

# Appendix M

---

Campus Town Water Supply Assessment

## M1: Updated Water Supply Assessment

---

**UPDATED WATER SUPPLY ASSESSMENT  
FOR THE  
CAMPUS TOWN SPECIFIC PLAN**

**Originally Prepared by  
MARINA COAST WATER DISTRICT**



**June 2018**

**With Errata from the City of Seaside dated June 2019**

**Table of Contents**

Summary of Water Supply Assessment..... 1

Section 1 - Introduction..... 3

    1.1 Project Overview..... 3

    1.2 Purpose of Water Supply Assessment..... 3

    1.3 Project Subject to CEQA..... 3

    1.4 Project Requiring a Water Supply Assessment..... 4

    1.5 Public Water Agency Serving the Project..... 4

    1.6 Relationship of WSA to MCWD Urban Water Management Plan..... 6

Section 2 - Project Description and Water Demands ..... 8

    2.1 Project Description..... 8

    2.2 Land Use and Water Demands..... 9

        2.2.1 Residential..... 9

        2.2.2 Hotel..... 13

        2.2.3 Youth Hostel..... 13

        2.2.4 Retail, Dining and Entertainment Space..... 13

        2.2.5 Office, Flex, Maker Space and Light Industrial ..... 13

        2.2.6 Parks and Landscaping ..... 14

        2.2.7 Project Total Water Demands..... 14

Section 3 - District Water Demands..... 16

    3.1 Historic and Current Water Demands ..... 16

    3.2 Future Demands ..... 17

    3.3 Dry-Year Demands ..... 19

Section 4 - Water Supply ..... 21

    4.1 Current Water Supply..... 21

        4.1.1 Groundwater ..... 21

        4.1.2 Desalinated Water..... 23

    4.2 Future Water Supply ..... 23

        4.2.1 Recycled Water..... 24

        4.2.2 Desalinated Water..... 25

        4.2.3 Conservation ..... 25

    4.3 Regulatory Permits Necessary for Supply Delivery ..... 26

Section 5 - Supply Sufficiency Analysis..... 27

    5.1 Comparison of Project Demands to Projected Supply..... 27

    5.2 Plans for Acquiring Additional Water Supplies..... 28

    5.3 Reliability of Water Supply..... 29

    5.4 Effect on Agricultural and Industrial Users Reliant on the Same Source..... 30

Section 6 - Conclusions..... 32

    6.1 Sufficiency of Water Supply for the Project ..... 32

    6.2 Future Actions ..... 32

**Appendices**

- A. Recycled Water Project Details
- B. Desalination Project Details
- C. References
- D. MCWD Board Resolution Approving the Water Supply Assessment for the Monterey Downs Specific Plan
- E. Memorandum, Errata to the Main Gate and Campus Town Water Supply Assessments

**List of Tables**

Table i Acronyms Used in this Report..... iii

Table ii Units of Measure Used in this Report ..... iv

Table 2-1: Summary of Estimated Water Demand..... 15

Table 3-1: Water Production by Service Area (AF) ..... 16

Table 3-2: Water Use within the Seaside-Ord Community (AF) ..... 17

Table 3-3: Water Demand Projection by Service Area (AF)..... 18

Table 3-4: Campus Town Elements compared to Elements in the 2015 UWMP ..... 19

Table 3-5: Dry Year Demand Projections ..... 20

Table 4-1: Existing Pumping Capacity ..... 23

Table 5-1: FORA Allocations in the Ord Community..... 27

Table 5-2: City of Seaside Sub-Allocations..... 28

**List of Figures**

Figure 1.1: Marina Coast Water District Service Areas ..... 5

Figure 2.1: Project Area..... 8

Figure 2.2: Conceptual Site Plan ..... 11

Figure 4.1: Groundwater Sub-Basins..... 21

**Table i. Acronyms Used in this Report**

<b>Acronym</b>	<b>Description</b>
afy, ac-ft/yr	Acre-feet/year
ccf, hcf	Hundred cubic feet
gpd	Gallons per day
gpcd	Gallons per capita day, or gallons per person per day
mgd	Million gallons per day
sq-ft	Square feet
BMP	Best management practice
CAW, CalAm	California American Water Company
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CSUMB	California State University – Monterey Bay
CWC	California Water Code
DDW	SWRCB Division of Drinking Water
DMM	Demand management measure
DWR	California Department of Water Resources
FORA	Fort Ord Reuse Authority
LAFCO	Local Agency Formation Commission
M1W	Monterey One Water (formerly MRWPCA)
MCWD, District	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
MPWMD	Monterey Peninsula Water Management District
OMC	Ord Military Community
POM	Presidio of Monterey
PWM	Pure Water Monterey Project
RUWAP	Regional Urban Water Augmentation Project
SB	California Senate Bill
SGMA	Sustainable Groundwater Management Act
SRDP	Salinas River Diversion Project
SVBGSA	Salinas Valley Basin Groundwater Sustainability Agency
SVWP	Salinas Valley Water Project
SVGB	Salinas Valley Groundwater Basin
SWRCB	State Water Resources Control Board
UCMBEST	University of California Monterey Bay Education, Science and Technology Center
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment

**Table ii. Units of Measure Used in this Report**

<b>Unit</b>	<b>Equals</b>
1 acre-foot	= 43,560 cubic feet = 325,851 gallons
1 cubic foot	= 7.48 gallons
1 CCF	= 100 cubic feet = 748 gallons
1 MGD	= 1,000,000 gallons/day = 1,120 acre-feet / year

## Summary of Updated Water Supply Assessment

**Project:** Campus Town Specific Plan, Seaside, California (Project)

Pursuant to Section 10910 of the California Water Code (CWC), and based on the analysis detailed in this report and the representations by the Project's proponents, the Marina Coast Water District (the District) has determined that its currently projected water supplies will not be sufficient to meet the projected annual water demands of existing and previously approved uses and the implementation of the Campus Town Specific Plan (or "Proposed Project") during normal, single-dry, and multiple-dry years without additional plans to reduce potable water demand. However, with implementation of the proposed plans to acquire additional water supplies discussed in Sections 4.2.1, 5.2, and 6.2, the District's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the District's existing and planned future uses.

The Project will add approximately 487.4 acre-feet per year (AFY) of new demand of potable and recycled water to the District's Ord Community Service Area, within the City of Seaside. Of this amount, 441.6 is potable water demand and 45.83 is recycled water demand. There is sufficient recycled water available from the District to serve the Project's recycled water demand. However, until new potable water projects are developed, there is a present shortfall of available potable water to serve the potable water demand of the Project. The City has an existing allocation of Salinas Valley Groundwater of 1,012.5 AFY (from the 6,600 AFY regional allocation), and has previously sub-allocated 831.2 AFY to other projects, leaving 181.3 AFY available. If the City sub-allocates all of this supply to the Campus Town Specific Plan Area, there will still be a resulting shortfall of 260.3 AFY of potable water to serve the project's potable water demands. The District can supply water to an initial phase of the project, up to the amount sub-allocated by the City. Further, as explained herein, there are several potential plans that, if implemented, would afford sufficient potable water for the Project's demands.

The proposed plans to address the 260.03 AFY potable water supply shortfall include: (1) a Bayonet and Blackhorse Golf Courses in-lieu storage and recovery program, which would replace a minimum of 311.08 AFY of existing potable water use with recycled water (up to 450 AFY as recycled water supplies increase), (2) a Seaside Highlands and Super Field recycled water substitution program to offset 53.1 AFY of potable water use, and (3) a Main-Gate offset program, which would require the previously approved Main-Gate project to utilize 42.99 AFY of recycled water in-lieu of previously allocated potable water supply. (See Sections 4.2.1, 5.2, and 6.2 for additional details.)

In addition to these in-lieu storage and offset programs, the District also has two planned water supply projects it intends to implement in the next decade, the Recycled Water Project and the

Desalination Project. These two projects are intended to develop 2,400 AFY of new supply for the Ord Community. As these projects come on-line, the Fort Ord Reuse Authority will allocate the supply among the Land Use Jurisdictions in the Ord Community.

**Summary of Updates to the WSA:** The City has prepared this Updated WSA to clarify the text of the prior WSA and to correct several minor errors. The District adopted its Water Supply Assessment on June 18, 2018. The WSA approved by MCWD is included in the EIR as Appendix M2 and is available online at: [https://www.mcwd.org/docs/agenda\\_minutes/2018-06-18\\_board/Item%2010-C%20-%20Draft\\_Campus\\_Town\\_WSA\\_JUN2018.pdf](https://www.mcwd.org/docs/agenda_minutes/2018-06-18_board/Item%2010-C%20-%20Draft_Campus_Town_WSA_JUN2018.pdf)

The WSA prepared by MCWD concluded “The Project will add approximately 487.4 acre-feet per year (AFY) of new demand to the District’s Ord Community Service Area, within the City of Seaside. The City has an existing allocation of Salinas Valley Groundwater of 1,012 AFY, and has previously suballocated 825.7 AFY to other projects, leaving 186.3 AFY available.” (Appendix M2, p. 1.) “To offset urban irrigation demands within the Seaside portion of the Ord Community with recycled water and then apply the existing potable supply towards the Campus Town Specific Plan area, the project EIR should clearly describe that intent and the resulting allocation of potable and recycled water supply.” (Appendix M2, Section 6.2.) The MCWD WSA further discussed such water offset programs to include Seaside Highlands and Soper Field and suggested utilizing recycled water for sanitary fixture flushing (toilets and urinals). (*Id.*)

The updated WSA contained herein, provides more detailed information regarding the proposed water offset programs, consistent with the WSA’s direction that the EIR describe the water offset programs and “clearly describe that intent and the resulting allocation of potable and recycled water supply.” (Appendix M2, Section 6.2.) This information has been incorporated throughout the WSA, including Section 6.2. The updated WSA also includes quantification of the recycled water use within the Plan Area, and a more precise calculation of landscaping water demand, as shown in Table 2-1. Additional background information has also been added discussing the history of the 6,600 AFY allocation, long term water supply planning, and water supply reliability.

Minor errors were also corrected. For example, street addresses have been corrected in Section 2.1, which lists the current buildings within the Plan Area, and the acreage of the Plan Area has been clarified. Figures 2.1 and 2.2 have also been updated to be consistent with the current Specific Plan. Additional citations have also been provided, such as references in Section 2.2, which disclose the sources of the water demand assumptions. The left column of Table 3-4 was also revised to correctly identify 942 units at a density of 5-8 du/acre rather than 8-15 du/acre as identified in the original WSA.

## **Section 1 - Introduction**

### **1.1 Project Overview**

The City of Seaside in Monterey County, California, acting as the lead agency, is preparing the Campus Town Specific Plan for a 122.23 acre project area located within the City of Seaside (85-acres not including rights-of-way and properties subject to the Specific Plan but not included in the existing purchase and sale agreement). The Project is located on the former Fort Ord. Potable and recycled water supply for the former Fort Ord is provided by the District. Further description of the Project is given in Section 2.0.

### **1.2 Purpose of Water Supply Assessment**

The California Water Code (§10910 et. seq.), based on Senate Bill 610 of 2001 (SB 610), requires an assessment of whether the District's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, as part of the California Environmental Quality Act (CEQA) process.

This report is meant to serve as the Water Supply Assessment (WSA) for the Project to meet the California Water Code requirements. This WSA analyzes the District's existing and future water supplies for the Project area and compares them to the District's total projected water demands for the next twenty (20) years.

The SB 610 process requires the following several steps to identify the need and scope of a project's WSA:

1. Determine whether the project is subject to CEQA.
2. Determine whether the project meets the definition of a "project" per SB 610.
3. Determine the public water agency that will serve the project.
4. Determine whether any current Urban Water Management Plan considers the projected water demand for the project area.
5. Determine whether groundwater is used by the public water agency to serve the project area.

### **1.3 Project Subject to CEQA**

CEQA applies to projects for which a public agency is directly responsible, funds, and/or requires the issuance of a permit. The City of Seaside determined that the Project is subject to the requirements of CEQA. An Environmental Impact Report (EIR) is currently being prepared.

#### **1.4 Project Requiring a Water Supply Assessment**

CWC §10912(a) defines a Project for WSA purposes as including any of the following<sup>1</sup>:

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- a mixed-use project that includes one or more of the projects identified in this list;
- a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Campus Town Specific Plan proposes the addition of up to 1,485 dwelling units and 200,000 square feet of commercial space, so a water supply assessment is required.

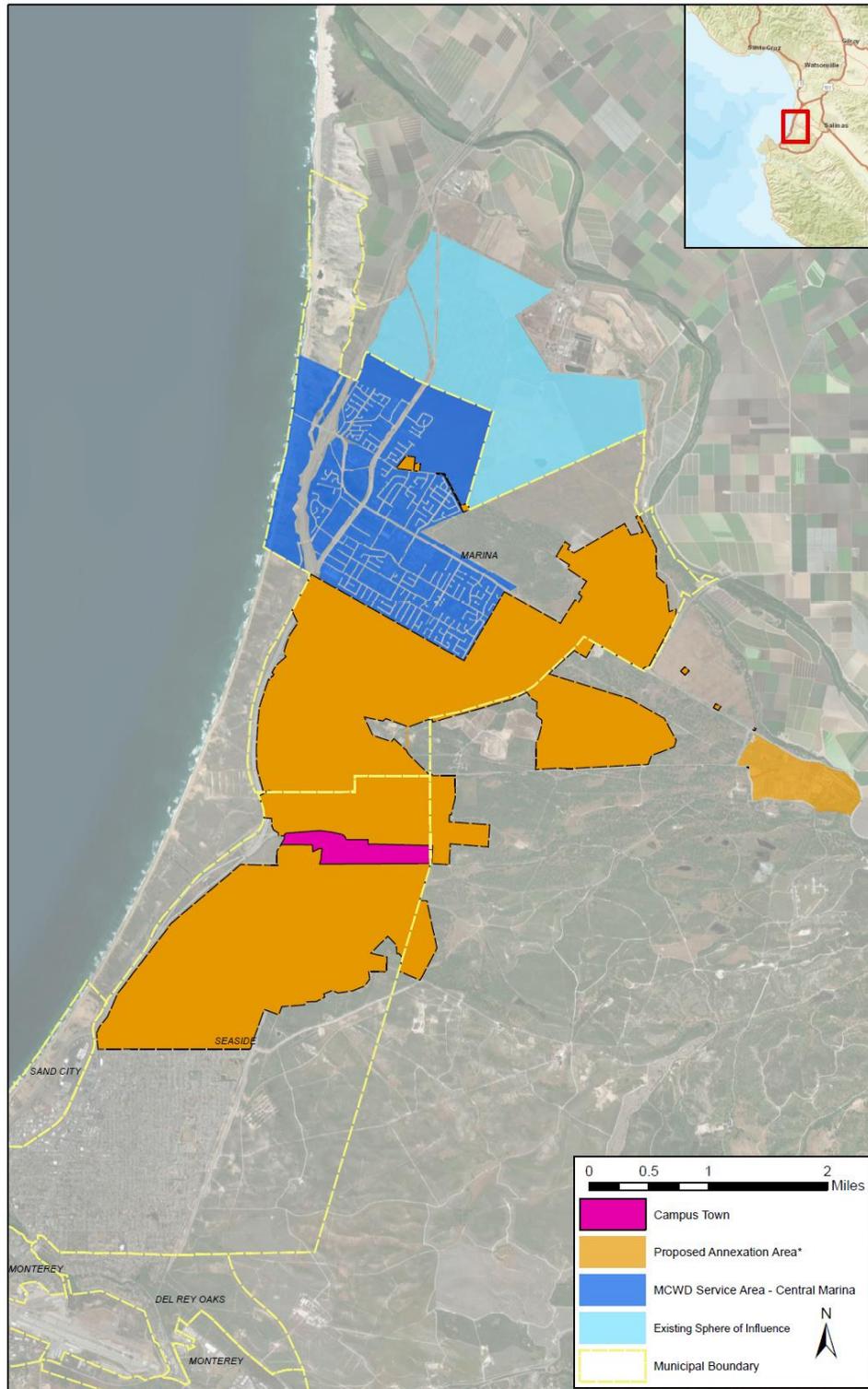
#### **1.5 Public Water Agency Serving the Project**

The District, a county water district, serves the City of Marina and the former Fort Ord, which includes portions of the City of Marina, City of Seaside, City of Del Rey Oaks, City of Monterey and unincorporated Monterey County. The District has two service areas, Central Marina and the Ord Community. The Project is located in the Ord Community area, also known as the proposed annexation area of the MCWD (see Figure 1.1).

---

<sup>1</sup> There are additional uses that may qualify as a “project” under the CWC, but included here are the applicable categories.

**Figure 1.1: Marina Coast Water District Service Areas**



\*Proposed Annexation Area is the current Ord Community Service Area

MCWD provides water and wastewater service to the Ord Community as outlined in the Water/Wastewater Facilities Agreement between the Fort Ord Reuse Authority (FORA) and MCWD (1998) and as further described in the Assignment of Easements on Former Fort Ord and Ord Military Community, County of Monterey, and Quitclaim Deed for Water and Wastewater Systems, between FORA and MCWD, dated October 24, 2001. MCWD recently submitted an application to the Local Agency Formation Commission of Monterey County (LAFCO) to formally annex the served portions of the Ord Community into the District's service area and sphere of influence. The portion of the project area west of General Jim Moore Blvd was not included in the LAFCO application, and will require a subsequent application to LAFCO.

### **1.6 Relationship of WSA to MCWD Urban Water Management Plan**

The California Urban Water Management Planning Act (§10610 et. seq. of the CWC) requires urban water suppliers providing over 3,000 acre-feet per year (AFY) of water or having a minimum of 3,000 service connections to prepare plans (urban water management plans or UWMPs) on a five-year, ongoing basis. An UWMP must demonstrate the continued ability of the provider to serve customers with water supplies that meet current and future expected demands under normal, single dry, and multiple dry year scenarios. These plans must also include the assessment of urban water conservation measures and wastewater recycling. Pursuant to Section 10632 of the CWC, the plans must also include a water shortage contingency plan outlining how the water provider will manage water shortages, including shortages of up to fifty percent (50%) of their normal supplies, and catastrophic interruptions of water supply. The District is required to prepare Urban Water Management Plans. The District's most recent Urban Water Management Plan (2015 UWMP) was adopted in June 2016.<sup>2</sup> The 2015 UWMP projected demands for 20 years through the year 2035.

As provided for in Water Code § 10910(c)(2), this WSA incorporates by reference and relies upon many of the planning assumptions and projections of the 2015 UWMP in assessing the water demands of the proposed Project relative to the overall increase in water demands expected within the entire District service area, including existing and planned future uses. The 2015 UWMP projected a significant increase in water demand within the Ord Community due to the planned redevelopment of the former Fort Ord, as documented in the Fort Ord Base Reuse Plan, the General Plans of the various land use jurisdictions, and the approved specific plans within the Ord Community. The 2015 UWMP found that the projected Ord Community water demand of 8,293 AFY in year 2035 exceeded the currently available supply of 6,600 AFY. (2015 UWMP §

---

<sup>2</sup> Marina Coast Water District 2015 UWMP available online at: [https://wuedata.water.ca.gov/public/uwmp\\_attachments/1852918326/MCWD\\_2015\\_UWMP\\_Final.pdf](https://wuedata.water.ca.gov/public/uwmp_attachments/1852918326/MCWD_2015_UWMP_Final.pdf). The UWMP appendices are also available online at: [https://www.mcwd.org/docs/engr\\_files/MCWD%202015%20UWMP%20Appendices\\_Final.pdf](https://www.mcwd.org/docs/engr_files/MCWD%202015%20UWMP%20Appendices_Final.pdf).

4.4.) Additionally, because the current water supply within the Ord Community has been allocated among the land use jurisdictions, some jurisdictions maintain a projected surplus, while others have projected shortages. The District is pursuing two water supply projects to address the projected shortfall. First, an urban recycled water system is being constructed, which will provide an initial 600 AFY for landscape irrigation, and ultimately provide up to 1,427 AFY of non-potable supply. Second, a seawater desalination project is proposed to provide up to 1,500 AFY of potable water supply. The District is currently considering alternative groundwater replenishment projects which, if feasible, may replace the desalination portion of the Regional Urban Water Augmentation Project (RUWAP).

Projected development within the City of Seaside was accounted for in the 2015 UWMP, spread across entitled areas, approved specific plan areas and remaining areas. The UWMP included 2,716 dwelling units, 120 youth hostel beds and approximately 362,800 sq-ft of commercial/light industrial space (outside of the Main Gate, Seaside Resort and Monterey Downs specific plan areas), with a total projected water demand of 780.9 AFY. (UWMP, Appendix C, Table C3; see also Table 3-4 below.) The project as described in the specific plan includes up to 1,485 dwelling units, 250 hotel rooms, 75 youth hostel rooms and 200,000 sq-ft of retail/commercial/light industrial space, with a total projected demand of 487.4 AFY. This project falls within the previous UWMP development projection.

## Section 2 - Project Description and Water Demands

### 2.1 Project Description

The Campus Town Specific Plan for the City of Seaside, California, describes the planned development of approximately 122.23 acres, whose boundaries are shown in Figure 2.1 (85-acres not including rights-of-way and properties subject to the Specific Plan but not included in the existing purchase and sale agreement). The Project area includes land south of Lightfighter Drive between 1<sup>st</sup> Avenue and General Jim Moore Blvd, and land north of Gigling Road between General Jim Moore Blvd and 7<sup>th</sup> Avenue. The site is between the California State University, Monterey Bay (CSUMB), campus to the north, and the Presidio of Monterey Annex (lands retained by the U.S. Army) to the south.

**Figure 2.1: Project Area**



Campus Town is a phased master-planned community which will include up to 1,485 residential dwelling units (600 Multi-Family units, and 885 Single-Family units), 250 hotel rooms, 75 youth hostel rooms, 150,000 square-feet of commercial space (retail, dining and entertainment), and 50,000 square-feet of office or light industrial space. The residential component will be a mix of single-family detached, single-family attached (townhomes), and multi-family buildings (multi-story apartments). The conceptual site plan is shown in Figure 2.2.

The site is currently a mix of vacant buildings and undeveloped areas. Within the specific plan footprint, or in general proximity thereto, there are several existing uses which will remain or relocate, as follows:

- Presidio Annex Fire Station, 4400 General Jim Moore Blvd, assumed to relocate outside the specific plan area
- Presidio Annex Offices, 4455, 4463 and 4468 Gigling Rd, to remain (outside of Specific Plan Area boundaries, area shown in gray)
- Monterey County Bar Association, 2620 Colonel Durham Street, to remain (area shown in gray)
- Monterey College of Law, corner of Colonel Durham Street and Malmedy Road, to remain
- Monterey Peninsula College Public Safety Training Center, corner of Colonel Durham Street and Arnhem Road, to remain
- CSUMB Open Space parcel, corner of Colonel Durham Street and Malmedy Road, to remain open space (outside of Specific Plan Area boundaries)
- California Army National Guard, 140 Colonel Durham Street, to remain (outside of Specific Plan Area boundaries) ,
- Christian Memorial Tabernacle Church, 2699 Colonel Durham Street, assumed to be removed from the Specific Plan Area

Existing facilities identified as remaining are islands within the specific plan area (i.e. “to remain”), and are not included in the demand analysis. Those sites have existing water supply allocations.

## **2.2 Land Use and Water Demands**

The Campus Town Specific Plan consists of several elements including medium- to high-density residential, commercial and office space, and visitor serving businesses, as detailed below.

### **2.2.1 Residential**

Single-family residential densities will range from 12 to 22 units per acre for detached lots, and approach 30 units per acre for attached townhomes. The MCWD 2015 UWMP uses a demand factor of 0.25 acre-feet/year/dwelling unit (AFY/DU) for single-family residential at densities above 8-units/acre. (UWMP Table 3.4.) Multi-family residential units will consist of multi-story apartment buildings and apartments on upper floors of mixed-use commercial buildings. The MCWD 2015 UWMP uses a demand factor of 0.25 AFY/DU for all multi-family residential development. (UWMP Table 3.4.) The residential water demand factors include residential landscaping water demand. The specific plan limits the overall development to 1,485 dwelling

units, with no more than 600 of those being multi-family units. Since both housing types have the same demand factor, the maximum residential water demand is estimated to be 371.25 AFY = (1,485 DU) x (0.25 AFY/DU).

**Figure 2.2: Conceptual Site Plan**



This page intentionally left blank

### **2.2.2 Hotel**

The specific plan includes a 250-room hotel. The MCWD demand factor for hotels is 0.17 AFY/room (UWMP Table 3.4), so the estimated demand for the hotel is 42.5 AFY. Landscape irrigation is estimated separately, below.

### **2.2.3 Youth Hostel**

In 2013, the City of Seaside previously approved the American Youth Hostel project, which was proposed to be located within the specific plan area. (Seaside Resolution Nos. 13-82 and 13-87.) The youth hostel project was for the renovation of three existing buildings, providing up to 120 beds. The water demand for that project was estimated at 5.5 AFY, based upon metered water usage and occupancy records for the American Youth Hostel in Monterey. (Fort Ord Youth Hostel Initial Study/Mitigated Negative Declaration, p. 49.) The City of Seaside obtained a transfer of an additional allocation of 5.5 AFY, specifically for the youth hostel, as part of the agreement with the State Department of Parks and Recreation.

In the Campus Town Specific Plan, the youth hostel will be integrated into the multi-family residential component, and is only proposed to include 75 rooms. For this assessment, it was conservatively assumed that the hostel will still have a total water demand of 5.5 AFY, despite the reduction in rooms. Landscaping for the hostel is included in the 5.5 AFY that has been allocated to this use. (Fort Ord Youth Hostel Initial Study/Mitigated Negative Declaration, p. 49.)

### **2.2.4 Retail, Dining and Entertainment Space**

The specific plan includes 150,000 square-feet of commercial space to be used for retail, dining and entertainment uses. The MCWD 2015 UWMP uses a demand factor of 0.0003 AFY/SF for unspecified commercial development. (UWMP Table 3.4.) The estimated water demand for the commercial space is 45.0 AFY. Landscape irrigation is estimated separately, below.

### **2.2.5 Office, Flex, Maker Space<sup>3</sup> and Light Industrial**

The specific plan includes 50,000 square-feet of business space to be used for office and light industry. The MCWD 2015 UWMP uses a demand factor of 0.000135 AFY/SF for office and R&D development. (UWMP Table 3.4.) The estimated water demand for the business space is 6.75 AFY. Landscape irrigation is estimated separately, below.

---

<sup>3</sup> Defined in the Specific Plan as a collaborative workspace that provides a variety of resources to foster entrepreneurship and business startups.

### 2.2.6 Parks and Landscaping

The conceptual site plan includes approximately 4.25 acres of irrigated non-turf landscaping, three (3) acres of irrigated turf (parks and play fields), and areas of non-irrigated open space. A demand factor of 2.1 AFY/AC is used for non-turf landscaping, and a factor of 2.5 AFY/AC is used for turf landscaping, based on the local evapotranspiration factor of 39 inches/year. (UWMP Table 3.4.) The project also includes 5 acres of non-irrigated drought tolerant landscaping which would not use potable or recycled water. The estimated landscaping demand for the specific plan area is 16.4 AFY.

Landscaping for street medians, parks and commercial sites will be irrigated with recycled water. (Specific Plan, Sections 5.2.2 and 6.3.4.) Residential front yards will also be irrigated with recycled water where this can be accomplished under the current plumbing code and subject to control by a Home Owners Association (HOA). (Specific Plan, Sections 5.2.2 and 6.3.4.) However, the residential potable water demand factor identified in Section 2.2.1 above and in Table 2-1 below (i.e. “Homes and Apartments”) includes potable water demand for the same residential front yards. Consequently, Table 2-1 converts 29.4 AFY from potable water demand to recycled water demand, to account for the 14 acres<sup>4</sup> of residential front yard landscaping which would utilize recycled water.

### 2.2.7 Project Total Water Demands

The total water demand projected for the project is 487.4 AFY, as shown in Table 2-1, below. As stated in Section 2.2.6, Recycled Water Demand reflects both residential and non-residential landscape irrigation. The California Plumbing Code was updated in 2015 and now allows for the use of recycled water for sanitary fixtures (toilets and urinals) in all classes of buildings except single family residential construction. Specific Plan Section 5.2.2 expressly allows recycled water use for non-residential toilets, floor sinks, and other applicable recycled water uses allowed under the California Building Code, however that subset of demand was not assumed to reduce potable water demand in this report.

---

<sup>4</sup> Based upon review of the Tract Map applications for the Campus Town project, approximately 14 acres of residential front yard landscaping can be irrigated with recycled water.

**Table 2-1: Summary of Estimated Water Demand**

Table 2-1: Campus Town Water Demand Estimate

	Land Use	Quantity	Unit	Demand Factor (afy/unit)	Potable (afy)	Recycled (afy)	Total Demand (afy)	Notes
A	Homes and apartments	1,485	DU	0.25	371.25		371.25	1, 2
B	Hotel	250	Rooms	0.17	42.50		42.50	
C	Youth Hostel	75	Rooms		5.50		5.50	3, 4
D	Retail/Dining/Commercial	150,000	SF	0.0003	45.00		45.00	5
E	Office / R&D	50,000	SF	0.000135	6.75		6.75	6
	Irrigated Landscape (Non-Turf)	4.25	AC	2.1		8.93	8.93	
	Irrigated Landscape (Turf)	3	AC	2.5		7.50	7.50	
	Residential Front Yards (HOA)	14	AC	2.1	-29.40	29.40	0.00	9
	Native Drought Tolerant Landscape	5	AC	0		0.00	0.00	8
					441.60	45.83	487.43	

## Notes

- 1 SFR Density ranges from 12 to 30 per acre. Demand factor is the same as multi-family
- 2 Assume the maximum number of units allowed under the specific plan
- 3 Assume 75 rooms is equivalent to 120 beds, as previously approved for American Youth Hostel
- 4 Previous American Youth Hostel demand estimate is 5.5 AFY (existing allocation)
- 5 Commercial not defined by sub-type so commercial factor of 0.0003 AFY/SF assumed.
- 6 Office and light industrial not defined by sub-type, so office factor of 0.000135 AFY/SF used.
- 8 Open space areas and percolation lots
- 9 Residential front yards, HOA controlled and irrigated with reclaimed water.

### Section 3 - District Water Demands

#### 3.1 Historic and Current Water Demands

Table 3-1 shows the District's groundwater production over the period 2006-2015. The District's average production over that period was 4,104 AFY, with 1,697 AFY in the Central Marina service area and 2,407 AFY in the Ord Community service area.

**Table 3-1: Groundwater Production by Service Area (AF)<sup>5</sup>**

Year	Central Marina	Ord Community	Total
2006	1,786	2,509	4,295
2007	1,622	2,941	4,563
2008	1,833	2,269	4,102
2009	1,962	2,076	4,038
2010	1,744	2,389	4,133
2011	1,698	2,348	4,047
2012	1,814	2,360	4,174
2013	1,467	2,964	4,431
2014	1,619	2,407	4,026
2015	1,420	1,808	3,228

The City of Seaside is served by three water providers: the City's municipal water system and California American Water serve the portion of the City outside the former Fort Ord, and the District serves the portion within the former Fort Ord. Within the Ord Community, there are three land use jurisdictions within the City, each separately managing their water supply. Those jurisdictions are the U.S. Army (Presidio of Monterey Annex), California State University, Monterey Bay (CSUMB) and the City of Seaside. Water use within the City of Seaside portion of the Ord Community (excluding CSUMB and U.S. Army) is provided in Table 3-2.

<sup>5</sup> Source: 2015 UWMP, Table 4.1

**Table 3-2: Water Use within the Seaside-Ord Community (AF)<sup>6</sup>**

Use Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Notes
Single family	277.13	244.67	230.47	223.61	236.78	255.68	219.95	172.6	160.69	179.24	1
Multi-family	59.81	59.83	60.25	69.17	66.54	64.4	44.95	48.7	57.89	58.66	2
Commercial	26.2	33.87	65.87	29.58	27.88	16.92	16.64	23.93	22.65	20.75	3
Industrial	0	0	0	0	0	0	0	0	0	0	
Institutional/Governmental	71.81	68.13	83.2	62.66	64.81	72.38	25.99	40.55	39.1	22.87	4
Landscape	11.67	10.82	350.44	440.15	271.16	467.58	536.5	147.48	9.3	8.5	5
Agriculture	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>446.62</b>	<b>417.32</b>	<b>790.23</b>	<b>825.17</b>	<b>667.17</b>	<b>876.96</b>	<b>844.03</b>	<b>433.26</b>	<b>289.63</b>	<b>290.02</b>	

Notes:

1. Includes Seaside Highlands and Bay View Mobile Home Park
2. Includes Sun Bay Apartments
3. Includes construction meters and all uses not listed elsewhere.
4. All schools (MPUSD, Chartwell, MCL, MCP)
5. Includes only Soper Field and Bayonet/Blackhorse Golf Course. Golf course use was only in years 2010-2015.

### 3.2 Future Demands

Table 3-3 shows projected water demands for the District through 2035. The projection is based on Table 3.5 of the 2015 UWMP, with two modifications. The original table included demand projections for the Monterey Downs Specific Plan Area, which was located in Seaside and unincorporated Monterey County. The developer for that project has since withdrawn their planning application, so that project was removed from the demand projection. The 2015 UWMP also assumed that Bayonet/Blackhorse Golf Course would already be connected to the recycled water project for irrigation supply, so that Table 3-3 below has been modified to acknowledge that change in timing.

The connection of the Bayonet/Blackhorse Golf Course to recycled water will create an in-lieu storage of up to 450 AFY (although initially presumed at 311.08 AFY), which can be recovered via the city owned well number 4 and returned to MCWD for serving this project. The City has applied to the Watermaster to obtain an In Lieu Storage and Recovery agreement anticipating this change to the golf course. The City's existing allocation of 453 AFY from the Phase I recycling project and potentially additional water from the Phase I recycling plant's 600 AFY capacity will be used to create this In Lieu storage. The In Lieu Storage will be created by replacing the pumping of potable water from the Seaside Basin for the purpose of irrigating the Golf Course with water from the nearly completed recycling plant.

<sup>6</sup> Source: MCWD Quarterly Water Consumption Reports

**Table 3-3: Water Demand Projection by Service Area (AF)<sup>7</sup>**

	Jurisdiction	2012*	2015**	2020	2025	2030	2035	Notes	Allocation
Ord	U.S. Army	620	633	663	825	825	825		1,577
	CSUMB	404	404	442	632	755	779		1,035
	Del Rey Oaks	0	0	186	551	551	551		243
	City of Monterey	0	0	0	130	130	130		65
	County of Monterey	8	52	377	539	539	539		720
	UCMBEST	3	3	94	299	515	515	4	230
	City of Seaside	657	657	592	783	<i>1,097</i>	<i>1,560</i>	1, 2	1,012
	State Parks and Rec.	0	0	12	18	20	25		45
	Marina Ord Comm.	264	285	901	1,572	1,702	1,704	3	1,625
	Assumed Line Loss	395	348	348	348	348	348		348
Marina	Armstrong Ranch	0	0	0	680	680	680		920
	Cemex	0	0	0	0	0	500		500
	Marina Central	1,823	1,823	2,184	2,491	2,606	2,725		3,020
	Subtotal - Ord	2,351	2,382	3,616	5,698	6,482	6,976	5	6,900
	Subtotal - Marina	1,823	1,823	2,184	3,171	3,286	3,905		4,440
	Total	4,174	4,204	5,800	8,868	9,768	10,881		11,340

\*Actual demands from calendar year 2012 used to represent a non-drought year.

\*\* Projected demands. Actual use was lower due to mandatory drought restrictions.

1 Includes Seaside Resort Golf Course use in 2012 and 2015 (temporary use).

2. Revised values shown in italics. Removes Monterey Downs and Golf Course irrigation.

3. Allocation includes 1325 AFY groundwater and 300 AFY existing pilot desalination plant

4. MBEST commented that they may develop up to 230 AFY as soon as the market allows it.

5. Allocation includes 6600 AFY groundwater and 300 AFY existing pilot desalination plant.

The demand projection for the City of Seaside includes the build-out of two entitled projects, Seaside Resort and The Projects at Main Gate, and estimates for the remaining redevelopment parcels within the City. The California Central Coast Veterans Cemetery is located within the City, but the water allocation was provided by the U.S. Army, so it is included in the Army demand projection. Elements of the Campus Town Specific Plan, including all of the residential units, were included in the projection for the remaining development parcels, shown in Table 3-4 (below). As can be seen, the proposed project does not increase the projected total water demand for the City above the amounts analyzed in the 2015 UWMP.

<sup>7</sup> Source: Table 3.5 of the 2015 MCWD Urban Water Management Plan

**Table 3-4: Campus Town Elements compared to Elements in the 2015 UWMP<sup>8</sup>**

	2015 UWMP				2018 Specific Plan			
	Qty	Unit	Factor (afy/unit)	Demand (afy)	Qty	Unit	Factor (afy/unit)	Demand (afy)
SF Residential (<5 du/ac)		DU	0.5	0.0		DU	0.5	0.0
SF residential (5-8) du/ac)	1,521	DU	0.33	501.9		DU	0.33	0.0
SF Residential (8-15 du/ac)	98	DU	0.25	24.5	885	Du	0.25	221.3
MF Residential (8-15 du/ac)		DU	0.25	0.0		DU	0.25	0.0
MF Residential (>15 du/ac)	1,097	DU	0.25	274.3	600	Du	0.25	150.0
Office	60,000	SF	0.000135	8.1	50,000	SF	0.000135	6.8
Commercial		SF	0.0003		150,000	SF	0.0003	45.0
Conference Center	250,000	SF	0.000135	33.8		SF	0.000135	0.0
Hotel Rooms		RM	0.17	0.0	250	RM	0.17	42.5
Youth Hostel (note 2)	120	bed		5.5	75	RM		5.5
Parks/Landscaping					4.3	AC		8.9
Parks/Turf					3.0	AC		7.5
Corporation Yard	52,800	SF	Multiple	8.2				
<b>TOTAL</b>				<b>856.3</b>				<b>487.4</b>

### 3.3 Proposed Project's Dry-Year Demands

Section 10631 and 10910 of the Water Code requires that water demands be estimated for an average water year, a single dry water year and multiple dry water years. As discussed in the District's 2015 Urban Water Management Plan, the MCWD service area has a cool summer-type Mediterranean climate, with rain occurring in October through May, and advection fog enveloping the coast in the summer in response to inland heating. Due to these cool summer conditions, the area does not experience the significant increases in summer irrigation demands common to areas further inland in the Salinas River Valley. Periods of below normal rainfall do not reduce the coastal fog, resulting in very minor demand fluctuations between average and dry years.

In the 2015 UWMP, the demand increase during a single-dry year or the first of multiple dry years was calculated to be 1%, based on the system demand increase from 2012 to 2013 (start of the recent drought). Due to mandatory water conservation measures, water demands declined in subsequent years, by 12% in the second dry year and 25% in the third dry year. The projected demands for the Proposed Project during single dry years and multiple dry years are provided in Table 3-5, with the maximum demand being 492.3 AFY, based upon the percentage of regional water demand changes from 2012 to 2015.

<sup>8</sup> Source: Table C-3, 2015 UWMP

**Table 3-5: Proposed Project's Dry Year Demand Projections**

	<b>Average Year</b>	<b>Single Dry Year</b>	<b>1st Dry Year</b>	<b>2nd Dry Year</b>	<b>3rd Dry Year</b>
<b>Factor</b>		1.01	1.01	0.88	0.75
<b>Projected Demand (AFY)</b>	487.4	492.3	492.3	428.9	365.6

## Section 4 - Water Supply

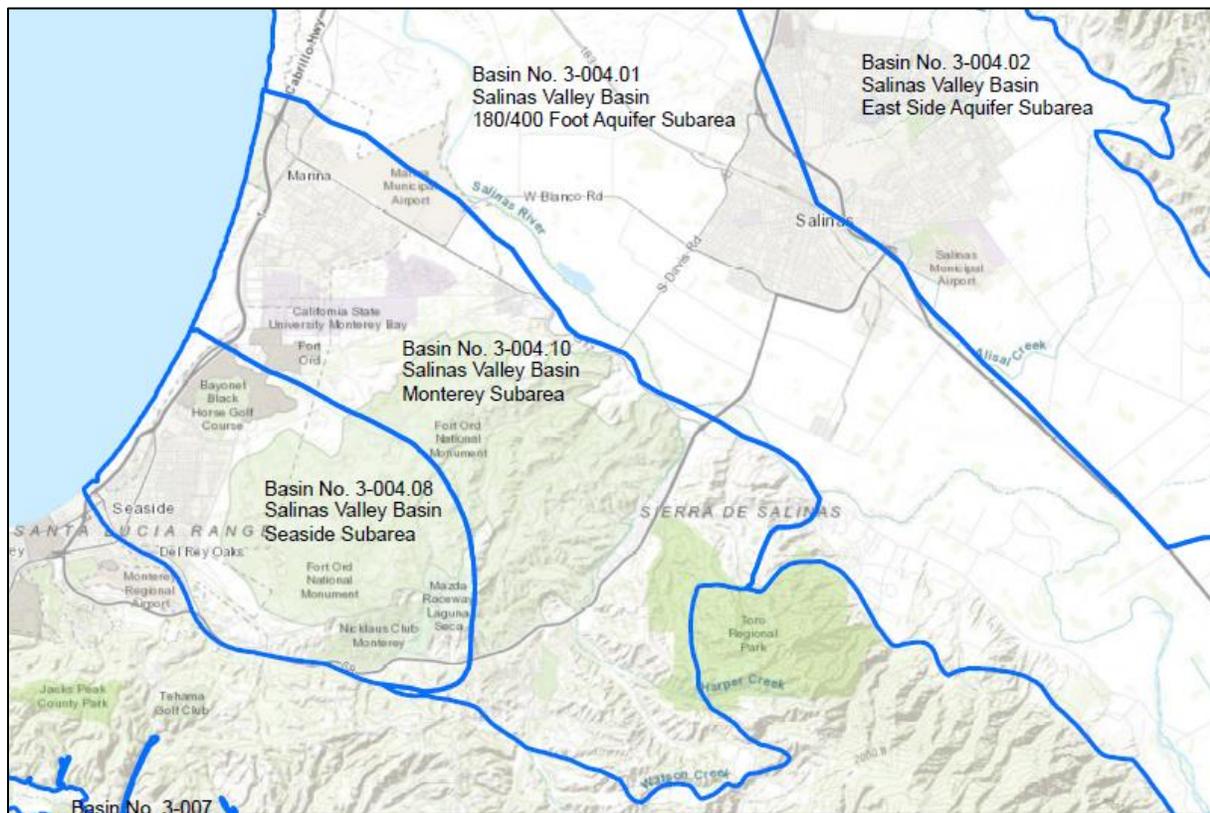
### 4.1 Current Water Supply

The District’s primary source of potable water supply is the Salinas Valley Groundwater Basin. It also has a small desalination plant in the Central Marina Service Area. Under the RUWAP and the Pure Water Monterey Groundwater Replenishment Project, the District is working to develop recycled water and a larger desalination plant to meet the projected demands of the Ord Community. None of the District’s current supply is purchased under wholesale contract.

#### 4.1.1 Groundwater

The District supplies groundwater from the Salinas Valley Groundwater Basin. In 2016, the California Department of Water Resources (DWR) published an Interim Update to Bulletin 118, California’s Groundwater. Bulletin 118 defines groundwater basin and sub-basin boundaries used for planning and groundwater management. The update reflects changes submitted to and approved by DWR under the Sustainable Groundwater Management Act. Within northern Monterey County, the changes include redefining the boundaries of the Seaside and Corral De Tierra sub-areas to reflect the defined boundary of the adjudicated Seaside Groundwater Basin, and merge the remaining portion of the Seaside sub-area with the Corral de Tierra sub-area (remained the Monterey sub-area). The revised boundaries are shown in Figure 4.1.

**Figure 4.1: Groundwater Sub-Basins (Subareas)**



All of the District's wells are located within the Monterey sub-area of the Salinas Valley Groundwater Basin. MCWD has been designated as an exclusive Groundwater Sustainability Agency (GSA) within its LAFCO service area, and it participates in the Salinas Valley Basin GSA as a member of the Advisory Committee. A portion of the District's Ord Community service area overlays the Seaside sub-area of the Salinas Valley Groundwater Basin, which is an adjudicated basin managed by the Seaside Groundwater Basin Watermaster.

Under the "Agreement between the United States of America and the Monterey County Water Resources Agency concerning Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency, Agreement No. A-06404", dated September 21, 1993, the District (successor to the United States) may withdraw up to 6,600 acre-feet per year from the Salinas Valley Groundwater Basin for use in the District's Ord Community service area. The 6,600 acre-feet per year figure is derived from the 1984 peak and the 1988-1992 average amount of potable water Fort Ord withdrew from the Salinas Basin, not including pumping from a non-potable golf course well.<sup>9</sup>

Under the "Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands" dated March 1996, by and between the MCWRA, the District, J.G. Armstrong Family Members, RMC Lonestar, and the City of Marina, the District may withdraw up to 3,020 AFY from the Salinas Valley Groundwater Basin for use in the District's Central Marina service area (see Figure 1.1). Under that agreement, additional groundwater supply will be made available to the District for use within the Armstrong Ranch and the RMC Lonestar properties north of Marina, if and when the City annexes and develops those areas.

There are three defined aquifers within the District service area, the 180-foot, the 400-foot and the 900-foot or Deep Aquifer. The 6,600 acre-feet per year amount includes 5,200 acre-feet from the 180-foot and 400-foot aquifers, along with 1,400 acre-feet per year from the 900-foot or Deep Aquifer.<sup>10</sup> The District is the only significant user of the Deep Aquifer, although there are Deep Aquifer wells serving the Monterey Dunes Colony (120 homes) and the Armstrong Ranch. (MCWD 2015 UWMP, § 4.1 at pp. 31–32.) The District operates eight wells, with three in

---

<sup>9</sup> "After execution of this agreement and until Project Implementation, Ford Ord/POM/RC may withdraw a maximum of 6,600 acre-feet of water per year from the Salinas Basin, provided no more than 5,200 acre-feet per year are withdrawn from the 180-foot aquifer and 400-foot aquifer. The 6,600 and 5,200 acre-feet thresholds correspond to the annual peak (1984) and recent average (1988-1992) amounts of potable water Ford Ord has withdrawn from the Salinas Basin (does not include pumpage from the non-potable golf course well in the Seaside Basin)" (Agreement A-06404, § 4, subd. (c); available at <https://www.fora.org/Reports/09231993-agreement-Army-MCWRA.pdf>.)

<sup>10</sup> See section 5.3.1 of the "Water/Wastewater Facilities Agreement" between the Fort Ord Reuse Authority and MCQD dated 1998, available at <http://b77.402.myftpupload.com/wp-content/uploads/031398-Water Wastewater Facilities Agreement.pdf>.

Central Marina and five in the Ord Community.<sup>11</sup> These wells are in the 400-foot Aquifer and the Deep-Aquifer; the District does not operate any wells in the 180-foot Aquifer. (MCWD 2015 UWMP, § 4.1, at pp. 31–32; Table 4-1.) The service areas are interconnected for reliability, with meters at the points of connection to facilitate managing the two well-fields to ensure each service area remains within its authorized withdrawal limit. Table 4-1 summarizes the existing pumping capacity of the District wells. As can be seen, the District has sufficient well pumping capacity to meet the maximum day demands with the largest well out-of-service. The pumping capacity in Table 4-1 is merely the technical capacity of the physical water pumping system, and is not indicative of any specific water entitlement.

**Table 4-1: Existing Pumping Capacity**

Location	Well #	Aquifer	Estimated Capacity	
			(AFY)	(GPM)
Marina	10	Deep	2,670	1,654
	11	Deep	3,561	2,206
	12	Deep	3,264	2,022
Ord	29	400 foot	2,885	1,787
	30	400 foot	3,624	2,245
	31	400 foot	3,625	2,246
	34	Deep	3,326	2,000
	35	400 foot	3,326	2,000

#### 4.1.2 Desalinated Water

The District has a desalination plant located near Marina State Beach, which can contribute up to 300 AFY of potable water supply to the Central Marina service area. The plant was constructed in 1997 as a pilot project but is not currently in use. Under a 2006 agreement among the District, Cypress Marina Heights, L.P., Marina Community Partners, L.L.C., and Cypress Knolls, L.L.C., the yield of this plant is dedicated to meeting the needs of the three developments in the Marina portion of the Ord Community service area. The developers may opt to terminate the agreement once a new supply becomes available to the Ord Community from the RUWAP, at which time the supply from the desalination pilot project would revert to Central Marina.

#### 4.2 Future Water Supply

The District is working towards developing new sources of water supply to meet projected demand increases due to redevelopment within the Ord Community, as well as taking actions to address groundwater wells impacted by seawater intrusion. The two major water supply projects described below are (i) reclaimed wastewater, and (ii) desalinated water, which make up the

<sup>11</sup> See Figure 2.2, MCWD 2015 UWMP.

RUWAP. MCWD is also investigating alternative sources of potable supply, which may be less costly than desalination.

#### **4.2.1 Recycled Water & In-Lieu Storage/Offset Programs**

Recycled water refers to sanitary sewage and other source water, which undergoes treatment and disinfection, typically for non-potable uses such as agricultural and landscape irrigation. The Monterey One Water (M1W, formerly Monterey Regional Water Pollution Control Agency) operates a regional wastewater treatment facility in north Marina and produces reclaimed water for agricultural irrigation in the Castroville area. Through prior agreements with the M1W, the District is entitled to receive recycled water from the regional plant, up to the volume of wastewater generated within the District and sent to the plant. In 2007, MCWD completed project design and CEQA documents for the RUWAP, and has now constructed several portions of the transmission main. In 2012, M1W began planning the Pure Water Monterey Groundwater Replenishment Project, which will develop additional sources of water supply and produce advanced treated water for injection into the Seaside Groundwater Basin for indirect potable reuse. The Pure Water Monterey Groundwater Replenishment Project replaces previously planned urban recycled water deliveries to the Monterey Peninsula under RUWAP. M1W approved the Pure Water Monterey Project and an Environmental Impact Report in October 2015. Additional details about the RUWAP and the Pure Water project are provided in Appendix A. In 2016, MCWD and M1W entered into an agreement allowing MCWD to participate in the Pure Water Monterey Project. MCWD is completing construction of the transmission main, which will be used to deliver advanced treated water for both groundwater injection and for urban irrigation, including construction of recycled water mains to the Campus Town Plan Area.

Under the initial phase of the project (the Phase 1 Recycled Water Project also a component of RUWAP), MCWD will receive up to 600 AFY of advanced treated water for urban irrigation use. In later phases, the project may be expanded and MCWD's share would increase to 1,427 AFY, which was the amount of non-potable demand in the Ord Community analyzed in the RUWAP EIR.

The City has proposed partnering with the District to develop an in-lieu storage and recovery program involving a portion of the District's 600 AFY entitlement to advanced-treated recycled water from the Phase 1 Recycled Water Project. The recycled water would be delivered to the City's Bayonet and Blackhorse Golf Courses for use to irrigate the golf courses in lieu of the current use of potable groundwater produced from the Seaside Basin. The result of the substitution would cause replenishment to, and in-lieu storage of water in, the basin. The quantity of recycled water applied at the golf courses annually would establish the amount of water stored annually in the basin through in lieu storage. The stored water would then be recaptured by the City at its Well No. 4, and conveyed to the District, for service within the District's service area within the City's portion of the Ord Community.

In addition to this in-lieu storage project, the City has identified several non-potable demands that are presently served by the District with potable water that can, and pursuant to state law (Water Code §§ 13550 et seq.) should be, switched to advanced-treated recycled water from the M1W Pure Water Project. These uses include turf and landscape irrigation at Seaside Highlands (approximately 43.1 AFY) and Soper Field (approximately 10 AFY). By switching these demands to recycled water, additional potable water in similar quantities (approximately 53.1 AFY) can be reallocated to satisfy a portion of the Campus Town Project's potable water demand.

FORA has allocated 453 AFY of the District's Phase 1 Recycled Water Project for use within the City's portion of the Ord Community. Additional recycled water may also be available for use with the City's portion of the Ord Community if other jurisdictions do not make use of portions of the remaining 147 AFY of the District's 600 AFY recycled water entitlement from the Phase 1 Recycled Water Project. Additional recycled water will also become available when the District receives recycled water from future phases of the Pure Water Monterey Project. Of the 453 AFY (minimum) of recycled water presently available to the City, the City anticipates that up to approximately 42.99 AFY will be applied to non-potable demands at the Main Gate Project (including indoor uses), approximately 45.83 AFY will be applied to non-potable demands at the Campus Town Project, approximately 53.1 AFY will be applied to non-potable demands at Seaside Highlands and Soper Field, and the remainder (at least 311.08 AFY) will be applied to the in-lieu storage and recovery project at the Blackhorse and Bayonette Golf Courses. If these uses of recycled water are developed as planned, these projects will make available sufficient potable water to meet the Project's full water demands during normal, single dry, and multiple dry water years during a 20-year projection in addition to the public water system's existing and planned future uses.

#### **4.2.2 Desalinated Water**

Given readily available saline and brackish waters near the District's service area, desalinated water has been considered as another potential water supply. The District's existing 300 AFY desalination plant is relatively small, but a larger facility to serve the District is planned as a supplemental water supply. The RUWAP EIR includes a 1,500 AFY desalination facility for the District. The facility was sized to provide 1,200 AFY of new supply to the Ord Community and 300 AFY to Central Marina, allowing the District to retire the existing pilot desalination plant.

#### **4.2.3 Conservation**

The District has an active water conservation program. Under the District's water conservation ordinance, all new construction is required to incorporate water saving devices over and above the requirements of the state building code. Additionally, the District has adopted the State's Model Water Efficient Landscape Ordinance. The District requires developers to install water conserving fixtures during construction, landscapes which require high irrigation are

discouraged, and a tiered water rate structure discourages water waste. The District offers rebate incentives to replace less efficient water fixtures, for installing smart irrigation controllers, and for replacing lawns and sprinklers.

The State of California has established a goal of reducing per person water use by 20% by the year 2020, compared to the 2008 baseline demands. Toward that end, the California Building Code was updated in 2010, with the goal of reducing indoor water use to 55 gallons per person per day. In the 2010 UWMP, the District identified a year 2020 conservation target of 117 gallons per person per day (system-wide potable average). It is anticipated that the Campus Town Specific Plan area will meet that goal, based upon the new indoor plumbing fixture codes and the planned use of recycled water to meet non-potable demands.

#### **4.3 Regulatory Permits Necessary for Supply Delivery**

The District is a public water system, permitted by the State Water Resources Control Board, Division of Drinking Water, System No. 2710017. The recycled water distribution system is permitted as System No. 2790009. Permits required for the construction and operation of new facilities are obtained on a project-by-project basis. To facilitate the in-lieu storage and recovery program involving the City's Bayonet and Blackhorse Golf Courses discussed above, the City will need to obtain a storage and recovery agreement from the Seaside Groundwater Basin Watermaster as provided for in to Section III.3.L.3.j.xx of the adjudication decision.

## Section 5 - Supply Sufficiency Analysis

### 5.1 Comparison of Project Demands to Projected Supply

Within the Ord Community, the 6,600 AFY of existing Salinas Valley groundwater supply has been allocated among the land use jurisdictions by FORA, as shown in Table 5-1, below. The municipal jurisdictions (Cities and Monterey County) formally sub-allocate this supply to developments. Until additional water supplies are developed and allocated within the Ord Community, MCWD will only allow new service connections up to the usage totals allocated by the respective jurisdictions. FORA has also formally allocated the recycled water supply from the Phase 1 Recycled Water Project. Those allocations are included in Table 5-1.

**Table 5-1: FORA Allocations in the Ord Community**

Land Use Jurisdiction	Existing Groundwater Allocation (AFY)	Future Recycled Allocation (AFY)
City of Del Rey Oaks	243	280
City of Marina (Ord)	1,325	345
City of Monterey	65	0
<b>City of Seaside</b>	<b>1,012</b>	<b>453</b>
County of Monterey	710	134
Marina Sphere (existing use)	10	0
CA State Parks and Rec.	45	0
CSU Monterey Bay	1,035	87
Univ. of California MBEST	230	60
U.S. Army	1,577	0
Assumed Line Loss	348	68
Total – Ord Community	6,600	1,427

For MCWD’s service area within the City of Seaside, the City has sub-allocated portions of their existing potable groundwater allocation, as detailed in Table 5-2. The remaining unallocated potable supply totals 181.3 AFY, which is not sufficient to meet the 441.6 AFY required to meet the potable water demands of the Campus Town specific plan area (total projected 487.4 AFY minus 45.83 AFY of on-site recycled water use).

The Project is projected to use up to 45.83 AFY of recycled water. The City of Seaside has an allocation of 453 AFY from the Phase 1 Recycled Water Project, which will be available in 2019. Once the recycled water distribution system is operational, potable water use that is replaced with recycled water may be reallocated to new projects.

As outlined in Section 4.2.1 above, to address the discrepancy between 441.6 AFY potable water demand and the 181.3 AFY potable water supply several in-lieu storage and offset programs have been developed.

The proposed plans to address the 260.03 AFY potable water supply shortfall include: (1) a Bayonet and Blackhorse Golf Courses in-lieu storage and recovery program, which would replace a minimum of 311.08 AFY of existing potable water use with recycled water (up to 450 AFY as recycled water supplies increase), (2) a Seaside Highlands and Super Field recycled water substitution program to offset 53.1 AFY of potable water use, and (3) a Main-Gate offset program, which would require it to utilize 42.99 AFY of recycled water in-lieu of previously allocated potable water supply. With implementation of these programs, the District's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the District's existing and planned future uses.

**Table 5-2: City of Seaside Sub-Allocations**

<b>Land Use Jurisdiction</b>	<b>Existing Groundwater Allocation (AFY)</b>
<b>City of Seaside</b>	
SunBay Apartments	120.0
Brostram Park (Bay View MHP)	84.8
Seaside Highlands	168.5
Seaside Resort	161.4
MPUSD	81.0
Monterey College of Law	2.6
Monterey Peninsula College	9.0
Chartwell School	6.4
Main Gate "Retail Lifestyle Mall"	149.0
American Youth Hostile	5.5
Seaside Senior Living	40.0
Other Existing Use	3.0
<b>City of Seaside Total</b>	<b>831.2</b>
<b>FORA Allocation</b>	<b>1012.5</b>
<b>City of Seaside Unallocated</b>	<b>181.3</b>

## 5.2 Plans for Acquiring Additional Water Supplies

Under the provisions of Section 10911 of the California Water Code, if the water supplier concludes that water supplies will be insufficient for the proposed project, the water supplier shall provide its plans for acquiring additional water supplies. In addition to the in-lieu storage/offset programs identified in Section 4.2.1, the District is currently pursuing two water supply projects, the Recycled Water Project and the Desalination Project, which are intended to allow the District to develop 2,400 AFY of new supply to meet the projected Ord Community demand. Detailed descriptions of these projects are provided in Appendices B and C.

### 5.3 Reliability of Water Supply and the Regional 6,600 AFY Allocation

The Salinas Valley Groundwater Basin has a large storage volume, and is recharged by the Salinas River, which is augmented by upstream reservoirs managed by MCWRA. Consequently, the aquifer does not experience wide level variations due to climatic conditions. Water levels vary by 20 to 30 feet seasonally, and decline an additional 10 to 20 feet during drought periods. The District's demands accounted for less than one percent of the total groundwater pumped from the Salinas groundwater basin in 2015, the latest year reported. Therefore, the District's supply is considered reliable on a quantity basis. The upper aquifers in the Salinas Valley Groundwater Basin (180-foot aquifer and 400-foot aquifer) along the coast are experiencing high salinity due to seawater intrusion.<sup>12</sup> The District's wells in Central Marina, although near the coast, are in the Deep Aquifer within the Monterey Subbasin (DWR, Bulletin 118, Basin No. 3-004.10) of the broader Salinas Groundwater Basin, which has not experienced signs of seawater intrusion and is considered to have reliable quality.

MCWD's 2015 UWMP concludes that "neither seawater intrusion nor groundwater contamination pose an immediate threat to water supply reliability." (MCWD 2015 UWMP § 5.2, at p. 73.) In the Ord Community, the District has one well in the deep aquifer and four wells in the upper aquifers; these five wells are outside the area currently affected by seawater intrusion. The District is closely monitoring the quality in these wells. While there "is some concern that the Deep Aquifer may become affected by seawater intrusion," there is a monitoring well that serves as an "early warning system to identify any seawater intrusion . . . ." (MCWD 2015 UWMP § 4.2.5, at p. 48.) In 2003, a study modeled seawater intrusion resulting from increasing pumping from the Deep Aquifer by two to five times the baseline rate, and found that "in the absence of other action to control seawater intrusion, the landward flow of groundwater would increase . . . ." (MCWD 2015 UWMP § 4.2.5, at p. 50.) No increases of such a magnitude in pumping from the Deep Aquifer are expected.

As to the 180-foot and 400-foot Aquifers, the MCWD 2015 UWMP concluded that "[t]he Salinas Valley Water Project has reduced groundwater pumping in the 180/400 Foot Aquifer Subbasin. Therefore, MCWD's groundwater supply is fully available in annual average, single dry year and multiple dry years." (MCWD 2015 UWMP § 5.1, at p. 72.)

The Monterey Subbasin is subject to SGMA, but is not designated as critically overdrafted.<sup>13</sup> Two groundwater sustainability agencies have been established for the Monterey sub-area: the

---

<sup>12</sup> According to the 2019 Salinas River Long-Term Management Plan, "seawater intrusion extends approximately 7 miles inland within the 180-foot aquifer and 4 miles inland in the 400-foot Aquifer." (Salinas River Long-Term Management Plan 3-41, 3-42, available at [http://www.salinasrivermanagementprogram.org/ltmp\\_doc.html](http://www.salinasrivermanagementprogram.org/ltmp_doc.html).)

<sup>13</sup> While the Ord Community water supply come in part from wells in the 400-foot aquifers, these wells are located within the defined boundaries of the Monterey sub-area. The sub-area referred to as the

Salinas Valley Groundwater Sustainability Agency (“SVBGSA”) (<https://svbgsa.org>) and the District. The SVGSA is developing a comprehensive groundwater sustainability plan for a portion of the subbasin under its jurisdiction for submittal to the California Department of Water Resources by 2020. The plan will address its portion of the Monterey Subbasin together with neighboring subbasins within the Salinas Valley Basin under its jurisdiction. The District will develop a groundwater sustainability plan for the remainder of the Monterey Subbasin, including the areas of the subbasin where the District’s wells are located. Together, these plans will be designed to achieve sustainability throughout the Salinas Valley Basin by 2040.

These groundwater sustainability plans will work to manage the Monterey Subbasin in combination with MCWRA’s Long-Term Management Plan for the Salinas River Valley which is incorporated by reference.<sup>14</sup> This long-term management plan sets forth strategies, both currently employed and future plans, that are designed to manage the Salinas River and its interaction with groundwater resources within the Salinas Valley. Together, the activities of the MCWRA with those of the SVGSA and the District, implementing groundwater sustainability plans, will curtail future seawater intrusion and ensure sustainable management of the Salinas Valley groundwater supplies, and ensure the reliability of the 6,600 AFY. The MCWD wells are not in imminent threat of seawater intrusion, and the actions employed and planned by the MCWRA, the SVGSA, and District will ensure that these wells are able to provide water to serve Fort Ord in perpetuity.

The planned additional sources of supply are recycled wastewater and seawater desalination as discussed above. The source of supply for recycled water is wastewater return flows, which originate from indoor water use, and other sources. Indoor water use is not subject to the same levels of curtailment during drought periods as outdoor water use, so the source of recycled water supply is considered drought-proof. The SVRP treatment plant operated by the MRWPCA has reliably produced recycled water meeting the requirements of Title 22 for over a decade. Similarly, seawater desalination is considered a reliable source of supply. Reverse osmosis technology is a proven method of desalinating seawater and brackish groundwater.

#### **5.4 Effect on Agricultural and Industrial Users Reliant on the Same Source**

There are no agricultural water users within the MCWD service area, nor are there industrial users with privately-owned wells. Agricultural users in the Salinas Valley rely on the same basin-wide supply from the Salinas Valley Groundwater Basin, accounting for 92.9% of the

---

“180/400 Foot Aquifer” by the Department of Water Resources is defined as overdrafted, but the wells at issue in the WSA are not within the boundaries of that sub-area. (See <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Critically-Overdrafted-Basins/Files/2018CODBasins.pdf?la=en&hash=3014D2F2299AA503C469D41BBC0E8DCFCE0267F8>.)

<sup>14</sup> MCWRA’s Long-Term Management Plan for the Salinas River Valley is available online at: [http://www.salinasrivermanagementprogram.org/ltmp\\_doc.html](http://www.salinasrivermanagementprogram.org/ltmp_doc.html)

groundwater pumping in 2015. In the local area, 12,000 acres of irrigated agriculture are supplied with recycled water from the Castroville Seawater Intrusion Project. These uses are taken into account in the basin planning of the MCWRA and SVBGSA as part of developing a water balance for the Basin. Additional demands in the Central Marina and Ord Community area are not expected to affect the agricultural users, provided that the District groundwater pumping to meet new demands remains consistent with the MCWRA agreements.

## Section 6 - Conclusions

### 6.1 Sufficiency of Water Supply for the Project

The City of Seaside does not presently have sufficient existing potable water supply to achieve the complete build-out of the planned Campus Town Specific Plan Area. However, with implementation of the proposed plans to acquire additional water supplies discussed in Sections 4.2.1, 5.2, and 6.2, the District's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the District's existing and planned future uses.

### 6.2 Future Actions

Section 10911(b) of the Water Code states "The City or County shall include the water assessment provided pursuant to Section 10910, in any environmental document prepared for the Project pursuant to [CEQA]." The City of Seaside will need to adopt this WSA as part of the CEQA environmental review for the proposed Project, including the findings described above.

The City of Seaside may take certain additional actions to guarantee the availability of the water supplies for the Campus Town Specific Plan:

- Bayonet and Blackhorse Golf Courses in-lieu storage and recovery program, which would replace a minimum of 311.08 AFY of existing potable water use with recycled water (up to 450 AFY as recycled water supplies increase).
- Seaside Highlands and Soper Field recycled water substitution program to offset 53.1 AFY of potable water use. The Seaside Highlands development was constructed with recycled water mains to supply the landscape irrigation systems. This system is currently fed with potable water, but recycled water will be available within the next few years. Providing recycled water for irrigation of that project would make up to 43.1 AFY<sup>15</sup> of potable supply available for reallocation from Seaside Highlands. An additional 10 AFY may be made available by converting the City's Soper Field sports complex (adjacent to Seaside Highlands) to recycled water.
- Use of Recycled Water in the Main Gate project, which would require the previously approved Main-Gate project to utilize 42.99 AFY of recycled water in-lieu of previously allocated potable water supply.

---

<sup>15</sup> The City of Seaside water allocation to the Seaside Highlands project states that 43.1 AFY of irrigation demand will be converted to recycled water when it becomes available.

- The City may also require dual-plumbing of buildings to use recycled water for sanitary fixture flushing (toilets and urinals) of mixed use, commercial, and hotel buildings, which will offset potable water demand with recycled water.

## Appendix A: Recycled Water Project Details

In 2004-2005, the District prepared engineering studies for the RUWAP. This project was intended to develop 2,400 AFY of additional water supply for the Ord Community, to meet projected demands identified in the Fort Ord Base Reuse Plan. The RUWAP has two components, urban use of recycled water and a desalination facility. The final capacity of the two components may be adjusted during final design, but the total amount of new supply will be 2,400 AFY.

In 2012, the Monterey One Water (M1W, formerly the Monterey Regional Water Pollution Control Agency) and the Monterey Peninsula Water Management District began planning the Pure Water Monterey Groundwater Replenishment Project, which includes the advanced treatment of recycled water for indirect potable reuse. On April 8, 2016, MCWD and M1W entered into an agreement which would provide up to 1,427 AFY of advanced treated water for urban landscape irrigation instead of the tertiary treated recycled water planned under the RUWAP. The Pure Water Monterey Project required a pipeline running parallel to MCWD's planned RUWAP pipeline, so the agencies agreed to share a single pipeline, realizing a cost savings to each project.

1. Source of Supply: Tertiary treated wastewater available at the MRWPCA Regional Wastewater Treatment Plant in North Marina. Under the annexation agreement between MCWD and MRWPCA, the District has the right to purchase recycled water, subject to annual and seasonal limits. The Advanced Water Purification Facility (AWPF) is currently being constructed, with a design capacity of 5.0 mgd. The plant will produce advanced-treated recycled water meeting the Title 22 standards for indirect potable reuse (injection into a groundwater aquifer and recovery at other wells).
2. Expected Supply Capability: The Phase 1 Recycled Water Project project will have an initial yield of 4,100 AFY, of which 600 AFY would be available to MCWD. The remaining 3,500 AFY would be conveyed to an injection wellfield in the Ord Community and stored in the Seaside Groundwater Basin. Future Phases of the project will increase MCWD's yield to 1,427 AFY.
3. Project Facilities:
  - Advanced water purification facility and pump station, located within the M1W plant in North Marina
  - Product water transmission and distribution pipelines within Marina and the Ord Community

- Recycled water storage tank within the Ord Community

#### 4. Historical Record:

- MCWD operated a recycled water system from 1996 to 1998. Thereafter the Marina Wastewater Treatment Plant was retired and the local sanitary sewer system was connected to the Regional wastewater collection system.
- MCWD prepared engineering studies for the RUWAP, which included a recycled water component. The District approved the CEQA EIR for the RUWAP in 2005, and amended the findings in 2006 and 2007 as detailed planning progressed.
- In 2004, MCWD published standards for recycled water infrastructure and began requiring the construction of recycled water pipelines in new subdivisions.
- MCWD constructed 3.5 miles of recycled water pipelines within the Ord Community during on-going road construction projects, in cooperation with the Fort Ord Reuse Authority and California State University Monterey Bay.
- MCWD is currently constructing the shared product water transmission main and storage reservoir. The transmission main connects the AWP in north Marina to the injection wellfield in Seaside.
- M1W is currently constructing the Pure Water Monterey AWP and the injection wellfield.
- MCWD is currently completing design of the recycled water distribution system, which connects customers to the transmission system.
- MCWD obtained a pipeline easement for the recycled water main across the Armstrong Ranch in 2007. MCWD obtained a pipeline easement from the City of Seaside for the recycled water main from Normandy Ave to the water tank site in 2010. The District obtained ownership of the recycled water tank site in 2010 (previously held as an exclusive easement). MCWD finalized the recycled water main easements with the Presidio of Monterey in 2012. MCWD finalized the recycled water main easements with CSUMB in 2018.

#### 5. Written Contracts and Agreements:

- In the annexation agreement between MCWD and MRWPCA, MCWD retained the right to obtain recycled water in an amount not to exceed the volume of wastewater flows originating from the District.
- MCWD entered into an agreement with the Fort Ord Reuse Authority in 2005 to develop the RUWAP water supplies.
- MCWD executed two memoranda of understanding with MRWPCA and MCWRA (one in 2009 and one in 2010) to work cooperatively towards the RUWAP, and to specify quantities, (seasonal) availability, and roles and responsibilities.
- MCWD entered into the Pure Water Delivery and Supply Project Agreement with M1W in 2016 to participate in the Pure Water Monterey Project and receive advanced treated water instead of tertiary treated and disinfected recycled water for the RUWAP.

- In agreements with developers of new subdivisions for the construction of water infrastructure, the District requires the installation of recycled water pipelines for the irrigation of public and commercial landscapes.
6. Estimated Costs and Financing: The Pure Water Monterey Project overall cost is estimated at approximately \$70 million. This includes both the MCWD and M1W Facilities. Both agencies have received State Revolving Fund Loans to cover a majority of the construction costs. The Fort Ord Reuse Authority has budgeted \$37 million for the RUWAP. A portion of that funding will be applied to this project.
7. Timeframes: The District began constructing recycled water pipelines in conjunction with road construction projects by other jurisdictions (Fort Ord Reuse Authority and CSU Monterey Bay) and private developers beginning in 2004. Construction of the transmission main and water tank is on-going, and projected to be complete by November 2018. Construction of the AWPF and injection wellfield is on-going and projected to be complete by early 2019.
8. Federal, State and Local Permits for Construction:
- The RUWAP project is subject to the California Environmental Quality Act (CEQA) and also the National Environmental Policy Act (NEPA) because the SVRP facility is partially funded by the U.S. Department of the Interior, Bureau of Reclamation. The CEQA EIR for the RUWAP Phase 1 Project with supporting NEPA studies has been completed. CEQA actions for a future RUWAP Phase 2 expansion have not been initiated.
  - The CEQA EIR for the Pure Water Monterey Project with supporting NEPA studies has been completed.
  - The project pump stations and pipelines are outside the Coastal Zone and therefore a Coastal Commission Permit is not required.
  - Encroachment permits and easements for pipeline construction have been coordinated with the City of Marina, the City of Seaside, CSU Monterey Bay, Monterey Peninsula Unified School District and the Presidio of Monterey (Ord Military Community).
  - A Monterey County Conditional Use Permit was obtained for the pipeline crossing agricultural land (Armstrong Ranch).
  - M1W has obtained a Water System Permit with the California State Water Resources Control Board, Division of Drinking Water for the advanced treated water system.
  - The District's Water System Permit with the California State Water Resources Control Board, Division of Drinking Water will need to be updated to include the recycled water distribution system before the system can be placed into operation. The Title 22 Engineering Report for that addition has been submitted and a recycled water system number has been assigned.

## Appendix B: Desalination Project Details

In 2004-2005, the District prepared engineering studies for the RUWAP. This project was intended to develop 2,400 AFY of additional water supply for the Ord Community, to meet projected demands identified in the Fort Ord Base Reuse Plan. The RUWAP has two components, urban use of recycled water and a desalination facility. The final capacity of the two components may be adjusted during final design, but the total amount of new supply will be 2,400 AFY.

The Desalination Project was originally studied as a stand-alone facility, located at the former Fort Ord Wastewater Treatment Plant. In 2008, the District began working cooperatively with California American Water, which was planning a larger desalination facility to serve their Monterey Service Area (adjacent to the Ord Community). The two agencies jointly planned a Regional Desalination Facility to be located in North Marina adjacent to the MRWPCA Regional Wastewater Treatment Plant. This location facilitated the use of the existing wastewater outfall pipeline for brine disposal from the desalination plant. In 2011, the agreement between MCWD, American Water and Monterey County Water Resources Agency was terminated. MCWD is now pursuing a smaller desalination facility, as sized in the RUWAP EIR, located on the North Marina site.

In addition to the information provided in the body of the WSA, the following details are provided as required per Water Code §10911.

1. Source of Supply: Seawater-intruded groundwater in the 180-foot aquifer of the Salinas Valley Groundwater Basin, Pressure Sub-Area. Source wells will capture seawater within the aquifer which is currently migrating inland.
2. Expected Supply Capability: 1,500 AFY (average annual yield). Of this total, 1,200 AFY would be for the Ord Community, and 300 AFY would replace the capacity of the District's existing pilot desalination plant, which would then be retired.
3. Project Facilities:
  - Source wells in the intruded portion of the 180-ft aquifer
  - A reverse-osmosis desalination plant located in North Marina,
  - Product water pipeline from the plant to the MCWD service area,
  - Brine disposal pipeline from the plant to the Monterey One Water effluent disposal pipeline (deep ocean outfall)
  - Water storage tanks within the MCWD service area

---

#### 4. Historical Record:

- MCWD constructed a pilot desalination plant in Marina in 1996.
- MCWD prepared engineering studies for the RUWAP, which included a seawater desalination component.
- The District approved the CEQA EIR for the RUWAP in 2005, and amended the findings in 2006 and 2007 as detailed planning progressed.
- CAWC prepared engineering studies for the Coastal Water Project (CWP) in 2005-2008, which included a seawater desalination facility, and submitted a CEQA EIR to the California Public Utilities Commission in 2009.
- MCWD and CAWC worked cooperatively to develop a regional desalination facility as an alternative to two separate facilities, as reflected in the CWP EIR.
- The CPUC approved the CWP EIR in 2010.
- The Water Purchase Agreement was terminated by CAWC in September 2011.
- MCWD issued an RFQ for Design-Build Services for the Desalination Project in September 2012, but did not award a contract. The project was placed on hold to focus on the recycled water project

#### 5. Written Contracts and Agreements:

- MCWD entered into an agreement with the Fort Ord Reuse Authority in 2005 to develop the RUWAP water supplies.
- MCWD entered into an option agreement with the Armstrong Family Trust in 1998 to purchase land for a future water facility. The District executed that option in 2010 for the Regional Desalination Facility site.
- MCWD entered into an agreement with MRWPCA in 2009 for shared use of the effluent disposal pipeline.
- MCWD, CAWC and MCWRA entered in the Water Purchase Agreement in 2010. This agreement established project responsibilities between the three agencies. This agreement was terminated by CAWC in September 2011.

6. Estimated Costs and Financing: The Regional Desalination Project is estimated to cost approximately \$80 million. The District will pursue State and Federal grants for portions of the project cost. The Fort Ord Reuse Authority has budgeted \$37 million for the RUWAP. A portion of that funding will be applied to this project.

7. Timeframe: Preliminary studies are complete. Assuming a traditional design-bid-build delivery model, it would take from 4 to 6 years to complete design, permitting and construction.

#### 8. Federal, State and Local Permits for Construction:

- The project is subject to the California Environmental Quality Act (CEQA) and also the National Environmental Policy Act (NEPA) because the facility may be partially funded by the U.S. Department of the Interior, Bureau of Reclamation. CEQA EIRs with supporting NEPA studies for the RUWAP Desalination Project and for the Regional Desalination Project have been completed. The RUWAP EIR must be amended to reflect the new MCWD facility location and brine disposal method.
- A Coastal Development Permit from the California Coastal Commission may be required for some project facilities if brackish water source wells are located in the Coastal Zone.
- Encroachment permits for pipelines will be required from Monterey County, City of Marina, and possibly CALTRANS.
- MCWD must amend their Water System Permit with the California Department of Public Health to add the desalination facility as a new source of supply before the system can be placed into operation.
- A Regional Water Quality Control Board discharge permit (NPDES) for the desalination plant will be required.
- A Monterey County Building Permit will be required for the desalination plant
- A permit from the Monterey Bay Unified Air Pollution Control District will be required for the desalination facility
- Monterey County Environmental Health must approve permits for (1) construction of the groundwater wells, and (2) construction of the desalination facility

**Appendix C: References**

California American Water Company:

Coastal Water Project, Final Environmental Impact Report, prepared for the California Public Utilities Commission, October 2009

CalAm Monterey Peninsula Water Supply Project, Final Environmental Impact Report, prepared for the California Public Utilities Commission, March 2018.  
[http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/feir-eis/Compiled\\_FEIR-EIS/CalAm\\_MPWSP\\_FEIR-EIS\\_cExSum-ch7.pdf](http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/feir-eis/Compiled_FEIR-EIS/CalAm_MPWSP_FEIR-EIS_cExSum-ch7.pdf)

California Department of Water Resources:

20x2020 Water Conservation Plan, February 2010.

Bulletin 118: California's Groundwater, Interim Updated 2016, December 2016

California Irrigation Management Information System (CIMIS) website,  
[www.cimis.water.gov](http://www.cimis.water.gov)

Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, October 8, 2003.

2015 Urban Water Management Plan Guidebook for Urban Water Suppliers, March 2016.

Model Water Efficient Landscape Ordinance, July 15, 2015. Available at:  
[https://www.mcwd.org/docs/engr\\_files/Title%2023%20extract%20-%20MWELO%20-%20Official%20CCR%20pages.pdf](https://www.mcwd.org/docs/engr_files/Title%2023%20extract%20-%20MWELO%20-%20Official%20CCR%20pages.pdf)

California Urban Water Conservation Council, Memorandum of Understanding Regarding Urban Water Conservation in California, As Amended June 9, 2010

California Building Standards Commission, 2013 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11

Carollo Engineers, Marina Water Systems Master Plan, February 2007. Available at:  
[https://www.mcwd.org/docs/engr\\_files/MCWD\\_Water\\_System\\_Master\\_Plan\\_2007.pdf](https://www.mcwd.org/docs/engr_files/MCWD_Water_System_Master_Plan_2007.pdf)

City of Seaside:

2009-2014 Housing Element, adopted August 2010.  
<https://www.ci.seaside.ca.us/DocumentCenter/View/363/Housing-Element-PDF?bidId=>

Redevelopment Agency of the City of Seaside, Implementation Plan, 2007 – 2012, Seaside-Fort Ord Redevelopment Project Area, January 17, 2008

Fort Ord Youth Hostel Initial Study/Mitigated Negative Declaration, July 2013 available online at: <https://www.ci.seaside.ca.us/DocumentCenter/View/490/Initial-Study-Mitigated-Negative-Declaration-PDF>. IS/MND Appendices also available online at: <https://www.ci.seaside.ca.us/DocumentCenter/View/489/Initial-Study-Appendices-PDF>. Other project documentation including Resolution No. 13-82 and 13-87 are available online at: <https://www.ci.seaside.ca.us/282/Youth-Hostel>

Seaside Basin Adjudication,

<http://www.seasidebasinwatermaster.org/Other/Amended%20Decision0207.pdf>

County of Monterey, 2010 Monterey County General Plan, October 26, 2010. <http://co.monterey.ca.us/government/departments-i-z/resource-management-agency-rma-/planning/resources-documents/2010-general-plan>

Denise Duffy & Associates:

Draft Environmental Impact Report, Pure Water Monterey Groundwater Replenishment Project, April 2015.

Final Environmental Impact Report, Pure Water Monterey Groundwater Replenishment Project, January 2016.

Denise Duffy & Associates in association with RBF Consulting:

Draft Environmental Impact Report RUWAP, June 2004.

Final Environmental Impact Report RUWAP, September, 2004.

Fort Ord Reuse Authority:

Capital Improvement Program, FY 2017/18 through Post FORA, June 2017. Available online at: [https://www.mcwd.org/docs/engr\\_files/2018-19\\_Five\\_Year\\_CIP-Final.pdf](https://www.mcwd.org/docs/engr_files/2018-19_Five_Year_CIP-Final.pdf)

Fort Ord Reuse Plan, 1996. <https://www.fora.org/BRP.html>

Reuse Plan EIR, 1997. <https://www.fora.org/BRP.html>

Harding ESE, Final Report, Hydrogeologic Investigation of the Salinas Valley Basin in the Vicinity of Fort Ord and Marina, Salinas Valley, California, prepared for the Monterey County Water Resources Agency, April 2001

Keyser Marston Associates, Inc., Implementation Plan for the Fort Ord Redevelopment Project Area, Prepared for the Redevelopment Agency of Monterey County, March 2007

LAFCO of Monterey County, Municipal Services Review for the Monterey Peninsula, 2006

Marina Coast Water District:

2015 Urban Water Management Plan, prepared by Schaaf & Wheeler, Consulting Civil Engineers, June 2016.  
[https://wuedata.water.ca.gov/public/uwmp\\_attachments/1852918326/MCWD\\_2015\\_UWMP\\_Final.pdf](https://wuedata.water.ca.gov/public/uwmp_attachments/1852918326/MCWD_2015_UWMP_Final.pdf). The UWMP appendices are also available online at: [https://www.mcwd.org/docs/engr\\_files/MCWD%202015%20UWMP%20Appendices\\_Final.pdf](https://www.mcwd.org/docs/engr_files/MCWD%202015%20UWMP%20Appendices_Final.pdf).

2017 Consumer Confidence Report for Central Marina and Ord Community, April 2018

Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2017, approved December 18, 2017.

Pure Water Delivery and Supply Project Agreement between Monterey Regional Water Pollution Control Agency and Marina Coast Water District, April 8, 2016.

Water Supply Assessment and Written Verification of Supply for the Proposed Cypress Knolls Residential Project, prepared with Byron Buck & Associates, March 22, 2006.

Water Supply Assessment and Written Verification of Supply for the Proposed Resort at Del Rey Oaks, prepared with Byron Buck & Associates, December 2007.

Water Supply Assessment and Written Verification of Supply for the Proposed East Garrison Specific Plan Development, prepared with Byron Buck & Associates, June 3, 2004.

Water Supply Assessment and Written Verification of Supply for the City of Seaside Main Gate Specific Plan, prepared with Byron Buck & Associates, October 9, 2007.

Water Supply Assessment and Written Verification of Supply for the Proposed Marina Station Project, prepared with Byron Buck & Associates, January 4, 2006.

Water Supply Assessment and Written Verification of Supply for the Marina Heights Specific Plan, prepared with Byron Buck & Associates, December 15, 2003.

Water Supply Assessment and Written Verification of Supply for the Proposed University Villages Specific Plan Development and Marina Community Partners Project, prepared with Byron Buck & Associates, January 26, 2005.

Quarterly Water Consumption Report, period ending: December 31, 2017.

Monterey County Water Resources Agency:

2015 Groundwater Extraction Summary Report, April 2017.

Agreement between the United States of America and the Monterey County Water Resources Agency concerning Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency, Agreement No. A-06404, September 21, 1993.

Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands (1996). Document recorded in the Office of the Monterey County Recorder on August 7, 1996, at Reel 3404 Page 749.

Monterey Regional Water Pollution Control Agency (M1W)

Pure Water Monterey Groundwater Replenishment Project Consolidated Final Environmental Impact Report and Appendices. <http://purewatermonterey.org/reports-docs/cfeir/>

RHAA, Development Master Plan, California Central Coast Veterans Cemetery, Fort Ord, prepared for the Redevelopment Agency of Monterey County, September 2008.

RMC Water and Environment, MCWD Recycled Water Project Basis of Design Report, 2006

University of California Cooperative Extension, A Guide to Estimating Irrigation Water Needs for Landscape Plantings in California, August 2000

**Appendix D: MCWD Board Resolution Approving the Water Supply Assessment for the Monterey Downs Specific Plan**

**Appendix E: Memorandum, Errata to the Main Gate and Campus Town Water Supply Assessments**

M2: June 2018 Draft Water Supply Assessment

---

**WATER SUPPLY ASSESSMENT AND WRITTEN  
VERIFICATION OF SUPPLY  
FOR THE  
CAMPUS TOWN SPECIFIC PLAN**

Prepared by  
**MARINA COAST WATER DISTRICT**



and

**Schaaf & Wheeler**  
CONSULTING CIVIL ENGINEERS

**June 2018**

**WATER SUPPLY ASSESSMENT AND WRITTEN  
VERIFICATION OF SUPPLY**

**FOR THE  
CAMPUS TOWN SPECIFIC PLAN**

**Prepared by  
MARINA COAST WATER DISTRICT**



**Board of Directors**

Thomas P. Moore, President  
Jan Shriner, Vice-President  
William Y. Lee  
Howard Gustafson  
Herbert Cortez

**and**

**Schaaf & Wheeler**  
CONSULTING CIVIL ENGINEERS  
3 QUAIL RUN CIRCLE, SUITE 101  
SALINAS, CA 93907

**June 2018**



## Table of Contents

Summary of Water Supply Assessment.....	1
Section 1 - Introduction.....	2
1.1 Project Overview.....	2
1.2 Purpose of Water Supply Assessment.....	2
1.3 Project Subject to CEQA.....	2
1.4 Project Requiring a Water Supply Assessment.....	3
1.5 Requirements of a Written Verification of Supply .....	3
1.6 Public Water Agency Serving the Project.....	3
1.7 Relationship of WSA to MCWD Urban Water Management Plan.....	5
Section 2 - Project Description and Water Demands .....	7
2.1 Project Description.....	7
2.2 Land Use and Water Demands.....	8
2.2.1 Residential.....	8
2.2.2 Hotel.....	11
2.2.3 Youth Hostel .....	11
2.2.4 Retail, Dining and Entertainment Space .....	11
2.2.5 Office, Flex, Maker Space and Light Industrial .....	11
2.2.6 Parks and Landscaping .....	11
2.2.7 Project Total Water Demands .....	12
Section 3 - District Water Demands.....	13
3.1 Historic and Current Water Demands .....	13
3.2 Future Demands .....	14
3.3 Dry-Year Demands .....	16
Section 4 - Water Supply .....	18
4.1 Current Water Supply.....	18
4.1.1 Groundwater .....	18
4.1.2 Desalinated Water.....	20
4.2 Future Water Supply .....	20
4.2.1 Recycled Water.....	20
4.2.2 Desalinated Water.....	21
4.2.3 Conservation .....	21
4.3 Regulatory Permits Necessary for Supply Delivery .....	21
Section 5 - Supply Sufficiency Analysis.....	22
5.1 Comparison of Project Demands to Projected Supply.....	22
5.2 Plans for Acquiring Additional Water Supplies.....	23
5.3 Reliability of Water Supply.....	23
5.4 Effect on Agricultural and Industrial Users Reliant on the Same Source .....	24
Section 6 - Conclusions.....	25
6.1 Sufficiency of Water Supply for the Project .....	25
6.2 Future Actions .....	25

**Appendices**

- A. Recycled Water Project Details
- B. Desalination Project Details
- C. References
- D. MCWD Board Resolution Approving the Water Supply Assessment for the Monterey Downs Specific Plan

**List of Tables**

Table i Acronyms Used in this Report..... iii

Table ii Units of Measure Used in this Report ..... iv

Table 2-1: Summary of Estimated Water Demand..... 12

Table 3-1: Water Production by Service Area (AF) ..... 13

Table 3-2: Water Use within the Seaside-Ord Community (AF) ..... 14

Table 3-3: Water Demand Projection by Service Area (AF)..... 15

Table 3-4: Campus Town Elements compared to Elements in the 2015 UWMP ..... 16

Table 3-5: Dry Year Demand Projections ..... 17

Table 4-1: Existing Pumping Capacity ..... 19

Table 5-1: FORA Allocations in the Ord Community..... 22

Table 5-2: City of Seaside Sub-Allocations..... 23

**List of Figures**

Figure 1.1: Marina Coast Water District Service Areas ..... 4

Figure 2.1: Project Area..... 7

Figure 2.2: Conceptual Site Plan ..... 9

Figure 4.1: Groundwater Basins ..... 18

**Table i. Acronyms Used in this Report**

<b>Acronym</b>	<b>Description</b>
afy, ac-ft/yr	Acre-feet/year
ccf, hcf	Hundred cubic feet
gpd	Gallons per day
gpcd	Gallons per capita day, or gallons per person per day
mgd	Million gallons per day
sq-ft	Square feet
BMP	Best management practice
CAW, CalAm	California American Water Company
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CSUMB	California State University – Monterey Bay
CWC	California Water Code
DDW	SWRCB Division of Drinking Water
DMM	Demand management measure
DWR	California Department of Water Resources
FORA	Fort Ord Reuse Authority
LAFCO	Local Agency Formation Commission
M1W	Monterey One Water (formerly MRWPCA)
MCWD, District	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
MPWMD	Monterey Peninsula Water Management District
OMC	Ord Military Community
POM	Presidio of Monterey
PWM	Pure Water Monterey Project
SB	California Senate Bill
SRDP	Salinas River Diversion Project
SVBGSA	Salinas Valley Basin Groundwater Sustainability Agency
SVWP	Salinas Valley Water Project
SVGB	Salinas Valley Groundwater Basin
SWRCB	State Water Resources Control Board
UCMBEST	University of California Monterey Bay Education, Science and Technology Center
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment
WVS	Written Verification of Supply

**Table ii. Units of Measure Used in this Report**

<b>Unit</b>	<b>Equals</b>
1 acre-foot	= 43,560 cubic feet = 325,851 gallons
1 cubic foot	= 7.48 gallons
1 CCF	= 100 cubic feet = 748 gallons
1 MGD	= 1,000,000 gallons/day = 1,120 acre-feet / year

## Summary of Water Supply Assessment

**Project:** Campus Town Specific Plan, Seaside, California

Pursuant to Section 10910 of the California Water Code (CWC), and based on the analysis detailed in this report and the representations by the Project's proponents, the Marina Coast Water District (the District) has determined that its currently projected water supplies will not be sufficient to meet the projected annual water demands of existing and previously approved uses and the implementation of the Campus Town Specific Plan during normal, single-dry, and multiple-dry years. The Project will add approximately 487.4 acre-feet per year (AFY) of new demand to the District's Ord Community Service Area, within the City of Seaside. The City has an existing allocation of Salinas Valley Groundwater of 1,012 AFY, and has previously sub-allocated 825.7 AFY to other projects, leaving 186.3 AFY available. If the City sub-allocates all of this supply to the Campus Town Specific Plan Area, there will still be a resulting shortfall of 301.1 AFY. The District can supply water to an initial phase of the project, up to the amount sub-allocated by the City.

The District has two planned water supply projects it intends to implement in the next decade, the Recycled Water Project and the Desalination Project. These two projects are intended to develop 2,400 AFY of new supply for the Ord Community. As these projects come on-line, the Fort Ord Reuse Authority will allocate the supply among the Land Use Jurisdictions in the Ord Community. At that time, additional phases of the development may be approved.

## **Section 1 - Introduction**

### **1.1 Project Overview**

The City of Seaside in Monterey County, California, acting as the lead agency, is preparing the Campus Town Specific Plan for an 85-acre project area located within the City of Seaside. The Project is located on the former Fort Ord. Potable water supply for the former Fort Ord is provided by the Marina Coast Water District. Further description of the Project is given in Section 2.0.

### **1.2 Purpose of Water Supply Assessment**

The California Water Code (§10910 et. seq.), based on Senate Bill 610 of 2001 (SB 610), requires a project proponent to assess the reliability of a project's water supply as part of the California Environmental Quality Act (CEQA) process. Under the California Government Code (§66473.7), based on Senate Bill 221 of 2001, proposed subdivisions adding 500 dwelling units are also required to receive written verification of the available water supply from the project's water supplier. This project includes the addition of up to 1,485 dwelling units, so both a water supply assessment and a written verification of supply are required.

This report is meant to serve as the Water Supply Assessment (WSA) and Written Verification of Supply (WVS) for the Project to meet the California Water and Government Code requirements. This WSA documents the District's existing and future water supplies for the Project area and compares them to the District's total projected water demands for the next twenty (20) years.

The SB 610 process requires the following several steps to identify the need and scope of a project's WSA:

1. Determine whether the project is subject to CEQA.
2. Determine whether the project meets the definition of a "project" per SB 610.
3. Determine the public water agency that will serve the project.
4. Determine whether any current Urban Water Management Plan considers the projected water demand for the project area.
5. Determine whether groundwater is used by the public water agency to serve the project area.

### **1.3 Project Subject to CEQA**

CEQA applies to projects for which a public agency is directly responsible, funds, and/or requires the issuance of a permit. The City of Seaside determined that the Project is subject to the requirements of CEQA. An Environmental Impact Report (EIR) is currently being prepared.

#### 1.4 Project Requiring a Water Supply Assessment

CWC §10912(a) defines a Project for WSA purposes as including any of the following<sup>1</sup>:

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- a mixed-use project that includes one or more of the projects identified in this list;
- a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Campus Town Specific Plan proposes the addition of up to 1,485 dwelling units and 200,000 square feet of commercial space, so a water supply assessment is required.

#### 1.5 Requirements of a Written Verification of Supply

Government Code §66473.7(b)(1) requires:

*The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request.*

The public water system must determine if there is sufficient water supply for the subdivision, as defined in Government Code §66473.7(a)(2): *“Sufficient water supply” means the total water supplies available during normal, single-dry, and multiple dry years within a 20- year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses.*

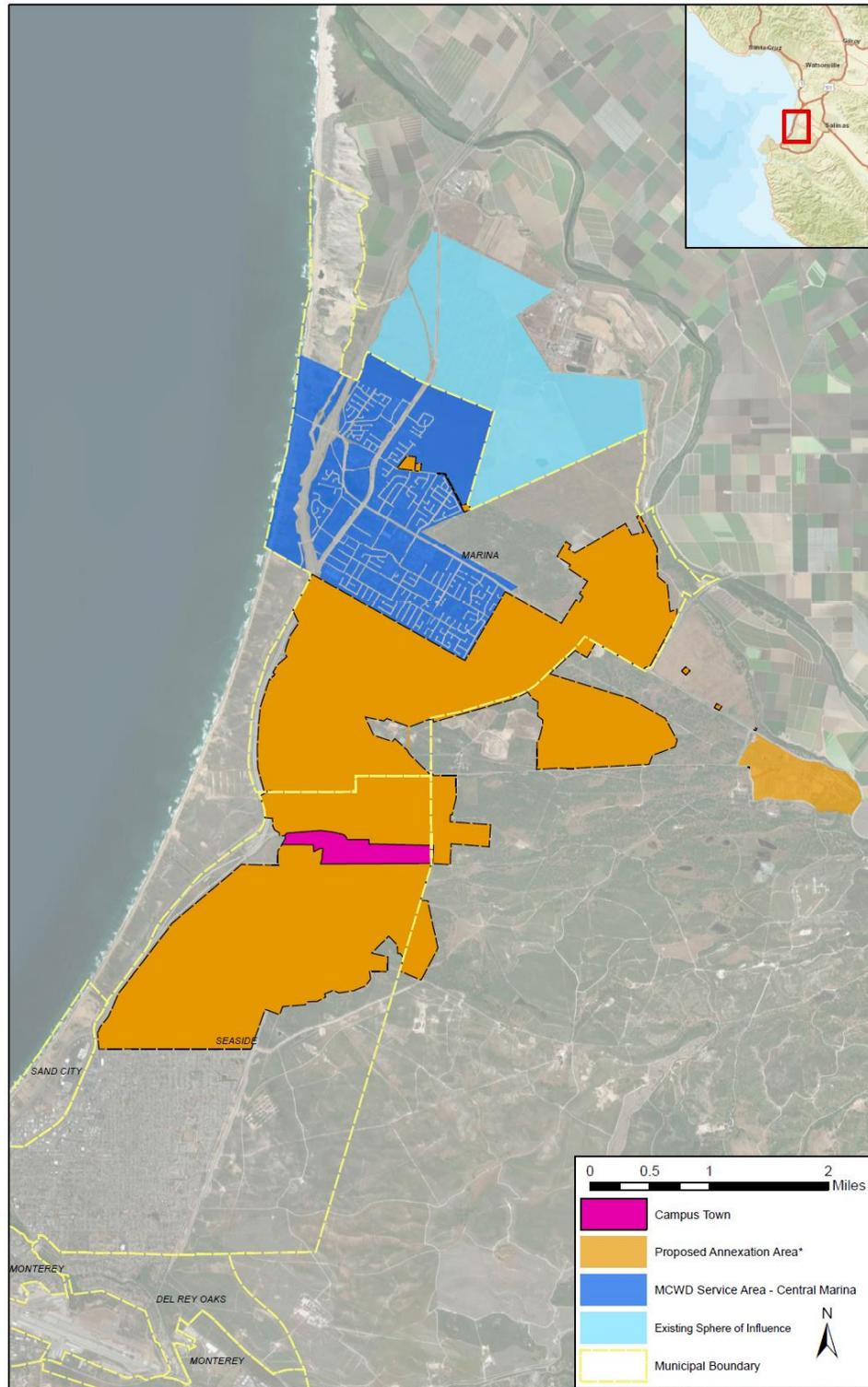
#### 1.6 Public Water Agency Serving the Project

The Marina Coast Water District, a county water district, serves the City of Marina and the former Fort Ord, which includes portions of the City of Marina, City of Seaside, City of Del Rey Oaks, City of Monterey and unincorporated Monterey County. The District has two service areas, Central Marina and the Ord Community. The Project is located in the Seaside portion of the MCWD Ord Community Service Area (see Figure 1.1).

---

<sup>1</sup> There are additional uses that may qualify as a “project” under the CWC, but included here are the applicable categories.

**Figure 1.1: Marina Coast Water District Service Areas**



\*Proposed Annexation Area is the current Ord Community Service Area

MCWD provides water and wastewater service to the Ord Community as outlined in the Water/Wastewater Facilities Agreement between the Fort Ord Reuse Authority (FORA) and MCWD (1998) and as further described in the Assignment of Easements on Former Fort Ord and Ord Military Community, County of Monterey, and Quitclaim Deed for Water and Wastewater Systems, between FORA and MCWD, dated October 24, 2001. MCWD recently submitted an application to the Local Agency Formation Commission of Monterey County (LAFCO) to formally annex the served portions of the Ord Community into the District's service area and sphere of influence. The portion of the project area west of General Jim Moore Blvd was not included in the LAFCO application, and will require a subsequent application to LAFCO.

### **1.7 Relationship of WSA to MCWD Urban Water Management Plan**

The California Urban Water Management Planning Act (§10610 et. seq. of the CWC) requires urban water suppliers providing over 3,000 acre-feet per year (AFY) of water or having a minimum of 3,000 service connections to prepare plans (urban water management plans or UWMPs) on a five-year, ongoing basis. An UWMP must demonstrate the continued ability of the provider to serve customers with water supplies that meet current and future expected demands under normal, single dry, and multiple dry year scenarios. These plans must also include the assessment of urban water conservation measures and wastewater recycling. Pursuant to Section 10632 of the CWC, the plans must also include a water shortage contingency plan outlining how the water provider will manage water shortages, including shortages of up to fifty percent (50%) of their normal supplies, and catastrophic interruptions of water supply. The Marina Coast Water District is required to prepare Urban Water Management Plans. The District's most recent Urban Water Management Plan (2015 UWMP) was adopted in June 2016. The 2015 UWMP projected demands for 20 years through the year 2035.

As provided for in the State law, this WSA incorporates by reference and relies upon many of the planning assumptions and projections of the 2015 UWMP in assessing the water demands of the proposed Project relative to the overall increase in water demands expected within the entire District service area. The 2015 UWMP projected a significant increase in water demand within the Ord Community due to the planned redevelopment of the former Fort Ord, as documented in the Fort Ord Base Reuse Plan, the General Plans of the various land use jurisdictions, and the approved specific plans within the Ord Community. The 2015 UWMP found that the projected Ord Community water demand of 8,293 AFY in year 2035 exceeded the currently available supply of 6,600 AFY. Additionally, because the current water supply within the Ord Community has been allocated among the land use jurisdictions, some jurisdictions maintain a projected surplus, while others have projected shortages. The District is pursuing two water supply projects to address the projected shortfall. First, an urban recycled water system is being constructed, which will provide an initial 600 AFY for landscape irrigation, and ultimately provide up to 1,427 AFY of non-potable supply. Second, a seawater desalination project is proposed to provide up to 1,500 AFY of potable water supply. The District is currently

considering alternative groundwater replenishment projects which, if feasible, may replace the desalination portion of the RUWAP.

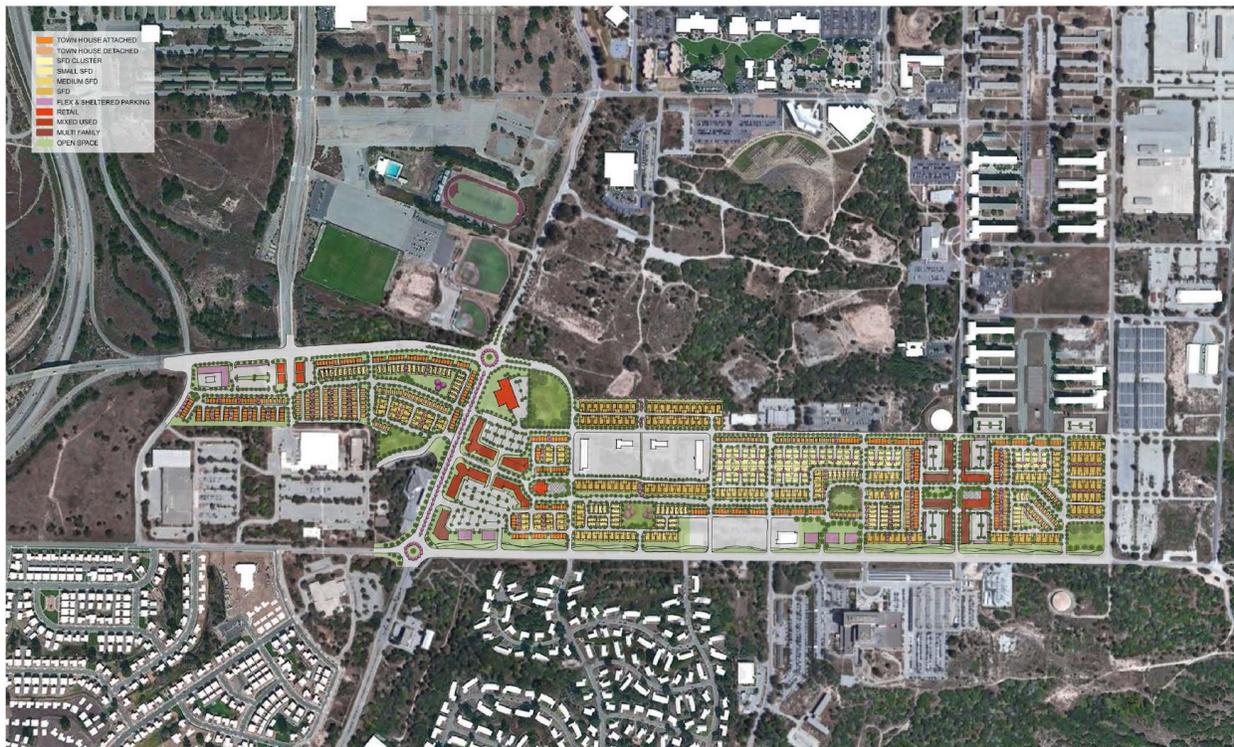
Projected development within the City of Seaside was accounted for in the 2015 UWMP, spread across entitled areas, approved specific plan areas and remaining areas. The UWMP included 2,716 dwelling units, 120 youth hostel beds and approximately 362,800 sq-ft of commercial/light industrial space (outside of the Main Gate, Seaside Resort and Monterey Downs specific plan areas), with a total projected water demand of 780.9 AFY. The project as described in the specific plan includes 1,485 dwelling units, 250 hotel rooms, 75 youth hostel rooms and 200,000 sq-ft of retail/commercial/light industrial space, with a total projected demand of 487.4 AFY. This project falls within the previous UWMP development projection.

## Section 2 - Project Description and Water Demands

### 2.1 Project Description

The Campus Town Specific Plan for the City of Seaside, California, describes the planned development of approximately 85-acres, whose boundaries are shown in Figure 2.1. The Project area includes land south of Light Fighter Drive between 1<sup>st</sup> Avenue and General Jim Moore Blvd, and land north of Gigling Road between General Jim Moore Blvd and 7<sup>th</sup> Avenue. The site is between the California State University, Monterey Bay (CSUMB), campus to the north, and the Presidio of Monterey Annex (lands retained by the U.S. Army) to the south.

**Figure 2.1: Project Area<sup>2</sup>**



Campus Town is a phased master-planned community which will include up to 1,485 residential dwelling units, 250 hotel rooms, 75 youth hostel rooms, 150,000 square-feet of commercial space (retail, dining and entertainment), and 50,000 square-feet of office or light industrial space. The residential component will be a mix of single-family detached, single-family attached (townhomes), and multi-family buildings (multi-story apartments). There will be no more than 600 multi-family units. The conceptual site plan is shown in Figure 2.2.

<sup>2</sup> Figure prepared by SDG Architects, 2018

The site is currently a mix of vacant buildings and undeveloped areas. Within the specific plan footprint, there are several existing uses which will remain or relocate, as follows:

- Presidio Annex Fire Station, 4400 General Jim Moore Blvd, to be relocated outside the specific plan area
- Presidio Annex Offices, 4455, 4463 and 4468 Gigling Rd, to remain (area shown in gray)
- Monterey College of Law, corner of Colonel Durham Road and Malmedy Road, to remain (area shown in gray)
- Monterey Peninsula College, corner of Colonel Durham Road and Arnhem Road, to remain (area shown in gray)
- CSUMB Open Space parcel, corner of Colonel Durham Road and Malmedy Road, to remain open space
- American Youth Hostel, 4420 6<sup>th</sup> Avenue, integrated into the specific plan
- California Army National Guard, 4482 Colonel Durham Road, to be relocated outside the specific plan area
- Christian Memorial Tabernacle Church, 4483 Colonel Durham Road, to be relocated outside the specific plan area

Existing facilities identified as remaining are islands within the specific plan area, and are not included in the demand analysis. Those sites have existing water supply allocations.

## **2.2 Land Use and Water Demands**

The Campus Town Specific Plan consists of several elements including medium- to high-density residential, commercial and office space, and visitor serving businesses, as detailed below.

### **2.2.1 Residential**

Single-family residential densities will range from 12 to 22 units per acre for detached lots, and approach 30 units per acre for attached townhomes. The MCWD 2015 UWMP uses a demand factor of 0.25 acre-feet/year/dwelling unit (AFY/DU) for single-family residential at densities above 8-units/acre. Multi-family residential units will consist of multi-story apartment buildings and apartments on upper floors of mixed-use commercial buildings. The MCWD 2015 UWMP uses a demand factor of 0.25 AFY/DU for all multi-family residential development. The number of units by housing type is not specified in the project description, but the specific plan limits the overall development to 1,485 dwelling units, with no more than 600 of those being multi-family units. Since both housing types have the same demand factor, the maximum residential water demand is estimated to be  $371.25 \text{ AFY} = (1,485 \text{ DU}) \times (0.25 \text{ AFY/DU})$ .

Figure 2.2: Conceptual Site Plan



This page intentionally left blank

### **2.2.2 Hotel**

The specific plan includes a 250-room hotel. The MCWD demand factor for hotels is 0.17 AFY/room, so the estimated demand for the hotel is 42.5 AFY. Landscape irrigation is estimated separately, below.

### **2.2.3 Youth Hostel**

The City of Seaside previously approved the American Youth Hostel project, which is located within the specific plan area. The youth hostel project was for the renovation of three existing buildings, providing up to 120 beds. The water demand for that project was estimated at 5.5 AFY, based upon metered water usage and occupancy records for the American Youth Hostel in Monterey. In the Campus Town Specific Plan, the youth hostel will be integrated into the multi-family residential component. For this assessment, we are assuming that the hostel will still provide 120 beds with a total water demand of 5.5 AFY. Landscape irrigation is estimated separately, below.

### **2.2.4 Retail, Dining and Entertainment Space**

The specific plan includes 150,000 square-feet of commercial space to be used for retail, dining and entertainment businesses. The plan does not further divide the usage by type. The MCWD 2015 UWMP uses a demand factor of 0.0003 AFY/SF for unspecified commercial development. The estimated water demand for the commercial space is 45.0 AFY. Landscape irrigation is estimated separately, below.

### **2.2.5 Office, Flex, Maker Space and Light Industrial**

The specific plan includes 50,000 square-feet of business space to be used for office and light industry. The plan does not further divide the usage by type. The MCWD 2015 UWMP uses a demand factor of 0.000135 AFY/SF for office and R&D development. The estimated water demand for the business space is 6.75 AFY. Landscape irrigation is estimated separately, below.

### **2.2.6 Parks and Landscaping**

The conceptual site plan includes approximately 4.25 acres of irrigated non-turf landscaping, three (3) acres of irrigated turf (parks and play fields), and areas of non-irrigated open space. A demand factor of 2.1 AFY/AC is used for non-turf landscaping, and a factor of 2.5 AFY/AC is used for turf landscaping, based on the local evapotranspiration factor of 39 inches/year. The estimated landscaping demand for the specific plan area is 16.4 AFY.

Landscaping for street medians, parks and commercial sites may be irrigated with recycled water. Residential front yards may be irrigated with recycled water, if those landscapes are managed by a Homeowner's Association with a qualified landscaping staff. The use of recycled water for residential back-yards or interior use is prohibited. For this assessment, we do not have

sufficient detail to estimate the residential front yard irrigation demands, but we assume all non-residential irrigation may use recycled water.

### 2.2.7 Project Total Water Demands

The total water demand projected for the project is 487.4 AFY, as shown in Table 2-1, below. As stated in Section 2.2.6, Potential Recycled Water Demand reflects non-residential landscape irrigation. If the residential front yards will be maintained by an HOA, that use may be added to the recycled water demand total. Also, the California Plumbing Code was updated in 2015 and now allows for the use of recycled water for sanitary fixtures (toilets and urinals) in all classes of buildings except single family residential construction. That subset of demand was not estimated in this report, but the City may choose to allow or require the use of recycled water for sanitary fixtures in portions of the development.

**Table 2-1: Summary of Estimated Water Demand**

	Land Use	Quantity	Unit	Demand Factor (afy/unit)	Potable (afy)	Recycled (afy)	Total Demand (afy)	Notes
A	Homes and apartments	1,485	DU	0.25	371.25		371.25	1, 2
B	Hotel	250	Rooms	0.17	42.50		42.50	
C	Youth Hostel	75	Rooms		5.50		5.50	3, 4
D	Retail/Dining/Commercial	150,000	SF	0.0003	45.00		45.00	5
E	Office / R&D	50,000	SF	0.000135	6.75		6.75	6
	Irrigated Landscape (Non-Turf)	4.25	AC	2.1		8.93	8.93	7
	Irrigated Landscape (Turf)	3	AC	2.5		7.50	7.50	
	Native Drought Tolerant Landscape	5	AC	0		0.00	0.00	8
					471.00	16.43	487.43	

Notes

- 1 SFR Density ranges from 12 to 30 per acre. Demand factor is the same as multi-family
- 2 Assume the maximum number of units allowed under the specific plan
- 3 Assume 75 rooms is equivalent to 120 beds, as previously approved for American Youth Hostel
- 4 Previous American Youth Hostel demand estimate is 5.5 AFY (existing allocation)
- 5 Commercial not defined by sub-type so commercial factor of 0.0003 AFY/SF assumed.
- 6 Office and light industrial not defined by sub-type, so office factor of 0.000135 AFY/SF used.
- 7 Assume 5% of total area is irrigated non-turf landscaping

### Section 3 - District Water Demands

#### 3.1 Historic and Current Water Demands

Table 3-1 shows the District's water production over the period 2006-2015. The District's average production over that period was 4,104 AFY, with 1,697 AFY in the Central Marina service area and 2,407 AFY in the Ord Community service area.

**Table 3-1: Water Production by Service Area (AF)<sup>3</sup>**

Year	Central Marina	Ord Community	Total
2006	1,786	2,509	4,295
2007	1,622	2,941	4,563
2008	1,833	2,269	4,102
2009	1,962	2,076	4,038
2010	1,744	2,389	4,133
2011	1,698	2,348	4,047
2012	1,814	2,360	4,174
2013	1,467	2,964	4,431
2014	1,619	2,407	4,026
2015	1,420	1,808	3,228

The City of Seaside is served by three water providers: the City's municipal water system and California American Water serve the portion of the City outside the former Fort Ord, and Marina Coast Water District serves the portion within the former Fort Ord. Within the Ord Community, there are three land use jurisdictions within the City, each separately managing their water supply. Those jurisdictions are the U.S. Army (Presidio of Monterey Annex), California State University, Monterey Bay (CSUMB) and the City of Seaside. Water use within the City of Seaside portion of the Ord Community (excluding CSUMB and U.S. Army) is provided in Table 3-2.

<sup>3</sup> Source: 2015 UWMP, Table 4.1

**Table 3-2: Water Use within the Seaside-Ord Community (AF)<sup>4</sup>**

Use Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Notes
Single family	277.13	244.67	230.47	223.61	236.78	255.68	219.95	172.6	160.69	179.24	1
Multi-family	59.81	59.83	60.25	69.17	66.54	64.4	44.95	48.7	57.89	58.66	2
Commercial	26.2	33.87	65.87	29.58	27.88	16.92	16.64	23.93	22.65	20.75	3
Industrial	0	0	0	0	0	0	0	0	0	0	
Institutional/Governmental	71.81	68.13	83.2	62.66	64.81	72.38	25.99	40.55	39.1	22.87	4
Landscape	11.67	10.82	350.44	440.15	271.16	467.58	536.5	147.48	9.3	8.5	5
Agriculture	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>446.62</b>	<b>417.32</b>	<b>790.23</b>	<b>825.17</b>	<b>667.17</b>	<b>876.96</b>	<b>844.03</b>	<b>433.26</b>	<b>289.63</b>	<b>290.02</b>	

Notes:

1. Includes Seaside Highlands and Bay View Mobile Home Park
2. Includes Sun Bay Apartments
3. Includes construction meters and all uses not listed elsewhere.
4. All schools (MPUSD, Chartwell, MCL, MCP)
5. Includes only Soper Field and Bayonet/Blackhorse Golf Course. Golf course use was only in years 2010-2015.

### 3.2 Future Demands

Table 3-3 shows projected water demands for the District through 2035. The projection is based on Table 3.5 of the 2015 UWMP, with two modifications. The original table included demand projections for the Monterey Downs Specific Plan Area, which was located in Seaside and unincorporated Monterey County. The developer for that project has since withdrawn their planning application, so that project was removed from the demand projection. The 2015 UWMP also assumed that Bayonet/Blackhorse Golf Course would connect to the recycled water project for irrigation supply, so that irrigation demand was included in the demand projection. The City has since decided that the golf course irrigation will remain on well water from the Seaside Groundwater Basin (outside of MCWD), so that irrigation demand was removed from this projection.

---

<sup>4</sup> Source: MCWD Quarterly Water Consumption Reports

**Table 3-3: Water Demand Projection by Service Area (AF)<sup>5</sup>**

	Jurisdiction	2012*	2015**	2020	2025	2030	2035	Notes	Allocation
Ord	U.S. Army	620	633	663	825	825	825		1,577
	CSUMB	404	404	442	632	755	779		1,035
	Del Rey Oaks	0	0	186	551	551	551		243
	City of Monterey	0	0	0	130	130	130		65
	County of Monterey	8	52	377	539	539	539		720
	UCMBEST	3	3	94	299	515	515	4	230
	City of Seaside	657	657	592	783	1,097	1,560	1, 2	1,012
	State Parks and Rec.	0	0	12	18	20	25		45
	Marina Ord Comm.	264	285	901	1,572	1,702	1,704	3	1,625
	Assumed Line Loss	395	348	348	348	348	348		348
Marina	Armstrong Ranch	0	0	0	680	680	680		920
	Cemex	0	0	0	0	0	500		500
	Marina Central	1,823	1,823	2,184	2,491	2,606	2,725		3,020
	Subtotal - Ord	2,351	2,382	3,616	5,698	6,482	6,976	5	6,900
	Subtotal - Marina	1,823	1,823	2,184	3,171	3,286	3,905		4,440
	Total	4,174	4,204	5,800	8,868	9,768	10,881		11,340

\*Actual demands from calendar year 2012 used to represent a non-drought year.

\*\* Projected demands. Actual use was lower due to mandatory drought restrictions.

1 Includes Seaside Resort Golf Course use in 2012 and 2015 (temporary use).

2. Revised values shown in italics. Removes Monterey Downs and Golf Course irrigation.

3. Allocation includes 1325 AFY groundwater and 300 AFY existing pilot desalination plant

4. MBEST commented that they may develop up to 230 AFY as soon as the market allows it.

5. Allocation includes 6600 AFY groundwater and 300 AFY existing pilot desalination plant.

The demand projection for the City of Seaside includes the build-out of two entitled projects, Seaside Resort and The Projects at Main Gate, and estimates for the remaining redevelopment parcels within the City. The California Central Coast Veterans Cemetery is located within the City, but the water allocation was provided by the U.S. Army, so it is included in the Army demand projection. Elements of the Campus Town Specific Plan, including all of the residential units, were included in the projection for the remaining development parcels, shown in Table 3-4 (below). As can be seen, the proposed project does not increase the projected total water demand for the City.

<sup>5</sup> Source: Table 3.5 of the 2015 MCWD Urban Water Management Plan

**Table 3-4: Campus Town Elements compared to Elements in the 2015 UWMP<sup>6</sup>**

	2015 UWMP				2018 Specific Plan			
	Qty	Unit	Factor (afy/unit)	Demand (afy)	Qty	Unit	Factor (afy/unit)	Demand (afy)
SF Residential (<5 du/ac)	-	DU	0.5	0.0	-	DU	0.5	0.0
SF Residential (5-8 du/ac)	579	DU	0.33	191.1		DU	0.33	0.0
SF Residential (8-15 du/ac)	1,040	DU	0.25	260.0	885	DU	0.25	221.3
MF Residential (8-15 du/ac)	-	DU	0.25	0.0		DU	0.25	0.0
MF Residential (>15 du/ac)	1,097	DU	0.25	274.3	600	DU	0.25	150.0
Office	60,000	SF	0.000135	8.1	50,000	SF	0.000135	6.8
Commercial		SF	0.0003		150,000	SF	0.0003	45.0
Conference Center	250,000	SF	0.000135	33.8		SF	0.000135	0.0
Hotel Rooms	-	RM	0.17	0.0	250	RM	0.17	42.5
Youth Hostel (note 2)	120	bed		5.5	75	RM		5.5
Parks/Landscaping					4.3	AC	2.1	8.9
Parks/Turf					3.0	AC	2.5	7.5
Corporation Yard	52,800	SF	multiple	8.2				
<b>TOTAL</b>				<b>780.9</b>				<b>487.4</b>

### 3.3 Dry-Year Demands

Section 10631 of the Water Code requires that water demands be estimated for an average water year, a single dry water year and multiple dry water years. As discussed in the District's 2015 Urban Water Management Plan, the MCWD service area has a cool summer-type Mediterranean climate, with rain occurring in October through May, and advection fog enveloping the coast in the summer in response to inland heating. Due to these cool summer conditions, the area does not experience the significant increases in summer irrigation demands common to areas further inland in the Salinas River Valley. Periods of below normal rainfall do not reduce the coastal fog, resulting in very minor demand fluctuations between average and dry years.

In the 2015 UWMP, the demand increase during a single-dry year or the first of multiple dry years was calculated to be 1%, based on the system demand increase from 2012 to 2013 (start of the recent drought). Due to mandatory water conservation measures, water demands declined in subsequent years, by 12% in the second dry year and 25% in the third dry year. The projected demands during single dry years and multiple dry years are provided in Table 3-5, with the maximum demand being 492.3 AFY.

<sup>6</sup> Source: Table C-3, 2015 UWMP

**Table 3-5: Dry Year Demand Projections**

	<b>Average Year</b>	<b>Single Dry Year</b>	<b>1st Dry Year</b>	<b>2nd Dry Year</b>	<b>3rd Dry Year</b>
<b>Factor</b>		1.01	1.01	0.88	0.75
<b>Projected Demand (AFY)</b>	487.4	492.3	492.3	428.9	365.6

MCWD has sufficient supply and well capacity to meet all customer demands during peak (single dry year) conditions.

## Section 4 - Water Supply

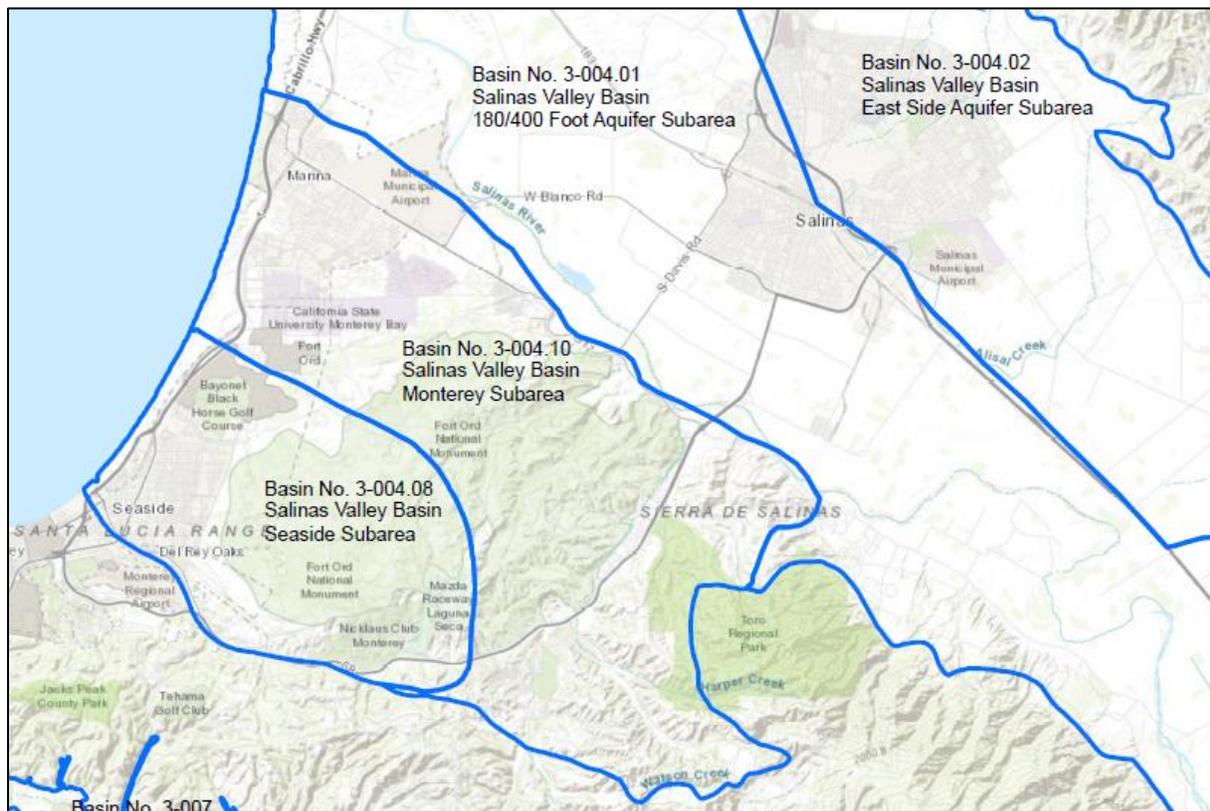
### 4.1 Current Water Supply

The District's primary source of water supply is the Salinas Valley Groundwater Basin, and it also has a small desalination plant in the Central Marina Service Area. Under the Regional Urban Water Augmentation Project, the District is working to develop recycled water and a larger desalination plant to meet the projected demands of the Ord Community. None of the District's current supply is purchased under wholesale contract.

#### 4.1.1 Groundwater

The District supplies groundwater from the Salinas Valley Groundwater Basin. In 2016, the California Department of Water Resources (DWR) published an Interim Update to Bulletin 118, California's Groundwater. Bulletin 118 defines groundwater basin and sub-basin boundaries used for planning and groundwater management. The update reflects changes submitted to and approved by DWR under the Sustainable Groundwater Management Act. Within northern Monterey County, the changes include redefining the boundaries of the Seaside and Corral De Tierra sub-areas to reflect the defined boundary of the adjudicated Seaside Groundwater Basin, and merge the remaining portion of the Seaside sub-area with the Corral de Tierra sub-area (remained the Monterey sub-area). The revised boundaries are shown in Figure 4.1.

**Figure 4.1: Groundwater Basins**



All of the District’s wells are located within the Monterey Sub-Basin of the Salinas Valley Groundwater Basin. MCWD has been designated as an exclusive Groundwater Sustainability Agency (GSA) within its LAFCO service area, and it participates in the Salinas Valley Basin GSA as a member of the Advisory Committee. A portion of the District’s Ord Community service area overlays the Seaside Sub-Basin of the Salinas Valley Groundwater Basin, which is an adjudicated basin managed by the Seaside Water Master Board.

Under the “Agreement between the United States of America and the Monterey County Water Resources Agency concerning Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency, Agreement No. A-06404”, dated September 21, 1993, the District (successor to the United States) may withdraw up to 6,600 acre-feet per year from the Salinas Valley Groundwater Basin for use in the District’s Ord Community service area. Under the “Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands” dated March 1996, by and between the MCWRA, the Marina Coast Water District, J.G. Armstrong Family Members, RMC Lonestar, and the City of Marina, the District may withdraw up to 3,020 AFY from the Salinas Valley Groundwater Basin for use in the District’s Central Marina service area. Under that agreement, additional groundwater supply will be made available to the District for use within the Armstrong Ranch and the RMC Lonestar properties north of Marina, if and when the City annexes and develops those areas.

There are three defined aquifers within the Marina Coast Water District service area, the 180-foot, the 400-foot and the 900-foot or Deep Aquifer. The District operates eight wells, with three in Central Marina and five in the Ord Community. The service areas are interconnected for reliability, with meters at the points of connection to facilitate managing the two well-fields to ensure each service area remains within its authorized withdrawal limit. Table 4-1 summarizes the existing pumping capacity of the District wells. As can be seen, the District has sufficient well capacity to meet the maximum day demands with the largest well out-of-service.

**Table 4-1: Existing Pumping Capacity**

Location	Well #	Aquifer	Estimated Capacity	
			(AFY)	(GPM)
Marina	10	Deep	2,670	1,654
	11	Deep	3,561	2,206
	12	Deep	3,264	2,022
Ord	29	400 foot	2,885	1,787
	30	400 foot	3,624	2,245
	31	400 foot	3,625	2,246
	34	Deep	3,326	2,000
	35	400 foot	3,326	2,000

### **4.1.2 Desalinated Water**

The District has a desalination plant located near Marina State Beach, which can contribute up to 300 AFY of potable water supply to the Central Marina service area. The plant was constructed in 1997 as a pilot project but is not currently in use. Under a 2006 agreement among the District, Cypress Marina Heights, L.P., Marina Community Partners, L.L.C., and Cypress Knolls, L.L.C., the yield of this plant is dedicated to meeting the needs of the three developments in the Marina portion of the Ord Community service area. The developers may opt to terminate the agreement once new supply available to the Ord Community from the Regional Urban Water Augmentation Project, at which time that supply would revert to Central Marina.

## **4.2 Future Water Supply**

The District is working towards developing new sources of water supply to meet projected demand increases due to redevelopment within the Ord Community, as well as taking actions to address groundwater wells impacted by seawater intrusion. The two major water supply projects described below are (i) reclaimed wastewater, and (ii) desalinated water, which make up the Regional Urban Water Augmentation Project. MCWD is investigating alternative sources of potable supply, which may be less costly than desalination.

### **4.2.1 Recycled Water**

Recycled water refers to sanitary sewage which undergoes treatment and disinfection, typically for non-potable uses such as agricultural and landscape irrigation. The Monterey One Water (M1W, formerly Monterey Regional Water Pollution Control Agency) operates a regional wastewater treatment facility in north Marina and produces reclaimed water for agricultural irrigation in the Castroville area. Through prior agreements with the M1W, the District is entitled to receive recycled water from the regional plant, up to the volume of wastewater generated within the District and sent to the plant. In 2007, MCWD began detailed design of the recycled water distribution system, and has now constructed several portions of the transmission main. In 2012, M1W began planning the Pure Water Monterey Groundwater Replenishment Project, which will develop additional sources of water supply and produce advanced treated water for injection into the Seaside Groundwater Basin for indirect potable reuse. In 2016, MCWD and M1W entered into an agreement allowing MCWD to participate in the Pure Water Monterey Project. MCWD is completing construction of the transmission main, which will be used to deliver advanced treated water for both groundwater injection and for urban irrigation.

Under the initial phase of the project, MCWD will receive up to 600 AFY of advanced treated water for urban irrigation use. In later phases, the project may be expanded and MCWD's share would increase to 1,427 AFY, which was the amount of non-potable demand in the Ord Community analyzed in the RUWAP EIR.

#### **4.2.2 Desalinated Water**

Given readily available saline and brackish waters near the District's service area, desalinated water has been considered as another potential water supply. The District's existing 300 AFY desalination plant is relatively small, but a larger facility to serve the District is planned as a supplemental water supply. The Regional Urban Water Augmentation Project EIR includes a 1,500 AFY desalination facility for the District. The facility was sized to provide 1,200 AFY of new supply to the Ord Community and 300 AFY to Central Marina, allowing the District to retire the existing pilot desalination plant.

#### **4.2.3 Conservation**

The Marina Coast Water District has an active water conservation program. Under the District's water conservation ordinance, all new construction is required to incorporate water saving devices over and above the requirements of the state building code. Additionally, the District has adopted the State's Model Water Efficient Landscape Ordinance. The District requires developers to install water conserving fixtures during construction, landscapes which require high irrigation are discouraged, and a tiered water rate structure discourages water waste. The District offers rebate incentives to replace less efficient water fixtures, for installing smart irrigation controllers, and for replacing lawns and sprinklers.

The State of California has established a goal of reducing per person water use by 20% by the year 2020, compared to the 2008 baseline demands. Toward that end, the California Building Code was updated in 2010, with the goal of reducing indoor water use to 55 gallons per person per day. In the 2010 UWMP, the District identified a year 2020 conservation target of 117 gallons per person per day (system-wide potable average). It is anticipated that the Campus Town Specific Plan area will meet that goal, based upon the new indoor plumbing fixture codes and the planned use of recycled water to meet non-potable demands. The Specific Plan Area could potentially use 8.9 AFY of recycled water, which is 2% of the projected overall water demand.

#### **4.3 Regulatory Permits Necessary for Supply Delivery**

The Marina Coast Water District is a public water system, permitted by the State Water Resources Control Board, Division of Drinking Water, System No. 2710017. The recycled water distribution system is permitted as System No. 2790009. Permits required for the construction and operation of new facilities are obtained on a project-by-project basis.

## Section 5 - Supply Sufficiency Analysis

### 5.1 Comparison of Project Demands to Projected Supply

Within the Ord Community, the 6,600 AFY of existing Salinas Valley groundwater supply has been allocated among the land use jurisdictions by the Fort Ord Reuse Authority (FORA), as shown in Table 5-1, below. The municipal jurisdictions (Cities and Monterey County) formally sub-allocate this supply to developments. Until additional water supplies are developed and allocated within the Ord Community, MCWD will only allow new service connections up to the usage totals allocated by the respective jurisdictions. FORA has also formally allocated the recycled water supply from the Phase 1 Recycled Water Project. Those allocations are included in Table 5-1.

**Table 5-1: FORA Allocations in the Ord Community**

Land Use Jurisdiction	Existing Groundwater Allocation (AFY)	Future Recycled Allocation (AFY)
City of Del Rey Oaks	243	280
City of Marina (Ord)	1,325	345
City of Monterey	65	0
<b>City of Seaside</b>	<b>1,012</b>	<b>453</b>
County of Monterey	710	134
Marina Sphere (existing use)	10	0
CA State Parks and Rec.	45	0
CSU Monterey Bay	1,035	87
Univ. of California MBEST	230	60
U.S. Army	1,577	0
Assumed Line Loss	348	68
Total – Ord Community	6,600	1,427

The City of Seaside has sub-allocated portions of their existing groundwater allocation, as detailed in Table 5-2. The remaining unallocated supply totals 186.3 AFY, which is not sufficient to meet the 474.5 AFY required for the specific plan area (total projected 487.4 AFY minus the 5.5 AFY previously allocated for the youth hostel). The Project may be phased, however, and the first phase supplied up to the amount allocated by the jurisdictions. Later phases cannot be approved until additional water supplies are developed for the Ord Community.

The Project is projected to use up to 8.9 AFY of recycled water. The City of Seaside has an allocation of 453 AFY from the Phase 1 Recycled Water Project, which will be available in 2019. Once the recycled water distribution system is operational, potable water use that is replaced with recycled water may be reallocated to new projects. Recycled water is planned for use at MPUSD schools for landscapes and play fields (30 to 40 AFY) and within Seaside Highlands for parks and common area landscapes (43.1 AFY).

**Table 5-2: City of Seaside Sub-Allocations**

<b>Land Use Jurisdiction</b>	<b>Existing Groundwater Allocation (AFY)</b>
<b>City of Seaside</b>	
SunBay Apartments	120.0
Brostram Park (Bay View MHP)	84.8
Seaside Highlands	168.5
Seaside Resort	161.4
MPUSD	81.0
Monterey College of Law	2.6
Monterey Peninsula College	9.0
Chartwell School	6.4
Main Gate "Retail Lifestyle Mall"	149.0
American Youth Hostile	5.5
State Parks transfer for AYH	-5.5
Seaside Senior Living	40.0
Other Existing Use	3.0
<b>City of Seaside Total</b>	<b>825.7</b>
<b>FORA Allocation</b>	<b>1012.0</b>
<b>City of Seaside Unallocated</b>	<b>186.3</b>

## 5.2 Plans for Acquiring Additional Water Supplies

Under the provisions of Section 10911 of the California Water Code, if the water supplier concludes that water supplies will be insufficient for the proposed project, the water supplier shall provide its plans for acquiring additional water supplies. The Marina Coast Water District is currently pursuing two water supply projects, the Recycled Water Project and the Desalination Project, which are intended to allow the District to develop 2,400 AFY of new supply to meet the projected Ord Community demand. Detailed descriptions of these projects are provided in Appendices B and C.

## 5.3 Reliability of Water Supply

The Salinas Valley Groundwater Basin has a large storage volume, and is recharged by the Salinas River, which is augmented by upstream reservoirs managed by MCWRA. Consequently, the aquifer does not experience wide level variations due to climatic conditions. Water levels vary by 20 to 30 feet seasonally, and decline an additional 10 to 20 feet during drought periods. The District's demands accounted for less than one percent of the total groundwater pumped from the Salinas groundwater basin in 2015, the latest year reported. Therefore, the District's supply is considered reliable on a quantity basis. The upper aquifers in the Salinas Valley Groundwater Basin (180-foot aquifer and 400-foot aquifer) along the coast are experiencing high salinity due to seawater intrusion. The District's wells in Central Marina are in the Deep Aquifer, which has not experienced signs of seawater intrusion and is considered to have reliable

quality. In the Ord Community, the District has one well in the deep aquifer and four wells in the upper aquifers, but outside the area currently affected by seawater intrusion. The District is closely monitoring the quality in these wells.

The planned additional sources of supply are recycled wastewater and seawater desalination. The source of supply for recycled water is wastewater return flows, which originate from indoor water use. Indoor water use is not subject to the same levels of curtailment during drought periods as outdoor water use, so the source of recycled water supply is considered drought-proof. The SVRP treatment plant operated by the MRWPCA has reliably produced recycled water meeting the requirements of Title 22 for over a decade. Similarly, seawater desalination is considered a reliable source of supply. Reverse osmosis technology is a proven method of desalinating seawater and brackish groundwater.

#### **5.4 Effect on Agricultural and Industrial Users Reliant on the Same Source**

There are no agricultural water users within the MCWD service area, nor are there industrial users with privately-owned wells. Agricultural users in the Salinas Valley rely on the same basin-wide supply from the Salinas Valley Groundwater Basin, accounting for 92.9% of the groundwater pumping in 2015. In the local area, 12,000 acres of irrigated agriculture are supplied with recycled water from the Castroville Seawater Intrusion Project. These uses are taken into account in the basin planning of the MCWRA and SVBGSA as part of developing a water balance for the Basin. Additional demands in the Central Marina and Ord Community area are not expected to affect the agricultural users, provided that the District groundwater pumping to meet new demands remains consistent with the MCWRA agreements.

## Section 6 - Conclusions

### 6.1 Sufficiency of Water Supply for the Project

The City of Seaside does not have sufficient existing water supply to achieve the complete build-out of the planned Campus Town Specific Plan Area. If the project is phased, the initial phase could be authorized up to 186.3 AFY from the existing Salinas Valley Groundwater allocations. Later phases must be deferred until the District is able to develop additional sources of water supply for the Ord Community.

### 6.2 Future Actions

Section 10911(b) of the Water Code states “The City or County shall include the water assessment provided pursuant to Section 10910, in any environmental document prepared for the Project pursuant to [CEQA].” The City of Seaside will need to adopt this WSA as part of the CEQA environmental review for the proposed Project, including the findings described above.

The City of Seaside may take certain additional actions to guarantee the availability of the water supplies for the Campus Town Specific Plan:

- To offset urban irrigation demands within the Seaside portion of the Ord Community with recycled water and then apply the existing potable supply towards the Campus Town Specific Plan area, the project EIR should clearly describe that intent and the resulting allocation of potable and recycled water supply. The Seaside Highlands development was constructed with recycled water mains to supply the landscape irrigation systems. This system is currently fed with potable water, but recycled water will be available within the next few years. Providing recycled water for irrigation of that project would make up to 43.1 AFY<sup>7</sup> of potable supply available for reallocation from Seaside Highlands. An additional 10 AFY may be made available by converting the City’s Soper Field sports complex (adjacent to Seaside Highlands) to recycled water.
- The City may require dual-plumbing of buildings to use recycled water for sanitary fixture flushing (toilets and urinals), which will offset potable water demand with recycled water.
- The City may determine that certain sub-allocation areas are fully developed, and reallocate the unused portion of existing allocations to a new project. In doing this, the City should use the maximum water use from the last 10 years as the basis of comparison.

---

<sup>7</sup> The City of Seaside water allocation to the Seaside Highlands project states that 43.1 AFY of irrigation demand will be converted to recycled water when it becomes available.

- The City may enter into an agreement with another land-use jurisdiction in the Ord Community to allocate currently unused water supply to a portion of this Project.

## Appendix A: Recycled Water Project Details

In 2004-2005, the District prepared engineering studies for the Regional Urban Water Augmentation Project (RUWAP). This project was intended to develop 2,400 AFY of additional water supply for the Ord Community, to meet projected demands identified in the Fort Ord Base Reuse Plan. The RUWAP has two components, urban use of recycled water and a desalination facility. The final capacity of the two components may be adjusted during final design, but the total amount of new supply will be 2,400 AFY.

In 2012, the Monterey One Water (M1W, formerly the Monterey Regional Water Pollution Control Agency) and the Monterey Peninsula Water Management District began planning the Pure Water Monterey Groundwater Replenishment Project, which includes the advanced treatment of recycled water for indirect potable reuse. On April 8, 2016, MCWD and M1W entered into an agreement which would provide up to 1,427 AFY of advanced treated water for urban landscape irrigation instead of the tertiary treated recycled water planned under the RUWAP. The Pure Water Monterey Project required a pipeline running parallel to MCWD's planned RUWAP pipeline, so the agencies agreed to share a single pipeline, realizing a cost savings to each project.

1. Source of Supply: Tertiary treated wastewater available at the MRWPCA Regional Wastewater Treatment Plant in North Marina. Under the annexation agreement between MCWD and MRWPCA, the District has the right to purchase recycled water, subject to annual and seasonal limits. The Advanced Water Purification Facility (AWPF) is currently being constructed, with a design capacity of 5.0 mgd. The plant will produce advanced-treated recycled water meeting the Title 22 standards for indirect potable reuse (injection into a groundwater aquifer and recovery at other wells).
2. Expected Supply Capability: The Phase 1 project will have an initial yield of 4,100 AFY, of which 600 AFY would be available to MCWD. The remaining 3,500 AFY would be conveyed to an injection wellfield in the Ord Community and stored in the Seaside Groundwater Basin. Future Phases of the project will increase MCWD's yield to 1,427 AFY.
3. Project Facilities:
  - Advanced water purification facility and pump station, located within the M1W plant in North Marina
  - Product water transmission and distribution pipelines within Marina and the Ord Community

- Recycled water storage tank within the Ord Community

#### 4. Historical Record:

- MCWD operated a recycled water system from 1996 to 1998. Thereafter the Marina Wastewater Treatment Plant was retired and the local sanitary sewer system was connected to the Regional wastewater collection system.
- MCWD prepared engineering studies for the Regional Urban Water Augmentation Project (RUWAP), which included a recycled water component. The District approved the CEQA EIR for the RUWAP in 2005, and amended the findings in 2006 and 2007 as detailed planning progressed.
- In 2004, MCWD published standards for recycled water infrastructure and began requiring the construction of recycled water pipelines in new subdivisions.
- MCWD constructed 3.5 miles of recycled water pipelines within the Ord Community during on-going road construction projects, in cooperation with the Fort Ord Reuse Authority and California State University Monterey Bay.
- MCWD is currently constructing the shared product water transmission main and storage reservoir. The transmission main connects the AWP in north Marina to the injection wellfield in Seaside.
- M1W is currently constructing the Pure Water Monterey AWP and the injection wellfield.
- MCWD is currently completing design of the recycled water distribution system, which connects customers to the transmission system.
- MCWD obtained a pipeline easement for the recycled water main across the Armstrong Ranch in 2007. MCWD obtained a pipeline easement from the City of Seaside for the recycled water main from Normandy Ave to the water tank site in 2010. The District obtained ownership of the recycled water tank site in 2010 (previously held as an exclusive easement). MCWD finalized the recycled water main easements with the Presidio of Monterey in 2012. MCWD finalized the recycled water main easements with CSUMB in 2018.

#### 5. Written Contracts and Agreements:

- In the annexation agreement between MCWD and MRWPCA, MCWD retained the right to obtain recycled water in an amount not to exceed the volume of wastewater flows originating from the District.
- MCWD entered into an agreement with the Fort Ord Reuse Authority in 2005 to develop the RUWAP water supplies.
- MCWD executed two memoranda of understanding with MRWPCA and MCWRA (one in 2009 and one in 2010) to work cooperatively towards the RUWAP, and to specify quantities, (seasonal) availability, and roles and responsibilities.
- MCWD entered into the Pure Water Delivery and Supply Project Agreement with M1W in 2016 to participate in the Pure Water Monterey Project and receive advanced

treated water instead of tertiary treated and disinfected recycled water for the RUWAP.

- In agreements with developers of new subdivisions for the construction of water infrastructure, the District requires the installation of recycled water pipelines for the irrigation of public and commercial landscapes.
6. Estimated Costs and Financing: The Pure Water Monterey Project overall cost is estimated at approximately \$70 million. This includes both the MCWD and M1W Facilities. Both agencies have received State Revolving Fund Loans to cover a majority of the construction costs. The Fort Ord Reuse Authority has budgeted \$37 million for the Regional Urban Water Augmentation Project. A portion of that funding will be applied to this project.
7. Timeframes: The District began constructing recycled water pipelines in conjunction with road construction projects by other jurisdictions (Fort Ord Reuse Authority and CSU Monterey Bay) and private developers beginning in 2004. Construction of the transmission main and water tank is on-going, and projected to be complete by November 2018. Construction of the AWP and injection wellfield is on-going and projected to be complete by early 2019.
8. Federal, State and Local Permits for Construction:
- The project is subject to the California Environmental Quality Act (CEQA) and also the National Environmental Policy Act (NEPA) because the SVRP facility is partially funded by the U.S. Department of the Interior, Bureau of Reclamation. The CEQA EIR for the RUWAP Phase 1 Project with supporting NEPA studies has been completed. CEQA actions for a future RUWAP Phase 2 expansion have not been initiated.
  - The CEQA EIR for the Pure Water Monterey Project with supporting NEPA studies has been completed.
  - The project pump stations and pipelines are outside the Coastal Zone and therefore a Coastal Commission Permit is not required.
  - Encroachment permits and easements for pipeline construction have been coordinated with the City of Marina, the City of Seaside, CSU Monterey Bay, Monterey Peninsula Unified School District and the Presidio of Monterey (Ord Military Community).
  - A Monterey County Conditional Use Permit was obtained for the pipeline crossing agricultural land (Armstrong Ranch).
  - M1W has obtained a Water System Permit with the California State Water Resources Control Board, Division of Drinking Water for the advanced treated water system.
  - The District's Water System Permit with the California State Water Resources Control Board, Division of Drinking Water will need to be updated to include the recycled water distribution system before the system can be placed into operation.

The Title 22 Engineering Report for that addition has been submitted and a recycled water system number has been assigned.

## Appendix B: Desalination Project Details

In 2004-2005, the District prepared engineering studies for the Regional Urban Water Augmentation Project (RUWAP). This project was intended to develop 2,400 AFY of additional water supply for the Ord Community, to meet projected demands identified in the Fort Ord Base Reuse Plan. The RUWAP has two components, urban use of recycled water and a desalination facility. The final capacity of the two components may be adjusted during final design, but the total amount of new supply will be 2,400 AFY.

The Desalination Project was originally studied as a stand-alone facility, located at the former Fort Ord Wastewater Treatment Plant. In 2008, the District began working cooperatively with California American Water, which was planning a larger desalination facility to serve their Monterey Service Area (adjacent to the Ord Community). The two agencies jointly planned a Regional Desalination Facility to be located in North Marina adjacent to the MRWPCA Regional Wastewater Treatment Plant. This location facilitated the use of the existing wastewater outfall pipeline for brine disposal from the desalination plant. In 2011, the agreement between MCWD, American Water and Monterey County Water Resources Agency was terminated. MCWD is now pursuing a smaller desalination facility, as sized in the RUWAP EIR, located on the North Marina site.

The following details are provided as required per Water Code §10911.

1. Source of Supply: Seawater-intruded groundwater in the 180-foot aquifer of the Salinas Valley Groundwater Basin, Pressure Sub-Area. Source wells will capture seawater within the aquifer which is currently migrating inland.
2. Expected Supply Capability: 1,500 AFY (average annual yield). Of this total, 1,200 AFY would be for the Ord Community, and 300 AFY would replace the capacity of the District's existing pilot desalination plant, which would then be retired.
3. Project Facilities:
  - Source wells in the intruded portion of the 180-ft aquifer
  - A reverse-osmosis desalination plant located in North Marina,
  - Product water pipeline from the plant to the MCWD service area,
  - Brine disposal pipeline from the plant to the Monterey One Water effluent disposal pipeline (deep ocean outfall)
  - Water storage tanks within the MCWD service area
4. Historical Record:

- MCWD constructed a pilot desalination plant in Marina in 1996.
  - MCWD prepared engineering studies for the Regional Urban Water Augmentation Project (RUWAP), which included a seawater desalination component.
  - The District approved the CEQA EIR for the RUWAP in 2005, and amended the findings in 2006 and 2007 as detailed planning progressed.
  - CAWC prepared engineering studies for the Coastal Water Project (CWP) in 2005-2008, which included a seawater desalination facility, and submitted a CEQA EIR to the California Public Utilities Commission in 2009.
  - MCWD and CAWC worked cooperatively to develop a regional desalination facility as an alternative to two separate facilities, as reflected in the CWP EIR.
  - The CPUC approved the CWP EIR in 2010.
  - The Water Purchase Agreement was terminated by CAWC in September 2011.
  - MCWD issued an RFQ for Design-Build Services for the Desalination Project in September 2012, but did not award a contract. The project was placed on hold to focus on the recycled water project
5. Written Contracts and Agreements:
- MCWD entered into an agreement with the Fort Ord Reuse Authority in 2005 to develop the RUWAP water supplies.
  - MCWD entered into an option agreement with the Armstrong Family Trust in 1998 to purchase land for a future water facility. The District executed that option in 2010 for the Regional Desalination Facility site.
  - MCWD entered into an agreement with MRWPCA in 2009 for shared use of the effluent disposal pipeline.
  - MCWD, CAWC and MCWRA entered in the Water Purchase Agreement in 2010. This agreement established project responsibilities between the three agencies. This agreement was terminated by CAWC in September 2011.
6. Estimated Costs and Financing: The Regional Desalination Project is estimated to cost approximately \$80 million. The District will pursue State and Federal grants for portions of the project cost. The Fort Ord Reuse Authority has budgeted \$37 million for the Regional Urban Water Augmentation Project. A portion of that funding will be applied to this project.
7. Timeframe: Preliminary studies are complete. Assuming a traditional design-bid-build delivery model, it would take from 4 to 6 years to complete design, permitting and construction.
8. Federal, State and Local Permits for Construction:
- The project is subject to the California Environmental Quality Act (CEQA) and also the National Environmental Policy Act (NEPA) because the facility may be partially funded by the U.S. Department of the Interior, Bureau of Reclamation. CEQA EIRs

- with supporting NEPA studies for the RUWAP Desalination Project and for the Regional Desalination Project have been completed. The RUWAP EIR must be amended to reflect the new MCWD facility location and brine disposal method.
- A Coastal Development Permit from the California Coastal Commission may be required for some project facilities if brackish water source wells are located in the Coastal Zone.
  - Encroachment permits for pipelines will be required from Monterey County, City of Marina, and possibly CALTRANS.
  - MCWD must amend their Water System Permit with the California Department of Public Health to add the desalination facility as a new source of supply before the system can be placed into operation.
  - A Regional Water Quality Control Board discharge permit (NPDES) for the desalination plant will be required.
  - A Monterey County Building Permit will be required for the desalination plant
  - A permit from the Monterey Bay Unified Air Pollution Control District will be required for the desalination facility
  - Monterey County Environmental Health must approve permits for (1) construction of the groundwater wells, and (2) construction of the desalination facility

## Appendix C: References

California American Water Company:

Coastal Water Project, Final Environmental Impact Report, prepared for the California Public Utilities Commission, October 2009

CalAm Monterey Peninsula Water Supply Project, Final Environmental Impact Report, prepared for the California Public Utilities Commission, March 2018

California Department of Water Resources:

20x2020 Water Conservation Plan, February 2010.

Bulletin 118: California's Groundwater, Interim Updated 2016, December 2016

California Irrigation Management Information System (CIMIS) website,  
[www.cimis.water.gov](http://www.cimis.water.gov)

Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, October 8, 2003.

2015 Urban Water Management Plan Guidebook for Urban Water Suppliers, March 2016.

Model Water Efficient Landscape Ordinance, July 15, 2015

California Urban Water Conservation Council, Memorandum of Understanding Regarding Urban Water Conservation in California, As Amended June 9, 2010

California Building Standards Commission, 2013 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11

Carollo Engineers, Marina Water Systems Master Plan, February 2007.

City of Seaside:

2009-2014 Housing Element, adopted August 2010

Redevelopment Agency of the City of Seaside, Implementation Plan, 2007 – 2012, Seaside-Fort Ord Redevelopment Project Area, January 17, 2008

County of Monterey, 2010 Monterey County General Plan, October 26, 2010

Denise Duffy & Associates:

Draft Environmental Impact Report, Pure Water Monterey Groundwater Replenishment Project. April 2015.

Final Environmental Impact Report, Pure Water Monterey Groundwater Replenishment Project. January 2016.

Denise Duffy & Associates in association with RBF Consulting:

Draft Environmental Impact Report Regional Urban Water Augmentation Project. June 2004.

Final Environmental Impact Report Regional Urban Water Augmentation Project. September, 2004.

Fort Ord Reuse Authority:

Capital Improvement Program, FY 2017/18 through Post FORA, June 2017.

Fort Ord Reuse Plan, 1996.

Reuse Plan EIR, 1997.

Harding ESE, Final Report, Hydrogeologic Investigation of the Salinas Valley Basin in the Vicinity of Fort Ord and Marina, Salinas Valley, California, prepared for the Monterey County Water Resources Agency, April 2001

Keyser Marston Associates, Inc., Implementation Plan for the Fort Ord Redevelopment Project Area, Prepared for the Redevelopment Agency of Monterey County, March 2007

LAFCO of Monterey County, Municipal Services Review for the Monterey Peninsula, 2006

Marina Coast Water District:

2015 Urban Water Management Plan, prepared by Schaaf & Wheeler, Consulting Civil Engineers, June 2016.

2017 Consumer Confidence Report for Central Marina and Ord Community, April 2018

Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2017, approved December 18, 2017.

Pure Water Delivery and Supply Project Agreement between Monterey Regional Water Pollution Control Agency and Marina Coast Water District, April 8, 2016.

Water Supply Assessment and Written Verification of Supply for the Proposed Cypress Knolls Residential Project, prepared with Byron Buck & Associates, March 22, 2006.

Water Supply Assessment and Written Verification of Supply for the Proposed Resort at Del Rey Oaks, prepared with Byron Buck & Associates, December 2007.

Water Supply Assessment and Written Verification of Supply for the Proposed East Garrison Specific Plan Development, prepared with Byron Buck & Associates, June 3, 2004.

Water Supply Assessment and Written Verification of Supply for the City of Seaside Main Gate Specific Plan, prepared with Byron Buck & Associates, October 9, 2007.

Water Supply Assessment and Written Verification of Supply for the Proposed Marina Station Project, prepared with Byron Buck & Associates, January 4, 2006.

Water Supply Assessment and Written Verification of Supply for the Marina Heights Specific Plan, prepared with Byron Buck & Associates, December 15, 2003.

Water Supply Assessment and Written Verification of Supply for the Proposed University Villages Specific Plan Development and Marina Community Partners Project, prepared with Byron Buck & Associates, January 26, 2005.

Quarterly Water Consumption Report, period ending: December 31, 2017.

Monterey County Water Resources Agency:

2015 Groundwater Extraction Summary Report, April 2017.

Agreement between the United States of America and the Monterey County Water Resources Agency concerning Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency, Agreement No. A-06404, September 21, 1993.

Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands (1996). Document recorded in the Office of the Monterey County Recorder on August 7, 1996, at Reel 3404 Page 749.

RHAA, Development Master Plan, California Central Coast Veterans Cemetery, Fort Ord, prepared for the Redevelopment Agency of Monterey County, September 2008.

RMC Water and Environment, MCWD Recycled Water Project Basis of Design Report, 2006

University of California Cooperative Extension, A Guide to Estimating Irrigation Water Needs for Landscape Plantings in California, August 2000

**Appendix D: MCWD Board Resolution Approving the Water Supply Assessment for the Monterey Downs Specific Plan**

June 18, 2018

Resolution No. 2018-37  
Resolution of the Board of Directors  
Marina Coast Water District  
Approving the Water Supply Assessment and Written  
Verification of Supply for the Campus Town Specific Plan

RESOLVED by the Board of Directors (“Directors”) of the Marina Coast Water District (“District,” “MCWD”), at a regular meeting duly called and held on June 18, 2018, at 211 Hillcrest Avenue, Marina, California as follows:

WHEREAS, the City of Seaside is the lead agency for preparation of the Campus Town Specific Plan, a project that is located in the portion of the City of Seaside served by MCWD; and,

WHEREAS, the Campus Town Specific Plan area is within the MCWD’s Ord Community service area; and,

WHEREAS, the City of Seaside is required to produce a water supply assessment (Water Code section 10910 et. seq.) and written verification of supply (Government Code section 66473.7 (b)(1)) as part of the approval process for the Campus Town Specific Plan; and,

WHEREAS, the City of Seaside requested that MCWD, as the public water supplier for the area of development, analyze the available supplies and produce the required assessment and written verification of supply; and,

WHEREAS, the District completed the requested water supply assessment which concluded, pursuant to Section 10910 of the California Water Code, that the District’s water supplies allocated for the City of Seaside are currently not sufficient to meet the full water demand of 487.4-acre-feet-per-year associated with the proposed Campus Town Specific Plan in addition to other existing and previously approved development demands expected by MCWD in the Seaside Ord Community as described in MCWD’s Urban Water Management Plan during normal, single-dry and multiple dry years within a twenty-year projection; and, pursuant to Section 66473.7 of the California Government Code, the City’s allocated water supplies are currently sufficient only to provide up to 186.3 acre-feet per year of the proposed water demands of the Development, in addition to other planned demands expected by MCWD in the Seaside Ord Community Service Area as described in MCWD’s Urban Water Management Plan during normal, single-dry and multiple dry years within a twenty-year projection; and,

WHEREAS, the District has planned the Regional Urban Water Augmentation Project to develop additional water supply for the Ord Community, and has certified a CEQA Environmental Impact Report for the Project; and,

WHEREAS, the District is currently constructing the recycled water portion of the Regional Urban Water Augmentation Project to deliver non-potable water, a portion of which may be allocated by the City of Seaside to the Campus Town Specific Plan; and,

WHEREAS, the Water Supply Assessment is confirmation of the availability of a reliable water supply for an initial phase of the project, based on the "Agreement between the United States of America and Monterey County Water Resources Agency Concerning Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency" dated September 21, 1993.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Marina Coast Water District does hereby approve the Water Supply Assessment and Written Verification of Supply for the proposed Campus Town Specific Plan.

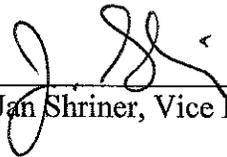
PASSED AND ADOPTED on June 18, 2018, by the Board of Directors of the Marina Coast Water District by the following roll call vote:

Ayes: Directors Gustafson, Cortez, Lee, Shriner

Noes: Directors None

Absent: Directors Moore

Abstained: Directors None

  
\_\_\_\_\_  
Jan Shriner, Vice President

ATTEST:

  
\_\_\_\_\_  
Keith Van Der Maaten, Secretary

CERTIFICATE OF SECRETARY

The undersigned Secretary of the Board of the Marina Coast Water District hereby certifies that the foregoing is a full, true and correct copy of Resolution No. 2018-37 adopted June 18, 2018.

  
\_\_\_\_\_  
Keith Van Der Maaten, Secretary