This Draft Supplemental EIR relies on the existing cumulative project list contained in the PWM/GWR Project Final EIR since that analysis conservatively identified potential past, present, and reasonably foreseeable future projects. **Table 4.1-2** includes

a brief description of the projects and their anticipated construction schedules. **Table 4.1-2** also identifies the potential cumulative effects associated with each of the listed projects.

The PWM/GWR Project Final EIR and Addenda found that the approved PWM/GWR Project would result in minor demand for water and wastewater service due to new employees – this minor increase in demand would not be cumulatively considerable due to the lack of substantial numbers of new employees. The PWM/GWR Project Final EIR further identified that while overall cumulative development within the CalAm service area could result in a potentially significant cumulative effect, the amount of daily water demand generated by the approved PWM/GWR Project within the CalAm service area would not be cumulatively considerable. Moreover, the PWM/GWR Project Final EIR also identified that there would be no significant cumulative impacts related to wastewater treatment capacity. "There would be no significant cumulative impacts on wastewater treatment capacity or ocean outfall disposal capacity."

The Proposed Modifications, when combined with past, present, and reasonably foreseeable future projects, would result in comparable cumulative effects to those identified in the PWM/GWR Project Final EIR and Addenda. As an infrastructure project, the Proposed Modifications would not result in an increase in potable water demand. As noted above, the Proposed Modifications would not result in any additional permanent employees. As a result, the Proposed Modifications would not generate an additional demand for potable water beyond the demand identified in the PWM/GWR Project Final EIR. Therefore, the Proposed Modifications would not result in any additional contribution to cumulative effects related to potable water demand beyond those identified in the PWM/GWR Project Final EIR. Moreover, for similar reasons, the Proposed Modifications would not result in a cumulatively considerable impact related to an increased demand for wastewater services. The Proposed Modifications would not generate additional demand for services since no new permanent employees are necessary. Moreover, the Proposed Modifications would also not contribute to new or increased cumulative effects related to ocean outfall disposal capacity. As identified in the PWM/GWR Project Final EIR, the outfall can dispose up to 75.6 mgd and the Proposed Modifications would reduce the amount of discharges via the existing outfall. As a result, the Proposed Modifications would not cause the Project to result in a new cumulatively considerable impact.

CHAPTER 5 OTHER CONSIDERATIONS

Sections

- 5.1 Growth Inducement
- 5.2 Significant Irreversible Impacts
- 5.3 References

5.1 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL EFFECTS

CEQA Guidelines Sec. 15126.2(b) requires that an EIR identify significant environmental effects that cannot be avoided by the Proposed Project with Modifications, including those that can be mitigated, but not to a less-than-significant level. The analysis in **Chapter 4.0**, **Environmental Setting, Impacts, and Mitigation** identifies all adverse impacts associated with the Proposed Modifications and those impacts that cannot be avoided. The analysis in **Chapter 4.0** determined that the Proposed Modifications would result in impacts related to noise that, even with implementation of mitigation measures, would remain significant and unavoidable. Similarly, the analysis of potential growth inducing effects contained in this chapter identifies that the Proposed Modifications could induce growth, and that such growth could result in significant and unavoidable impacts. These impacts are summarized below:

- Noise: The Proposed Modifications would result in a new significant and unavoidable noise-related construction impact associated with the construction of CalAm Extraction Wells EW-3 and EW-4. As identified in Section 4.14, Noise, construction of EW-3 and EW-4 would require 24-hour construction activities for up to seven days during well construction. This would represent a significant noise impact because the nighttime noise would exceed the sleep interference thresholds. While this Draft Supplemental EIR has identified mitigation measures to minimize potential temporary construction noise, the impact would remain significant and unavoidable.
- Growth Inducement: The Proposed Modifications would be considered growthinducing because increased water supply could remove an obstacle to the following types of growth: potential buildout of legal lots of record, potential buildout of existing entitlements at Pebble Beach, and increased water use associated with tourism. This growth, in turn, could have the potential to result in adverse physical environmental effects, although such effects cannot be predicted with specificity. The adverse physical environmental effects associated with growth could constitute significant and, potentially, unavoidable impacts.

5.2 GROWTH INDUCEMENT

5.2.1 Introduction

An EIR must discuss the ways in which a project could foster economic or population growth, or the construction of additional houses, either directly or indirectly, in the surrounding environment (CEQA Guidelines Sec. 15126.2(e)). The discussion should include projects which could remove obstacles to population growth such as a major public services expansion that allows for more

construction within the applicable service areas and characteristics of projects that that may encourage and facilitate other activities that could result in significant impacts. It must not be assumed that growth in any area is necessarily beneficial, detrimental or of little significance to the environment (Id.).

This section addresses the growth inducement potential of the Proposed Modifications. Refer to **Section 4.15, Population and Housing**, for an analysis of the Proposed Modifications potential direct effects on growth. As noted above, a project may foster growth if the project removes an impediment to growth (for example, the establishment of an essential public service, or the provision of new vehicular access to an area.).

5.2.2 Summary of PWM/GWR Project Final EIR Findings

The PWM/GWR Project Final EIR evaluated the potential growth inducing effects associated with the approved PWM/GWR Project. Addenda (Nos. 1, 2 and 3) did not change that evaluation. The PWM/GWR Project Final EIR concluded that the approved PWM/GWR Project would not foster economic growth or remove an obstacle to growth because it would replace existing municipal water supplies (i.e., purified water generated by the approved PWM/GWR Project would replace existing supplies that were previously diverted from the Carmel River system). The approved PWM/GWR Project would not provide new water to serve growth. Moreover, the PWM/GWR Project Final EIR also identified that the provision of additional recycled water for crop irrigation to existing lands in agricultural production would not increase population nor cause economic growth that would facilitate other activities that would have significant environmental effects. Therefore, the PWM/GWR Project Final EIR concluded that the approved PWM/GWR Project S.0, Growth Inducement and Irreversible Commitment of Resources, of the PWM/GWR Project Final EIR.

5.2.3 Summary of MPWSP Final EIR/EIS Findings

As described in **Chapter 2.0**, **Project Description**, the Proposed Modifications are intended to serve as a back-up to CalAm's MPWSP, which was approved by the CPUC on September 13, 2018 (CPUC Decision 18-09-017). The CPUC, as CEQA Lead Agency, and the MBNMS, as NEPA Lead Agency, prepared a joint EIR/EIS evaluating the potential environmental effects associated with the MPWSP, including the project's potential to induce growth.

The MPWSP EIR/EIS concluded that the MPWSP could support growth by removing some water supply limitations that have been an obstacle to growth, thereby enabling a degree of growth within the area served by the MPWSP. More specifically, the MPWSP Final EIR/EIS reported that most of the water produced by the MPWSP would be used to meet average and peak demands of existing CalAm customers. The MPSWS Final EIR/EIS further explained that the portion of MPWSP water used to satisfy existing annual demand would replace current withdrawals from the Carmel River and Seaside Groundwater Basin in excess of CalAm's legal rights. This portion of MPWSP supply used to meet average and peak demands of existing customers would not be available to serve economic or population growth. Therefore, this portion of the MPWSP supply would not be growth-inducing because it would not remove water supply limitations as an obstacle to growth.

A relatively small fraction of the water produced by the MPWSP would be used to meet demands by existing Pebble Beach entitlements. As described in Chapter 2, Water Demand, Supplies and Water Rights, Section 2.3.1.3 of the MPWSP Final EIR/EIS, the MPWMD granted water entitlements totaling 380 afy to the fiscal sponsors that underwrote development of the Carmel Area Wastewater District/Pebble Beach Community Services District (CAWD/PBCSD) wastewater reclamation project. The reclamation project now provides all of the irrigation water used on golf courses and some open space areas in the Del Monte Forest, and MPWMD estimates that it saves approximately 1,000 afy of potable water (Stoldt, 2011). In 2013, when CalAm prepared the estimate of demand associated with these entitlements, approximately 325 afy of the entitlements were unassigned. Since then, MPWMD has issued additional water permits and the remaining unassigned Pebble Beach entitlements now stand at about 304 afy (MPWMD, 2016a). Because the recently issued permits may not immediately translate to water connections or water use that is reflected in existing demand data, the MPWSP Final EIR/EIS used 325 afy as a reasonable estimate of demand associated with these entitlements. The MPWSP Final EIR found that because the Pebble Beach water entitlements are considered part of CalAm's existing demand, water supply used to serve these entitlements would not be growth-inducing.

Another portion of the water produced by the MPWSP would be used to meet future demands associated with rebound of the tourism industry. The MPWSP Final EIR/EIS calculated water supplies that might be needed by existing businesses to accommodate an increase in tourism. The MPWSP Final EIR/EIS also recognized that, to the extent that businesses were to expand, or to the extent that increased tourism in the area were to cause new businesses to open, that new development would only be possible if water supply were available. Water supply serving new or expanded businesses would remove water supply limitations as a constraint to such development and therefore would induce growth. Based on the analysis presented in the MPWSP Final EIR/EIS determined that a portion of the 500 afy capacity of the MPWSP that was anticipated to meet demand for the existing hospitality industry may exceed the need for this purpose. The MPSWP Final EIR/EIS therefore assumed that the excess water service capacity provided by the MPSWP could be available to support future growth; that would therefore be considered growth-inducing. The MPSWP Final EIR/EIS assumed that about 250 afy of supply designated for rebound of the hospitality industry would likely be used for that purpose and 250 afy would be available for new development.

Another portion of the water produced by the MPWSP would be used to provide water to serve the development of vacant legal lots of record in the CalAm service area. The MPWSP Final EIR/EIS recognized that water supply that would serve currently vacant lots of record would remove water supply limitations as an obstacle to the development of these lots and could induce growth under CEQA and NEPA. As discussed in Section 6.3.5.3 of the MPWSP Final EIR/EIS, the Final EIR/EIS determined this would not be growth beyond the level anticipated in adopted General Plans.

MPWMD is responsible for allocating water to the jurisdictions within its boundary. The MPWSP Final EIR/EIS acknowledged that MPWMD has not prepared an allocation program for the water that the MPWSP would provide. The analysis in the MPWSP EIR/EIS therefore assumed that the MPWMD's allocation of water provided by the MPWSP would be similar to the District's current and past allocation programs. That is, for purposes of the MPWSP EIR/EIS, it was assumed that that supply provided by the MWWSP would be used to meet existing demand within the CalAm service area, and that water service capacity beyond that amount would be allocated to the jurisdictions in general proportion to an estimate – which the MPWMD has not yet developed – of their future water supply needs. Once the water is allocated to the jurisdictions, each city and the County (for the unincorporated areas) would have the responsibility and discretion to approve or deny proposed development projects for which water was available, consistent with the jurisdiction's role as the primary land use authority and applicable land use plans, policies, regulations and laws. For example, the analysis recognized that supply based on an estimate of demand associated with lots of record may not exclusively serve development of existing vacant lots; some portion of it could, for example, support development of lots created after the

preparation of the MPWSP Final EIR/EIS or the approval of that project, depending on the jurisdiction's internal allocation system and assuming water service capacity were available.

Similarly, because there is no guarantee that the 500 afy anticipated to meet demand associated with hospitality industry rebound would be reserved for that use, the MPSWP Final EIR/EIS assumed that either the MPWMD or the local jurisdictions could elect not to set aside 500 afy exclusively for use by existing businesses. Therefore, some portion of this 500 afy could actually serve new development within the service area.

According to the CPUC, the MPWSP could support a degree of planned growth in the jurisdictions served by the MPWSP. "The MPWSP would not directly contribute to the creation of additional housing or jobs within the area it would serve, as it is limited [to] construction and operation of water supply facilities and infrastructure. But the [MPWSP] would indirectly support growth by removing some water supply limitations as an obstacle to growth, thereby enabling a degree of growth under the approved general plans within the area served by the MPWSP." (Id. at pg. 6-44). While the environmental effects associated with planned growth have largely been addressed in local General Plans and supporting CEQA review, as well as other project-specific documentation, some unavoidable impacts associated with future planned growth are still expected to occur (Id. at pg. 6-55). As a result, the MPWSP Final EIR/EIS concluded that potential secondary impacts associated with future growth could be significant and unavoidable.

5.2.4 Growth Inducing Effects of the Proposed Modifications

As a backup to the approved MPWSP, the Proposed Modifications could induce growth in a manner that is comparable to that identified in the MPWSP Final EIR/EIS. Unlike the approved PWM/GWR Project, which was limited to a water supply replacement project, the Proposed Modifications could induce growth, albeit indirectly, by removing an obstacle to that growth (i.e., lack of available water) consistent with the findings of the MPWSP Final EIR/EIS (see MPWSP Final EIR at pgs. 6-5 through 6-45). As identified above, the removal of an existing obstacle to growth could result in significant secondary environmental effects associated with growth.

The extent to which the Proposed Modifications would be able to accommodate growth is uncertain. The MPWSP Final EIR/EIS concluded that annual water demand would total 14,356 AFY. This demand includes existing average customer demand, future demand associated with legal lots of record, tourism bounce-back, and Pebble Beach entitlements. The MPWSP Final EIR/EIS further stated that water supplies of 12,350 AFY would be needed to meet the needs of existing CalAm customers. **Table 5-1** shows anticipated demand and available supply based on the analysis contained in the MPWSP Final EIR/EIS.¹

¹ The CPUC received numerous comments from the public concerning existing and projected water demand. Those estimates included a range of different demand projections. At that time, the CPUC stated that "the fluctuations in CalAm's Monterey District over the past decade make it easy for us to understand the temptation to understate annual forecast of demand." The CPUC Decision states that "12,350 afy represents an appropriate estimate of annual demand to use in assessing the adequacy of CalAm's water supply to meet peak demand and regulatory supply capacity requirements." (CPUC Final Decision 18-09-017). Per the Decision, this estimate represents average current customer demand and does not include demand associated with legal lots of record, tourism bounce-back, or Pebble Beach buildout.

Table 5-1

Monterey Peninsula Available Supply and Demand

Future Supplies				
Supply Source	Available Supply (Acre-Feet per Year)			
	MPWSP	Proposed Modifications (Back Up Supply)		
MPWSP Desalination Plant ¹	6,252	0		
Pure Water Monterey	3,500	3,500		
PWM Expansion	0	2,250		
Carmel River	3,376	3,376		
Seaside Basin	774	774		
Aquifer Storage & Recovery	1,300	1,300		
Sand City Desalination Plant	94	94		
Total Available Supply	15,296	11,294		
Other Available Supplies	406	406		
Total Available Supply w/Other	15,702	11,700		

Future Demand Projections

	Demand Projections (Acre-Feet Per Year)					
Demand Component	MPWSP Demand Projections*	MPWMD**** (High)	MPWMD**** (Low)			
Average Current Customer Demand	12,350	11,232	9,788			
Legal Lots of Record	1,181	1,014	864			
Tourism Bounce-Back	500	250	100			
Pebble Beach Entitlements	325	160	130			
Total Water Demand	14,356**	12,656	10,882			

Water Supply vs. Demand Summary

	MPWSP	MPWMD Revised Demand Projections (High)	MPWMD Revised Demand Projections (Low)
Water Supply	15,702***	11,700	11,700
Total Water Demand	14,355	12,656	10,882
Net Difference	1,347***	(956)	818

Notes:

1. While the MPWSP Desalination Plant is sized to produce 6,252 AFY, the facility would operate at 85% of the design capacity. The additional capacity would be available to accommodate fluctuations in demand. As a result, for planning purposes the MPWSP Desalination Plant would provide an estimated 5,314 AFY when accounting for the facility operating at 85% of its design capacity. (Source: MPWSP Final EIR/EIS, as supplemented by additional information contained in CPUC Decision 18-09-017)

*estimates obtained from the MPWSP Final EIR/EIS, as supplemented by additional information contained in the CPÚC's Decision 18-09-017.

** CPUC concluded that approximately 14,000 AFY represented a reasonable estimate of anticipated future demand for the purposes of sizing the desalination plant. (Source: CPUC Decision 18-09-017)

*** Based on the available supply information and related demand projections, supply would exceed available demand. However, this difference is largely to account for the necessary sizing of the MPWSP, which would operate at 85% of system capacity. This would result in a reduction of available supply by approximately 940 AFY. Moreover, available supply also assumes that the ASR project would capable of delivering all of its stated supply. The ability of ASR to fully achieve its stated available supply is contingent upon a variety of factors, including climatic conditions. During periods of prolonged drought, ASR may not be able to fully realize its total supply. (Source: MPWSP Final EIR/EIS as supplemented by additional information contained in CPUC Decision 18-09-017)

Source: California Public Utilities Commission (2018), Monterey Peninsula Water Supply Final Environmental Impact Report/Environmental Impact Statement; see also California Public Utilities Commission (2018), Decision 18-09-017; see also Monterey Peninsula Water Management District (2019), Supply and Demand for Water on the Monterey Peninsula.

On September 16, 2019, the MPWMD staff presented its updated demand estimates. MPWMD staff presented information about historic water supply and demands for the Monterey Peninsula (specifically, the CalAm Monterey Main District), supplies that would be provided by the MPWSP desalination plant and the Proposed Modifications (referred to as the "PWM Expansion" in the report), and projected demand in a variety of future market absorption scenarios (MPWMD, September 16, 2019).² According to MPWMD's estimate, total demand could range between 10,882 AFY and 12,656 AFY.³ Of that amount, 9,788 to 11,232 AFY would be needed to serve existing customers. See **Table 5-1**, above. The principal conclusions of MPWMD's report were:

- either the desalination plant or the Proposed Modifications can meet the long-term needs of the Monterey Peninsula;
- either supply option would be sufficient to lift the State Water Resources Control Board Cease and Desist Order;
- the long-term needs of the Monterey Peninsula may be less than previously thought; and,
- several factors will contribute to pressure on the region's residents and businesses to decrease per capita water use.

As identified in **Table 5-1**, according to MPWMD's September 16, 2019 report, available supplies with the Proposed Modifications in place (11,700 AFY) would exceed existing demand and would also exceed future demands for twenty or more years (varying based on the absorption rate of increased water use). As noted in **Table 5-1**, MPWMD's future demand estimates include updates to consider actual recorded/metered water use and projections for future increases in demand due for existing legal lots of record, tourism bounce-back, Pebble Beach entitlements, and other new development. If water to serve Pebble Beach entitlements is added to water needed to supply existing customers, the remainder would be 338 AFY to 1,752 AFY. Adding in tourism bounce-back would yield a remainder of 238 AFY to 1,502 to accommodate growth in the form of serving legal lots of record and/or general plan buildout in communities within the CalAm service area if such growth is approved by the relevant jurisdictions.

Depending on the demand projections used by MPWMD, the Proposed Modifications could provide some water for such growth, provided such growth is approved by the relevant land use jurisdiction. As a result, the Proposed Modifications could accommodate growth, but as noted above it is difficult to state with any specificity the location and amount of new developed and associated impacts that could be accommodated. If demand from existing customers exceeds MPWMD estimates, the increased yield of the Proposed Modifications would accommodate less growth and would result in less potential indirect, adverse impacts of growth. Under that scenario, the Proposed Modifications' potential growth inducing effects could be less than those identified above.

² This Draft Supplemental EIR's analyses of water supply, growth inducement, and groundwater impacts rely upon data and reports regarding existing and future water demands provided by the MPWMD staff. In public meetings, members of the public have expressed disagreement with this published data.
³ The CPUC concluded that a higher demand (14,000 AFY) represented a reasonable estimate of

³ The CPUC concluded that a higher demand (14,000 AFY) represented a reasonable estimate of anticipated demand. As part of their review of the MPWSP, the CPUC reviewed numerous demand projections provided by various parties and jurisdictions.

As explained in the MPWSP Final EIR/EIS, potential growth could result in secondary environmental effects (MPWSP Final EIR/EIS at pg. 6-38 through 6-45). The secondary effects of growth were identified as significant and unavoidable in the MPWSP Final EIR/EIS. (Ibid. at pg. 6-45). Table 5-2 below summarizes the types of significant impacts that result from growth based on the analysis presented in Chapter 6 of the MPWSP Final EIR/EIS and the Environmental Impact Reports for the general plans for communities within the CalAm service area. To the extent that discretionary governmental approvals are needed for new development, the secondary effects associated with growth would be evaluated as part of project-level CEQA review completed in the future by the affected land use jurisdictions. Potential impacts would be addressed as part of that review. As noted in the MPWSP Final EIR/EIS, the affected land use jurisdictions would have the "authority to approve or deny development projects and to impose mitigation to address significant environmental impacts associated with development projects within their respective jurisdictions." (Ibid.). While the environmental effects associated with future growth and development would be addressed as part of project-level CEQA review, the MPWSP Final EIR concluded that "some unavoidable impacts would still, however, be expected to occur" (Ibid.).

The Proposed Modifications would result in the removal of an obstacle to growth that could result in indirectly inducing growth in the region. This growth would have the potential to result in adverse physical environmental effects as identified above.⁴ As a result, the Proposed Modifications could potentially have indirect, secondary significant impacts related to growth consistent with the findings of the MPWSP Final EIR/EIS, some of which could be potentially unavoidable.

Table 5-2

Significant and Unavoidable Impacts Associated with Planned Growth in the Project Area

Significant and Unavoidable Impacts

- Degradation of visual character or quality of the area and surroundings
- Substantial new sources of light and glare
- Cumulative impacts on aesthetics, light and glare
- Conversion of farmland to non-agricultural use and cumulative loss of farmland
- Construction-related air quality impacts
- Net change in ozone precursor and particulate matter emissions
- Cumulative air quality impacts
- Effects on special status species
- Effects on riparian habitat and other sensitive natural communities
- Cumulative impacts on biological resources
- Potential effects on archaeological, paleontological, or historic resources
- Cumulative exposure to wildland fire hazard
- Increased demand for water supply and/ or water storage, treatment, and conveyance facilities and associated secondary effects
- Substantial depletion of groundwater supply
- Increased demand on groundwater in areas experiencing or susceptible to saltwater intrusion
- Cumulative impacts on groundwater quality
- Cumulative indirect impacts of water supply projects
- Increased flood hazard and impacts from flooding
- Increases in traffic noise
- Induced population growth
- Effects on adjacent land uses of operation of new or expanded schools
- Local and regional traffic impacts
- Impacts of cumulative development on traffic
 Demand for water resources that exceed available
- Demand for water resources that exceed available water supply
 Cumulative impacts on water supply
- Cumulative impacts on water supply
 Contribution to sumulative greenbourse gas emission

Contribution to cumulative greenhouse gas emissions and global climate change
NOTES: Table 5-2 is based on information contained in the MPWSP Final EIR/EIS; please refer to Chapter 6.0 of the MPWSP
Final EIR/EIS for more information.

⁴ California Code of Regulations, Title 14 Sec. 15126.2(e), states "It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

5.3 SIGNIFICANT IRREVERSIBLE CHANGES

Public Resources Code Sec. 21100(b)(2)(B) and CEQA Guidelines Sec. 15126(c) require that an EIR identify any significant effect on the environment that would be irreversible if the project is implemented. More specifically, CEQA Guidelines Sec. 15126.2(d) states that:

uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can also result from environmental accidents associated with a project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

CEQA Guidelines Sec. 15127 identifies limitations on the discussion of environmental impacts related to significant irreversible changes. More specifically, CEQA Guidelines Sec. 15127 states that "the information required by Sec. 15126.2(c) concerning irreversible changes, need be included only in EIRs prepared in connection with any of the following activities:

- (a) The adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency;
- (b) The adoption by a Local Agency Formation Commission of a resolution making determinations; or,
- (c) A project which will be subject to the requirement of preparing an environmental impact statement pursuant to the requirements of the National Environmental Policy Act of 1969, 42 U.S.C. 4321-4347."

The PWM/GWR Project Final EIR identified that the approved PWM/GWR Project did not entail: 1) the adoption of a plan, policy, or ordinance of a public agency; 2) the adoption of a resolution by LAFCO making a determination; or, 3) the preparation of an environmental impact statement under NEPA. As a result, the PWM/GWR Project Final EIR concluded that the PWM/GWR Project was not subject to the requirements of CEQA Guidelines Sec. 15126.2(c).

Although the approved PWM/GWR Project Final EIR concluded that CEQA Guidelines Sec. 15126.2(c) was not applicable, the PWM/GWR Project Final EIR, nevertheless, included an evaluation of potential irreversible changes. More specifically, the PWM/GWR Project Final EIR identified that construction and operation of the approved PWM/GWR Project would result in the permanent and continued consumption of electricity, natural gas and fossil fuels. Constructionrelated energy consumption would be temporary in nature and would not result in the long-term depletion of non-renewable energy sources such that it would represent unnecessary, wasteful, or inefficient energy consumption. Moreover, the PWM/GWR Project Final EIR also concluded that operational energy demand would result in the permanent commitment of energy to meet the operational demands of the approved PWM/GWR Project - some of which would be produced from non-renewable resources. The PWM/GWR Project Final EIR concluded that although the project would commit future generations to energy use for the project, the approved PWM/GWR Project was designed to be energy efficient and as a whole would not involve a large commitment of non-renewable resources or result in the wasteful use of energy. The PWM/GWR Project Final EIR also identified that the approved PWM/GWR Project could also result in irreversible changes to the physical environment due to the accidental release of a hazardous materials associated with construction activities, as well as operational use of chemicals and hazardous materials. The PWM/GWR Project Final EIR concluded that compliance with existing State and Federal hazardous materials regulations would ensure that the project would not result in a significant irreversible change to the environment.

The Proposed Modifications similarly do not entail: 1) the adoption of a plan, policy, or ordinance of a public agency; 2) the adoption of a resolution by LAFCO making a determination; or, 3) the preparation of an environmental impact statement under the National Environmental Policy Act. As a result, the Proposed Modifications are not subject to the requirements of CEQA Guidelines Sec. 15126.2(c). Although CEQA Guidelines Sec. 15126.2(c) is not applicable to the Proposed Modifications, this Draft Supplemental EIR includes an evaluation of potential irreversible changes to the environment consistent with the approach contained in the PWM/GWR Project Final EIR. Similar to the findings contained in the PWM/GWR Project Final EIR, the Proposed Modifications are not anticipated to result in the wasteful, inefficient, or unnecessary commitment of nonrenewable resources such that a significant irreversible change to the environment would occur. The Proposed Modifications would entail temporary commitment of non-renewable energy sources during construction and would also result in the permanent commitment of energy sources to meet the operational energy demands associated with the Proposed Modifications. As discussed in Section 4.7, Energy and Mineral Resources, the incremental increase in energy demand associated with the Proposed Modifications would be accommodated primarily through renewable energy sources from the Monterey Regional Waste Management District Landfill. Additionally, potentially irreversible changes to the physical environment due to the accidental release of hazardous materials during construction and/or operation of the Proposed Modifications would not result in a significant irreversible impact to the environment. Consistent with the analysis contained in the PWM/GWR Project Final EIR, accidental release of hazardous materials would be addressed through the adherence with Federal, State, and local regulations as discussed in Section 4.9, Hazards and Hazardous Materials. No other irreversible changes are expected to result from the construction and operation of the Proposed Modifications.

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CHAPTER 6 ALTERNATIVES TO THE PROPOSED MODIFICATIONS

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6.1 INTRODUCTION AND APPROACH

This chapter presents the alternatives analysis for the Proposed Modifications. This section sets forth the objectives of the PWM/GWR Project with the Proposed Modifications, summarizes any new or substantially more severe significant impacts of the Project with the Proposed Modifications, describes the alternatives considered to address such new or substantially more severe impacts, and compares the impacts of the alternatives to the impacts of the Project with the Proposed Modifications.

CEQA Guidelines Sec. 15126.6(a) states that an EIR must describe and evaluate a reasonable range of alternatives to a project, or to the location of the project, that would feasibly attain most of the project's basic objectives, but that would avoid or substantially lessen any significant adverse effects of the project. An EIR is not required to consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. The CEQA Guidelines further state that the specific alternative of "no project" shall also be evaluated. The EIR must evaluate the comparative merits of the alternatives and include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the impacts of the Proposed Modifications.

The following comments on the Notice of Preparation were received related to alternatives (see **Appendix A** for complete text of the comments):

The Seaside Basin Watermaster requested coastal Injection Wells be evaluated due to their benefit for protecting the basin from seawater intrusion. Other commenters requested that a comparative analysis be completed for the MPWSP and Proposed Modifications. The following addresses these comments:

Chapter 6 and Appendix A of Appendix L of the PWM/GWR Project Final EIR describes why coastal Injection Wells were considered but eliminated from consideration from the PWM/GWR Project during initial project conceptual design. This documentation provides the direct response to the comment. Additionally, the Proposed Modifications do not change the PWM/GWR Final EIR conclusion and rationale why coastal Injection Wells are not considered as alternatives to the Proposed Modifications. (Also please refer to Technical Memorandum - Groundwater Modeling Analysis (Montgomery & Associates, Nov. 2019, documenting no adverse impacts to the Seaside Basin from the Proposed Modifications). See further discussion/footnote below and **Chapter 2.0 Project Description** regarding relationship of the Proposed Modifications to the MPWSP.

6.1.1 Project Objectives

As described in **Section 2.4, Objectives of the Proposed Modifications**, the primary objectives of the Proposed Modifications are to reduce discharges of secondary effluent to Monterey Bay and to replenish the Seaside Groundwater Basin with 2,250 AFY of additional purified recycled water to replace CalAm's use of existing water sources. The Proposed Modifications (sometimes referred to as "expansion") would increase the yield of the approved Pure Water Monterey Project. M1W Board has stated that it "proceeded with the initial environmental, permitting and design work for the potential expansion of the Pure Water Monterey Project was done specifically as a backup plan to, and not as an option in the place of, the CalAm desalination project, and only to have a ready-to-go alternative plan in place in the event that the CalAm desalination project is delayed beyond the Cease and Desist Order deadline of December 31, 2021."¹ To accomplish this primary objective, the Proposed Modifications would need to meet the following objectives:

- Be capable of commencing operation, or of being substantially complete, by the end of 2021 or as necessary to meet CalAm's replacement water needs;
- Be cost-effective such that the Proposed Modifications would be capable of supplying reasonably-priced water; and
- Be capable of complying with applicable water quality regulations intended to protect public health.

6.1.2 Significant Impacts of the Proposed Modifications

In **Chapter 4**, this Draft Supplemental EIR found that the Proposed Modifications would result in significant impacts, all of which would be reduced to a less-than-significant level with implementation of mitigation measures, with the exception of a new significant and unavoidable noise impact due to nighttime drilling required to construct Extraction Wells Nos. 3 and 4 (EW-3 and EW-4). Drilling activities required to construct these two wells would result in a significant impact because the nighttime noise would disturb sleep. Implementation of mitigation measures would reduce noise levels, but not to a less-than-significant level. This is the only new significant impact that would be directly caused by the Proposed Modifications.

In **Chapter 5**, this Draft Supplemental EIR found that the Proposed Modifications could induce growth by removing an obstacle to growth in communities served by the project. The Draft Supplemental EIR further found that such growth could in turn result in significant, and potentially unavoidable, adverse impacts on the environment. The impacts that could result from such growth cannot be predicted with specificity, and measures to reduce such impacts are not within the jurisdiction or control of M1W.

Table 6-1 summarizes the significant adverse construction and operational impacts identified in this Draft Supplemental EIR by the applicable modification.

¹ Resolution 2019-19 of the M1W Board of Directors (approved on October 28, 2019).

Table 6-1Significant Impacts of Proposed Modification

Significant Impacts That Can Be Reduced To Less Than Significant With Mitigation	Applicable Modification(s)		
AE-2: Construction Impacts due to Temporary Light and Glare	CalAm Distribution System: Extraction Wells and CalAm Conveyance Pipelines		
AE-3: Degradation of Visual Quality of Sites and Surrounding Areas	CalAm Distribution System: Extraction Wells		
AE-4: Impacts due to Permanent Light and Glare during Operations	Expanded Injection Well Facilities CalAm Distribution System: Extraction Wells		
AQ-1: Construction Criteria Pollutant Emissions (PM_{10})	All Proposed Modifications		
BT-1: Construction Impacts to Special-Status Species and Habitat	Product Water Conveyance Pipeline Expanded Injection Well Facilities		
BT-3: Construction Conflicts with Local Policies, Ordinances, or approved Habitat Conservation Plan	Product Water Conveyance Pipeline Expanded Injection Well Facilities CalAm Distribution System: Extraction Wells and CalAm Conveyance Pipelines		
CR-1: Construction Impacts on Archaeological Resources or Unknown Human Remains	All Proposed Modifications		
CR-2: Construction Impacts on Unknown Paleontological Resources	All Proposed Modifications		
EN-1: Construction Impacts due to Temporary Energy Use	All Proposed Modifications		
HH-2: Accidental Release of Hazardous Materials During Construction	Product Water Conveyance Pipeline		
LU-1: Operational consistency with Plans, Policies, and Regulations	All Proposed Modifications		
NV-1: Construction Noise	Product Water Conveyance Pipeline CalAm Distribution System: CalAm Conveyance Pipelines		
NV-2: Construction Noise Exceeds Local Standards	CalAm Distribution System: Extraction Wells		
PS-3: Construction Solid Waste Policies and Regulations	All Proposed Modifications		
TR-2: Construction Traffic Delays, Safety and Access Limitations	CalAm Distribution System: CalAm Conveyance Pipelines		
TR-3: Construction-Related Roadway Deterioration	All Proposed Modifications		
TR-4: Construction Parking Interference	CalAm Distribution System: CalAm Conveyance Pipelines		
Significant and Unavoidable Impacts	Applicable Modification(s)		
NV-1: Construction Noise	CalAm Distribution System: Extraction Wells		
Secondary Effects of Growth Inducement	All Proposed Modifications		

6.2 ALTERNATIVES ANALYSIS

This section describes the alternatives to the Proposed Modifications that were selected and evaluated for the purpose of reducing or eliminating new significant impacts of the Project with the Proposed Modifications, including the No Project (no modifications) alternative. The following information is provided for each alternative: (1) a description of the alternative, (2) analysis of the alternative's ability to reduce the new significant impacts of the Project with the Proposed Modifications and whether the alternative would result in any additional environmental impacts, and (3) assessment of the alternative's ability to meet the project objectives. A summary comparison of the alternatives is provided at the end of the section. This section is organized into two parts:

6.3.1 No Project

6.3.2 Elimination of Extraction Wells EW-3 and EW-4 Alternative

6.2.1 No Project/ No Modifications Alternative

CEQA Guidelines Sec. 15126.6 requires that an EIR include an evaluation of the No Project Alternative to provide decision-makers the information necessary to compare the relative impacts of approving a project to not approving a project. The No Project Alternative is defined as a continuation of existing conditions, as well as conditions that are reasonably expected to occur in the event that a project is not implemented. Here, the approved Project is under construction, and would be implemented regardless whether the Proposed Modifications are approved. Under the No Project Alternative for the Proposed Modifications, the Proposed Modifications would not be implemented. The No Project/ No Modifications Alternative would not achieve the objectives for the Proposed Modifications identified in **Section 2.0**, **Project Description**. Under this alternative, it remains reasonably likely that the MPWSP desalination project would be constructed; however, should the MPWSP be delayed and not able to meet the Cease and Desist Order deadline of December 31, 2021 for CalAm to deliver new water supplies to the CalAm Monterey Service area, there would be no back-up plan. As a result, under the No Project Alternative, the MPWSP may be constructed and operated by others. The MPWSP is described in detail and evaluated in the MPWSP Final EIR/EIS prepared by the CPUC and the MBNMS, certified September 2018.

6.2.1.1 Description of the Alternative

This alternative is considered because it is required by CEQA. The No Project/ No Modifications alternative is defined as not building and operating the Proposed Modifications which are a backup plan to the MPWSP.² Therefore, under the "No Project" Alternative, no backup plan would be available in the event that the MPWSP desalination project is delayed beyond the Cease and Desist Order deadline.

² M1W intends the Proposed Modifications to be a backup plan to, and not as an option in the place of, the CalAm MPWSP desalination project, and only to have a ready-to-go alternative plan in place in the event that the CalAm MPWSP desalination project is delayed beyond the Cease and Desist Order deadline of December 31, 2021 (M1W Resolution 2019-10, October 31, 2019).

6.2.1.2 Environmental Impacts of the Alternative Compared to those of the Proposed Project

Because the No Project Alternative would eliminate construction and operation of the Proposed Modifications, this alternative would avoid all significant impacts identified for the Proposed Modifications in the Draft Supplemental EIR. Refer to **Table 6-2** for a comparison of impacts of the No Project/ No Modifications Alternative to the impacts of the Proposed Modifications.

6.2.1.3 Ability of the Alternative to Meet the Project Objectives

Under the No Project/ No Modifications Alternative, the Proposed Modifications would not be built. Under the No Project Alternative, the primary objectives of reducing discharges of secondary effluent to the Monterey Bay and replenishing the Seaside Groundwater Basin with 2,250 AFY of additional purified recycled water to replace CalAm's use of existing water sources would not be achieved.

6.2.2 Elimination of Extraction Wells EW-3 and EW-4 Alternative

6.2.2.1 Description of Alternative

This alternative consists of the elimination of Extraction Wells, called EW-3 and EW-4, from the Proposed Modifications, while still including construction of treatment facilities at the site of the proposed for EW-3. This alternative would reduce the total number of Extraction Wells from four to two. All of the other Proposed Modifications would be constructed and operated as described in **Section 2.0 Project Description**, including the treatment system proposed for the EW-3 site, but not drilling the well at that site. Under this alternative, Extraction Wells EW-1, EW-2, as well as CalAm existing Extraction Wells would be operated at an increased capacity to offset the elimination of Extraction Wells EW-3 and EW-4, and backflush, treatment and conveyance facilities would still be built as described in **Chapter 2, Project Description** of this Supplemental Draft EIR.

6.2.2.2 Environmental Impacts of Elimination of Extraction Wells EW-3, and EW-4 Alternative

This alternative would reduce the construction footprint by less than ¼ acre, thereby reducing construction impacts of the Proposed Modifications. This alternative would eliminate the new, significant and unavoidable construction noise impact of the Proposed Modifications. **Table 6-2** compares the impacts of this alternative to the Proposed Modifications by impact area. Other than the elimination of the significant unavoidable noise impact at this location, all other impacts would remain unchanged or slightly reduced due to the reduced footprint and facilities at this project location.

6.2.2.3 Ability of Alternative to Meet Project Objectives

Assuming the Proposed Modifications can operate without EW-3 and EW-4, this alternative could potentially meet the primary project objectives of reducing discharges of secondary effluent to Monterey Bay and replenishing the Seaside Groundwater Basin with 2,250 AFY of additional purified recycled water to replace CalAm's use of existing water sources. However, this alternative

would not provide the same level of reliability as the Proposed Modifications³ as two wells at each site were proposed for reliability/redundancy of the system.

6.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Sec.15126.6(e)(2) requires that an environmentally superior alternative be identified among the alternatives considered. According to CEQA Guidelines Sec. 15126.6(e), if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. The environmentally superior alternative is the alternative that would result in the fewest adverse environmental impacts on the project site and surrounding area.

Table 6-2 presents a comparison of impacts between the Proposed Modifications, the No Project/ No Modifications Alternative, and the Elimination of Extraction Wells EW-3 and EW-4 Alternative. Here, the No Project/ No Modifications Alternative is the environmentally superior alternative because it would eliminate all significant impacts of the Proposed Modifications. However, that alternative would not achieve the primary objectives of the Proposed Modifications. The Elimination of Extraction Wells EW-3 and EW-4 Alternative would reduce the identified significant and unavoidable impact related to construction noise to a less than significant level with mitigation (i.e., the same construction noise mitigation applicable to the other Proposed Modifications) at the sites of Extraction Wells EW-3 and EW-4. Accordingly, in addition to the No Project/ No Modifications Alternative, the Environmentally Superior Alternative would be the Elimination of Extraction Wells EW-3 and EW-4. Alternative would be the Elimination of Extraction Wells EW-3 and EW-4. Alternative would be the Elimination of Extraction Wells EW-3 and EW-4. Alternative would be the Elimination of Extraction Wells EW-3 and EW-4. Alternative would be the Elimination of

³ Based upon the Groundwater Modeling Analysis by Montgomery & Associates (Nov. 2019) in Appendix D as reviewed and reported by M1W and MPWMD Engineers, that analysis showed that with operation of only one new Extraction Well at the Seaside Middle School site (EW-1 or EW-2) and one Extraction Well at either the EW-3 or EW-4 site, CalAm would have adequate extraction capacity to meet the water demand requirements of their system. This alternative, if determined to be feasible operationally, operation of two new Extraction Wells at the Seaside Middle School site (EW-1 and EW-2) would provide sufficient extraction capacity to meet the water demand requirements of the the water demand requirements of the CalAm system. However, replacement wells may be required in the future; two wells at each site were proposed for reliability.

Table 6-2

Impact Summary for Proposed Modifications and Alternatives to the Proposed Modifications

	suo	Alternatives to the Proposed Modifications	
Impact Title NOTE: Where the Proposed Modifications would result in no impacts or less than significant impacts, such impacts have not been included in this table.	Proposed Modificati	No Project/ No Modifications Alternative	Elimination of Extraction Wells EW-3 & EW-4 Alternative
AE-2: Construction Impacts due to Temporary Light and Glare	S / LS	NI	S / LS -
AE-3: Degradation of Visual Quality of Sites and Surrounding Areas	S/LS	NI	S / LS -
AE-4: Operation Impacts due to Permanent Light and Glare	S / LS	NI	S / LS -
AQ-1: Construction Criteria Pollutant Emissions (PM ₁₀)	S / LS	NI	S / LS -
Cumulative impacts related to Air Quality	S / LS	NI	S / LS -
BT-1: Construction Impacts to Special-Status Species and Habitat	S / LS	NI	S / LS -
BT-3: Construction Conflicts with Local Policies, Ordinances, or approved Habitat Conservation Plan	S / LS	NI	S / LS -
CR-1: Construction Impacts on Archaeological Resources or Unknown Human Remains	S/LS	NI	S / LS -
EN-1: Construction Impacts due to Temporary Energy Use	S / LS	NI	S / LS -
LU-1: Operational consistency with Plans, Policies, and Regulations	S / LS	NI	S / LS -
NV-1: Construction Noise	SU	NI	LS
NV-2: Operational Noise	S / LS	NI	LS
PS-3: Construction Solid Waste Policies and Regulations	S / LS	NI	S / LS -
TR-2: Construction Traffic Delays, Safety and Access Limitations	S / LS	NI	S / LS
TR-3: Construction-Related Roadway Deterioration	S / LS	NI	S / LS -
TR-4: Construction Parking Interference	S / LS	NI	S / LS
NOTE: KEY TO ACRONYMS: NI – No Impact LS – Less than Significant S / LS – Before Mitigation: Significant / After Mitigation: Less than Sig SU - Significant "+" = Impact is greater than Proposed Modifications impact " " = Impact is loss than Proposed Modifications impact	gnificant		

"—" = Impact is less than Proposed Modifications impact If neither "—" nor "+" is shown, the impact is the same as or similar to the Proposed Project impact

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CHAPTER 7 LIST OF PREPARERS AND REFERENCES

Sections

7.1 List of Preparers and Persons Consulted

7.2 References by Section

7.1 LIST OF PREPARERS AND PERSONS CONSULTED

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7.1.5 Persons Consulted

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Chapter 6 – Alternatives to the Proposed Modifications

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