



**FINAL**



City of Pittsburgh

SEPTEMBER 2021

# 2020 Urban Water Management Plan



CITY OF PITTSBURG

# 2020 URBAN WATER MANAGEMENT PLAN

Final

September 2021



**A K E L**  
ENGINEERING GROUP, INC.

November 15<sup>th</sup>, 2021

City of Pittsburg  
357 E 12<sup>th</sup> Street  
Pittsburg California, 94565

Attention: Jason Moser, Project Manager

Subject: **2020 Urban Water Management Plan**

Dear Jason:

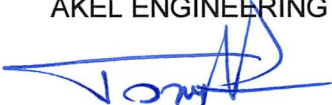
We are pleased to submit the City of Pittsburg 2020 Urban Water Management Plan (2020 UWMP) which is intended to address the Urban Water Management Planning Act (UWMPA) of 1983 and amendments thereof.

The City's 2015 UWMP received letters of review and completeness from the Department of Water Resources. This 2020 UWMP addresses additional amendments to the UWMPA and new guidelines established by the Department of Water Resources, including a 2020 Water Shortage Contingency Plan (2020 WSCP), as a separate document. Water supply reliabilities and demands are projected through a planning horizon of 2045.

We extend our thanks to you, Richard Abono, Public Works Director, Gina Haynes, Senior Civil Engineer, and other City staff whose courtesy and cooperation were valuable in reviewing and completing this study.

Sincerely,

AKEL ENGINEERING GROUP, INC.



Tony Akel, P.E.  
Principal

Enclosure: 2020 Urban Water Management Plan

City of Pittsburgh  
2020 Urban Water Management Plan  
**Contact Sheet**

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The Water supplier is a Municipality

The Water supplier is a Retailer

Utility Services provided by the water supplier include: Water, Sewer

Is this Agency a Bureau of Reclamation Contractor? No

Is this Agency a State Water Project Contractor? No



## Acknowledgements

### City Council

**Merl Craft**, Mayor

**Holland Barrett White**, Vice Mayor

**Shanelle Scales-Preston**

**Juan Antonio Banales**

**Jelani Killings**

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**Gina Haynes**, Senior Civil Engineer

**City of Pittsburgh**  
**2020 Urban Water Management Plan**

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## CHAPTER 1 – INTRODUCTION AND OVERVIEW

This chapter introduces the purpose of the Urban Water Management Plan (UWMP) and its importance to the City of Pittsburgh (City) as well as Department of Water Resources (DWR). This chapter also includes the coordination and outreach that took place for this UWMP to come to fruition as well as documenting the milestones for adopting the UWMP and for submitting it to the DWR.

### 1.1 BACKGROUND AND PURPOSE

Water suppliers must submit an Urban Water Management Plan to the Department of Water Resources in accordance with California Water Code requirements. The purpose of the UWMP is to review and maintain the reliability of urban water supplies, ensure that future beneficial use can be complemented by sufficient water supply, continue to promote policies and programs that benefit water conservation, and provide a means for response during water supply shortages and drought conditions. In addition to being [filed every five years](#), the Urban Water Management Plan must satisfy requirements defined in the Urban Water Management Planning Act (UWMPA) of 1983 and any amendments thereof.

Since passage of the UWMPA, there have been more than 20 amendments to the Act. According to the UWMPA, an UWMP must be prepared by an urban water supplier that supplies over 3,000 acre-feet (AF) of water a year, or services 3,000 or more connections.

In April 2018, DWR completed the review of the City's 2015 UWMP and its supplements, and issued a letter of completeness. The UWMPA has undergone significant expansion and revision since the last UWMP Guidebook was prepared in 2015. Prolonged droughts, groundwater overdraft, regulatory revisions, and changing climatic conditions affect not only each Supplier's water reliability determinations, but also the broad picture of statewide water reliability overseen by DWR, the State Water Resources Control Board (State Water Board), and the Legislature. Accordingly, the Act has grown to address changing conditions, and it guides California's water resources management.

Thus, this 2020 UWMP includes updates to the 2015 UWMP and addresses additional amendments to the UWMPA and new guidelines established by DWR. This report references the tables required by DWR in their 2020 UWMP Guidebook published in March 2021, which have been completed and included in [Appendix A](#).

## 1.2 URBAN WATER MANAGEMENT PLANNING AND THE CALIFORNIA WATER CODE

The drought of 1976-1977 created shortages of water supplies throughout California. With several cities and water districts/agencies witnessing reduction in their water supplies and having to look for additional water sources elsewhere, an immediate need for a statewide, local level, long-term water management planning arose. To dramatically reduce future emergencies caused by inadequate planning of water resources, the Urban Water Management Planning Act was proposed and adopted in 1983. State Assembly Bill 797 modified the California Water Code Division 6 in 1983, creating the UWMPA. Since this Assembly Bill, more than 20 amendments have changed the quantity of data required, as well as increasing the planning elements included in this 2020 plan.

Early amendments to the UWMPA required 20-year planning horizons in 5-year increments for the comparison of water use to sources of water supply. More recently, these planning projections have been extended to 25-year planning horizons in order to maintain the 20-year projections, while the subsequent UWMP is completed.

Additional amendments included requirements that water supplier's UWMP provide provisions for a Water Shortage Contingency Plan, which would meet the specifications set forth in the UWMPA; demand management measures; and provisions for recycled water use. Recycled water use was added to reporting requirements due to its additional reliability for alternative water supply, and most notably, as an additional supply for future water use demand. Individual water purveyors, in coordination with other water purveyors in the same general area and to the extent practicable, must work to prepare the Water Shortage Contingency Plan. The individual water supplier must also describe the water demand management measures that are currently in practice, or those scheduled to be practiced.

More than 15 amendments have been passed since the year 2000, amending the UWMPA and increasing reporting for the UWMP. Included in these amendments are SB 610 (Costa, 2001) and AB 901 (Daucher, 2001), which require urban water purveyors to review information regarding water to supply new large developments. Additionally, SB 318 (Alpert, 2004) requires the plan to review opportunities involved in the development of desalinated water, included but not limited to, ocean, brackish, and groundwater, as a long-term supply. AB 105 (Wiggins, 2004) requires suppliers to submit their completed UWMP to the California State Library. SBX7-7 requires the state and its municipal water purveyors to achieve a 20 percent reduction in urban per capita water usage by the year 2020. The "20X2020" plan is intended to reduce water usage per capita by 10% by the year 2015, and 20% by the year 2020.

The most recent of these amendments are:

- AB2242 (2018) requires an urban water supplier to include in its UWMP an assessment of the reliability of its water service to customers during normal, dry, and multiple dry years,

including a repeat of the five consecutive historic driest years the urban water supplier has experienced.

- SB606 (2018) adds new requirements to the UWMP process as well as established updated urban water use objectives and water use reporting requirements:
  - Prepare a drought risk assessment that examines water shortage risks for a drought lasting for the next five years.
  - Prepare a comprehensive Water Shortage Contingency Plan that will include water budgeting forecast procedures, standard water shortage levels, shortage response actions, and other protocols.
  - Enacts an annually required water supply and demand assessment wherein an urban water supplier will assess local demand and supply conditions and provide that information to DWR.

## 1.3 REPORT ORGANIZATION

This report is organized in accordance with the outline suggested by the Department of Water Resources for the 2020 Urban Water Management Plans.

**Chapter 1 – Introduction and Overview.** This chapter introduces the purpose of the Urban Water Management Plan (UWMP) and its importance to the City of Pittsburgh (City) as well as Department of Water Resources (DWR).

**Chapter 2 – Plan Preparation.** This chapter describes the process that was used for the development of the UWMP. This chapter also includes the coordination and outreach that took place for this UWMP to come to fruition, as well as documenting the milestones for adopting the UWMP and for submitting it to the DWR.

**Chapter 3 – System Description.** This chapter describes the City’s water service area. This description includes discussion of the City’s location, the boundaries of the water service area, existing and future land use types, and climate. This chapter also summarizes the historical and projected population as well as a review of the City’s demographics and socioeconomic conditions.

**Chapter 4 – System Water Use.** This chapter provides a description of the current and projected water uses within the City’s service area. Additionally, a description of recycled water uses is provided. Water demands are projected through the year 2045.

**Chapter 5 – Baseline and Targets.** This chapter summarizes the methods used to estimate the target water use. As part of the 2020 UWMP update, this chapter evaluates if the City achieved the required water use reduction target.

**Chapter 6 – System Supplies.** The purpose of this chapter is to summarize the City’s current and planned potable and non-potable water supply sources and volumes. This includes a description of each source and quantify the supply availability for each supply identified. Ongoing planning efforts for the potential use of recycled water within the City’s service area are also summarized.

**Chapter 7 – Water Supply Reliability.** This chapter assesses the reliability of the City’s water supply under normal conditions, single year dry conditions, and five-year dry conditions. The reliability assessment includes a comparison of projected water use versus expected water supply for the next 25 years. This chapter also includes the newly required Drought Risk Assessment, which is a review of the capability of the City’s water supplies to meet demand for the next five years assuming a five-year drought occurs.

**Chapter 8 – Water Shortage Contingency Plan.** This chapter summarizes the City’s Water Shortage Contingency Plan (WSCP). The WSCP is a separately adopted planning document that most notably outlines levels of water shortage conditions, demand reduction methods to be implemented in the event of a water shortage and the process the City will implement to perform an annual Supply and Demand assessment. The WSCP also includes discussion of the City’s communication protocols during a water shortage, methods of determining compliance and enforcing water use prohibitions, estimating the financial consequences of a water shortage, and the methods the City has in place to monitor and report the effectiveness of any water demand reduction methods implemented.

**Chapter 9 – Demand Management Measures.** This chapter summarizes the demand management measures, which are additional measures the supplier plans on implementing to achieve its water use targets and maintain ongoing water conservation.

**Chapter 10 – Plan Adoption, Submittal and Implementation.** This chapter summarizes the process for adopting and submitting the UWMP as well as the ways the public can access the adopted UWMP.

## 1.4 PUBLIC PARTICIPATION AND PLAN ADOPTION

### **Law**

*10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published ... After the hearing, the plan shall be adopted as prepared or as modified after the hearing.*

The UWMPA requires that the adopted UWMP demonstrate the water agency solicited public participation. In accordance with the stated law, the City held a public hearing for members of the community to provide comments, learn about existing and future water supplies of the city, and

raise concerns towards the plan being adopted. A notice of the public hearing was published in the local newspaper August 2<sup>nd</sup> & 9<sup>th</sup>, 2021, notifying interested parties that the draft 2020 UWMP was available at various City facilities and on the City's web page ([www.ci-pittsburg.ca.gov](http://www.ci-pittsburg.ca.gov)) for review two successive weeks prior to adoption. After public hearing, the plan was adopted on September 20<sup>th</sup>, 2021.

## 1.5 UWMPs AND GRANT OR LOAN ELIGIBILITY

### Law

|          |  |
|----------|--|
| 10608.56 | <p><i>(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.</i></p> <p><i>(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier ...applicable to the water funds.</i></p> <p><i>(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier ... as a disadvantaged community.</i></p> <p><i>(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier ... is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).</i></p> |
| 10656    | <p><i>An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.</i></p>  |

Beginning in 2016 changes to California law require that urban retail water suppliers must comply with water conservation requirements established by the Water Conservation Act of 2009 in order to be eligible for State water grants or loans. For 2020 UWMPs, compliance with the Water Conservation Act of 2009 means that a water agency must have met its 2020 Urban Water Use Target, discussed further in Chapter 5; this compliance must be reported in the 2020 UWMP.

## 1.6 PREVIOUS URBAN WATER MANAGEMENT PLANS

The City of Pittsburg prepared a 2015 UWMP, which was adopted on June 6<sup>th</sup>, 2016. This UWMP documented the SBX7-7 baseline per capita water use, as well as the interim and 2020 water use targets. This UWMP documented the groundwater conditions, future water supply projects, the water shortage contingency plan, and demand management measures implemented to reduce water demands. The 2015 UWMP serves as a benchmark for the 2020 UWMP, as the 2020 UWMP will update the target projections consistent with the final Guidebook release from the Department of Water Resources.

## CHAPTER 2 – PLAN PREPARATION

This chapter describes the process that was used for the development of the UWMP. This chapter also summarizes the coordination and outreach that was conducted during the preparation of the UWMP.

### 2.1 BASIS FOR PREPARING A PLAN

The California Water Code (CWC) defines an “Urban water supplier” as a publicly or privately owned supplier of water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. At the time of preparation of the 2020 UWMP the City supplied water to over 20,300 active service connections, as summarized in [Table 2-1](#), thereby qualifying as an urban water supplier and required to prepare an Urban Water Management Plan.

**Table 2-1 Public Water Systems**

| Public Water System Number | Public Water System Name | Number of Municipal Connections 2020 | Volume of Water Supplied 2020 (AF) |
|----------------------------|--------------------------|--------------------------------------|------------------------------------|
| 0710008                    | City of Pittsburgh       | 20,328                               | 9,232                              |

### 2.2 REGIONAL PLANNING

The City’s 2020 UWMP is prepared as an individual UWMP and the City is not part of any regional alliance for planning purposes, as summarized in [Table 2-2](#). However, the City does cooperate with other agencies, including the Contra Costa Water District, in the preparation of its UWMP.

**Table 2-2 Plan Identification**

| Select Only One                     | Type of Plan   | Name of RUWMP or Regional Alliance   |
|-------------------------------------|--|--------------------------------------|
| <input checked="" type="checkbox"/> | <b>Individual UWMP</b>                                 |                                      |
| <input type="checkbox"/>            | Water Supplier is also a member of a RUWMP             | Contra Costa Water District Alliance |
| <input checked="" type="checkbox"/> | Water Supplier is also a member of a Regional Alliance |                                      |
| <input type="checkbox"/>            | <b>Regional Urban Water Management Plan (RUWMP)</b>    |                                      |

## 2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

Consistent with the 2015 UWMP, the 2020 UWMP reports solely on the City's service area and is not a part of a regional alliance or regional urban water management plan (RUWMP).

## 2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

This UWMP has been prepared using fiscal year data, starting on July 1<sup>st</sup> and ending on June 30<sup>th</sup> of every year. This 2020 UWMP reports for FY2020 (July 1<sup>st</sup> 2019 to June 30<sup>th</sup> 2020) and includes complete 2020 data, as required by the DWR guidelines. The units of measure reported in all tables are acre-feet (AF), as shown in [Table 2-3](#). The City is not a wholesale supplier.

**Table 2-3 Supplier Identification**

| Type of Supplier   |                                   |
|--|-----------------------------------|
| <input type="checkbox"/>   | Supplier is a wholesaler          |
| <input checked="" type="checkbox"/>  | Supplier is a retailer            |
| Fiscal or Calendar Year  |                                   |
| <input type="checkbox"/>   | UWMP Tables Are in Calendar Years |
| <input checked="" type="checkbox"/>  | UWMP Tables Are in Fiscal Years   |
| If using fiscal years provide month and data that the fiscal year begins (mm/dd) |                                   |
| 7/1  |                                   |
| Units of Measure Used in UWMP <sup>1</sup>                                       |                                   |
| AF   |                                   |

Notes:

1. Units of DWR required tables are consistent in SBX7-7 compliance tables.

## 2.5 COORDINATION AND OUTREACH

The City is located within the Contra Costa Water District (CCWD) service area and received approximately 83% of its 2020 water supply from CCWD. CCWD provides untreated surface water, pumped from the Sacramento-San Joaquin Delta (Delta), which is delivered to the City's treatment facility via the Contra Costa Canal. Wastewater collected throughout the sewer service area is conveyed to the Delta Diablo Sanitation District (DDSD) Wastewater Treatment Plant (WWTP), where it is treated.

**2.5.1 Wholesale and Retail Coordination**

The preparation of the City’s 2020 UWMP included coordination with CCWD and DDSD. Both CCWD and DDSD were notified by the City in April 2021 that this 2020 UWMP was under preparation. CCWD, as the City’s wholesaler, provided information on water supply reliability and drought risk assessment findings as well as providing the draft 2020 UWMP for use in preparing the City’s 2020 UWMP.

**2.5.2 Coordination with Other Agencies and Community**

The City has historically participated in integrated water resources planning and IRWM planning for the ECC IRWM Region. The City has notified regional stakeholders of the draft plan availability and also made the draft plan available to the public in hard copy form and electronic form. The wholesale water suppliers informed of the City’s projected water use are shown in [Table 2-4](#).

**Table 2-4 Water Supplier Information Exchange**

| Wholesale Water Supplier Name |
|-------------------------------|
| Contra Costa Water District   |

## CHAPTER 3 – SYSTEM DESCRIPTION

This chapter describes the City's water service area. This description includes discussion of the City's location, the boundaries of the water service area, existing and future land use types, and climate. This chapter also summarizes the historical and projected population as well as a review of the City's demographics and socioeconomic conditions.

### 3.1 GENERAL DESCRIPTION

This section documents the City's location, service area, land use, and socioeconomic conditions.

#### 3.1.1 Location

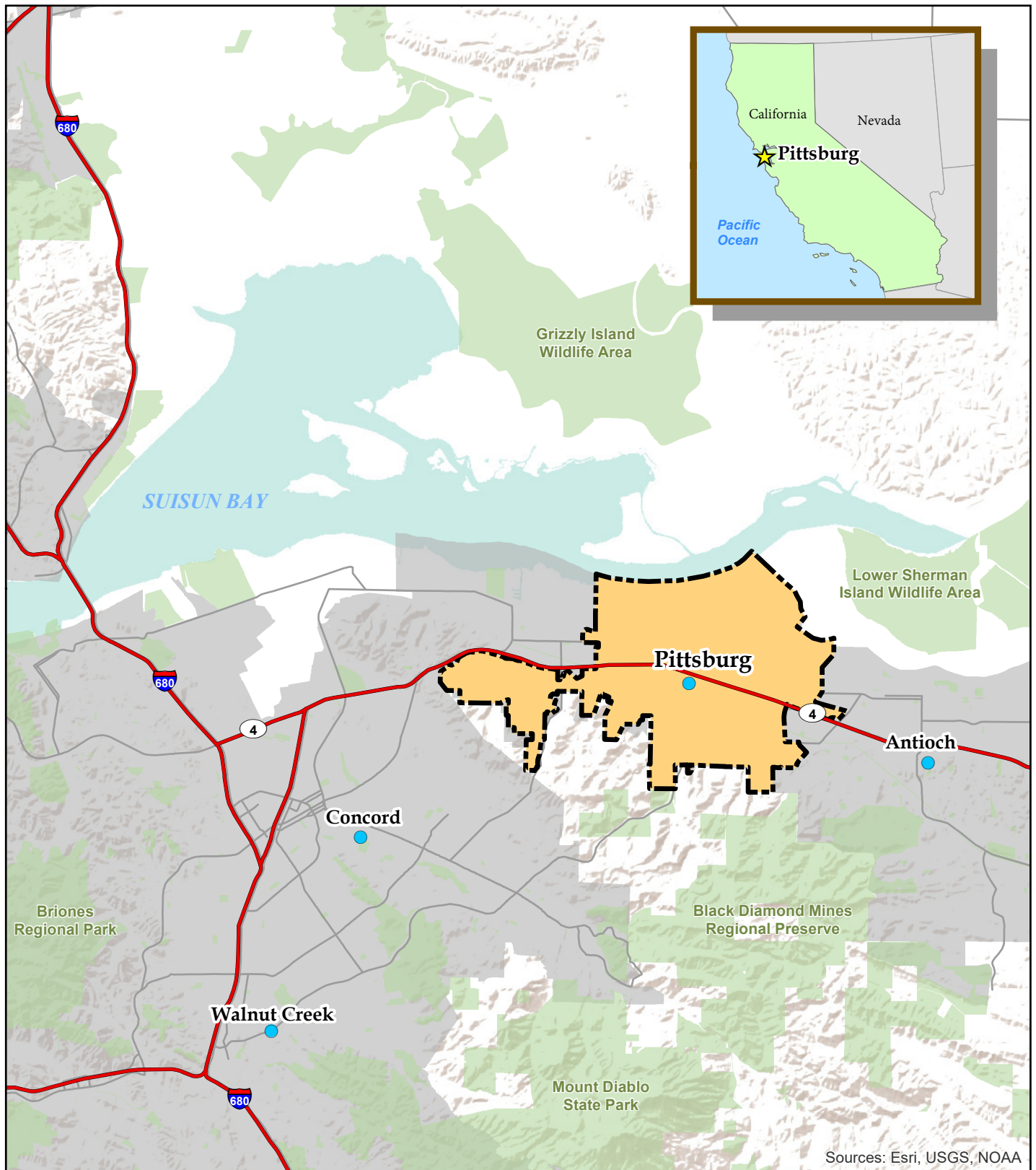
The City of Pittsburg is located on the eastern side of California's San Francisco Bay in Contra Costa County, as shown in [Figure 3-1](#). It is bound on the north by the Suisun Bay, the City of Antioch on the east, and is surrounded by undeveloped hills to the south and the Concord Naval Weapons Station on the west.

#### 3.1.2 Water Service Area




The City's water service area is consistent with the City limits ([Figure 3-2](#)) and reflects a total area of approximately 15.6 square miles. The water service area is a subset of the Pittsburg Planning Area, which is a larger area that extends beyond the City limits to the Sphere of Influence and is generally undeveloped. A portion of this undeveloped planning area, defined by the Urban Limit Line approved in 2007, is planned for eventual service by the City as development continues.

#### 3.1.3 Land Use

The City's General Plan was adopted in 2004 and identified the planned future growth within the City's Urban Limit Line. Subsequent amendments to the General Plan Land Use modified these future land use conditions. The City is in the process of preparing the 2040 General Plan, which reflects an update to the planned land use condition. At the time of the preparation of the 2020 UWMP the City was in the process of selecting a General Plan Land Use Alternative to be included in the finalized 2040 General Plan. The City is also in the process of updating the 2015 Water System Master Plan (WSMP) and the 2021 WSMP will evaluate both land use alternatives as a basis for demand estimates. The existing and future land use maps, extracted from the City's 2040 General Plan, are provided in [Appendix B](#) and are considered a reasonable basis for future water system planning.



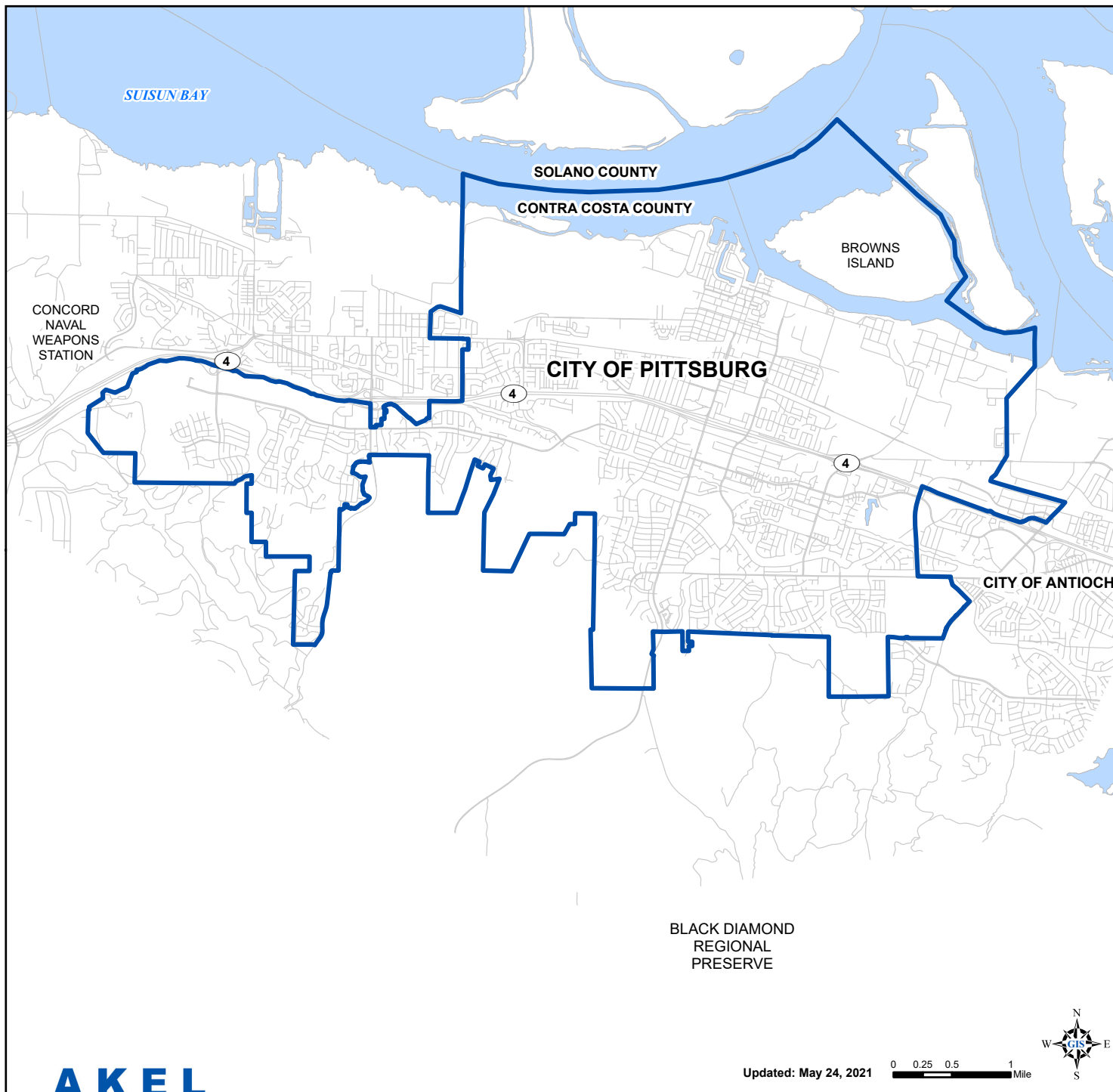
### Legend

-  City Limits
-  Protected Open Space
-  Urbanized Area



**Figure 3-1**  
**Regional Location Map**  
2020 Urban Water Management Plan  
City of Pittsburg





### 3.1.4 Socioeconomic Conditions

Based on data from the U.S. Census American Community Survey the City has a median household income of approximately \$74,500 per year and a per capita income of approximately \$30,000 per year as of 2019. Approximately 21.2% of the population has a bachelor's degree or higher and 79.5% have a high school diploma or higher. Approximately 12.9% of the population lives below the poverty line.

According to population and housing statistics prepared by the California Department of Finance the City has an average household occupancy of 3.22 people per household. Approximately 77% of the current residential units are single family residences, with the other 23% reflecting multiple family dwelling units. The 2020 residential vacancy rate is approximately 7.6%. In 2020, 48% of the City's water use was by single family homes and 13% of the water use by multi-family homes.

According to the 2019 ESRI Business Analysis, the primary sectors of employment include Services and Retail Trade sectors, which account for 39.4% and 22.3% of businesses, respectively. Businesses within Services and Retail Trader sectors comprise 823 of 1,293 businesses within the City. Out of the 1,293 businesses in Pittsburg are a small amount report 100 or more employees.

## 3.2 CLIMATE DATA

The following sections include a description of the City's historical climate data as well as a general summary of the potential impacts due to climate change.

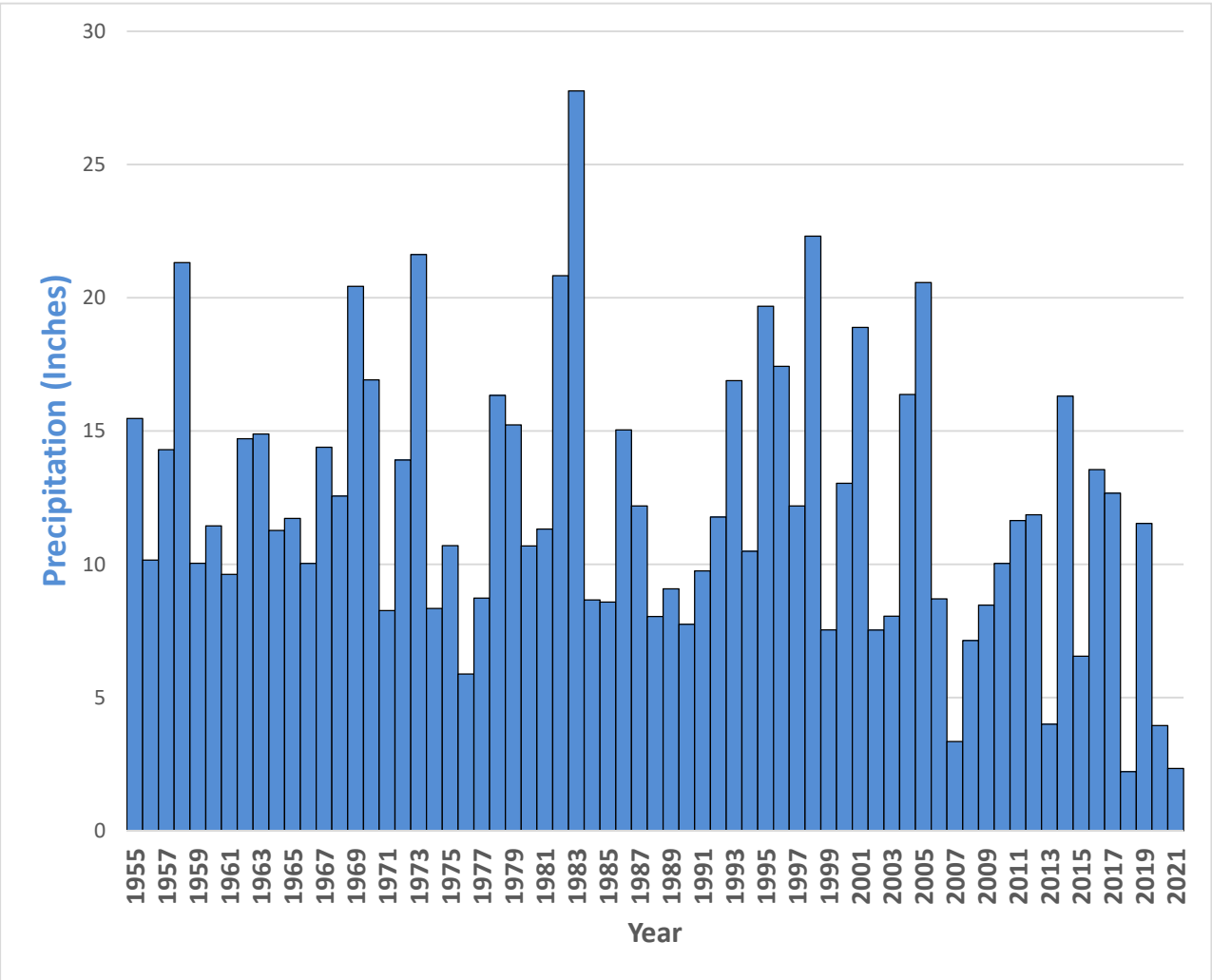
### 3.2.1 Historical Climate Data

The City experiences a Mediterranean climate with hot summers and mild winters. Average summer temperatures range from highs in the upper 90s to lows in the 50s. Winter temperatures range from the 60s to the low 30s. Average climate data is included in [Table 3-1](#).

**Table 3-1 Average Climate Data**

|   | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  | Annual      |
|---|------|------|------|------|------|------|------|------|------|------|------|------|-------------|
| Rainfall (inches)   | 2.8  | 2.4  | 2.0  | 0.9  | 0.4  | 0.1  | 0.0  | 0.0  | 0.2  | 0.6  | 1.6  | 2.2  | <b>13.2</b> |
| Max. Daily Temp. (°F)   | 54.0 | 60.3 | 65.5 | 71.6 | 78.6 | 86.1 | 91.1 | 89.9 | 86.3 | 77.4 | 64.4 | 54.9 | <b>73.3</b> |
| Min. Daily Temp. (°F)   | 37.1 | 41.0 | 43.4 | 46.4 | 51.4 | 56.3 | 57.6 | 56.9 | 55.3 | 50.3 | 43.1 | 37.4 | <b>48.0</b> |
| Average ETo (inches)  | 1.3  | 2.0  | 3.3  | 4.7  | 6.3  | 7.3  | 7.5  | 6.7  | 5.0  | 3.4  | 1.8  | 1.1  | <b>50.2</b> |
| Note:<br>1. Source: WRCC station 040232 from 3/1955 – 5/2016<br>2. Source CIMIS Station 170 from 4/2001 - Current |      |      |      |      |      |      |      |      |      |      |      |      |             |

Average precipitation is 13.2 inches a year, occurring predominantly from November through April. The warmer season of May through October creates a high demand for landscaping water. Historical rainfall in the city is shown in [Figure 3-3](#) and has ranged from 1.6 inches to in 2011 to 37.8 inches in 1983.



**Figure 3-3 Historical Annual Rainfall**

**3.2.2 Climate Change**

The following sections summarize the potential impacts to the City’s water service area due to climate change. The ECCC IRWM plan update included a climate change vulnerability assessment for East Contra Costa County, which includes the City’s service area. This section also includes a brief summary of local climate change modeling data available from the State of California’s Cal-Adapt Climate Modeling System.

### **3.2.2.1 Water Supply**

The City's potable water supply is comprised of two sources, both of which are treated at the Water Treatment Plant (WTP). These sources include surface water deliveries supplied by the Contra Costa Water District (CCWD), which makes up the vast majority of the City's supply, as well as groundwater supplies provided from two groundwater wells.

CCWD, in addition to other water suppliers, maintains intakes from the Delta as a source of surface water supply. This water source is considered unreliable due to already observed effects of seasonal runoff patterns and reduced waters supply reliability. Additionally, the quality of freshwater from the Delta is dependent on the operation of existing Central Valley Project/State Water Project (CVP/SWP) storage reservoirs, which are impacted by changes in snowpack and upstream river conditions. Sea level rise also has the potential to render CCWD's existing Delta intake unusable, with sea water inundation producing brackish or saline water.

Consistent with other regional efforts CCWD has implemented adaptation measures to address the impacts of climate change, including the operation of the Los Vaqueros Reservoir as a blended water source to offset saline water conditions. CCWD also operates the Delta intakes to maximize water quality and minimize pumping costs.

### **3.2.2.2 Groundwater**

The City operates two groundwater wells which act as an additional source of water supply. While the City's current groundwater supply is generally considered reliable during various normal and dry water years, changes in local hydrology could affect the current natural recharge rates. This change could result in a reduction of the amount of groundwater that could be pumped sustainably. Recharge projects and participation in regional groundwater management planning efforts will help mitigate the effect of climate change on groundwater supplies.

### **3.2.2.3 Flooding**

Flooding due to levee overtopping or failure poses a risk throughout Eastern Contra Costa County. Levee failure or flooding could contribute to reductions in water supply reliability, water treatment, and wastewater treatment and disposal. Water intake facilities, such as those operated by CCWD from the Delta, could be susceptible to sea water inundation.

### **3.2.2.4 Water Quality**

Climate change will likely impact water quality management throughout the Eastern Contra Costa County region. CCWD's Delta surface water supply is susceptible to water quality problems such as an increase in salinity from Delta intakes, increased turbidity and pollutants transported by river and stream flows, increased spikes in disinfectant byproduct precursors, increased contaminant concentrations during droughts, and lower dissolved oxygen levels. Additionally, chloride, bromide, and total organic carbon present in Delta water would dramatically increase should existing levee protection systems fail.

### 3.3 SERVICE AREA POPULATION AND DEMOGRAPHICS

The City is a growing community with over 6.5% of the Contra Costa County population residing within the City limits. The City of Pittsburg has shown steady population growth over the last 20 years. In 1979, the City had 29,100 residents; the population increased to 41,600 by 1986, to 63,264 by 2010, and by 2020 the City’s population was 74,321. The average growth rate over the past 10 years is 1.6% per year. The population projections for 2025 through 2040, shown in [Table 3-2](#), are based on the historical average growth rate of approximately 1.6% per year. For the planning purpose, the average growth rate of 1.3% is applied to the population projections for 2040 through 2045.

According to 2019 United States Census Bureau’s data, the City of Pittsburg has a racially diverse population which is White (35.4%), Black or African American (15.4%), American Indian and Alaska Native (0.8%), Asian (16.7%), Native Hawaiian and Pacific Islander (0.6%), Hispanic or Latino (43.4%), with the rest more than one race or other race.

**Table 3-2 Population - Current and Projected**

| 2020   | 2025   | 2030   | 2035   | 2040    | 2045    |
|--------|--------|--------|--------|---------|---------|
| 74,321 | 82,056 | 89,492 | 96,408 | 102,840 | 109,700 |

## CHAPTER 4 – SYSTEM WATER USE

This chapter provides a description of the current and projected water uses within the City's service area. Additionally, a description of potential recycled water uses is provided. Water demands are projected through the year 2045.

### 4.1 NON-POTABLE VERSUS POTABLE WATER USE

The California State Water Code requires documentation of water use within the City's service area for potable, recycled, and raw water demands, as applicable. Currently the City only provides potable water supplies within the service area. However, Delta Diablo operates a recycled non-potable water distribution system that delivers non-potable water supplies to customers within the City's service area. While the City is not responsible for the operation or maintenance of this non-potable water infrastructure, a summary of the current and projected non-potable water use is also included in the following sections.

### 4.2 WATER USES BY SECTOR

This section documents the historical and projected water use as well as the maximum day demand.

#### **Law**

10631. (d) (1) *For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:*
- (A) *Single-family residential.*
  - (B) *Multifamily.*
  - (C) *Commercial.*
  - (D) *Industrial.*
  - (E) *Institutional and governmental.*
  - (F) *Landscape.*
  - (G) *Sales to other agencies.*
  - (H) *Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.*
  - (I) *Agricultural.*
  - (J) *Distribution system water loss.*
- (2) *The water use projections shall be in the same five-year increments described in subdivision (a).*

#### 4.2.1 Historical Water Use

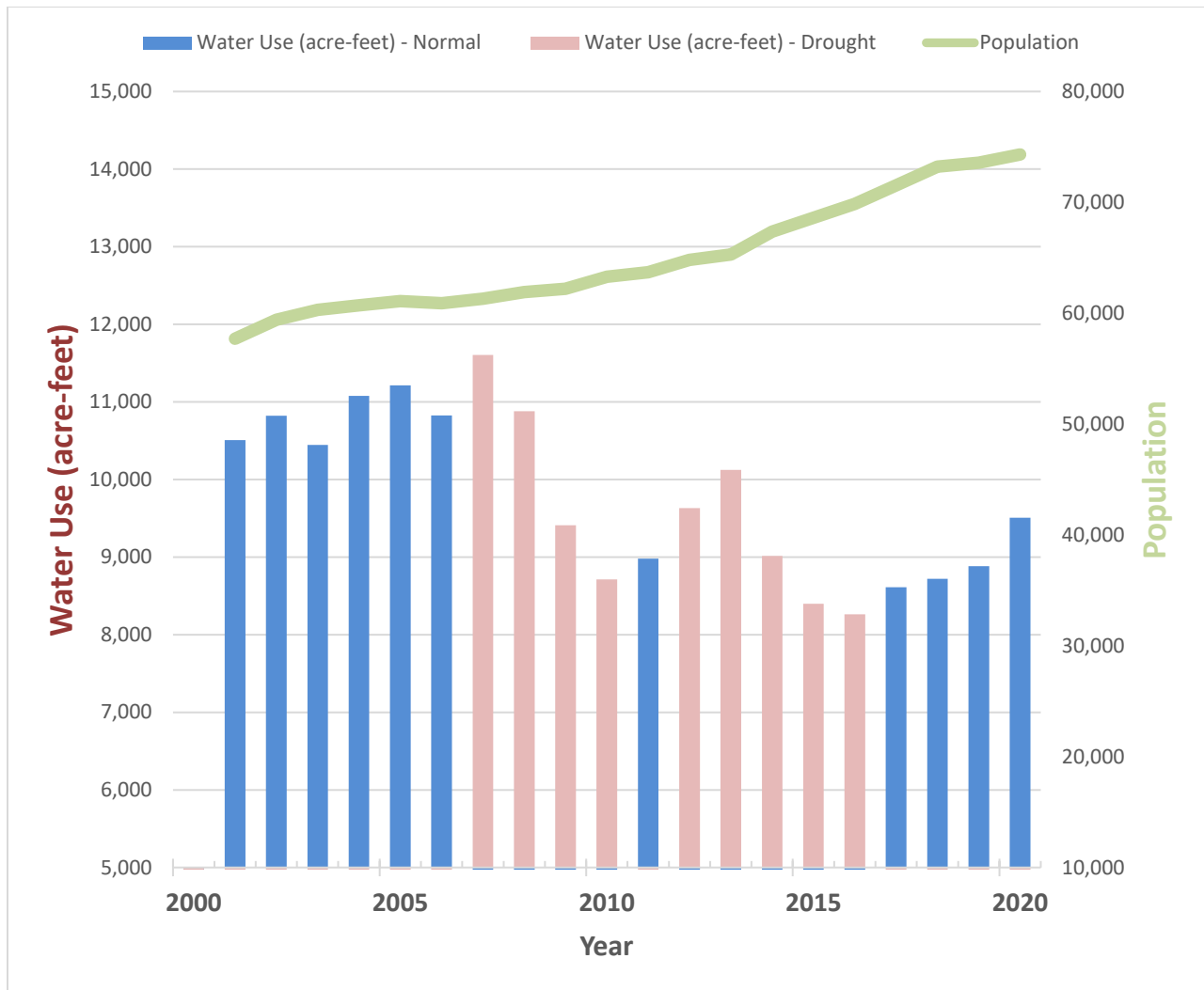
The City currently provides domestic water to residential, commercial, industrial, and institutional customers within the City limits. At the time of preparation of the 2020 UWMP, based on the most recently available data, the City had recorded water delivery service to 18,744 single family residential users, 421 multi-family residential accounts, 745 commercial, institutional, and industrial accounts, and 366 landscape accounts. In 2020, domestic water use totaled approximately 9,232 AF, as summarized in [Table 4-1](#), which was a 5.2% increase from 2015 water use of 8,772 AF.

**Table 4-1 Demands for Potable and Non-Potable Water – Actual**

| Use Type                   | 2020 Actual            |                                   |             |
|----------------------------|------------------------|-----------------------------------|-------------|
|                            | Additional Description | Level of Treatment When Delivered | Volume (AF) |
| Single Family              |                        | Drinking water                    | 4,399       |
| Multi-Family               |                        |                                   | 1,184       |
| Commercial                 |                        |                                   | 479         |
| Industrial                 |                        |                                   | 889         |
| Institutional/Governmental |                        |                                   | 152         |
| Landscape                  |                        |                                   | 915         |
| Other                      | Hydrant meter          |                                   | 23          |
| Losses                     | Non-revenue water      |                                   | 1,192       |
| Total                      |                        |                                   | 9,232       |

Note: Losses included apparent loss, real losses, unmetered and other miscellaneous non-revenue water.

[Figure 4-1](#) displays water use compared to population, which shows decreases in water use following droughts in 2007-2010 and 2013-2016 despite a rising population during the time period.



**Figure 4-1 Historical Water Use and Population**

#### 4.2.2 Projected Water Use

**Table 4-2** and **Table 4-3**, found on the following pages, summarize the potable water demand projection through the year 2045. To calculate the projected potable water demand through the UWMP planning horizon of 2045, a per capita water use of 120 gallons per day per capita (gpd/c) was applied to the projected population. This per capita water use is less than the City’s 2020 water use target and accounts for the effect of ongoing water conservation as well as active and passive water savings. The tables documenting the projected demands are summarized as follows:

- **Table 4-2** summarizes the projected City-wide water demand by water use type. A line item for losses is included that reflects the difference between billed consumption and total

production and may include real and apparent losses as well as other sources of non-revenue water.

- **Table 4-3** summarizes the total projected water demand, which includes projected recycled water demand. The recycled water demand projections are discussed in detail in Chapter 6.

**Table 4-2 Use for Potable and Non-Potable Water - Projected**

| Use Type                   | Additional Description | Projected Water Use |               |               |               |               |
|----------------------------|------------------------|---------------------|---------------|---------------|---------------|---------------|
|                            |                        | 2025                | 2030          | 2035          | 2040          | 2045          |
|                            |                        | (AF)                | (AF)          | (AF)          | (AF)          | (AF)          |
| Single Family              |                        | 5,256               | 5,732         | 6,175         | 6,587         | 7,026         |
| Multi-Family               |                        | 1,415               | 1,543         | 1,662         | 1,773         | 1,891         |
| Commercial                 |                        | 572                 | 624           | 672           | 717           | 765           |
| Industrial                 |                        | 1,062               | 1,158         | 1,248         | 1,331         | 1,420         |
| Institutional/Governmental |                        | 181                 | 198           | 213           | 227           | 242           |
| Landscape                  |                        | 1,093               | 1,192         | 1,284         | 1,370         | 1,461         |
| Other                      | Hydrant meters         | 28                  | 30            | 33            | 35            | 37            |
| Losses                     | Non-revenue water      | 1,424               | 1,553         | 1,673         | 1,784         | 1,903         |
| <b>Total</b>               |                        | <b>11,031</b>       | <b>12,030</b> | <b>12,960</b> | <b>13,824</b> | <b>14,745</b> |

Note: Losses included apparent loss, real losses, unmetered and other miscellaneous non-revenue water.

**Table 4-3 Total Water Use (AFY)**

|  | 2020         | 2025          | 2030          | 2035          | 2040          | 2045          |
|--|--------------|---------------|---------------|---------------|---------------|---------------|
| Potable Water, Raw, Other Non-Potable (from Table 4-1 and Table 4-2) | 9,232        | 11,031        | 12,030        | 12,960        | 13,824        | 14,745        |
| Recycled Water Demand (from Table 6-4)                               | 111          | 311           | 311           | 311           | 311           | 311           |
| <b>TOTAL WATER USE</b>   | <b>9,343</b> | <b>11,342</b> | <b>12,341</b> | <b>13,271</b> | <b>14,135</b> | <b>15,056</b> |

### 4.2.3 Maximum Day Demand

Maximum Day Demand is a significant demand condition on the water supply system. This condition is defined as the maximum 24-hour use period in the year. Peaking factors are commonly used as a way of simulating the maximum day demand for future demand scenarios. This multiplier is assessed to the average day demand, and is commonly in the order of 2 to 2.5 times greater than the average day demand. However, the City's 2015 Water System Master Plan specified a maximum day demand peaking factor of 1.8. The Water System Master Plan is currently being updated. It is not anticipated that the maximum day peaking factor will change as a result of the update.

## 4.3 DISTRIBUTIONS SYSTEM WATER LOSSES

### Law

- |              |   |
|--------------|---|
| 10631 (d)(1) | <i>For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following...</i><br><i>(J) Distribution system water loss</i> |
| (3) (A)      | <i>The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section</i>  |
| (B)          | <i>The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.</i>   |
| (C)          | <i>In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.</i>   |

As part of the 2020 UWMP update, urban water suppliers are required to quantify the previous five years distribution system water losses in a manner consistent with the American Water Works Association (AWWA) water system balance methodology. The City has completed the required water loss audit worksheet in accordance with the DWR guidelines and the projected losses from 2017 to 2020 are summarized on the following page in [Table 4-4](#). The city-wide distribution system losses identified using the AWWA water system balance methodology for the 2020 UWMP were determined to be 946 AF.

**Table 4-4 Last Five Years of Water Loss Audit Reporting**

| Reporting Period Start Date   | Volume of Water Loss <sup>2</sup><br>(AF) |
|---|---|
| July 2015 <sup>1</sup>  | 671                                       |
| July 2016   | 568                                       |
| July 2017   | 616                                       |
| July 2018   | 745                                       |
| July 2019   | 946                                       |
| <p>Note:</p> <p>1. July 2015 reporting period water loss estimated based on recent water loss audits.</p> <p>2. Water losses reported in Table 4-4 include apparent loss, real losses, unmetered and other miscellaneous non-revenue water.</p> |   |

## 4.4 ESTIMATING FUTURE WATER SAVINGS

### Law

|                  |   |
|------------------|---|
| 10631 (d)(4) (A) | <i>Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.</i>   |
| (B)              | <i>To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:</i> <ul style="list-style-type: none"> <li><i>(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.</i></li> <li><i>(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water</i></li> </ul> |

Consistent with the 2015 UWMP, water savings from codes, standards and ordinances, typically known as passive savings, were considered in the demand projections. Water demand projections also include water demand estimates for lower income residences. For future water savings, the demand projections assume that the percentage of water savings due to codes and ordinances will increase proportionally with population.

**Table 4-5 Inclusion in Water Use Projections**

|   |     |
|---|-----|
| Are Future Water Savings Included in Projections?             | Yes |
| Are Lower Income Residential Demands Included In Projections? | Yes |

The City encourages system-wide water conservation in collaboration with its water wholesaler, CCWD. This collaboration includes ongoing customer outreach and multiple resources offered through the CCWD Water Conservation. The resources and programs implemented by the City and in coordination with CCWD are described in Chapter 9.

In addition to end use water conservation methods and programs, reductions in water use can be achieved from the implementation of state and local efficiency codes including the use of residential weather-based irrigation controllers and high efficiency landscape practices, all of which are expected to achieve additional water use reductions throughout the City's water service area.

## **4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS**

### **Law**

*10631.1 (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.*

*California Health and Safety Code 50079.5*

*(a) "Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families...In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.*

SB 1087 (Florez, 2005) amended the UWMPA to require urban water suppliers to include single family and multi-family residential units for lower income households as identified by the City, County, or combination of both within the service area of the provider. According to the City's most recent Housing Element Update (2015-2023), an estimated 49% of households in the city are lower-income, defined as having incomes below 80% of the area median income, which includes low, very low, and extreme low-income households. Future per Housing Element, the City's Regional Housing Need Allocation for 2014 through 2022 for lower income housing is 646 units.

For conservative planning purposes the average single family residential household water consumption rate was used to estimate the future water demands of these 646 lower income housing units. It should be noted that typically these lower income housing units are provided in the form of multi-family housing units, which have a lower household water use rate than single family residential. The projected demands documented the 2020 UWMP are incorporated by assuming that low-income housing growth is consistent with medium and high-income housing growth.

## **4.6 CLIMATE CHANGE**

Pittsburg's water use varies by more than 50% seasonally. For example, in 2020 Fiscal Year, the minimum monthly water use was 563 AF January 2020, increasing to 986 AF in August 2019, suggesting that water demand in the City, in particular for landscape irrigation and industrial purposes, will increase as a result of more frequent, longer, and more extreme heat waves; increased air temperature; increased atmospheric carbon dioxide levels; changes in precipitation, winds, humidity, atmospheric aerosol and ozone levels; and population growth. Without additional conservation efforts, the effects of increasing temperature will increase these landscape irrigation, industrial cooling needs and challenge the City's water supply system.

As water conservation becomes permanently incorporated through the use of high efficiency fixtures and conservation mindsets, this leaves less room for water use reductions during a significant drought event. This hardening of water conservation makes the City potentially more vulnerable to the effects of climate change.

## CHAPTER 5 – BASELINES AND TARGETS

Senate Bill X7-7 (SBX7-7) was approved by the Governor of California on November 10, 2009. This Senate Bill required urban water suppliers to set target goals for water conservation, which were to be achieved by the year 2020. These goals were referred to as the “20X2020” goals and included reducing per capita consumption by 20 percent by the year 2020. This chapter summarizes the methods used to estimate the target water use. As part of the 2020 UWMP update, this chapter evaluates if the City achieved the required water use reduction target.

Due to ongoing water conservation policies and practices within the City’s service area the 2020 per capita water demand target has been achieved.

### 5.1 2010 UWMP BASELINE AND TARGETS

The evaluation of a supply source or storage needs for future growth is commonly achieved by evaluating past water consumption on a per person basis. The future needs of the supply source can then be evaluated by applying the per capita consumption rate, expressed as gallons per capita per day (gpcd), to the projected population. [Table 5-1](#) summarizes the baseline periods and per capita water use targets determined as part of the SBX7-7 calculations. The City had an average gpcd of 161 from 1990 to 2007, while the average from 2008 to 2013 remained relatively flat at approximately 135 gpcd. Conservation efforts were successful in lowering the water consumption to a per capita water consumption rate of 116 gpcd in the year 2015, and 111 gpcd in the year 2020.

**Table 5-1 Baselines and Targets Summary**

| Baseline Period   | Start Year | End Year | Per Capita Water Use    |                              |
|-------------------|------------|----------|-------------------------|------------------------------|
|                   |            |          | Average Baseline (gpcd) | Confirmed 2020 Target (gpcd) |
| <b>10-15 year</b> | 1999       | 2008     | 163                     | 131                          |
| <b>5 Year</b>     | 2004       | 2008     | 163                     |                              |

## 5.2 BASELINE PERIODS

This section discusses the baseline periods used in the UWMP. The baseline periods discussed in this section are consistent with the 2015 UWMP.

### 5.2.1 Determination of the 10-15 Year Baseline Period (Baseline GPCD)

#### **Law**

*10608.12 (b) "Base daily per capita water use" means any of the following:*

- (1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*
- (2) For an urban retail water supplier that meets at least 10 percent of its measure retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004 and no later than December 31, 2010.*

To adequately project future water use, SBX7-7 must be considered with the appropriate reductions. As part of the new requirements for reductions in water use, a range in years needs to be selected for calculating the base daily (historical) per capita water use.

SBX7-7 allows the selection of either 10 or 15 years as a base period for calculating the average consumption per capita. If the recycled water use exceeds 10 percent of potable water production, a 15-year base period is allowed. Otherwise, a 10-year base period should be used. Additionally, a 5-year base period is to be identified for interim target projections.

The 10-year to 15-year base period must end between December 31, 2004 and December 31, 2010; and the 5-year base period must end between December 31, 2007 and December 31, 2010.

The City's calculations for the base periods are documented on the following page in [SBX7-7 Table 1](#). Since the recycled water usage in 2008 did not account for more than 10 percent of the total potable water production, the City uses a 10-year base period. The 10-year base period is selected based on the highest average per capita water use in any 10-year period within the DWR guidelines. The 2020 UWMP uses baseline periods consistent with 2015 UWMP, where the 10-year baseline period is defined as 1999 to 2008.

**SBX7-7 Table 1 Baseline Period Ranges**

| Baseline  | Parameter  | Value  | Units     |
|---|--|--------|-----------|
| 10- to 15-year<br>baseline period   | 2008 total water deliveries                          | 11,649 | Acre Feet |
|   | 2008 total volume of delivered recycled water        | 80     | Acre Feet |
|   | 2008 recycled water as a percent of total deliveries | 0.68%  | Percent   |
|   | Number of years in baseline period <sup>1</sup>      | 10     | Years     |
|   | Year beginning baseline period range                 | 1999   |           |
|   | Year ending baseline period range <sup>2</sup>       | 2008   |           |
| 5-year<br>baseline period   | Number of years in baseline period                   | 5      | Years     |
|   | Year beginning baseline period range                 | 2004   |           |
|   | Year ending baseline period range <sup>3</sup>       | 2008   |           |
| <sup>1</sup> If the 2008 recycled water percent is less than 10 percent, then the first baseline period is continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15- year period. |  |        |           |
| <sup>2</sup> The ending year must be between December 31, 2004, and December 31, 2010.  |  |        |           |
| <sup>3</sup> The ending year must be between December 31, 2007 and December 31, 2010.   |  |        |           |

### 5.2.2 Determination of the 5-year Baseline Period (Target Confirmation)

#### Law

10608.12 (b).

(3) *For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.*

In order to confirm that the calculated 2020 Urban Water Use target meets the minimum water use reduction requirements, water use must also be calculated over a 5-year baseline period. The 2010 UWMP selected a 5-year range of 2004-2008, which yielded a 5-year average per capita water use target of 163 gpcd. Using the previously discussed baseline populations, the average per capita water use target over the same 5-year range was equal to 163 gpcd.

## 5.3 SERVICE AREA POPULATION

### Law

10608.20 (e) *An urban retail water supplier shall include in its urban water management plan due in 2010...the baseline daily per capita water use, ...along with the bases for determining those estimates, including references to supporting data.*

(f) *When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.*

10644 (a)(2) *The plan...shall include any standardized forms, tables, or displays specified by the department*

California DOF population estimates were used to determine historical populations as part of the 10-year average per capita water use, as indicated in **SBX7-7 Table 2**. The baseline service area population was updated with the DOF estimates based on the 2010 census data and is summarized on the following page in **SBX7-7 Table 3**. This updated population over the baseline period is used in the calculation of the baseline period average per capita water use.

**SBX7-7 Table 2 Method for Population Estimates**

| Method Used to Determine Population |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <b>1. Department of Finance (DOF)</b><br>DOF Table E-8 (1990 - 2000) and (2000-2010)<br>and DOF Table E-5 (2011 - 2020) |
| <input type="checkbox"/>            | <b>2. Persons-per-Connection Method</b>   |
| <input type="checkbox"/>            | <b>3. DWR Population Tool</b>   |
| <input type="checkbox"/>            | <b>4. Other</b>   |

**SBX7-7 Table 3 Service Area Population**

| Year                                     |      | Population |
|--|------|------------|
| <b>10 to 15 Year Baseline Population</b> |      |            |
| Year 1                                   | 1999 | 55,461     |
| Year 2                                   | 2000 | 53,338     |
| Year 3                                   | 2001 | 57,031     |
| Year 4                                   | 2002 | 57,723     |
| Year 5                                   | 2003 | 58,416     |
| Year 6                                   | 2004 | 59,108     |
| Year 7                                   | 2005 | 59,801     |
| Year 8                                   | 2006 | 60,494     |
| Year 9                                   | 2007 | 61,186     |
| Year 10                                  | 2008 | 61,879     |
| <b>5 Year Baseline Population</b>        |      |            |
| Year 1                                   | 2004 | 59,108     |
| Year 2                                   | 2005 | 59,801     |
| Year 3                                   | 2006 | 60,494     |
| Year 4                                   | 2007 | 61,186     |
| Year 5                                   | 2008 | 61,879     |
| <b>2015 Compliance Year Population</b>   |      |            |
|  | 2015 | 67,628     |
| <b>2020 Compliance Year Population</b>   |      |            |
|  | 2020 | 74,321     |

## 5.4 GROSS WATER USE

### Law

10608.12 (g) *“Gross Water Use” means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:*

- (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier*
- (2) The net volume of water that the urban retail water supplier places into long term storage*
- (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier*
- (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.*

*California Code of Regulations Title 23 Division 2 Chapter 5.1*

*Section 596 (a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid the disproportionate burden on another customer section.*

In order to determine the baseline per capita water use, gross water use entering the distribution system of the supplier must be determined for each year within the baseline period. There are a number of exclusions taken into consideration when determining the annual gross water use, including recycled water delivered in the service area, water volume placed into long term storage, water conveyed for use by another urban water supplier, water delivered, with certain exceptions, for agricultural use, and industrial water use if the total industrial use is greater than or equal to 12% of gross water use.

Based on historical production reports, and consistent with the 2015 UWMP, there are no exceptions to be taken into consideration when calculating the City’s gross water use. The City’s historical gross water use and the volume of water entering the distribution system from CCWD and the local groundwater are respectively summarized on [SBX7-7 Table 4](#) and [SBX7-7 Table 4A](#), which are found on the following pages. As [SBX7-7 Table 4](#) shows, the City’s gross water use in the 2020 compliance year was equal to 9,232 AF.

**SBX7-7 Table 4 Annual Gross Water Use**

| Baseline Year                                 |      | Volume Into Distribution System | Deductions           |                                      |                         |                                      | Annual Gross Water Use |               |
|---|------|---------------------------------|----------------------|--------------------------------------|-------------------------|--------------------------------------|------------------------|---------------|
|   |      |                                 | Exported Water       | Change in Dist. System Storage (+/-) | Indirect Recycled Water | Water Delivered for Agricultural Use |                        | Process Water |
|   |      |                                 |                      |                                      |                         |                                      |                        |               |
| 10 to 15 Year Baseline - Gross Water Use      |      |                                 |                      |                                      |                         |                                      |                        |               |
| Year 1  | 1999 | 10,106                          |                      |                                      |                         |                                      | 10,106                 |               |
| Year 2  | 2000 | 10,113                          |                      |                                      |                         |                                      | 10,113                 |               |
| Year 3  | 2001 | 10,742                          |                      |                                      |                         |                                      | 10,742                 |               |
| Year 4  | 2002 | 10,431                          |                      |                                      |                         |                                      | 10,431                 |               |
| Year 5  | 2003 | 10,808                          |                      |                                      |                         |                                      | 10,808                 |               |
| Year 6  | 2004 | 10,977                          |                      |                                      |                         |                                      | 10,977                 |               |
| Year 7  | 2005 | 10,227                          |                      |                                      |                         |                                      | 10,227                 |               |
| Year 8  | 2006 | 10,753                          |                      |                                      |                         |                                      | 10,753                 |               |
| Year 9  | 2007 | 11,574                          |                      |                                      |                         |                                      | 11,574                 |               |
| Year 10                                       | 2008 | 11,648                          |                      |                                      |                         |                                      | 11,648                 |               |
| 10 - 15 year baseline average gross water use |      |                                 |                      |                                      |                         |                                      | 10,738                 |               |
| 5 Year Baseline - Gross Water Use             |      |                                 |                      |                                      |                         |                                      |                        |               |
| Year 1  | 2004 | 10,977                          |                      |                                      |                         |                                      | 10,977                 |               |
| Year 2  | 2005 | 10,227                          |                      |                                      |                         |                                      | 10,227                 |               |
| Year 3  | 2006 | 10,753                          |                      |                                      |                         |                                      | 10,753                 |               |
| Year 4  | 2007 | 11,574                          |                      |                                      |                         |                                      | 11,574                 |               |
| Year 5  | 2008 | 11,648                          |                      |                                      |                         |                                      | 11,648                 |               |
| 5 year baseline average gross water use       |      |                                 |                      |                                      |                         |                                      | 11,036                 |               |
| 2015 Compliance Year - Gross Water Use        |      |                                 |                      |                                      |                         |                                      |                        |               |
| 2015  |      | 8,772                           | 2015 gross water use |                                      |                         |                                      | 8,772                  |               |
| 2020 Compliance Year - Gross Water Use        |      |                                 |                      |                                      |                         |                                      |                        |               |
| 2020  |      | 9,232                           | 2020 gross water use |                                      |                         |                                      | 9,232                  |               |

**SBX7-7 Table 4-A Volume Entering the Distribution System  
(Raw water from CCWD)**

|  |      |  |  |
|--|------|--|--|
| Name of Water Source:   Raw Water from CCWD                        |      |  |  |
| <input type="checkbox"/> The supplier's own water source           |      |  |  |
| <input checked="" type="checkbox"/> A purchased or imported source |      |  |  |
| Baseline Year  |      | Volume Entering<br>Distribution System<br>(AF) |  |
| 10 to 15 Year Baseline - Water into Distribution System            |      |  |  |
| Year 1   | 1999 | 8,629  |  |
| Year 2   | 2000 | 8,759  |  |
| Year 3   | 2001 | 9,999  |  |
| Year 4   | 2002 | 9,671  |  |
| Year 5   | 2003 | 10,121   |  |
| Year 6   | 2004 | 10,149   |  |
| Year 7   | 2005 | 9,415  |  |
| Year 8   | 2006 | 8,980  |  |
| Year 9   | 2007 | 9,749  |  |
| Year 10  | 2008 | 9,556  |  |
| 5 Year Baseline - Water into Distribution System                   |      |  |  |
| Year 1   | 2004 | 10,149   |  |
| Year 2   | 2005 | 9,415  |  |
| Year 3   | 2006 | 8,980  |  |
| Year 4   | 2007 | 9,749  |  |
| Year 5   | 2008 | 9,556  |  |
| 2015 Compliance Year - Water into Distribution System              |      |  |  |
| 2015   |      | 7,591  |  |
| 2020 Compliance Year - Water into Distribution System              |      |  |  |
| 2020   |      | 7,752  |  |

**SBX7-7 Table 4-A Volume Entering Distribution System  
(Local Groundwater)**

|   |      |  |
|---|------|--|
| Name of Water Source:    Local Groundwater                          |      |  |
| <input checked="" type="checkbox"/> The supplier's own water source |      |  |
| <input type="checkbox"/> A purchased or imported source             |      |  |
| Baseline Year   |      | Volume Entering<br>Distribution System<br>(AF) |
| 10 to 15 Year Baseline - Water into Distribution System             |      |  |
| Year 1  | 1999 | 1,477  |
| Year 2  | 2000 | 1,354  |
| Year 3  | 2001 | 743  |
| Year 4  | 2002 | 760  |
| Year 5  | 2003 | 687  |
| Year 6  | 2004 | 828  |
| Year 7  | 2005 | 812  |
| Year 8  | 2006 | 1,773  |
| Year 9  | 2007 | 1,825  |
| Year 10   | 2008 | 2,092  |
| 5 Year Baseline - Water into Distribution System                    |      |  |
| Year 1  | 2004 | 828  |
| Year 2  | 2005 | 812  |
| Year 3  | 2006 | 1,773  |
| Year 4  | 2007 | 1,825  |
| Year 5  | 2008 | 2,092  |
| 2015 Compliance Year - Water into Distribution System               |      |  |
| 2015  |      | 1,181  |
| 2020 Compliance Year - Water into Distribution System               |      |  |
| 2020  |      | 1,480  |

## 5.5 BASELINE DAILY PER CAPITA WATER USE

The final baseline calculation is to determine the per capita water use in each baseline year and the average per capita water use over the entire baseline period. Using the baseline period and service area population as described in previous sections, the per capita water use for each year has been determined and can be seen in [SBX7-7 Table 5](#); the maximum and minimum per capita water use over the baseline period respectively are 169 gpcd in 2007 and 153 gpcd in 2005. The average per capita water use over the 10-year baseline period is 163 gpcd. [SBX7-7 Table 6](#) on the following page summarizes the 10-year baseline per capita water use, the 5-year baseline per capita water use, and the 2020 compliance year per capita water use.

**SBX7-7 Table 5 Gallons Per Capita Per Day (GPCD)**

| Baseline Year                                      |      | Service Area Population | Annual Gross Water Use<br>(AF) | Daily Per Capita Water Use<br>(gpcd) |
|--|------|-------------------------|--------------------------------|--------------------------------------|
| <b>10 to 15 Year Baseline Per Capita Water Use</b> |      |                         |                                |                                      |
| Year 1   | 1999 | 55,461                  | 10,106                         | 163                                  |
| Year 2   | 2000 | 53,338                  | 10,113                         | 160                                  |
| Year 3   | 2001 | 57,031                  | 10,742                         | 168                                  |
| Year 4   | 2002 | 57,723                  | 10,431                         | 161                                  |
| Year 5   | 2003 | 58,416                  | 10,808                         | 165                                  |
| Year 6   | 2004 | 59,108                  | 10,977                         | 166                                  |
| Year 7   | 2005 | 59,801                  | 10,227                         | 153                                  |
| Year 8   | 2006 | 60,494                  | 10,753                         | 159                                  |
| Year 9   | 2007 | 61,186                  | 11,574                         | 169                                  |
| Year 10  | 2008 | 61,879                  | 11,648                         | 168                                  |
| 10-15 Year Average Baseline GPCD                   |      |                         |                                | 163                                  |
| <b>5 Year Baseline Per Capita Water Use</b>        |      |                         |                                |                                      |
| Year 1   | 2004 | 59,108                  | 10,977                         | 166                                  |
| Year 2   | 2005 | 59,801                  | 10,227                         | 153                                  |
| Year 3   | 2006 | 60,494                  | 10,753                         | 159                                  |
| Year 4   | 2007 | 61,186                  | 11,574                         | 169                                  |
| Year 5   | 2008 | 61,879                  | 11,648                         | 168                                  |
| 5 Year Average Baseline GPCD                       |      |                         |                                | 163                                  |
| <b>2015 Compliance Year Per Capita Water Use</b>   |      |                         |                                |                                      |
| 2015   |      | 67,628                  | 8,772                          | 116                                  |
| <b>2020 Compliance Year Per Capita Water Use</b>   |      |                         |                                |                                      |
| 2020   |      | 74,321                  | 9,232                          | 111                                  |

**SBX7-7 Table 6 Gallons per Capita per Day Summary**

| Per Capita Water Use<br>(gpcd) |     |
|--------------------------------|-----|
| 10-15 Year Baseline            | 163 |
| 5 Year Baseline                | 163 |
| 2020 Compliance Year           | 111 |

## 5.6 2020 FINAL TARGETS

Consistent with the 2015 UWMP, the 2020 Urban Water Use Target was calculated using Method 1, which is indicated in [SBX7-7 Table 7](#). Method 1, as defined by DWR, is a straight 20 percent reduction in water use. Using Method 1, the City's 2020 urban water use target is documented as 131 gpcd, which is summarized on the following page in [SBX7-7 Table 7-A](#). The 131 gpcd target is intended to be maintained through the UWMP horizon of 2045.

**SBX7-7 Table 7 2020 Target Method**

| Target Method                                | Supporting Documentation      |
|--|-------------------------------|
| <input checked="" type="checkbox"/> Method 1 | SB X7-7 Table 7A              |
| <input type="checkbox"/> Method 2            | SB X7-7 Tables 7B, 7C, and 7D |
| <input type="checkbox"/> Method 3            | SB X7-7 Table 7-E             |
| <input type="checkbox"/> Method 4            | Method 4 Calculator           |

**SB X7-7 Table 7-A Target Method 1**

| 10-15 Year Baseline<br>(gpcd) | 2020 Target<br>(gpcd) |
|-------------------------------|-----------------------|
| 163                           | 131                   |

### 5.6.1 5-Year Baseline – 2020 Target Confirmation

#### Law

10608.22 Notwithstanding the method adopted by an urban retail water supplier pursuant to section 10608.20, an urban retail water supplier's per capita daily water user reduction shall be no less than 5 percent of base daily per capita water use are defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

The 2020 Urban Water Use Target is required to reduce the City's 2020 water use by a minimum of 5 percent from the 5-year baseline period (2004-2008). As calculated in [SB X7-7 Table 5](#), the average per capita water use for the 5-year baseline period is 163 gpcd. The 2020 Urban Water Use Target of 131 gpcd is an approximately 20% reduction from the 5-year average per capita water use, thereby confirming the 2020 Urban Water Use Target ([SB X7-7 Table 7-F](#)).

**SBX7-7 Table 7-F Confirm Minimum Reduction for 2020 Target**

| 5 Year<br>Baseline GPCD | Maximum 2020<br>Target <sup>1</sup> | Calculated<br>2020 Target | Confirmed 2020<br>Target |
|-------------------------|-------------------------------------|---------------------------|--------------------------|
| (gpcd)                  | (gpcd)                              | (gpcd)                    | (gpcd)                   |
| 163                     | 155                                 | 131                       | 131                      |

Notes:

1. Maximum 2020 Target is 95% of the 5-year Baseline per capita water use.

## 5.7 2020 COMPLIANCE DAILY PER CAPITA WATER USE

#### Law

10608.12 (f) "Compliance daily per-capita water use" means the gross water use during the final year of the reporting period...

10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010...compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

Using the City population and gross water use for the 2020 compliance year, the per capita water use was calculated as 111 gpcd, meaning the City has met the 2020 target per capita water use of 131 gpcd. [Table 5-2](#) and [SBX7-7 Table 9](#) summarizes the City's compliance with the 2020 per capita water use targeted reduction.

**SBX7-7 Table 9/Table 5-2 2020 Compliance**

| Actual<br>2020<br>Per<br>Capita<br>Water<br>Use<br>(gpcd) | Optional Adjustments to 2020 |                        |                          |                      |                                    | 2020<br>Target<br>Per<br>Capita<br>Water<br>Use<br>(gpcd) | Did<br>Supplier<br>Achieve<br>Targeted<br>Reduction<br>for 2020? |
|---|------------------------------|------------------------|--------------------------|----------------------|------------------------------------|---|--|
|   | Extraordinary<br>Events      | Economic<br>Adjustment | Weather<br>Normalization | Total<br>Adjustments | Adjusted<br>2020<br>Flow<br>(gpcd) |   |  |
| 111   | 0                            | 0                      | 0                        | 0                    | 111                                | 131   | Yes  |

## 5.8 REGIONAL ALLIANCE

The baseline and target water use values described in the previous sections were calculated based on data for the City's water service area exclusively. However, it should be noted that the City participates in a regional alliance led by CCWD. The CCWD 2020 UWMP includes a regional alliance analysis in compliance with SBX7-7 requirements, which includes the following municipal customers: cities of Antioch, Pittsburg, Martinez, Golden State Water Company, and Diablo Water District. Detailed information regarding CCWD's regional analysis is available in their 2020 UWMP. However, due to heavy industrial water use within the regional alliance area, but outside of the City's service area, the CCWD regional alliance water use reduction target is less conservative than the targets established through an analysis of the City's service area alone. Therefore, the targets established for the City's water service area and described in the previous sections were used for planning purposes.

The water use for the Regional Alliance area is the sum of all water delivered within CCWD's service area and includes untreated water and treated water delivered by CCWD as well as CCWD's customers' water use from other supplies. The actual 2020 per capita consumption for the Regional Alliance was 186 gpcd, thus the Regional Alliance has also met its 2020 target for 210 gpcd.

## CHAPTER 6 – SYSTEM SUPPLIES

The purpose of this chapter is to summarize the City’s current and planned water supply sources and volumes. This includes a description of the purchase water from CCWD and the groundwater basins used by the City as sources of supply. Current and Ongoing planning efforts for the potential beneficial use of recycled water within the City’s service area are also summarized.

### 6.1 PURCHASED OR IMPORTED WATER

The City is within the service area of CCWD and purchases Central valley Project (CVP) water from the Delta by CCWD, who is its wholesale supplier. CCWD has a contract with the U.S. Bureau of Reclamation (USBR) for 195,000 AFY of CVP water. The current contract was renewed in March 2005 through February 2045.

Between 85% and 95% of the City’s current water supply is received from CCWD pursuant to a contractual agreement that allows the City to receive a supply of water as is necessary to meet its needs. However, this supply of water is subject to rationing restrictions in the event of a water shortage or other extraordinary circumstances. As will be described in a later section, CCWD’s future water supply projections indicate adequate availability of surface water sources delivered through its contract with the USBR.

### 6.2 GROUNDWATER

For planning purposes, the State of California has been divided into ten separate hydrologic regions by the DWR, based on the State’s major drainage basins. According to the California Water Plan 2018 Update, the City is located in the Sacramento River Hydrologic Region. Each hydrologic region is divided into distinct groundwater basins, each of which is typically divided further into smaller interconnected groundwater subbasins. The following section summarizes the groundwater basin and subbasin underlying the City.

#### 6.2.1 Basin Description

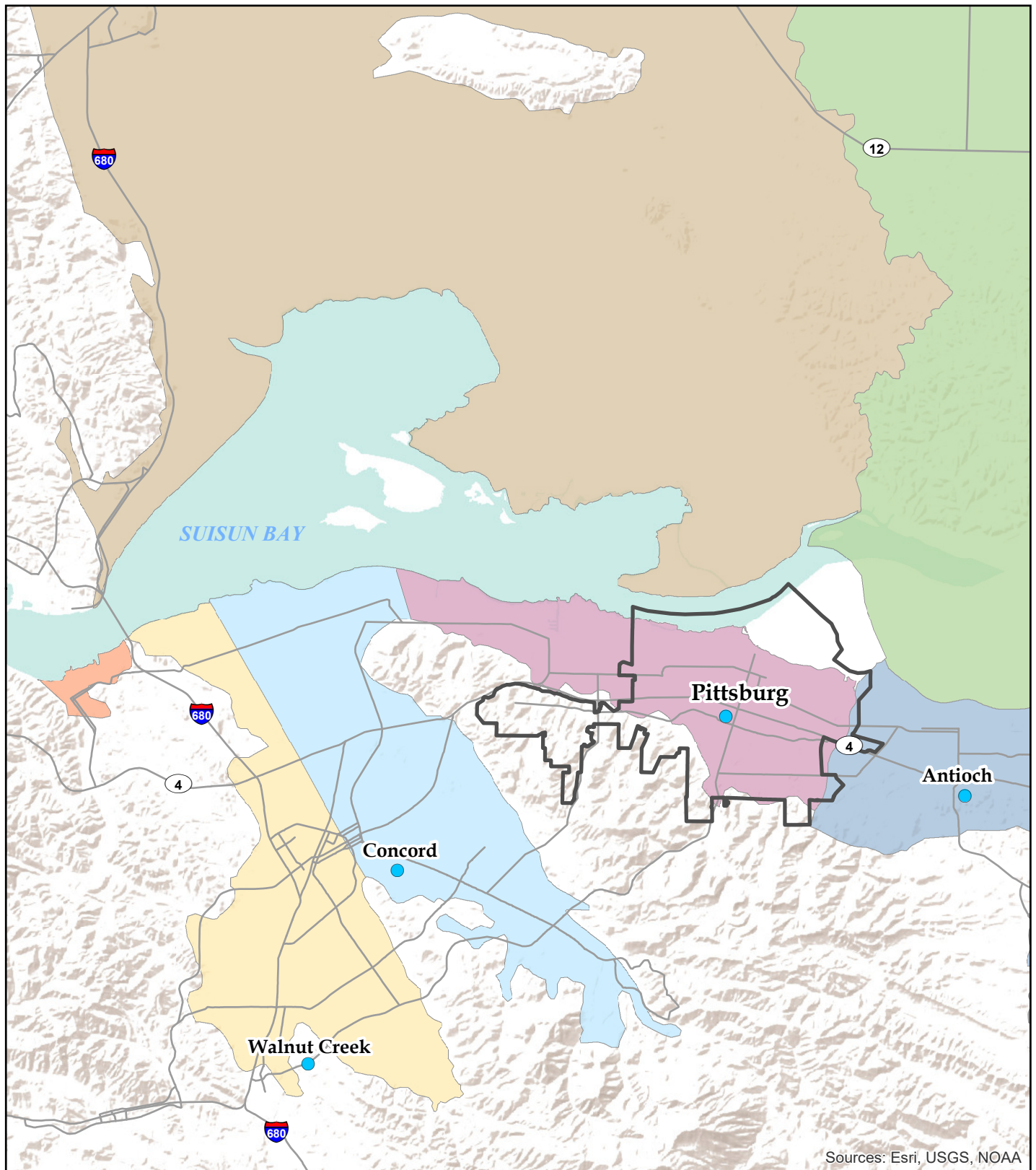
##### **Law**

10631. (b)(4) *If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*

*(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.*

##### **6.2.1.1 Groundwater Basin**

The City is located above the Pittsburgh Plain Groundwater Basin, identified as Groundwater Basin



### Legend

#### Groundwater Basins

|  |  |
|--|--|
| <span style="display:inline-block; width:15px; height:10px; background-color:orange; border:1px solid black;"></span> ARROYO DEL HAMBRE VALLEY | <span style="display:inline-block; width:15px; height:10px; background-color:green; border:1px solid black;"></span> SACRAMENTO VALLEY     |
| <span style="display:inline-block; width:15px; height:10px; background-color:lightblue; border:1px solid black;"></span> CLAYTON VALLEY        | <span style="display:inline-block; width:15px; height:10px; background-color:darkblue; border:1px solid black;"></span> SAN JOAQUIN VALLEY |
| <span style="display:inline-block; width:15px; height:10px; background-color:purple; border:1px solid black;"></span> PITTSBURG PLAIN          | <span style="display:inline-block; width:15px; height:10px; background-color:tan; border:1px solid black;"></span> SUISUN-FAIRFIELD VALLEY |
|  | <span style="display:inline-block; width:15px; height:10px; background-color:yellow; border:1px solid black;"></span> YGNACIO VALLEY       |



**Figure 6-1**  
**Groundwater Basins**  
2020 Urban Water Management Plan  
City of Pittsburg



Number 2004 in DWR's Bulletin 118, as shown on [Figure 6-1](#). The City extracts groundwater from this basin using two wells. The basin is bounded by Suisun Bay to the north, the Tracy Subbasin of the San Joaquin Valley Water Groundwater Basin to the east, and the Clayton Valley Groundwater Basin to the west. The basin extends to the south inland from the Suisun Bay between one and three miles. It is within two major drainage basins of Kirker Creek and Willow Creek, which both discharge into Suisun Bay. According to DWF Bulletin 118 there is limited data regarding the occurrence and movement of groundwater in the Basin. The Pittsburg Plain Groundwater Basin has not been adjudicated.

## 6.2.2 Groundwater Management

This section documents relevant plans addressing groundwater supply and quality.

### Law

10631. (b)(4) *...if groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*

(A) *The current version of any groundwater sustainability plan or ... any groundwater management plan adopted by the urban water supplier...or any other specific authorization for groundwater management.*

(B) *For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.*

### 6.2.2.1 Groundwater Management Plan

The City prepared the Pittsburg Plain Groundwater Management Plan (GWMP) in October 2012. The purpose of the GWMP is to manage and protect groundwater resources within and underlying the City. The primary objectives of the GWMP include the following:

- Provide a long-term strategy to maintain the quality, reliability, and sustainability of the Pittsburg Plain groundwater resources.
- Manage groundwater conjunctively with available surface water resources
- Support Basin Management Objectives that promote sustainability and optimal use of groundwater supplies.

### 6.2.2.2 Integrated Regional Water Management Plan

The East Contra Costa County (ECCC) Integrated Regional Water Management (IRWM) planning effort is a formal collaborative process convened to support all aspects of regional water management. This includes integrated planning for water supply, water quality, watershed and habitat protection, and flood and stormwater management. The ECCC IRWM members have a

long history of cooperation across political and jurisdictional boundaries that spans almost two decades. In this 2015 IRWM Plan Update, further updating the November 2013 IRWM Plan, the ECCC region creates a framework to implement integrated water management projects with multiple benefits to serve the population of the region and protect water and environmental resources for the State. This IRWM Plan articulates the challenges the ECCC region faces and defines the water resource management objectives it hopes to accomplish. The framework defined in the IRWM Plan is a living process the region can rely on to meet its current and future water management challenges.

The objective of the Integrated Regional Water Management Plan (IRWM) is to develop a comprehensive and flexible water supply plan for the County through the year 2040. The IRWM incorporates community input and is capable of responding to changing water supply and demand conditions.

The IRWM Preferred Strategy aims to maximize the Districts flexibility to meet actual water demands, and where they match water projections. It relies on practices, such as water banking, recycled water, demand management, and water transfers. It further relies on “core elements” designed to validate baseline planning assumptions, monitor or evaluate resource options, and help meet planning objectives.

#### **6.2.2.3 California Statewide Groundwater Elevation Monitoring Program**

The City of Pittsburg participates in DWR’s California Statewide Groundwater Elevation Monitoring (CASGEM) Program as designated monitoring entities for the Pittsburg Plain Basin and Subbasin areas.

#### **6.2.2.4 Salt and Nutrient Management Program**

In 2012, The City completed a Salt and Nutrient Management Program Summary to provide a preliminary evaluation of groundwater quality and salt and nutrient loading potential to assist in future groundwater planning and development effort.

### **6.2.3 Overdraft Conditions**

#### **Law**

10631. (b)(2) *For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.*

The Pittsburg Plain Groundwater Basin is not an adjudicated groundwater basin. DWR well data in the Pittsburg Plain Groundwater Basin indicate that the groundwater levels have remained fairly stable of the period of record. According to DWR, and based on present groundwater conditions, it

is not expected that overdraft conditions will occur in the groundwater basin. As such, the Pittsburg Plain Groundwater Basin is not listed as a critically overdrafted groundwater basin by DWR.

#### 6.2.4 Historical Groundwater Pumping

##### **Law**

10631. (b)(4) ...if groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonable available, including, but not limited to, historic use records.

The City has two active wells, Rossmoor and Bodega, that are capable of producing approximately 600 gpm and 1,200 gpm respectively. The volume of groundwater pumped by the City over the past five years is summarized in [Table 6-1](#).

**Table 6-1 Groundwater Volume Pumped**

| Groundwater Type | Location or Basin Name | Volume       |              |              |              |              |
|------------------|------------------------|--------------|--------------|--------------|--------------|--------------|
|                  |                        | 2016<br>(AF) | 2017<br>(AF) | 2018<br>(AF) | 2019<br>(AF) | 2020<br>(AF) |
| Alluvial Basin   | Pittsburg Plain        | 1,353        | 1,429        | 1,470        | 1,154        | 1,480        |
|                  | <b>Total</b>           | 1,353        | 1,429        | 1,470        | 1,154        | 1,480        |

### 6.3 SURFACE WATER

The City relies on surface water from CCWD as a primary source of supply, as described in the previous section.

### 6.4 STORMWATER

At the time of preparation of the 2020 UWMP, the City does not use stormwater as part of its water supply.

### 6.5 WASTEWATER AND RECYCLED WATER

This section discusses the use of recycled water and the characteristics of the wastewater collected by the Delta Diablo for treatment.

### 6.5.1 Recycled Water Coordination

#### Law

10633 *The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.*

Non-potable water use is a continued component of the City's long-term sustainable water supply strategy. While the City does not directly provide non-potable water supplies, continued coordination with CCWD and Delta Diablo is a key component to ensure non-potable water can be used within the City's service for appropriate designated uses.

Delta Diablo (formerly Delta Diablo Sanitation District) provides wastewater collection and treatment for the Cities of Pittsburg and Antioch as well as the unincorporated community of Bay Point. The WWTP has an average dry weather flow permitted capacity of 19.5 MGD and a recycled water facility (RWF) provides over 9,600 AFY of recycled water for industrial and landscape irrigation uses within the recycled water service area. As noted previously, Delta Diablo is the owner and operator of the recycled water distribution system, which includes deliveries within the City's service area. The City's potable water system serves as the backup water supply should the recycled water deliveries become unavailable. However, CCWD serves as the backup water supply for the major industrial users of recycled water, which use a vast majority of the Delta Diablo recycled water supplies.

### 6.5.2 Wastewater Collection, Treatment, and Disposal

This section describes wastewater collection, treatment and disposal.

#### Law

10633 (a) *A description the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal*  
(b) *A description the quantity of treated wastewater that meets recycled water standards, is being discharge, and is otherwise available for use in a recycled water project.*

#### 6.5.2.1 Wastewater Collected Within Service Area

All wastewater flows collected within the City's service area are conveyed to the Delta Diablo WWTP for treatment. The WWTP has a Delta outfall that is used for the disposal of wastewater that is not recycled. The WWTP provides secondary treatment using a series of primary treatment, activated sludge trickling filters, and secondary clarification. The Recycled Water Facility (RWF) provides additional treatment to tertiary levels using a series of flocculating clarification, filtration, and disinfecting.

Due to the locations of Delta Diablo's flow meters, it is not possible to report the City's specific wastewater volume conveyed to the WWTP. Based on reports prepared by CCWD, Delta Diablo collected a total wastewater volume of approximately 14,528 AF ([Table 6-2](#)).

**Table 6-2 Wastewater Collected Within Service Area in 2020**

| Wastewater Collection                |   |   | Recipient of Collected Wastewater                                  |  |                                   |  |
|--------------------------------------|---|---|--|--|-----------------------------------|--|
| Name of Wastewater Collection Agency | Wastewater Volume Metered or Estimated? | Volume of Wastewater Collected from UWMP Service Area 2020 (AF) | Name of Wastewater Treatment Agency Receiving Collected Wastewater | Treatment Plant Name                   | Is WWTP Located Within UWMP Area? | Is WWTP Operation Contracted to a Third Party? |
| Delta Diablo (Sanitation District)   | Metered                                 | 14,528  | Delta Diablo (Sanitation District)                                 | Delta Diablo Wastewater Treatment Plan | No                                | No   |

Notes: Delta Diablo does not have metered wastewater flows broken down by city for its service area, thus wastewater flows for Pittsburg alone are not reported herein.

#### **6.5.2.2 Wastewater Treatment and Discharge within Service Area**

Wastewater that is not treated in Delta Diablo's Recycled Water Facility is discharged into the Delta. Delta Diablo's Waste Discharge Requirements (Order No. R2-2014-0030, NPDES Permit No. 0038547) allow for treated effluent to be discharged into New York Slough through a deep-water outfall, approximately 400 feet from shore. As the wastewater treatment plant is located outside the City of Pittsburg's service area, the 2020 volumes of wastewater that were treated and discharged are not included in [Table 6-3](#). Delta Diablo does not have wastewater flows broken down by city for its service area; therefore, it is not possible to report these same volumes for Pittsburg alone. Recycled water use for the City of Pittsburg alone in 2020 was 111 AFY (not included in [Table 6-3](#)).

**Table 6-3 Wastewater Treatment and Discharge within Service Area in 2020**

| <input checked="" type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area.<br>The City is not required to complete the table below. |   |                        |  |              |                    |                               |                              |                                  |
|--|---|------------------------|--|--------------|--------------------|-------------------------------|------------------------------|----------------------------------|
| Wastewater Treatment Plant Name  | Discharge Location Name and Description | Method of Disposal     | Does This Plant Treat Wastewater Generated Outside the Service Area? | Treat. Level | 2020 Volume        |                               |                              |                                  |
|  |   |                        |  |              | Wastewater Treated | Discharged Treated Wastewater | Recycled Within Service Area | Recycled Outside of Service Area |
|  |   |                        |  |              | (AF)               | (AF)                          | (AF)                         | (AF)                             |
| Delta Diablo   | New York Slough                         | River or creek outfall | Yes  | Secondary    |                    |                               |                              |                                  |

Notes: Recycled water within service area, wastewater treated and discharged treated wastewater provided is for the Delta Diablo service area, not the Pittsburgh service area.

### 6.5.3 Recycled Water System

#### Law

*10633 (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*

Approximately 50% of the wastewater conveyed to the Delta Diablo WWTP received tertiary treatment. A majority of this recycled water volume is for cooling water at the Delta and Los Medanos Energy Centers, with the remaining volumes used for irrigation purposes at local parks. This remaining volume is delivered to 18 connections throughout the City's service area for schools, parks, and roadway medians. While the Industrial energy centers are located within the City's UWMP service area they receive back-up water supply from CCWD and the City will not be required to support their water supply. Therefore, they are itemized separately from the irrigation water use in the 2020 UWMP recycled water reporting and projections and shown for informational purposes only. It should be noted that Delta Diablo is the owner and operator of the recycled water distribution system, with deliveries occurring within the City's UWMP service area.

### 6.5.4 Recycled Water Beneficial Uses

#### Law

*10633 (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.*  
*(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.*  
*(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years*

#### 6.5.4.1 Current and Planned Uses of Recycled Water

The City continues to support developing irrigation and industrial recycled water uses where there is available supply and the use is economically feasible. Delta Diablo began recycled water deliveries within the City's service area in the 1990s and the City has continued to add service connections since that time. The current and projected direct beneficial uses of recycled water are summarized on [Table 6-4](#). This was based on 111 AF of actual irrigation use in 2010 and 200 AF of future recycled water use listed on [Table 6-6](#).

**Table 6-4 Recycled Water Direct Beneficial Uses Within Service Area**

| <div><input type="checkbox"/></div>          | Recycled water is not used and is not planned for use within the service area of the supplier. The City is not required to complete the table below. |              |              |              |              |              |              |
|--|--|--------------|--------------|--------------|--------------|--------------|--------------|
| Beneficial Use Type                          | Level of Treatment   | Volume       |              |              |              |              |              |
|  |  | 2020<br>(AF) | 2025<br>(AF) | 2030<br>(AF) | 2035<br>(AF) | 2040<br>(AF) | 2045<br>(AF) |
| Agricultural irrigation                      | Tertiary   |              |              |              |              |              |              |
| Landscape irrigation (excludes golf courses) |  | 111          | 311          | 311          | 311          | 311          | 311          |
| Golf course irrigation                       |  |              |              |              |              |              |              |
| Commercial use                               |  |              |              |              |              |              |              |
| Industrial use                               |  |              |              |              |              |              |              |
| Geothermal and other energy production       |  |              |              |              |              |              |              |
| Seawater intrusion barrier                   |  |              |              |              |              |              |              |
| Recreational impoundment                     |  |              |              |              |              |              |              |
| Wetlands or wildlife habitat                 |  |              |              |              |              |              |              |
| Groundwater recharge                         |  |              |              |              |              |              |              |
| Surface water augmentation                   |  |              |              |              |              |              |              |
| Direct potable reuse                         |  |              |              |              |              |              |              |
| Other  |  |              |              |              |              |              |              |
| Total  |  | 111          | 311          | 311          | 311          | 311          | 311          |

#### 6.5.4.2 Planned Versus Actual Use of Recycled Water

##### Law

10633 (e) (Provide) a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

In the 2015 UWMP the City projected the future recycled water use based on potential recycled water irrigation conversion projects throughout the City as well as ongoing industrial reuse by the two previously discussed energy centers. [Table 6-5](#) summarizes the projection for 2020 as documented in the 2015 UWMP as well as the actual 2020 recycled water use. It should be noted that for the purposes of the 2020 UWMP [Table 6-5](#) does not include the recycled water use for the two energy center industrial users, which was unavailable at the time of preparation of the 2020 UWMP. As noted previously, the City does not serve as a source of backup supply to these industrial users.

**Table 6-5 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual**

| <input checked="" type="checkbox"/>          | Recycled water was not used in 2015 nor projected for use in 2020. The City is not required to complete the table below. |                            |  |
|--|--|----------------------------|--|
| Use Type                                     | 2015 Projection for<br>2020<br>(AF)  | 2020 Actual<br>Use<br>(AF) |  |
| Agricultural irrigation                      |  |                            |  |
| Landscape irrigation (excludes golf courses) | 335  | 111                        |  |
| Golf course irrigation                       | 333  |                            |  |
| Commercial use                               |  |                            |  |
| Industrial use                               | 6,089  |                            |  |
| Geothermal and other energy production       |  |                            |  |
| Seawater intrusion barrier                   |  |                            |  |
| Recreational impoundment                     |  |                            |  |
| Wetlands or wildlife habitat                 |  |                            |  |
| Groundwater recharge                         |  |                            |  |
| Surface water augmentation                   |  |                            |  |
| Direct potable reuse                         |  |                            |  |
| Other  |  |                            |  |
| <b>Total</b>                                 | <b>6,757</b>   | <b>111</b>                 |  |

Note: Industrial use volumes were documented in the 2015 UWMP for informational purposes only and reflected demands for which CCWD, and not the City, was considered the backup water supply. This industrial use is not documented as part of the 2020 UWMP.

### 6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

#### Law

10633 (f) *A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.*

(g) *A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.*

The City continues to encourage recycled water use throughout its service area. Some mechanisms currently employed to encourage recycled water use include:

- Secure local, state, and federal agencies to offset capital costs
- Coordinate with Delta Diablo and CCWD
- Promote regional and local water recycling projects
- Urge regulatory agencies to streamline regulatory requirements
- Support research that addresses public concern on recycled water use

The City currently does not use financial incentives to encourage recycled water use but as additional recycle water projects are identified these may be an additional action to be considered. The City will continue to evaluate the potential for grant funding of recycled water projects, and seek opportunities to implement portions of larger projects as they become economically feasible.

Additionally, the City will continue to work collaboratively with CCWD and Delta Diablo in its service area to encourage recycled water use in future development projects. Within the East Contra Costa County IRWM group CCWD provides a leadership role in coordinating updates to the IRWMP, as well as grant applications and administration. Historically Pittsburg has administered several grants that included funding towards recycled water projects and the City will continue to coordinate with the other IWRM member agencies in identifying and pursuing grant funding opportunities for recycled water projects.

## 6.6 DESALINATED WATER OPPORTUNITIES

### Law

10631 (g) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply

Desalinated water is not currently used by the City as a source of supply. Potential opportunities for desalination supply have been explored in the past on a regional level through the East County Water Management Association, of which the City is a participant. However, the cost for desalinated water as a source of supply has not been considered cost-effective compared to other existing available sources. The ECWMA will continue to review the advancements in desalinated water technology in the event it becomes a cost-effective supply alternative in the future.

**Table 6-6 Methods to Expand Future Recycled Water Use**

| <input type="checkbox"/> Supplier does not plan to expand recycled water use in the future. The City is not required to complete the table below. |             |                             |  |
|---|-------------|-----------------------------|--|
| Name of Action  | Description | Planned Implementation Year | Expected Increase in Recycled Water Use (AF) |
| Parkside Elementary School  | Irrigation  | 2021                        | 35   |
| Marina Vista  | Irrigation  | 2021                        | 25   |
| Landscape along Railroad Avenue   | Irrigation  | 2022                        | 10   |
| Law Enforcement Training Center   | Irrigation  | 2022                        | 35   |
| Median on 3rd Street & Railroad Avenue  | Irrigation  | 2022                        | 10   |
| Bay Harbor HOA  | Irrigation  | 2023                        | 70   |
| Total   |             |                             | 185  |

## 6.7 EXCHANGES OR TRANSFERS

### Law

10631 (c) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The City does not currently use exchanges or transfers of water as a source of supply, nor are there future plans to use exchanges or transfers.

## 6.8 FUTURE WATER PROJECTS

### Law

10631 (f) ...The urban water supplier shall include a detailed description of expected future water projects and programs...that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single dry water years and for a period of drought lasting five consecutive water years.. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

They City has no plans for the immediate future to implement water supply projects within its service area. However, CCWD has identified several future water projects that would be used to meet the needs of its wholesale customers, which includes the City. These future projects include Industrial Recycled Water Projects, Near- and Long-Term Conservation Program and Long-term water transfer or preferred alternative. The City's ongoing and future water programs are summarized on [Table 6-7](#).

**Table 6-7 Expected Future Water Supply Projects or Programs**

| Name of Future Projects or Programs | Joint Project with other suppliers |      | Description   | Planned Implementation Year | Planned for Use in Year Type | Expected increase in Water Supply to Supplier |
|-------------------------------------|------------------------------------|------|---|-----------------------------|------------------------------|---|
| Long-term Transfer                  | Yes                                | CCWD | CCWD would enter into a long-term water transfer agreement for a fixed amount of water supplies.                | 2030                        |                              | 6,000   |
| Spot Market Purchase                | Yes                                | CCWD | CCWD would determine its water supply requirements each year and decide whether to purchase additional supplies | 2030                        |                              | 6,000   |

**Table 6-7 Expected Future Water Supply Projects or Programs**

| Name of Future Projects or Programs                     | Joint Project with other suppliers |      | Description   | Planned Implementation Year | Planned for Use in Year Type | Expected increase in Water Supply to Supplier |
|---|------------------------------------|------|---|-----------------------------|------------------------------|---|
| Long-term Agricultural Conjunctive Use                  | Yes                                | CCWD | CCWD would partner with an agricultural partner or irrigation district north of the Delta which has both pre-1914 surface water supplies and access to groundwater supplies. In dry years, the agricultural district would shift its water usage to local groundwater supplies and transfer its surface water allocation to CCWD. | 2030                        |                              | 6,000   |
| Long-term Agricultural Fallowing                        | Yes                                | CCWD | CCWD would partner with an agricultural partner, such as a large agricultural water user or irrigation district, to exchange supplies in dry years either by fallowing land or shifting crops to conserve water for other uses.   | 2030                        |                              | 6,000   |
| Industrial Recycled Water Project                       | Yes                                | CCWD | Project will deliver recycled water from CCCSD to major industrial customers  | TBD                         | Average Year                 | > 3,400                                       |
| CCWD Active Near-Term Conservation Program              | Yes                                | CCWD | Ongoing investments in active conservation programs   | Ongoing                     | Average Year                 | 3,000   |
| CCWD Active Long-Term Conservation Program              | Yes                                | CCWD | Ongoing investments in active conservation programs   | Ongoing                     | Average Year                 | 8,800   |
| Long-Term Water Transfer or Other preferred alternative | Yes                                | CCWD | Project to meet multiple-dry year shortfall projected to begin in 2045  | 2040-2045                   | Multi-Dry Year               | 2,000   |

## 6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

### Law

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a).

(4) (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonable available, including, but not limited to, historic use records.

The City's existing and planned water supply sources include local groundwater, recycled water, and purchased surface water from CCWD. The local groundwater sources are extracted to the City's Water Treatment Plant where it is treated in conjunction with the surface water supplies purchased from CCWD. These treated supplies are then conveyed to the City's customers through the potable water distribution system. The City's 2020 water supplies are summarized on [Table 6-8](#).

**Table 6-8 Water Supplies – Actual**

| Water Supply Source           | Source Description                                 | 2020               |                |
|-------------------------------|--|--------------------|----------------|
|                               |  | Actual Volume (AF) | Water Quality  |
| Purchased or Imported Water   | Purchased from CCWD                                | 7,752              | Drinking Water |
| Groundwater (not desalinated) | Extracted from Pittsburg Plain Groundwater Basin   | 1,480              | Drinking Water |
| Recycled Water                | Produced by Delta Diablo for the City of Pittsburg | 111                | Recycled Water |
| <b>Total</b>                  |  | <b>9,343</b>       |                |

The City's projected water supplies are summarized on [Table 6-9](#). The City's groundwater supply is expected to remain the same under normal water year conditions, which is the average volume of historical pumped groundwater from 1993 to 2020. Projected available recycled water supplies are based on the City's projected recycled water demand, which the existing Delta Diablo RWF can meet. Per purchase water agreement with Contra Costa Water District, CCWD can meet 100% of the City's projected potable water demand (outlined in [Table 4-2](#)) from surface water supply under normal water year conditions.

**Table 6-9 Water Supplies – Projected**

| Water Supply Source           | Projected Water Supply |               |               |               |               |
|-------------------------------|------------------------|---------------|---------------|---------------|---------------|
|                               | 2025<br>(AF)           | 2030<br>(AF)  | 2035<br>(AF)  | 2040<br>(AF)  | 2045<br>(AF)  |
| Purchased or Imported Water   | 11,031                 | 12,030        | 12,960        | 13,824        | 14,745        |
| Groundwater (not desalinated) | 1,349                  | 1,349         | 1,349         | 1,349         | 1,349         |
| Recycled Water                | 311                    | 311           | 311           | 311           | 311           |
| <b>Total</b>                  | <b>12,691</b>          | <b>13,690</b> | <b>14,620</b> | <b>15,484</b> | <b>16,405</b> |

## 6.10 ENERGY INTENSITY

### Law

10631.2.(a) *In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:*

- (1) An estimate of the amount of energy used to extract or divert water supplies.*
- (2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.*
- (3) An estimate of the amount of energy used to treat water supplies.*
- (4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.*
- (5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.*
- (6) An estimate of the amount of energy used to place water into or withdraw from storage.*
- (7) Any other energy-related information the urban water supplier deems appropriate.*

An urban water supplier's energy intensity (EI) is the amount of energy (kWh) consumed for the purpose of supplying water from the point that it enters the City's service area to the point at which it exits the system at the point of delivery. The 2020 Urban Water Management Plan Guidebook provides guidance for estimating energy intensity associated with source of water used by an urban water supplier. The purpose of calculating the City's energy intensity is to:

- Develop a baseline energy use per acre-foot of treated water delivered by the water system.
- Aid in identifying energy saving opportunities in the future.
- Allow for comparing energy use among similar agencies.

The estimate of energy intensity includes requirements for the purpose of water conveyance, extraction, treatment, placing water into and taking it from storage, and distribution. The City's water energy intensity only accounts for the water management processes occurring within its operational control; energy use associated with the distribution of wholesaler to the City's point of diversion is not included. The following water management processes are accounted for in the City's energy intensity estimate, which is based on existing processes and available records:

- Diversion of raw water from Contra Costa Canal.
- Extraction of groundwater from Rossmoor and Bodega Wells.
- Treatment of raw water and groundwater at the City's Water Treatment Plant.
- Delivery of treated water to end users.

Energy use data relating to the extraction, diversion, conveyance, treatment, distribution and placing into and taking from storage in the City's water supply system was acquired from Pacific Gas & Electric (PG&E) meter data for fiscal year 2020. Two natural gas meters were included in the City's water system. The raw water pumps conveying water from Contra Costa Canal to Pittsburg's Zone 1 and 2 treated water reservoirs and the City's treatment facility are all on the same meter at the Pittsburg WTP. The City, therefore, utilized Table O-1B for its EI calculations instead of Table O-1A or O1-C, since it is not possible to distinguish between energy used for treatment and conveyance at this time. The City's energy use estimate is documented on Table O-1B in [Appendix C](#).

Total energy use and volume of water entering the City's water system for fiscal year 2020 were 5,419,810 kWh and 9,232 AF, respectively, resulting in an Energy Intensity of 587.1 kWh/AF (1801.7 kWh/MG).

## CHAPTER 7 – WATER SUPPLY RELIABILITY ASSESSMENT

This chapter assesses the reliability of the City’s water supply under normal conditions, single year dry conditions, and five-year dry conditions. The reliability assessment includes a comparison of projected water use versus expected water supply for the next 20 years. This chapter also includes the newly required Drought Risk Assessment, which is a review of the capability of the City’s water supplies to meet demand for the next five years assuming a five-year drought occurs.

### 7.1 CONSTRAINTS ON WATER SOURCES

#### Law

10631 (b)(1) *A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.*

This chapter discusses the reliability of the City’s water supplies with respect to water quality and service reliability. Surface water, groundwater and recycled water quality and service reliability are each discussed in the following sections. While there are quality challenges associated with each source, the City, CCWD, and Delta Diablo are taking steps to address these challenges and the City does not anticipate decreases in water supplier over the UWMP planning horizon due to water quality concerns. The following sections reflect a summary of available planning documents, including CCWD 2020 UWMP and the ECCC IWRMP update.

#### 7.1.1 Surface Water

The City’s primary wholesale water supplier, CCWD, is almost entirely dependent on the Delta for its water supply. The quantity of water in the Delta continues to deteriorate despite efforts to improve it.

##### 7.1.1.1 Water Quality Factor

Delta water quality problems are being compounded by increased water use and greater wastewater, stormwater, and agricultural discharges from statewide development and growth. Climate change is projected to have impacts on CCWD’s water supplies and further influences Pittsburgh’s surface water reliability. Changes in precipitation and temperatures could affect the availability of fresh surface water. Additionally, sea-level rise could result in increases in Delta salinity, which could limit the quantity and duration of water with quality suitable for M&I purposes.

A number of projects and programs are being developed, or are in place, to address Delta water quality degradation at the statewide level and through local and regional projects. To ensure that CCWD can meet the increasingly more stringent water quality standards and provide high quality water for its customers, including the City of Pittsburgh, CCWD had initiated or is participating in a number of water quality improvement projects as summarized below.

- **EBMUD-CCWD Untreated Water Intertie:** This intertie enables CCWD to divert up to 3,200 AFY of its CVP supply at the Freeport diversion facility. Additionally, the intertie provides for the sharing of water supplies between the agencies during emergency conditions or to support planned maintenance.
- **Advanced Treatment Demonstration Project:** In 2004, CCWD formed a regional partnership with local water agencies to research a project on advanced water treatment processes which examined a full-scale application of new and existing disinfectants and advanced filtration to produce safer drinking water. A second phase of the Advanced Treatment Study was initiated to improve understanding of Delta source water quality with respect to levels of various contaminants including endocrine disrupting compounds and pharmaceuticals, and to quantitatively assess removal effectiveness of existing and advanced treatment processes (membrane filtration and chemical addition). The results of the study were documented in a report in March 2011.
- **Middle River Intake (Alternative Intake Project):** In 2010, CCWD completed the Middle River Intake to move some of its pumping to a new intake in the Delta to enable CCWD to divert water of higher quality during dry periods, including droughts. The intake provides CCWD with the flexibility to divert higher quality water from the Delta without increasing the amount of water pumped.
- **Phase 1 Los Vaqueros Reservoir Expansion:** The District completed an expansion in 2012 increasing the capacity of the reservoir from 100,000 AF to 160,000 AF which improves water quality and water supply reliability for the District's customers while providing a net environmental benefit to the Delta. The District is leading the Phase 2 Expansion which may provide incidental water supply reliability benefits to the District.
- **Canal Replacement Project:** CCWD is implementing this project which consists of replacing approximately four miles of the unlined Contra Costa Canal from the Rock Slough Intake to Pumping Plant No. 1, to improve source water quality as well as increase public safety and flood control. The project is being completed in phases and CCWD has completed four out of five phases and approximately 2.5 miles of the project to date. The remaining 1.5 miles will be completed in coordination with project partners and funding.

#### **7.1.1.2 Legal Factors**

The water supply reliability goal adopted by CCWD's Board of Directors is to meet 100% of the City's demand in normal years and at least 85% of demand during water shortage conditions. The

remaining demands during drought conditions would be met by a combination of short-term water purchases, groundwater supply augmentation, and a voluntary, mandatory short-term conservation program.

The projected water supplies from CCWD are not anticipated to incur supply deficits in normal years due to CCWD's long-term conservation program, existing CVP contract supply, and long-term water transfer agreement with East Contra Costa Irrigation District (ECCID). CCWD entered into an agreement with the ECCID in 2000 to purchase surplus irrigation water from ECCID's service area. CCWD's currently available and planned supplies are sufficient to meet their reliability goals and estimated water demands during normal, single dry, and the first two years of a multi-year drought. In later years, several types of drought conditions may result in supply shortfalls. The maximum amount of short-term conservation expected to be necessary by CCWD is 15% of supply. If current drought conditions continue and statewide conservation measures remain in effect, CCWD anticipates that it could meet up to 75% of the City's demands over the next three years.

### **7.1.2 Groundwater**

The following sections discuss the reliability and constraints for the City's groundwater supply sources.

#### **7.1.2.1 Legal Factors**

The City's secondary source of supply is groundwater extracted from the Pittsburg Plain subbasin of the Pittsburg Plain Groundwater Basin. This groundwater basin is not an adjudicated basin and no legal factors are expected to limit the availability of supply.

#### **7.1.2.2 Environmental Factors**

Environmental concerns can arise during the water planning process when a project's impact on the ecosystem is taken into consideration. These concerns can subsequently cause a lack of supply due to the enforcement of environmental legislation. The City's groundwater sources are not expected to be limited by any environmental factors.

#### **7.1.2.3 Water Quality Factors**

Water quality factors that could affect the availability of supply include water contamination due to biological or chemical constituents. Water from these wells can be high in manganese, iron and dissolved solids. Total dissolved solids (TDS) in the Rossmoor Well have been recorded at concentrations of 1,100 mg/L. A maximum concentration of 500 mg/L is recommended for secondary water quality standards (water aesthetics). However, because the water produced from these wells undergoes blending and complete conventional treatment at the City's Water Treatment Plant, the TDS levels are reduced to below the secondary standard. The City conducts regular tests of the water pumped from these two wells in compliance with State of California

water quality standards (Administrative Code, Title 22) to make sure that the utilization of this water source is consistent with applicable State water standards.

#### **7.1.2.4 Climatic Factors**

The City's groundwater supply has proven to be very consistent through variable climatic conditions. There has been no change in groundwater levels reported by DWR in this area as a result of the City's use of the groundwater basin. The City has implemented groundwater monitoring to evaluate groundwater level trends over time to ensure that overdraft conditions (potentially resulting in seawater intrusion) do not occur.

#### **7.1.3 Recycled Water**

The following sections discuss the possible constraints on the City's recycled water supplies, as provided by Delta Diablo.

##### **7.1.3.1 Legal factors**

Recycled water from Delta Diablo has been a highly reliable and essentially a "drought-proof" supply. Production capacity at the RWF is affected by the facility's permitted capacity of 12.8 MGD, the use patterns of recycled water customers, Delta Diablo's wastewater treatment plant influent diurnal flow pattern, influent average dry weather flow, and storage/equalization capacity at the RWF. Delta Diablo continues to assess these factors through various measures to ensure the continued reliability of the supply and increase the potential for future recycled water use.

##### **7.1.3.2 Water Quality Factors**

The City's recycled water supply comes from Delta Diablo's recycled water facility (RWF). The RWF ensures a consistent water quality standard is met for the City's recycled water supply through compliance with Title 22 standards.

## **7.2 RELIABILITY BY TYPE OF YEAR**

This section discusses the yearly supply conditions, and the sources of data for supply evaluation.

### **7.2.1 Types of Years**

This section discusses the type of years considered when evaluating water supply reliability. This section also identifies the historical water years that meet these conditions for drought planning purposes. Consistent with CCWD's water supply analyses, the basis of water year data presented in this section is as follows:

- **Average Water Year** – Defined as the year that most closely represents the average water supply available.
- **Single Dry Year** – Defined as the year that represents the lowest water supply available.

- **Multiple Dry Year** – Defined as the driest historical consecutive 5-year period for water supply availability.

To determine the supply available for different sources in each year type, the following key assumptions were made.

- **Surface Water** – The City purchases surface water supply from CCWD. From historical use in a normal year, CCWD could meet 100% of the City’s potable water demand; at least 85% of potable water demand under drought conditions. **Table 7-1** summarizes the water supply availability for the City’s surface water supply, as provided by CCWD, under the different water years.
- **Groundwater** – The City’s groundwater supply has proven to be very consistent through variable climatic conditions. The City assumes groundwater supply is the same as historical average pumped groundwater, which is equal to 1,349 AFY.
- **Recycled Water** – Recycled water is considered to be drought-proof water supply source. For the remainder of this chapter, recycled water supply is assumed to stay 100% available during drought conditions (both single and multiple dry years).

**Table 7-1 Basis of Water Year Data**

| Year Type                      | Base Year | Volume Available<br>(AF) | Percent of Average Supply<br>(%) |
|--------------------------------|-----------|--------------------------|----------------------------------|
| Average Year                   | 2020      |                          | 100%                             |
| Single-Dry Year                | 2020      |                          | 100%                             |
| Consecutive Dry Years 1st Year | 1932      |                          | 100%                             |
| Consecutive Dry Years 2nd Year | 1930      |                          | 100%                             |
| Consecutive Dry Years 3rd Year | 1931      |                          | 95%                              |
| Consecutive Dry Years 4th Year | 1933      |                          | 80%                              |
| Consecutive Dry Years 5th Year | 1929      |                          | 85%                              |

Notes:

1. Available percentage for single dry and multiple dry year periods based on estimated percent of average supply, per CCWD 2020 UWMP.
2. Base year for average dry year based on average of the period 1922-2020 consistent with CCWD 2020 UWMP.

The City experienced multiple-year drought conditions in 1967-1977, 1987-1992, 2007-2009 and again in 2013 - 2015. Water conservation strategies implemented by the City in partnership with CCWD, during the latest set of multi-year drought conditions, resulted in a reduction in per capita water usage.

Based on experiences during the previous drought periods, the City recognizes that it is better to enter into a water shortage alert early, at a minimal level, to establish necessary rationing programs and policies, to gain public support and participation, and to reduce the likelihood of more severe shortage levels later. As the community continues to become more water efficient, it may become more difficult for customers to reduce their water use during water shortages (this is called “demand hardening”). Staff does not believe that City customers are approaching demand hardening yet, because there are still potential water efficiency improvements in residential plumbing fixtures, appliances, and landscapes, and in the commercial, industrial, and institutional sectors that have yet to be implemented.

### 7.2.2 Sources for Water Data

To establish a basis of normal, single dry, and multiple dry hydrologic water year’s, historical rainfall data available from DWR was analyzed, as it relates to the City.

## 7.3 SUPPLY AND DEMAND ASSESEMENT

### *Law*

*10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.*

During prolonged years of drought, City-wide water use patterns are expected to change. Typically, outdoor water use will initially increase as irrigation is used to offset decreased rainfall. These potential water use increases can be offset, in part, by increasing water conservation measures.

The City’s water supply assessment considered the following sources of supply, which were described in detail in previous sections:

- **Surface Water:** The City receives surface water deliveries from CCWD in the form of diversions from the Contra Costa Canal. Historically CCWD has been capable of meeting 100% of the City’s supply needs. CCWD’s 2020 UWMP indicates this could reach as low as 85% during the final year of a five-year drought.

- **Groundwater:** The City currently operates two groundwater wells, which extract and deliver groundwater to be blended and treated at the WTP. The available supply for these wells is assumed as equal to the historical average pumping.
- **Recycled Water:** It is assumed the Delta Diablo recycled water supply will be an uninterruptable water source and the water supply and demand assessment assumes no reduction in supply availability.

The demand projections for the various hydrologic water years are summarized on the following pages in [Table 7-2](#), [Table 7-3](#), and [Table 7-4](#). These tables include the total projected water demands through 2040, and estimates for total estimated water supply based on the hydrologic water years. These tables document the estimated total supply and demand during normal water years.

**Table 7-2 Normal Year Supply and Demand Comparison**

|            | 2025   | 2030   | 2035   | 2040   | 2045   |
|------------|--------|--------|--------|--------|--------|
|            | (AF)   | (AF)   | (AF)   | (AF)   | (AF)   |
| Supply     | 12,691 | 13,690 | 14,620 | 15,484 | 16,405 |
| Demand     | 11,342 | 12,341 | 13,271 | 14,135 | 15,056 |
| Difference | 1,349  | 1,349  | 1,349  | 1,349  | 1,349  |

**Table 7-3 Single Dry Year Supply and Demand Comparison**

|            | 2025   | 2030   | 2035   | 2040   | 2045   |
|------------|--------|--------|--------|--------|--------|
|            | (AF)   | (AF)   | (AF)   | (AF)   | (AF)   |
| Supply     | 12,691 | 13,690 | 14,620 | 15,484 | 16,405 |
| Demand     | 11,342 | 12,341 | 13,271 | 14,135 | 15,056 |
| Difference | 1,349  | 1,349  | 1,349  | 1,349  | 1,349  |

**Table 7-4 Multiple Dry Years Supply and Demand Comparison**

|             |               | 2025   | 2030   | 2035   | 2040   | 2045   |
|-------------|---------------|--------|--------|--------|--------|--------|
|             |               | (AF)   | (AF)   | (AF)   | (AF)   | (AF)   |
| First year  | Supply totals | 12,691 | 13,690 | 14,620 | 15,484 | 16,405 |
|             | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056 |
|             | Difference    | 1,349  | 1,349  | 1,349  | 1,349  | 1,349  |
| Second year | Supply totals | 12,691 | 13,690 | 14,620 | 15,484 | 16,405 |
|             | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056 |
|             | Difference    | 1,349  | 1,349  | 1,349  | 1,349  | 1,349  |
| Third year  | Supply totals | 12,139 | 13,089 | 13,972 | 14,793 | 15,668 |
|             | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056 |
|             | Difference    | 797    | 748    | 701    | 658    | 612    |
| Fourth year | Supply totals | 11,588 | 12,487 | 13,324 | 14,102 | 14,931 |
|             | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056 |
|             | Difference    | 246    | 146    | 53     | (33)   | (126)  |
| Fifth year  | Supply totals | 11,036 | 11,886 | 12,676 | 13,410 | 14,193 |
|             | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056 |
|             | Difference    | (306)  | (456)  | (595)  | (725)  | (863)  |

## 7.4 MANAGEMENT TOOLS AND OPTIONS

### Law

*10620 (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.*

**Table 7-4** compares the total supply available in multiple dry years to projected demand totals. Under multiple year drought conditions, the City may be required to implement water reduction actions to mitigate potential supply shortfalls. For the analysis, groundwater supply has been assumed to be at the average 1,480 AFY of groundwater extraction between 1993 and 2020, as noted in **Table 6-9**. However, the maximum annual extraction in this period was 2,092 AF in 2008, so additional groundwater extraction could be used to account for supply deficits in multiple dry years, as necessary. In addition, as discussed in Section 4.1, the per capita water use used for the demand projections is based on a rebound from drought restrictions and the economic recession, and future projections do not account for potential decreases in demand resulting from increased savings from passive conservation (that is, the future projections do not account for

future increases in the use of water-saving appliances). The City and CCWD have demonstrated in recent years that, during extended dry periods, they can address deficits by reducing demand in their service areas.

## 7.5 DROUGHT RISK ASSESSMENT

As part of the 2020 UWMP, the California Water Code now requires urban water suppliers to develop a drought risk assessment (DRA). The DRA is a planning exercise that considers the effects on available water supply sources should a five-year drought occur immediately following the preparation of the DRA. It is similar in nature to the supply and demand assessment described in a previous section, but only evaluates five-year drought. The DRA also considers the effect of the City's Water Shortage Contingency Plan, and the impact of climate changes on available supply and total demand. Ultimately, the DRA is a proactive planning review that readies the City for the worst-case water supply condition should it occur in the immediate future.

### Law

|           |  |
|-----------|--|
| 10635 (b) | <p><i>Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:</i></p> <p><i>(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.</i></p> <p><i>(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.</i></p> <p><i>(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.</i></p> <p><i>(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.</i></p> |
|-----------|--|

### 7.5.1 DRA Data, Methods, and Basis for Water Shortage Conditions

The DRA evaluates the effect on available water supply during the course of a five-year drought. As such, the same data and methodology used for preparing the supply and demand assessment through 2045, described in a previous section, can be used for the purposes of the DRA.

For conservative planning purposes the DRA considers an unconstrained demand condition within the City's service area, which means no additional demand management measures or water use reduction methods are in place outside of the City's year-round prohibitions. This conservative planning condition allows the DRA to identify if additional water use reductions, documented in the Water Shortage Contingency Plan, should be implemented. It should also be noted that the

CCWD 2020 UWMP considers a similar demand condition in the preparation of their 2020 UWMP, which also includes the City's service area.

### 7.5.2 DRA Individual Water Source Reliability

The results of the DRA are documented on [Table 7-5](#), which indicates that the City's available potable supplies are expected to be able to meet the projected demands through the year 2025 should a five-year drought occur. As reported in Chapter 6 the City's potable water supply consisted of 85-90% of surface water purchased from CCWD and 10-15% of groundwater extracted from Pittsburg Plain groundwater basin; recycled water supplies were provided by Delta Diablo.

Consistent with the supply and demand assessment discussed in a previous section the City's DRA assumes an available groundwater supply consistent with the average of historical groundwater pumped between 1993 and 2020, an available surface water supply consistent with at least 85% of the City's projected demand during the drought conditions, and available recycled water to meet the existing demand requirements. Additionally, available supply volume reductions, as extracted from the CCWD 2020 UWMP, are applied during the five-year drought to quantify the effect of consecutive dry years. The available water supply volumes for each water source are documented below:

- **Surface Water:** The available surface water supply volume during a normal water year is assumed to equal to the rate of the City's unconstrained water demand as documented in the 2020 UWMP Chapter 4. This available supply volume is reduced during the course of a five-year drought based on the percentage provided by CCWD.
- **Groundwater:** The available groundwater supply volume is estimated from the average of historical groundwater pumped between 1993 and 2020, or 1,349 AFY. The City's groundwater production has proven generally stable even under extended dry periods. Therefore, the available groundwater supply volume during a five-year drought is assumed the same as the historically average pumping volume, or 1,349 AFY.
- **Recycled Water:** The available recycled water supply volume is assumed equal to the recycled water customers' demand. Recycled water from Delta Diablo has been a highly reliable supply and as such the available recycled water supply volume during the drought condition remains the same as in a normal year.

As shown on [Table 7-5](#) the City is expected to have sufficient supplies to meet demands should a multiple year drought occur in the immediate future. However, the City has developed a Water Shortage Contingency Plan that is intended to address potential water shortage conditions and identifies multiple potential actions that the City can implement to reduce demands and ensure supply reliability.

### 7.5.3 DRA Total Water Supply and Use Comparison

As discussed in previous sections the City's DRA is summarized in [Table 7-5](#). Using assumptions for available supplies consistent with previous planning efforts, and accounting for an unconstrained demand condition, the DRA shows that the City will be able to meet projected water demands under a 5-consecutive-year drought starting in 2021. At this point in time, water shortage declarations or shortage response actions are required to be implemented.

**Table 7-5 Five-Year Drought Risk Assessment**

| Totals  | 2021         | 2022         | 2023         | 2024       | 2025      |
|---|--------------|--------------|--------------|------------|-----------|
| <b>Demands</b>  |              |              |              |            |           |
| Total Water Use   | 9,592        | 9,952        | 10,311       | 10,671     | 11,031    |
| <b>Supplies</b>   |              |              |              |            |           |
| Total Supplies  | 11,858       | 12,066       | 11,744       | 11,400     | 11,036    |
| Surplus/Shortfall w/o WSCP Action                                   | 2,267        | 2,115        | 1,432        | 729        | 5         |
| <b>Planned WSCP Actions</b> (use reduction and supply augmentation) |              |              |              |            |           |
| WSCP - supply augmentation benefit                                  |              |              |              |            |           |
| WSCP - use reduction savings benefit                                |              |              |              |            |           |
| <b>Revised Surplus/(shortfall)</b>                                  | <b>2,267</b> | <b>2,115</b> | <b>1,432</b> | <b>729</b> | <b>5</b>  |
| <b>Resulting % Use Reduction from WSCP action</b>                   | <b>0%</b>    | <b>0%</b>    | <b>0%</b>    | <b>0%</b>  | <b>0%</b> |

## CHAPTER 8 – WATER SHORTAGE CONTINGENCY PLANNING

This chapter summarizes the City’s Water Shortage Contingency Plan (WSCP). The WSCP is a separately adopted planning document that most notably outlines levels of water shortage conditions, demand reduction methods to be implemented in the event of a water shortage and the process the City will implement to perform an annual Supply and Demand assessment. The WSCP also includes discussion of the City’s communication protocols during a water shortage, methods of determining compliance and enforcing water use prohibitions, estimating the financial consequences of a water shortage, and the methods the City has in place to monitor and report the effectiveness of any water demand reduction methods implemented.

### 8.1 WATER SUPPLY RELIABILITY ANALYSIS

#### *Law*

10632 (a)(1)     *The analysis of water supply reliability conducted pursuant to Section 10635.*

The City currently uses a combination of surface water, groundwater and recycled water as sources of water supply. The groundwater is extracted from two wells in the Pittsburgh Plain groundwater basin. The groundwater basin is managed by County of Contra Costa Groundwater Sustainability Agency. The surface water is diverted from CCWD’s Contra Costa Canal. The recycled water is provided by Delta Diablo through the City’s recycled water distribution system. Consistent with previously planning efforts the City’s Water Supply Reliability Analysis considers the available supply volume for each source upon recycled water and surface water purchase agreement and historical groundwater pumping data. The Water Supply Reliability Analysis also considers the effects on available supply during a single-dry and five-year dry period; for conservative planning purposes supply reduction percentages from the CCWD 2020 UWMP were used to estimate the available groundwater supply during these dry-year periods.

The City has also prepared a Drought Risk Assessment, which is a proactive planning review that readies the City for worst case water supply conditions should they occur in the immediate future. The DRA compares the City’s projected demands over the next five years to estimated available supplies should a five-year dry period occur. The results of the DRA prepared as part of the 2020 UWMP indicates that the City has sufficient supplies to meet projected demands over the next five years.

### 8.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT

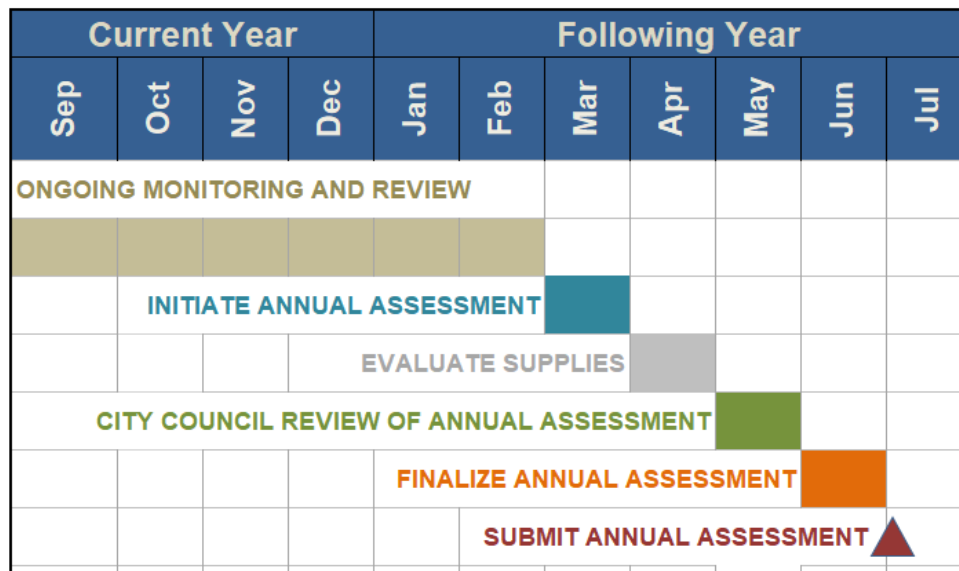
Updates to the California Water Code now requires that urban water suppliers prepare an annual water supply and demand assessment (Annual Assessment) on an annual basis. The findings of

this Annual Assessment will be summarized in a report submitted to the Department of Water Resources by July 1<sup>st</sup> of each calendar year, with the first report required for submission on July 1<sup>st</sup>, 2022. The purpose of this annual assessment is to ensure water suppliers are proactively considering the available water supplies and demand requirements, as well as identifying the potential need for implementing the Water Shortage Contingency Plan.

It should be noted that DWR is in the process of preparing a stand-alone guidance document that will outline general procedures to aid urban water suppliers in preparing the Annual Assessment. The decision-making process and Annual Assessment completion steps are preliminary at this point in time and will be further refined as the guidance document by the DWR is completed.

The City's Water Shortage Contingency Plan is provided in [Appendix D](#) and summarizes the decision-making process and methodology used to prepare the Annual Assessment. The reporting timeline is shown on [Figure 8-1](#).

**Figure 8-1 Annual Assessment Reporting Timeline**



### 8.3 SIX STANDARD WATER SHORTAGE LEVELS

The City's Water Shortage Contingency Plan reflects the DWR-recommended six standard water shortage levels, as documented on [Table 8-1](#). Identifying the appropriate shortage level will be in accordance with the procedures outlined as part of the Annual Assessment procedures.

**Table 8-1 Water Shortage Levels**

| Shortage Level | Shortage Level Condition | Percent Shortage Range |
|----------------|--------------------------|------------------------|
| 0              | Normal                   | None                   |
| Level 1        | Alert                    | Up to 10%              |
| Level 2        | Significant              | 11 to 20%              |
| Level 3        | Severe                   | 21 to 30%              |
| Level 4        | Critical                 | 31 to 40%              |
| Level 5        | Crisis                   | 41 to 50%              |
| Level 6        | Emergency                | > 50%                  |

As an example, if the Annual Assessment determines a shortage of 22%, The City would be considered in a Severe Drought condition. With recommendations from City staff, the City Council has the authority to declare the appropriate conservation level considered necessary to manage the system demands and mitigate the water shortage. The City Council can also downgrade, upgrade, or terminate a shortage response level based on City staff recommendations.

Each water rationing stage includes a water demand reduction percentage, which is to be applied to normal water demands. The plan is dependent on the cause, severity, and anticipated duration of the water shortage, and a combination of voluntary and mandatory water conservation measures, which can be put in place to reduce City-wide water usage. The water shortage stages are summarized on the following page in [Table 8-2](#).

## 8.4 SHORTAGE RESPONSE ACTIONS

The City's WSCP includes shortage response actions that may be implemented during a water shortage. Additionally, the City's municipal code has multiple permanent water use restrictions in place year-round that minimize water waste. These shortage response actions and permanent water use restrictions are summarized in the WSCP, provided in [Appendix D](#).

## 8.5 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The plan adoption, submittal and availability process are the same as those for the City's UWMP. However, the WSCP may be periodically amended independently from the City's UWMP. Should an amendment to the WSCP be implemented, stakeholder and public notification methods consistent with the UWMP will be performed prior to adoption of the amended plan.

**Table 8-2 Water Shortage Contingency Plan Levels**

| Shortage Level | Percent Supply Shortage/Reduction | Pittsburg Shortage Level | Water Supply Condition  |
|----------------|-----------------------------------|--------------------------|---|
| Level 0        | <b>None</b>                       | <b>Normal</b>            | At Level 0, no Water Supply Shortage condition exists.  |
| Level 1        | <b>Up to 10%</b>                  | <b>Alert</b>             | A Level 1 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are up to 10%.        |
| Level 2        | <b>11 to 20%</b>                  | <b>Significant</b>       | A Level 2 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 11 to 20%.        |
| Level 3        | <b>21 to 30%</b>                  | <b>Severe</b>            | A Level 3 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 21 to 30%.        |
| Level 4        | <b>31 to 40%</b>                  | <b>Critical</b>          | A Level 4 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 31 to 40%.        |
| Level 5        | <b>41 to 50%</b>                  | <b>Crisis</b>            | A Level 5 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 41 to 50%.        |
| Level 6        | <b>&gt; 50%</b>                   | <b>Emergency</b>         | A Level 6 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are greater than 50%. |

## CHAPTER 9 – DEMAND MANAGEMENT MEASURES

This chapter summarizes the demand management measures, which are additional measures the supplier plans on implementing to achieve its water use targets and maintain ongoing water conservation.

### 9.1 DEMAND MANAGEMENT MEASURES AND IMPLEMENTATION

#### Law

10631 (f)(A) ...*The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

(B) *The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:*

- (i) Water waste prevention ordinances.*
- (ii) Metering.*
- (iii) Conservation pricing.*
- (iv) Public education and outreach.*
- (v) Programs to assess and manage distribution system real loss.*
- (vi) Water conservation program coordination and staffing support.*
- (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*

#### 9.1.1 Water Waste Prevention Ordinances

The City has water waste prevention ordinances stipulated in the Municipal Code, which are permanent water use restrictions and prohibit the following:

- Permitting water to flow onto a sidewalk, driveway or street, or escape down a gutter, ditch or other service drain.
- Irrigating landscaped areas with water in excess of the minimal amount required to sustain plant life, as determined by a staff water audit.
- Failing to repair a controllable leak of water.
- Washing sidewalks, driveways, parking areas, tennis courts, patios, or other exterior paved areas except to alleviate a condition inimical to the public health or safety.
- The use of water for decorative fountains or pools, except for recycled water approved for such use.
- Using a hose without an automatic shutoff nozzle.

- Outside watering with City-furnished water that results in excessive flooding or runoff into a gutter, drain, walkway, or sewer.
- Irrigation between 11 AM and 6 PM is discouraged.
- The application of potable water to outdoor landscapes during and up to within 48 hours after measurable rainfall.
- The serving of drinking water, other than upon request, in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased.

The City also encourages operators of hotels and motels to provide guests with the option of choosing not to have towels and linens laundered daily; the facilities are required to prominently display notice of this option in each guestroom using easily understood language.

### 9.1.2 Metering

#### Law

526

*(a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract...shall do both of the following:*

*(b) (1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings...located within its service area.*

527

*(a) An urban water supplier that is not subject to Section 526 shall do both of the following:*

*(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.*

The City's water system is fully metered and automatic meter reading systems are continuing to be implemented. The City plans to continue metering all new connections and converting existing metered connections to automatic meter reading systems.

### 9.1.3 Conservation Pricing

The City has implemented conservation pricing for residential customers and Commercial, Industrial and Institutional (CII) accounts. The City has a tiered rate structure for single family residential customers.

### 9.1.4 Public Outreach and Rebate Programs

The City, in cooperation with the CCWD, has multiple programs in place to reduce water consumption by raising public awareness of water conservation. The School Education Program aims to teach children the importance of water and water conservation and provides programs that promote and reinforce the recognition of activities that could affect water quality,

understanding the connection between health and water quality, understanding watershed biodiversity, and the importance of water conservation.

The City has also developed a Public Information Program in partnership with CCWD, that aims to promote water conservation messages and programs through a variety of media avenues including publications, website pages, presentations, community event booths, mailers, newsletters, newspaper ads, and water education programs.

The City has also developed a CII conservation program in partnership with CCWD. This program includes inspection of individual water-using devices and the detailed report listing improvements that can be made to the equipment to increase water use efficiency. Rebates are offered as incentive to upgrade to more efficient equipment. The City also performs indoor and outdoor water use survey programs for single-family and multi-family residential areas and provides rebates for water-efficient appliances.

#### ***9.1.4.1 Water Conservation Rebate Programs***

The City is currently implementing the following rebate programs in cooperation with CCWD:

##### **Lawn to Garden Rebate Program**

The Lawn to Garden Rebate Program provides an incentive to customers to replace water-thirsty lawns with water wise landscaping. Residential customers can receive up to \$1,000 and commercial properties up to \$20,000. The program, along with many like it throughout California, aims to encourage sustainable, water-wise landscaping.

##### **Smart Irrigation Timer Rebates**

Smart irrigation timers save water by allowing the irrigation schedule to be automatically updated with changes in the weather. Many of the new models allow homeowners to manage their irrigation using an app on their smart phone. The District provides a rebate up to 50% of the list cost of the irrigation timer.

##### **Pool Cover Rebates**

Pool covers save water by reducing the amount of water that is evaporated when the pool is not in use. The District provides a rebate of \$50 to customer who purchase a new pool cover.

##### **Greywater Rebate**

The District offers a \$50 rebate as an incentive for homeowners to install a “simple” greywater system at their homes.

### **9.1.5 Programs to Assess and Manage Distribution System Real Loss**

In order to determine if leaks exist in the supply and distribution system, actual metered water use is compared to total well production. Monthly production is tracked and reviewed annually to determine if the system is experiencing any significant losses. Upon the determination that a source of significant loss exists, the Maintenance Department will determine the specific location of the loss and schedule any discovered leaks for repair. A record of leak discovery and repair are kept, as well as documentation of each incident and/or detected leak. Upon the completion of a repair, follow up comparison of production versus water use is tracked to estimate the total amount of water saved due to the repair

The City has implemented a system water audit to determine if leaks in the supply and distribution system exist and a method for repair in the event that the leaks become significant. The system audit is performed by tracking the actual metered water use, which can be compared to total well production. Production is tracked monthly, and reviewed annually to determine if the system exhibits significant losses.

### **9.1.6 Water Conservation Program Coordination and Staffing Support**

In order to manage and coordinate the water conservation programs implemented by the City, an employee is appointed to be responsible for water conservation. The coordinator's position has been active at the City since 1995 as a shared part-time responsibility between the City's Public Works Director, and the City's Administrative Officer. The majority of the funding for these duties is through CCWD's program and is included in the raw water rates.

### **9.1.7 Other Demand Management Measures**

Since 1988 CCWD has been distributing and installing low flow showerheads to single family and multi-family residential customers. Additionally, CCWD provides faucet aerators to single family and multi-family residential customers. The City has coordinated with CCWD in the implementation of this program throughout the City's service area.

In 1999 CCWD began providing rebates for the installation of high-efficiency washing machines. This program is ongoing and the City participates in the implementation of this rebate within its service area.

CCWD also offers a high efficiency toilet replacement program, which provides customers with a rebate after the installation of a qualifying toilet or a discount voucher for the purchase of specific toilet models. Rebates are provided for all customer classes. The City participates in this rebate program and offers it throughout the service area.

## CHAPTER 10 – PLAN ADOPTION, SUBMITTAL AND IMPLEMENTATION

This chapter summarizes the process for adopting and submitting the UWMP as well as the ways the public can access the adopted UWMP.

### 10.1 INCLUSION OF ALL 2020 DATA

The City is preparing the 2020 UWMP on the basis of a fiscal year and preparation of the plan was completed following the end of fiscal year 2020. Relevant data has been updated through June of 2020.

### 10.2 NOTICE OF PUBLIC HEARING

This section documents the public notification process and when notice was given.

#### 10.2.1 Notice to Cities and Counties

##### Law

*10621 (b) Every urban water supplier required to prepare a plan shall...at least 60 days prior to the public hearing on the plan...notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*

*10642 ...The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area...*

The City provided notice to relevant stakeholders, summarized in [Table 10-1](#), on April 8<sup>th</sup>, 2021; this notification date was more than the required 60 days prior to the public hearing on the 2020 UWMP.

**Table 10-1 Notification to Cities and Counties**

| City or County Name | 60 Day Notice                       | Notice of Public Hearing            |
|---------------------|-------------------------------------|-------------------------------------|
| Contra Costa County | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

## 10.2.2 Notice to the Public

### Law

10642 ...Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection...Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code...

#### Government Code 6066

*Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.*

A notice of the public hearing was published in the local newspaper in a manner pursuant to the stated Government Code 6066. Documentation of the notice provided to the public is included in [Appendix E](#) and the draft 2020 UWMP was available for review at various City facilities and on the City's web page.

## 10.3 PUBLIC HEARING AND ADOPTION

After the public review, the City held an informational public hearing on August 16<sup>th</sup>, 2021, to provide information about the City's 2020 UWMP, as well as to receive comments and input from members of the community. Following the public hearing, the City held a City Council meeting on September 20<sup>th</sup>, 2021 to adopt the final 2020 UWMP; [Appendix E](#) includes a copy of the adopting resolution.

## 10.4 PLAN SUBMITTAL

The UWMPA requires water agencies to submit a copy of the adopted 2020 UWMP to the DWR within 30 days of adoption and before July 1<sup>st</sup>, 2021. Additionally, water agencies are required to submit a copy of the adopted 2020 UWMP to all relevant stakeholders within 30 days of adoption.

## 10.5 PUBLIC AVAILABILITY

Consistent with the UWMPA requirements, a copy of the 2020 UWMP was made available to the public in the office of the Public Work Department located at 357 E 12<sup>th</sup> Street. The Final Plan can be viewed and downloaded at <https://www.pittsburgca.gov/>.

## 10.6 AMENDING AND ADOPTED UWMP

Any amendments to the adopted 2020 UWMP will be adopted and filed in a manner consistent with the UWMPA requirements. Additionally, all adopted amendments will be submitted to DWR and any relevant stakeholders within 30 days of adoption.

## CHAPTER 11 – DWR CHECKLIST

This report is organized in accordance with the outline suggested by DWR for the 2020 Urban Water Management Plans. This additional chapter is included to guide the reviewers to the chapters or sections in this report that address the items listed in the DWR Checklist, as published in the Final Guidebook (March 2021). The completed DWR checklist is included as [Table 11-1](#).

**Table 11-1 DWR Checklist**

| No.      | UWMP Requirement   | Subject                   | California Water Code Reference | UWMP Location            |
|----------|--|---------------------------|---------------------------------|--------------------------|
| <b>1</b> | A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, and reclamation and demand management activities.   | Introduction and Overview | 10615                           | Chapter 4, 6             |
| <b>2</b> | Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter. | Summary                   | 10630.5                         | Chapter 1-10             |
| <b>3</b> | Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.  | Plan Preparation          | 10620(b)                        | -                        |
| <b>4</b> | Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.  | Plan Preparation          | 10620(d)(2)                     | Section 10.2             |
| <b>5</b> | Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.                                    | Plan Preparation          | 10642                           | Section 10.2             |
| <b>6</b> | Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.  | System Supplies           | 10631(h)                        | Section 2.6, Section 6.1 |

| No. | UWMP Requirement   | Subject                                      | California Water Code Reference | UWMP Location            |
|-----|--|--|---------------------------------|--------------------------|
| 7   | Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types. | System Supplies                              | 10631(h)                        | Section 2.6              |
| 8   | Describe the water supplier service area.  | System Description                           | 10631(a)                        | Section 3.1              |
| 9   | Describe the climate of the service area of the supplier.  | System Description                           | 10631(a)                        | Section 3.2              |
| 10  | Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.   | System Description                           | 10631(a)                        | Section 3.3              |
| 11  | Describe other social, economic, and demographic factors affecting the supplier's water management planning.   | System Description                           | 10631(a)                        | Section 3.1, Section 3.3 |
| 12  | Indicate the current population of the service area.   | System Description and Baselines and Targets | 10631(a)                        | Section 3.3              |
| 13  | Describe the land uses within the service area.  | System Description                           | 10631(a)                        | Section 3.1.3            |
| 14  | Quantify past, current, and projected water use, identifying the uses among water use sectors.   | System Water Use                             | 10631(d)(1)                     | Section 4.2              |
| 15  | Retail suppliers shall provide data to show the distribution loss standards were met.  | System Water Use                             | 10631(d)(3)(C)                  | Section 4.3              |
| 16  | In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.  | System Water Use                             | 10631(d)(4)(A)                  | Section 4.4              |
| 17  | Provide citations of codes, standards, ordinances, or plans used to make water use projections.  | System Water Use                             | 10631(d)(4)(B)                  | -                        |

| No. | UWMP Requirement  | Subject               | California Water Code Reference | UWMP Location |
|-----|---|-----------------------|---------------------------------|---------------|
| 18  | Report the distribution system water loss for each of the 5 years preceding the plan update.  | System Water Use      | 10631(d)(3)(A)                  | Section 4.3   |
| 19  | Include projected water use needed for lower income housing projected in the service area of the supplier.  | System Water Use      | 10631.1(a)                      | Section 4.5   |
| 20  | Demands under climate change considerations must be included as part of the drought risk assessment.  | System Water Use      | 10635(b)                        | Section 7.5   |
| 21  | Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data. | Baselines and Targets | 10608.20(e)                     | Chapter 5     |
| 22  | Retail suppliers shall meet their water use target by December 31, 2020.  | Baselines and Targets | 10608.24(a)                     | Chapter 5     |
| 23  | Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.   | Baselines and Targets | 10608.36                        | -             |
| 24  | If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.   | Baselines and Targets | 10608.24(d)(2)                  | -             |
| 25  | Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.  | Baselines and Targets | 10608.22                        | Section 5.6   |
| 26  | Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.  | Baselines and Targets | 10608.4                         | Section 5.7   |

| No.       | UWMP Requirement  | Subject         | California Water Code Reference | UWMP Location |
|-----------|---|-----------------|---------------------------------|---------------|
| <b>27</b> | Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.  | System Supplies | 10631(b)(1)                     | Sections 7.5  |
| <b>28</b> | Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.             | System Supplies | 10631(b)(1)                     | Sections 7.5  |
| <b>29</b> | When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.  | System Supplies | 10631(b)(2)                     | Section 6.2   |
| <b>30</b> | Describe measures taken to acquire and develop planned sources of water.  | System Supplies | 10631(b)(3)                     | Section 6.1   |
| <b>31</b> | Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.   | System Supplies | 10631(b)                        | Section 6.9   |
| <b>32</b> | Indicate whether groundwater is an existing or planned source of water available to the supplier.   | System Supplies | 10631(b)                        | Section 6.2   |
| <b>33</b> | Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization. | System Supplies | 10631(b)(4)(A)                  | Section 6.2.2 |
| <b>34</b> | Describe the groundwater basin.   | System Supplies | 10631(b)(4)(B)                  | Section 6.2.1 |
| <b>35</b> | Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.   | System Supplies | 10631(b)(4)(B)                  | Section 6.2.3 |

| No.       | UWMP Requirement  | Subject                          | California Water Code Reference | UWMP Location   |
|-----------|---|----------------------------------|---------------------------------|-----------------|
| <b>36</b> | For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions. | System Supplies                  | 10631(b)(4)(B)                  | Section 6.2.2.1 |
| <b>37</b> | Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years.   | System Supplies                  | 10631(b)(4)(C)                  | Section 6.2.4   |
| <b>38</b> | Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.   | System Supplies                  | 10631(b)(4)(D)                  | Section 6.9     |
| <b>39</b> | Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.  | System Supplies                  | 10631(c)                        | Section 6.7     |
| <b>40</b> | Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.   | System Supplies (Recycled Water) | 10633(b)                        | Section 6.5.2   |
| <b>41</b> | Describe the recycled water currently being used in the supplier's service area.  | System Supplies (Recycled Water) | 10633(c)                        | Section 6.5.3   |
| <b>42</b> | Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.   | System Supplies (Recycled Water) | 10633(d)                        | Section 6.5.4   |
| <b>43</b> | Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.  | System Supplies (Recycled Water) | 10633(e)                        | Section 6.5.4   |

| No.       | UWMP Requirement  | Subject                             | California Water Code Reference | UWMP Location              |
|-----------|---|-------------------------------------|---------------------------------|----------------------------|
| <b>44</b> | Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.  | System Supplies (Recycled Water)    | 10633(f)                        | Section 6.5.5              |
| <b>45</b> | Provide a plan for optimizing the use of recycled water in the supplier's service area.   | System Supplies (Recycled Water)    | 10633(g)                        | Section 6.5.5              |
| <b>46</b> | Describe desalinated water project opportunities for long-term supply.  | System Supplies                     | 10631(g)                        | Section 6.6                |
| <b>47</b> | Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.  | System Supplies                     | 10633(a)                        | Section 6.5.2              |
| <b>48</b> | Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years. | System Supplies                     | 10631(f)                        | Section 6.9                |
| <b>49</b> | The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.  | System Suppliers, Energy Intensity  | 10631.2(a)                      | Section 6.10, Appendix C   |
| <b>50</b> | Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability  | Water Supply Reliability Assessment | 10634                           | Section 7.1                |
| <b>51</b> | Describe water management tools and options to maximize resources and minimize the need to import water from other regions.   | Water Supply Reliability Assessment | 10620(f)                        | Section 6.2.2, Section 7.4 |

| No.       | UWMP Requirement  | Subject                             | California Water Code Reference | UWMP Location            |
|-----------|---|-------------------------------------|---------------------------------|--------------------------|
| <b>52</b> | Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years. | Water Supply Reliability Assessment | 10635(a)                        | Section 7.3              |
| <b>53</b> | Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.   | Water Supply Reliability Assessment | 10635(b)                        | Section 7.5              |
| <b>54</b> | Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.   | Water Supply Reliability Assessment | 10635(b)(1)                     | Section 7.5              |
| <b>55</b> | Include a determination of the reliability of each source of supply under a variety of water shortage conditions.   | Water Supply Reliability Assessment | 10635(b)(2)                     | Section 7.3, Section 7.5 |
| <b>56</b> | Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.   | Water Supply Reliability Assessment | 10635(b)(3)                     | Section 7.3, Section 7.5 |
| <b>57</b> | Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.   | Water Supply Reliability Assessment | 10635(b)(4)                     | Section 7.3, Section 7.5 |
| <b>58</b> | Provide a water shortage contingency plan (WSCP) with specified elements below.   | Water Shortage Contingency Planning | 10632(a)                        | Chapter 8, Appendix D    |
| <b>59</b> | Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP  | Water Shortage Contingency Planning | 10632(a)(1)                     | Chapter 8, Appendix D    |

| No. | UWMP Requirement  | Subject                             | California Water Code Reference | UWMP Location         |
|-----|---|-------------------------------------|---------------------------------|-----------------------|
| 60  | Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.   | Water Shortage Contingency Planning | 10632(a)(10)                    | Chapter 8, Appendix D |
| 61  | Provide the written decision- making process and other methods that the supplier will use each year to determine its water reliability.   | Water Shortage Contingency Planning | 10632(a)(2)(A)                  | Chapter 8, Appendix D |
| 62  | Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.  | Water Shortage Contingency Planning | 10632(a)(2)(B)                  | Chapter 8, Appendix D |
| 63  | Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply. | Water Shortage Contingency Planning | 10632(a)(3)(A)                  | Chapter 8, Appendix D |
| 64  | Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.  | Water Shortage Contingency Planning | 10632(a)(3)(B)                  | Chapter 8, Appendix D |
| 65  | Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.   | Water Shortage Contingency Planning | 10632(a)(4)(A)                  | Chapter 8, Appendix D |
| 66  | Specify locally appropriate demand reduction actions to adequately respond to shortages.  | Water Shortage Contingency Planning | 10632(a)(4)(B)                  | Chapter 8, Appendix D |

| No.       | UWMP Requirement   | Subject                             | California Water Code Reference | UWMP Location         |
|-----------|--|-------------------------------------|---------------------------------|-----------------------|
| <b>67</b> | Specify locally appropriate operational changes.   | Water Shortage Contingency Planning | 10632(a)(4)(C)                  | Chapter 8, Appendix D |
| <b>68</b> | Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.                            | Water Shortage Contingency Planning | 10632(a)(4)(D)                  | Chapter 8, Appendix D |
| <b>69</b> | Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.  | Water Shortage Contingency Planning | 10632(a)(4)(E)                  | Chapter 8, Appendix D |
| <b>70</b> | The plan shall include a seismic risk assessment and mitigation plan.  | Water Shortage Contingency Plan     | 10632.5                         | Chapter 8, Appendix D |
| <b>71</b> | Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.   | Water Shortage Contingency Planning | 10632(a)(5)(A)                  | Chapter 8, Appendix D |
| <b>72</b> | Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications. | Water Shortage Contingency Planning | 10632(a)(5)(B)10632(a)(5)(C)    | Chapter 8, Appendix D |
| <b>73</b> | Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.   | Water Shortage Contingency Planning | 10632(a)(6)                     | Chapter 8, Appendix D |
| <b>74</b> | Describe the legal authority that empowers the supplier to enforce shortage response actions.  | Water Shortage Contingency Planning | 10632(a)(7)(A)                  | Chapter 8, Appendix D |
| <b>75</b> | Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.  | Water Shortage Contingency Planning | 10632(a)(7)(B)                  | Chapter 8, Appendix D |

| No.       | UWMP Requirement  | Subject                                      | California Water Code Reference | UWMP Location                     |
|-----------|---|--|---------------------------------|-----------------------------------|
| <b>76</b> | Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.  | Water Shortage Contingency Planning          | 10632(a)(7)(C)                  | Chapter 8, Appendix D             |
| <b>77</b> | Describe the potential revenue reductions and expense increases associated with activated shortage response actions.  | Water Shortage Contingency Planning          | 10632(a)(8)(A)                  | Chapter 8, Appendix D             |
| <b>78</b> | Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.   | Water Shortage Contingency Planning          | 10632(a)(8)(B)                  | Chapter 8, Appendix D             |
| <b>79</b> | Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought   | Water Shortage Contingency Planning          | 10632(a)(8)(C)                  | Chapter 8, Appendix D             |
| <b>80</b> | Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.                  | Water Shortage Contingency Planning          | 10632(a)(9)                     | Chapter 8, Appendix D             |
| <b>81</b> | Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.  | Water Shortage Contingency Planning          | 10632(b)                        | Chapter 8, Appendix D             |
| <b>82</b> | Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR. | Plan Adoption, Submittal, and Implementation | 10635(c)                        | Section 8.5, Appendix D, and 10.4 |
| <b>83</b> | Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.  | Water Shortage Contingency Planning          | 10632(c)                        | Chapter 8, Appendix D             |

| No.       | UWMP Requirement  | Subject                                      | California Water Code Reference | UWMP Location        |
|-----------|---|--|---------------------------------|----------------------|
| <b>84</b> | Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.   | Demand Management Measures                   | 10631(e)(2)                     | Sections 9.1 and 9.3 |
| <b>85</b> | Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.  | Demand Management Measures                   | 10631(e)(1)                     | Sections 9.2 and 9.3 |
| <b>86</b> | Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).  | Plan Adoption, Submittal, and Implementation | 10608.26(a)                     | Chapter 10.3         |
| <b>87</b> | Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1. | Plan Adoption, Submittal, and Implementation | 10621(b)                        | Section 10.2.1       |
| <b>88</b> | Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.  | Plan Adoption, Submittal, and Implementation | 10621(f)                        | Section 10.4         |
| <b>89</b> | Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.             | Plan Adoption, Submittal, and Implementation | 10642                           | Sections 10.2        |
| <b>90</b> | The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.  | Plan Adoption, Submittal, and Implementation | 10642                           | Section 10.2         |

| No.       | UWMP Requirement   | Subject                                      | California Water Code Reference | UWMP Location |
|-----------|--|--|---------------------------------|---------------|
| <b>91</b> | Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.  | Plan Adoption, Submittal, and Implementation | 10642                           | Section 10.4  |
| <b>92</b> | Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.  | Plan Adoption, Submittal, and Implementation | 10644(a)                        | Section 10.4  |
| <b>93</b> | Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.  | Plan Adoption, Submittal, and Implementation | 10644(a)(1)                     | Section 10.4  |
| <b>94</b> | The plan, or amendments to the plan, submitted to the department shall be submitted electronically.  | Plan Adoption, Submittal, and Implementation | 10644(a)(2)                     | Sections 10.4 |
| <b>95</b> | Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.                            | Plan Adoption, Submittal, and Implementation | 10645(a)                        | Section 10.5  |
| <b>96</b> | Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours. | Plan Adoption, Submittal, and Implementation | 10645(b)                        | Section 10.5  |
| <b>97</b> | If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.   | Plan Adoption, Submittal, and Implementation | 10621(c)                        | -             |
| <b>98</b> | If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.  | Plan Adoption, Submittal, and Implementation | 10644(b)                        | -             |

## APPENDICES

## **APPENDIX A**

### DWR Recommended Tables

| Submittal Table 2-1 Retail Only: Public Water Systems  |                          |                                      |                                 |
|--|--------------------------|--------------------------------------|---------------------------------|
| Public Water System Number   | Public Water System Name | Number of Municipal Connections 2020 | Volume of Water Supplied 2020 * |
| <i>Add additional rows as needed</i>   |                          |                                      |                                 |
| 710008   | City of Pittsburgh       | 20,328                               | 9,232                           |
|  |                          |                                      |                                 |
|  |                          |                                      |                                 |
| TOTAL  |                          | 20,328                               | 9,232                           |
| * <b>Units of measure (AF, CCF, MG)</b> must remain consistent throughout the UWMP as reported in Table 2-3. |                          |                                      |                                 |
| NOTES:   |                          |                                      |                                 |

| Submittal Table 2-2: Plan Identification |  |  |
|--|--|--|
| Select Only One                          | Type of Plan   | Name of RUWMP or Regional Alliance<br><i>if applicable</i><br>(select from drop down list) |
| <input checked="" type="checkbox"/>      | Individual UWMP  |  |
|  | <input type="checkbox"/> Water Supplier is also a member of a RUWMP                        |  |
|  | <input checked="" type="checkbox"/> Water Supplier is also a member of a Regional Alliance | Contra Costa Water District Alliance   |
| <input type="checkbox"/>                 | Regional Urban Water Management Plan (RUWMP)   |  |
| NOTES:                                   |  |  |

| Submittal Table 2-3: Supplier Identification   |                                   |
|--|-----------------------------------|
| Type of Supplier (select one or both)  |                                   |
| <input type="checkbox"/>   | Supplier is a wholesaler          |
| <input checked="" type="checkbox"/>  | Supplier is a retailer            |
| Fiscal or Calendar Year (select one)   |                                   |
| <input type="checkbox"/>   | UWMP Tables are in calendar years |
| <input checked="" type="checkbox"/>  | UWMP Tables are in fiscal years   |
| If using fiscal years provide month and date that the fiscal year begins (mm/dd)                             |                                   |
| 7/1  |                                   |
| Units of measure used in UWMP * (select from drop down)  |                                   |
| Unit   | AF                                |
| <i>* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i> |                                   |
| NOTES:   |                                   |

| Submittal Table 2-4 Retail: Water Supplier Information Exchange  |
|--|
| The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631. |
| Wholesale Water Supplier Name  |
| <i>Add additional rows as needed</i>   |
| Contra Costa Water District  |
|  |
|  |
| NOTES:   |

**Submittal Table 3-1 Retail: Population - Current and Projected**

| Population Served | 2020   | 2025   | 2030   | 2035   | 2040    | 2045( <i>opt</i> ) |
|-------------------|--------|--------|--------|--------|---------|--------------------|
|                   | 74,321 | 82,056 | 89,492 | 96,408 | 102,840 | 109,700            |

NOTES:

| Submittal Table 4-1 Retail: Demands for Potable and Non-Potable <sup>1</sup> Water - Actual  |                                       |  |                     |
|--|---------------------------------------|--|---------------------|
| Use Type   | 2020 Actual                           |  |                     |
| <b>Drop down list</b><br>May select each use multiple times<br>These are the only Use Types that will be recognized by the WUEdata online submittal tool   | Additional Description<br>(as needed) | Level of Treatment<br>When Delivered<br>Drop down list | Volume <sup>2</sup> |
| Add additional rows as needed  |                                       |  |                     |
| Single Family  |                                       | Drinking Water   | 4,399               |
| Multi-Family   |                                       | Drinking Water   | 1,184               |
| Commercial   |                                       | Drinking Water   | 479                 |
| Industrial   |                                       | Drinking Water   | 889                 |
| Institutional/Governmental   |                                       | Drinking Water   | 152                 |
| Landscape  |                                       | Drinking Water   | 915                 |
| Other  | Hydrant meters                        | Drinking Water   | 23                  |
| Losses   | See Note                              | Drinking Water   | 1,192               |
|  |                                       |  |                     |
|  |                                       |  |                     |
|  |                                       |  |                     |
|  |                                       |  |                     |
| TOTAL  |                                       |  | 9,232               |
| <sup>1</sup> Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.<br>Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. |                                       |  |                     |
| NOTES: Losses included apparent loss, real losses, unmetered, and other miscellaneous non-revenue water.   |                                       |  |                     |

**Submittal Table 4-2 Retail: Use for Potable and Non-Potable<sup>1</sup> Water - Projected**

| Use Type  | Additional Description<br>(as needed) | Projected Water Use <sup>2</sup><br><i>Report To the Extent that Records are Available</i> |        |        |        |               |
|---|---------------------------------------|--|--------|--------|--------|---------------|
| <b>Drop down list</b><br>May select each use multiple times<br>These are the only Use Types that will be recognized by the<br>WUEdata online submittal tool |                                       | 2025   | 2030   | 2035   | 2040   | 2045<br>(opt) |
| Add additional rows as needed   |                                       |  |        |        |        |               |
| Single Family   |                                       | 5,256  | 5,732  | 6,175  | 6,587  | 7,026         |
| Multi-Family  |                                       | 1,415  | 1,543  | 1,662  | 1,773  | 1,891         |
| Commercial  |                                       | 572  | 624    | 672    | 717    | 765           |
| Industrial  |                                       | 1,062  | 1,158  | 1,248  | 1,331  | 1,420         |
| Institutional/Governmental  |                                       | 181  | 198    | 213    | 227    | 242           |
| Landscape   |                                       | 1,093  | 1,192  | 1,284  | 1,370  | 1,461         |
| Other   | Hydrant meters                        | 28   | 30     | 33     | 35     | 37            |
| Losses  | See Note                              | 1,424  | 1,553  | 1,673  | 1,784  | 1,903         |
|   |                                       |  |        |        |        |               |
|   |                                       |  |        |        |        |               |
|   |                                       |  |        |        |        |               |
|   |                                       |  |        |        |        |               |
|   |                                       |  |        |        |        |               |
|   |                                       |  |        |        |        |               |
|   |                                       |  |        |        |        |               |
|   |                                       |  |        |        |        |               |
| TOTAL   |                                       | 11,031   | 12,030 | 12,960 | 13,824 | 14,745        |

<sup>1</sup> Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

<sup>2</sup> Units of

NOTES: Losses included apparent loss, real losses, unmetered, unbilled and non-revenue water.

| Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)   |       |        |        |        |        |            |
|---|-------|--------|--------|--------|--------|------------|
|   | 2020  | 2025   | 2030   | 2035   | 2040   | 2045 (opt) |
| Potable Water, Raw, Other Non-potable<br><i>From Tables 4-1R and 4-2 R</i>  | 9,232 | 11,031 | 12,030 | 12,960 | 13,824 | 14,745     |
| Recycled Water Demand <sup>1</sup><br><i>From Table 6-4</i>   | 111   | 311    | 311    | 311    | 311    | 311        |
| Optional Deduction of Recycled Water Put Into Long-Term Storage <sup>2</sup>  |       |        |        |        |        |            |
| <b>TOTAL WATER USE</b>  | 9,343 | 11,342 | 12,341 | 13,271 | 14,135 | 15,056     |
| <sup>1</sup> Recycled water demand fields will be blank until Table 6-4 is complete<br>Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier <b>may</b> deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3. |       |        |        |        |        |            |
| NOTES:  |       |        |        |        |        |            |

**Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting**

| Reporting Period Start Date<br>(mm/yyyy) | Volume of Water Loss <sup>1,2</sup> |
|--|-------------------------------------|
| 07/2015                                  | 671                                 |
| 07/2016                                  | 568                                 |
| 07/2017                                  | 616                                 |
| 07/2018                                  | 745                                 |
| 07/2019                                  | 946                                 |

<sup>1</sup> Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. <sup>2</sup>

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: July 2015 reporting period water loss estimated based on recent water loss audits.

| Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections   |                                  |
|---|----------------------------------|
| <b>Are Future Water Savings Included in Projections?</b><br>(Refer to Appendix K of UWMP Guidebook)<br><i>Drop down list (y/n)</i>  | Yes                              |
| If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found. | Location in UWMP:<br>Section 4.3 |
| <b>Are Lower Income Residential Demands Included In Projections?</b><br><i>Drop down list (y/n)</i>   | Yes                              |
| NOTES:  |                                  |

**Submittal Table 5-1 Baselines and Targets Summary**  
**From SB X7-7 Verification Form**  
*Retail Supplier or Regional Alliance Only*

| Baseline Period | Start Year * | End Year * | Average Baseline GPCD* | Confirmed 2020 Target* |
|-----------------|--------------|------------|------------------------|------------------------|
| 10-15 year      | 1999         | 2008       | 163                    | 131                    |
| 5 Year          | 2004         | 2008       | 163                    |                        |

*\*All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

| <b>Submittal Table 5-2: 2020 Compliance</b><br><b>SB X7-7 2020 Compliance Form</b><br><i>Retail Supplier or Regional Alliance Only</i>                         |                         |   |                             | From  |
|--|-------------------------|---|-----------------------------|---|
| 2020 GPCD  |                         |   | 2020 Confirmed Target GPCD* | Did Supplier Achieve Targeted Reduction for 2020? Y/N |
| Actual 2020 GPCD*  | 2020 TOTAL Adjustments* | Adjusted 2020 GPCD*<br>(Adjusted if applicable) |                             |   |
| 111  | -                       | 111   | 131                         | YES   |
| <i>*All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)</i> |                         |   |                             |   |
| NOTES:   |                         |   |                             |   |

| Submittal Table 6-1 Retail: Groundwater Volume Pumped   |  |       |       |       |       |       |
|---|--|-------|-------|-------|-------|-------|
| <input type="checkbox"/>  | Supplier does not pump groundwater.<br>The supplier will not complete the table below. |       |       |       |       |       |
| <input type="checkbox"/>  | All or part of the groundwater described below is desalinated.                         |       |       |       |       |       |
| Groundwater Type<br><b>Drop Down List</b><br><i>May use each category multiple times</i>              | Location or Basin Name   | 2016* | 2017* | 2018* | 2019* | 2020* |
| Add additional rows as needed   |  |       |       |       |       |       |
| Alluvial Basin  | Pittsburg Plain  | 1353  | 1429  | 1470  | 1154  | 1480  |
|   |  |       |       |       |       |       |
|   |  |       |       |       |       |       |
|   |  |       |       |       |       |       |
|   |  |       |       |       |       |       |
|   |  |       |       |       |       |       |
| TOTAL   |  | 1,353 | 1,429 | 1,470 | 1,154 | 1,480 |
| * Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. |  |       |       |       |       |       |
| NOTES:  |  |       |       |       |       |       |

| Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020   |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| <input type="checkbox"/>   | There is no wastewater collection system. The supplier will not complete the table below.            |  |  |  |  |  |
| 100%   | Percentage of 2020 service area covered by wastewater collection system <i>(optional)</i>            |  |  |  |  |  |
| 100%   | Percentage of 2020 service area population covered by wastewater collection system <i>(optional)</i> |  |  |  |  |  |
| Wastewater Collection  |  |  | Recipient of Collected Wastewater                                  |  |  |  |
| Name of Wastewater Collection Agency   | Wastewater Volume Metered or Estimated?<br><i>Drop Down List</i>                                     | Volume of Wastewater Collected from UWMP Service Area 2020 * | Name of Wastewater Treatment Agency Receiving Collected Wastewater | Treatment Plant Name                   | Is WWTP Located Within UWMP Area?<br><i>Drop Down List</i> | Is WWTP Operation Contracted to a Third Party?<br><i>(optional)</i><br><i>Drop Down List</i> |
| Delta Diablo (Sanitation District)   | Metered  | 14,528   | Delta Diablo (Sanitation District)                                 | Delta Diablo Wastewater Treatment Plan | No   | No   |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Total Wastewater Collected from Service Area in 2020:  |  | 14,528   |  |  |  |  |
| * Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3 .   |  |  |  |  |  |  |
| NOTES:Delta Diablo does not have metered wastewater flows broken down by city for its service area, thus wastewater flows for Pittsburg alone are not reported herein. |  |  |  |  |  |  |

**Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020**

| <input checked="" type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below. |                                       |  |   |   |   |  |                           |                               |                              |                                  |                                  |
|---|---------------------------------------|--|---|---|---|--|---------------------------|-------------------------------|------------------------------|----------------------------------|----------------------------------|
| Wastewater Treatment Plant Name   | Discharge Location Name or Identifier | Discharge Location Description                         | Wastewater Discharge ID Number <i>(optional)</i> <sup>2</sup> | Method of Disposal<br><i>Drop down list</i> | Does This Plant Treat Wastewater Generated Outside the Service Area?<br><i>Drop down list</i> | Treatment Level<br><i>Drop down list</i> | 2020 volumes <sup>1</sup> |                               |                              |                                  |                                  |
|   |                                       |  |   |   |   |  | Wastewater Treated        | Discharged Treated Wastewater | Recycled Within Service Area | Recycled Outside of Service Area | Instream Flow Permit Requirement |
| Delta Diablo Wastewater Treatment Plant   | New York Slough                       | New York Slough which is part of the San Joaquin River |   | River or creek outfall                      | Yes   | Secondary, Disinfected - 23              |                           |                               |                              |                                  |                                  |
|   |                                       |  |   |   |   |  |                           |                               |                              |                                  |                                  |
|   |                                       |  |   |   |   |  |                           |                               |                              |                                  |                                  |
|   |                                       |  |   |   |   |  |                           |                               |                              |                                  |                                  |
|   |                                       |  |   |   |   |  |                           |                               |                              |                                  |                                  |
|   |                                       |  |   |   |   |  |                           |                               |                              |                                  |                                  |
|   |                                       |  |   |   |   |  |                           |                               |                              |                                  |                                  |
|   |                                       |  |   |   |   |  |                           |                               |                              |                                  |                                  |
| <b>Total</b>  |                                       |  |   |   |   |  | 0                         | 0                             | 0                            | 0                                | 0                                |

<sup>1</sup> Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

<sup>2</sup> If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at <https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility>

NOTES: Recycled water within service area, wastewater treated and discharged treated wastewater provided is for the Delta Diablo service area, not the Pittsburg service area.

**Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area**

☐ Recycled water is not used and is not planned for use within the service area of the supplier.  
The supplier will not complete the table below.

| Name of Supplier Producing (Treating) the Recycled Water:          |  | Delta Diablo (Sanitation District)   |                                     |  |                   |                   |                   |                   |                   |                         |
|--|--|--|-------------------------------------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------------|
| Name of Supplier Operating the Recycled Water Distribution System: |  | Delta Diablo (Sanitation District)   |                                     |  |                   |                   |                   |                   |                   |                         |
| Supplemental Water Added in 2020 (volume) <i>Include units</i>     |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Source of 2020 Supplemental Water                                  |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Beneficial Use Type<br><i>additional rows if needed.</i>           | <i>Insert</i><br><b>Potential</b> Beneficial<br>Uses of Recycled Water<br>(Describe) | Amount of <b>Potential</b><br>Uses of Recycled Water<br>(Quantity)<br><i>Include volume units</i> <sup>1</sup> | General Description<br>of 2020 Uses | Level of<br>Treatment<br><i>Drop down list</i> | 2020 <sup>1</sup> | 2025 <sup>1</sup> | 2030 <sup>1</sup> | 2035 <sup>1</sup> | 2040 <sup>1</sup> | 2045 <sup>1</sup> (opt) |
| Agricultural irrigation  |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Landscape irrigation (exc golf courses)                            |  |  |                                     | Tertiary                                       | 111               | 311               | 311               | 311               | 311               | 311                     |
| Golf course irrigation   |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Commercial use   |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Industrial use   |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Geothermal and other energy production                             |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Seawater intrusion barrier   |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Recreational impoundment   |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Wetlands or wildlife habitat                                       |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Groundwater recharge (IPR)   |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Reservoir water augmentation (IPR)                                 |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Direct potable reuse   |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
| Other (Description Required)                                       |  |  |                                     |  |                   |                   |                   |                   |                   |                         |
|  |  |  |                                     | <b>Total:</b>                                  | 111               | 311               | 311               | 311               | 311               | 311                     |
| 2020 Internal Reuse  |  |  |                                     |  |                   |                   |                   |                   |                   |                         |

<sup>1</sup> **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES: Current and projected water use is based on 2020 fiscal year recycled water use and planned recycled water projects outlined in Table 6-6.

**Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual**

|                          |  |
|--------------------------|--|
| <input type="checkbox"/> | Recycled water was not used in 2015 nor projected for use in 2020.<br>The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table. |
|--------------------------|--|

| Beneficial Use Type                      | 2015 Projection for 2020 <sup>1</sup> | 2020 Actual Use <sup>1</sup> |
|--|---------------------------------------|------------------------------|
| <i>Insert additional rows as needed.</i> |                                       |                              |
| Agricultural irrigation                  |                                       |                              |
| Landscape irrigation (exc golf courses)  | 335                                   | 111                          |
| Golf course irrigation                   | 333                                   | 0                            |
| Commercial use                           |                                       |                              |
| Industrial use                           | 6,089                                 | 0                            |
| Geothermal and other energy production   |                                       |                              |
| Seawater intrusion barrier               |                                       |                              |
| Recreational impoundment                 |                                       |                              |
| Wetlands or wildlife habitat             |                                       |                              |
| Groundwater recharge (IPR)               |                                       |                              |
| Reservoir water augmentation (IPR)       |                                       |                              |
| Direct potable reuse                     |                                       |                              |
| Other (Description Required)             |                                       |                              |
| <b>Total</b>                             | <b>6,757</b>                          | <b>111</b>                   |

<sup>1</sup> **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.

NOTE: Industrial use volumes were documented in the 2015 UWMP for informational purposes only and reflected demands for which CCWD, and not the City, was considered the backup water supply. This industrial use is not documented as part of the 2020 UWMP.

| Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use                                     |   |                             |   |
|---|---|-----------------------------|---|
| <input type="checkbox"/>  | Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation. |                             |   |
|   | Provide page location of narrative in UWMP  |                             |   |
| Name of Action  | Description   | Planned Implementation Year | Expected Increase in Recycled Water Use * |
| <i>Add additional rows as needed</i>  |   |                             |   |
| Parkside Elementary School  | Irrigation  | 2021                        | 35  |
| Marina Vista  | Irrigation  | 2021                        | 25  |
| Landscape along Railroad Avenue   | Irrigation  | 2022                        | 10  |
| Law Enforcement Training Center   | Irrigation  | 2022                        | 35  |
| Median on 3rd Street & Railroad Avenue  | Irrigation  | 2022                        | 10  |
| Bay Harbor HOA  | Irrigation  | 2023                        | 70  |
|   |   |                             |   |
| Total   |   |                             | 185                                       |
| <i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i> |   |                             |   |
| NOTES:  |   |                             |   |

| Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs |   |                              |   |                             |   |  |
|---|---|------------------------------|---|-----------------------------|---|--|
| <input type="checkbox"/>  | No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below. |                              |   |                             |   |  |
| <input type="checkbox"/>  | Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.                  |                              |   |                             |   |  |
|   | Provide page location of narrative in the UWMP  |                              |   |                             |   |  |
| Name of Future Projects or Programs   | Joint Project with other suppliers?   |                              | Description (if needed)   | Planned Implementation Year | Planned for Use in Year Type<br><i>Drop Down List</i> | Expected Increase in Water Supply to Supplier*<br><i>This may be a range</i> |
|   | <i>Drop Down List (y/n)</i>   | <i>If Yes, Supplier Name</i> |   |                             |   |  |
| <i>Add additional rows as needed</i>  |   |                              |   |                             |   |  |
| Long-term Transfer  | Yes   | CCWD                         | CCWD would enter into a long-term water transfer agreement for a fixed amount of water supplies.                | 2030                        |   | 6,000  |
| Spot Market Purchase  | Yes   | CCWD                         | CCWD would determine its water supply requirements each year and decide whether to purchase additional supplies | 2030                        |   | 6,000  |

|   |     |      |   |      |  |       |
|---|-----|------|---|------|--|-------|
| Long-term Agricultural<br>Conjunctive Use | Yes | CCWD | CCWD would partner with an agricultural partner or irrigation district north of the Delta which has both pre-1914 surface water supplies and access to groundwater supplies. In dry years, the agricultural district would shift its water usage to local groundwater supplies and transfer its surface water allocation to CCWD. | 2030 |  | 6,000 |
| Long-term Agricultural<br>Fallowing       | Yes | CCWD | CCWD would partner with an agricultural partner, such as a large agricultural water user or irrigation district, to exchange supplies in dry years either by fallowing land or shifting crops to conserve water for other uses.   | 2030 |  | 6,000 |



| Submittal Table 6-8 Retail: Water Supplies — Actual  |  |                |                              |                                       |
|--|--|----------------|------------------------------|---------------------------------------|
| Water Supply   | Additional Detail on Water Supply                  | 2020           |                              |                                       |
| <b>Drop down list</b><br>May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool |  | Actual Volume* | Water Quality Drop Down List | Total Right or Safe Yield* (optional) |
| Add additional rows as needed  |  |                |                              |                                       |
| Purchased or Imported Water  | Purchased from CCWD                                | 7,752          | Drinking Water               |                                       |
| Groundwater (not desalinated)  | Extracted from Pittsburg Plain Groundwater Basin   | 1,480          | Drinking Water               |                                       |
| Recycled Water   | Produced by Delta Diablo for the City of Pittsburg | 111            | Recycled Water               |                                       |
|  |  |                |                              |                                       |
|  |  |                |                              |                                       |
|  |  |                |                              |                                       |
|  |  |                |                              |                                       |
|  |  |                |                              |                                       |
|  |  |                |                              |                                       |
| Total  |  | 9,343          |                              | 0                                     |
| <i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>  |  |                |                              |                                       |
| NOTES:   |  |                |                              |                                       |

Submittal Table 6-9 Retail: Water Supplies — Projected

| Water Supply   | Additional Detail on Water Supply | Projected Water Supply *<br>Report To the Extent Practicable |                                      |                             |                                      |                             |                                      |                             |                                      |                             |                                      |
|--|-----------------------------------|--|--------------------------------------|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|
| Drop down list<br>May use each category multiple times.<br>These are the only water supply categories that will be recognized by the WUEdata online submittal tool |                                   | 2025   |                                      | 2030                        |                                      | 2035                        |                                      | 2040                        |                                      | 2045 (opt)                  |                                      |
|  |                                   | Reasonably Available Volume                                  | Total Right or Safe Yield (optional) | Reasonably Available Volume | Total Right or Safe Yield (optional) | Reasonably Available Volume | Total Right or Safe Yield (optional) | Reasonably Available Volume | Total Right or Safe Yield (optional) | Reasonably Available Volume | Total Right or Safe Yield (optional) |
| Add additional rows as needed  |                                   |  |                                      |                             |                                      |                             |                                      |                             |                                      |                             |                                      |
| Purchased or Imported Water  |                                   | 11,031   |                                      | 12,030                      |                                      | 12,960                      |                                      | 13,824                      |                                      | 14,745                      |                                      |
| Groundwater (not desalinated)  |                                   | 1,349  |                                      | 1,349                       |                                      | 1,349                       |                                      | 1,349                       |                                      | 1,349                       |                                      |
| Recycled Water   |                                   | 311  |                                      | 311                         |                                      | 311                         |                                      | 311                         |                                      | 311                         |                                      |
|  |                                   |  |                                      |                             |                                      |                             |                                      |                             |                                      |                             |                                      |
|  |                                   |  |                                      |                             |                                      |                             |                                      |                             |                                      |                             |                                      |
| Total  |                                   | 12,691   | 0                                    | 13,690                      | 0                                    | 14,620                      | 0                                    | 15,484                      | 0                                    | 16,405                      | 0                                    |

**\*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: Purchased Water: Projected water supply provided by CCWD is based on water supply reliability provided by CCWD. CCWD estimates that it can meet 100% of the City's projected demands during normal years.

Groundwater: Projected available groundwater supply is based on average groundwater extraction between 1993 and 2020. The maximum annual extraction in this period was 2,092 AF in 2008.

Recycled Water: Projected available recycled water supply is based on 1the City’s projected recycled water demand, which the existing Delta Diablo RWF can meet.

**Urban Water Supplier:**

City of Pittsburg

**Water Delivery Product** (If delivering more than one type of product use Table O-1C)

Retail Potable Deliveries

**Table O-1B: Recommended Energy Reporting - Total Utility Approach**

|  |  |  |                              |             |
|--|--|--|------------------------------|-------------|
| Enter Start Date for Reporting Period  | 7/1/2019                                       | Urban Water Supplier Operational Control |                              |             |
| End Date   | 6/30/2020                                      |  |                              |             |
| <input type="checkbox"/> Is upstream embedded in the values reported?            |  | Sum of All Water Management Processes    | Non-Consequential Hydropower |             |
| Water Volume Units Used  | AF   | Total Utility                            | Hydropower                   | Net Utility |
|  | Volume of Water Entering Process (volume unit) | 9232                                     |                              | 9232        |
|  | Energy Consumed (kWh)                          | 5419810                                  |                              | 5419810     |
|  | Energy Intensity (kWh/vol. converted to MG)    | 1801.7                                   | #DIV/0!                      | 1801.7      |
| Quantity of Self-Generated Renewable Energy                                      |  |  |                              |             |
|  |  |  |                              |             |
| Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data) |  |  |                              |             |
| Metered Data   |  |  |                              |             |
| Data Quality Narrative:  |  |  |                              |             |
|  |  |  |                              |             |
| Narrative:   |  |  |                              |             |
|  |  |  |                              |             |

| Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)   |   |   |   |
|---|---|---|---|
| Year Type   | <b>Base Year</b><br>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020 | Available Supplies if Year Type Repeats |   |
|   |   | <input type="checkbox"/>                | Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. <span style="float: right;">Location _____</span> |
|   |   | <input checked="" type="checkbox"/>     | Quantification of available supplies is provided in this table as either volume only, percent only, or both.  |
|   |   | Volume Available *                      | % of Average Supply   |
| Average Year  | 2020  |   | 100%  |
| Single-Dry Year   | 2020  |   | 100%  |
| Consecutive Dry Years 1st Year  | 1932  |   | 100%  |
| Consecutive Dry Years 2nd Year  | 1930  |   | 100%  |
| Consecutive Dry Years 3rd Year  | 1931  |   | 95%   |
| Consecutive Dry Years 4th Year  | 1933  |   | 90%   |
| Consecutive Dry Years 5th Year  | 1929  |   | 85%   |
|   |   |   |   |
| <i>Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.</i> |   |   |   |
| <b>*Units of measure (AF, CCF, MG ) must remain consistent throughout the UWMP as reported in Table 2-3.</b>  |   |   |   |
| NOTES: The percentage indicated the water supply conditions for the City of Pittsburgh's CCWD raw water supply under different water years.   |   |   |   |

**Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison**

|   | 2025   | 2030   | 2035   | 2040   | 2045 <i>(Opt)</i> |
|---|--------|--------|--------|--------|-------------------|
| Supply totals<br><i>(autofill from Table 6-9)</i> | 12,691 | 13,690 | 14,620 | 15,484 | 16,405            |
| Demand totals<br><i>(autofill from Table 4-3)</i> | 11,342 | 12,341 | 13,271 | 14,135 | 15,056            |
| Difference  | 1,349  | 1,349  | 1,349  | 1,349  | 1,349             |

NOTES:

| Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison                             |        |        |        |        |            |
|--|--------|--------|--------|--------|------------|
|  | 2025   | 2030   | 2035   | 2040   | 2045 (Opt) |
| Supply totals*   | 12,691 | 13,690 | 14,620 | 15,484 | 16,405     |
| Demand totals*   | 11,342 | 12,341 | 13,271 | 14,135 | 15,056     |
| Difference   | 1,349  | 1,349  | 1,349  | 1,349  | 1,349      |
| *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. |        |        |        |        |            |
| NOTES:   |        |        |        |        |            |

### Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

|                          |               | 2025*  | 2030*  | 2035*  | 2040*  | 2045* (Opt) |
|--------------------------|---------------|--------|--------|--------|--------|-------------|
| First year               | Supply totals | 12,691 | 13,690 | 14,620 | 15,484 | 16,405      |
|                          | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056      |
|                          | Difference    | 1,349  | 1,349  | 1,349  | 1,349  | 1,349       |
| Second year              | Supply totals | 12,691 | 13,690 | 14,620 | 15,484 | 16,405      |
|                          | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056      |
|                          | Difference    | 1,349  | 1,349  | 1,349  | 1,349  | 1,349       |
| Third year               | Supply totals | 12,139 | 13,089 | 13,972 | 14,793 | 15,668      |
|                          | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056      |
|                          | Difference    | 797    | 748    | 701    | 658    | 612         |
| Fourth year              | Supply totals | 11,588 | 12,487 | 13,324 | 14,102 | 14,931      |
|                          | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056      |
|                          | Difference    | 246    | 146    | 53     | (33)   | (126)       |
| Fifth year               | Supply totals | 11,036 | 11,886 | 12,676 | 13,410 | 14,193      |
|                          | Demand totals | 11,342 | 12,341 | 13,271 | 14,135 | 15,056      |
|                          | Difference    | (306)  | (456)  | (595)  | (725)  | (863)       |
| Sixth year<br>(optional) | Supply totals |        |        |        |        |             |
|                          | Demand totals |        |        |        |        |             |
|                          | Difference    | 0      | 0      | 0      | 0      | 0           |

**\*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

**Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)**

| <b>2021</b>   | <b>Total</b> |
|---|--------------|
| Total Water Use   | 9,592        |
| Total Supplies  | 11,858       |
| Surplus/Shortfall w/o WSCP Action                                   | 2,267        |
| <b>Planned WSCP Actions</b> (use reduction and supply augmentation) |              |
| WSCP - supply augmentation benefit                                  |              |
| WSCP - use reduction savings benefit                                |              |
| Revised Surplus/(shortfall)   | 2,267        |
| Resulting % Use Reduction from WSCP action                          | 0%           |

| <b>2022</b>   | <b>Total</b> |
|---|--------------|
| Total Water Use   | 9,952        |
| Total Supplies  | 12,066       |
| Surplus/Shortfall w/o WSCP Action                                   | 2,115        |
| <b>Planned WSCP Actions</b> (use reduction and supply augmentation) |              |
| WSCP - supply augmentation benefit                                  |              |
| WSCP - use reduction savings benefit                                |              |
| Revised Surplus/(shortfall)   | 2,115        |
| Resulting % Use Reduction from WSCP action                          | 0%           |

| <b>2023</b>   | <b>Total</b> |
|---|--------------|
| Total Water Use   | 10,311       |
| Total Supplies  | 11,744       |
| Surplus/Shortfall w/o WSCP Action                                   | 1,432        |
| <b>Planned WSCP Actions</b> (use reduction and supply augmentation) |              |
| WSCP - supply augmentation benefit                                  |              |
| WSCP - use reduction savings benefit                                |              |
| Revised Surplus/(shortfall)   | 1,432        |
| Resulting % Use Reduction from WSCP action                          | 0%           |

| <b>2024</b>   | <b>Total</b> |
|---|--------------|
| Total Water Use   | 10,671       |
| Total Supplies  | 11,400       |
| Surplus/Shortfall w/o WSCP Action                                   | 729          |
| <b>Planned WSCP Actions</b> (use reduction and supply augmentation) |              |
| WSCP - supply augmentation benefit                                  |              |
| WSCP - use reduction savings benefit                                |              |
| Revised Surplus/(shortfall)   | 729          |
| Resulting % Use Reduction from WSCP action                          | 0%           |

| <b>2025</b>   | <b>Total</b> |
|---|--------------|
| Total Water Use   | 11,031       |
| Total Supplies  | 11,036       |
| Surplus/Shortfall w/o WSCP Action                                   | 5            |
| <b>Planned WSCP Actions</b> (use reduction and supply augmentation) |              |
| WSCP - supply augmentation benefit                                  |              |
| WSCP - use reduction savings benefit                                |              |
| Revised Surplus/(shortfall)   | 5            |
| Resulting % Use Reduction from WSCP action                          | 0%           |

**Submittal Table 8-1****Water Shortage Contingency Plan Levels**

| <b>Shortage Level</b> | <b>Percent Shortage Range</b> | <b>Shortage Response Actions</b><br><i>(Narrative description)</i>   |
|-----------------------|-------------------------------|--|
| 1                     | Up to 10%                     | A Level 1 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are up to 10%.        |
| 2                     | Up to 20%                     | A Level 2 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 11 to 20%.        |
| 3                     | Up to 30%                     | A Level 3 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 21 to 30%.        |
| 4                     | Up to 40%                     | A Level 4 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 31 to 40%.        |
| 5                     | Up to 50%                     | A Level 5 Water Supply Shortage condition exists when the notifies its water users that due to drought, the supply reductions targets are 41 to 50%.             |
| 6                     | >50%                          | A Level 6 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are greater than 50%. |

NOTES:

| Submittal Table 8-2: Demand Reduction Actions |  |   |  |   |
|---|--|---|--|---|
| Shortage Level                                | Demand Reduction Actions<br><i>Drop down list</i><br><i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i> | How much is this going to reduce the shortage gap?<br><i>Include units used (volume type or percentage)</i> | Additional Explanation or Reference<br><i>(optional)</i>   | Penalty, Charge, or Other Enforcement?<br><i>For Retail Suppliers Only</i><br><i>Drop Down List</i> |
| Add additional rows as needed                 |  |   |  |   |
| 1   | Landscape - Limit landscape irrigation to specific times   | 5%  | Irrigation between 11 am and 6 pm is discouraged.  | No  |
| 1   | Landscape - Prohibit certain types of landscape irrigation   | 5%  | Irrigating landscaped areas with water in excess of that minimal amount required to sustain plant life.  | Yes   |
| 1   | Landscape - Other landscape restriction or prohibition   | 5%  | The application of potable water to outdoor landscapes during and up to within 48 hours after measurable rainfall.   | Yes   |
| 1   | Water Features - Restrict water use for decorative water features, such as fountains   | 5%  | The use of water for decorative fountain/pools, except for recycled water approved for such use.   | Yes   |
| 1   | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner   | 5%  | Failing to repair a controllable leak of water.  | Yes   |
| 1   | Other - Require automatic shut of hoses  | 5%  | Using a hose without an automatic shutoff nozzle.  | Yes   |
| 1   | Other - Prohibit use of potable water for washing hard surfaces  | 5%  | Washing sidewalks, driveways, parking areas, tennis courts, patios, or other exterior paved areas except to alleviate a condition inimical to the public health or safety. | Yes   |
| 1   | Other  | 5%  | Permitting water to flow onto a sidewalk, driveway or street, or escape down a gutter, ditch or other service drain.   | Yes   |
| 1   | Expand Public Information Campaign   | 5%  | Education program.   | No  |

|        |   |     |  |     |
|--------|---|-----|--|-----|
| 1      | Offer Water Use Surveys                                   | 5%  | City currently providing water use surveys to 112 irrigators, and CCWD is offering free surveys to residential customers.          | No  |
| 1      | Provide Rebates on Plumbing Fixtures and Devices          | 5%  | CCWD provides rebates for efficient plumbing fixtures and devices in Pittsburg.  | No  |
| 1      | Provide Rebates for Landscape Irrigation Efficiency       | 5%  | CCWD provides rebates for CIMIS controlled irrigation systems.   | No  |
| 1      | Provide Rebates for Turf Replacement                      | 5%  | CCWD provides rebates for lawn replacements in Pittsburg.  | No  |
| 1      | Other   | 5%  | Demand reduction program.  | No  |
| 1      | Other   | 5%  | Voluntary Rationing  | No  |
| 1      | Decrease Line Flushing                                    | 5%  |  | No  |
| 1      | Reduce System Water Loss                                  | 5%  |  | No  |
| 1      | Increase Water Waste Patrols                              | 5%  |  | No  |
| 2      | Landscape - Limit landscape irrigation to specific days   | 10% | Irrigation watering limited to three days per week, unless controlled by a CIMIS-connected water controller, and verified by City. | Yes |
| 2      | Landscape - Limit landscape irrigation to specific days   | 10% | Irrigation watering limited to two days per week, unless controlled by a CIMIS-connected water controller, and verified by City.   | Yes |
| 3      | Other   | 15% | Mandatory rationing  | Yes |
| 3      | Other   | 15% | Percentage reduction by customer type, and/or high use penalties.  | Yes |
| 4      | Moratorium or Net Zero Demand Increase on New Connections | 20% |  | Yes |
| 4      | Implement or Modify Drought Rate Structure or Surcharge   | 20% | Water rate increases.  | Yes |
| 5      | Other   | 20% | Restrict building permits.   | Yes |
| 6      | Other   | 20% | Per capita allotment by customer type.   | Yes |
| 6      | Other   | 20% | Nonessential use of water prohibited.  | Yes |
| NOTES: |   |     |  |     |

**Submittal Table 8-3: Supply Augmentation and Other Actions**

| Shortage Level                       | Supply Augmentation Methods and Other<br>Actions by Water Supplier<br><i><b>Drop down list</b></i><br><i>These are the only categories that will be accepted<br/>                     by the WUEdata online submittal tool</i> | How much is this going to reduce the<br>shortage gap? <i>Include units used<br/>                     (volume type or percentage)</i> | Additional Explanation or Reference<br><i>(optional)</i> |
|--------------------------------------|--|--|--|
| <i>Add additional rows as needed</i> |  |  |  |
|                                      |  |  |  |
|                                      |  |  |  |
|                                      |  |  |  |
|                                      |  |  |  |
|                                      |  |  |  |
|                                      |  |  |  |
|                                      |  |  |  |
|                                      |  |  |  |
|                                      |  |  |  |
|                                      |  |  |  |
| NOTES:                               |  |  |  |

| Submittal Table 10-1 Retail: Notification to Cities and Counties |               |                          |
|--|---------------|--------------------------|
| City Name  | 60 Day Notice | Notice of Public Hearing |
| Add additional rows as needed                                    |               |                          |
|  |               |                          |
|  |               |                          |
|  |               |                          |
| County Name<br><i>Drop Down List</i>                             | 60 Day Notice | Notice of Public Hearing |
| Add additional rows as needed                                    |               |                          |
| Contra Costa County  | Yes           | Yes                      |
|  |               |                          |
| NOTES:   |               |                          |

**SB X7-7 Table 0: Units of Measure Used in 2020 UWMP\****(select one from the drop down list)*

Acre Feet

*\*The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*

NOTES:

**SB X7-7 Table 2: Method for 2020 Population Estimate**

**Method Used to Determine 2020 Population**  
(may check more than one)



**1. Department of Finance (DOF) or  
American Community Survey (ACS)**



**2. Persons-per-Connection Method**



**3. DWR Population Tool**



**4. Other**  
DWR recommends pre-review

NOTES:

**SB X7-7 Table 3: 2020 Service Area Population****2020 Compliance Year Population****2020**

74,321

NOTES:

**SB X7-7 Table 4: 2020 Gross Water Use**

| Compliance<br>Year 2020 | 2020 Volume<br>Into<br>Distribution<br>System<br><i>This column will<br/>remain blank until<br/>SB X7-7 Table 4-A<br/>is completed.</i> | 2020 Deductions     |  |   |  |   | 2020 Gross Water<br>Use |
|-------------------------|---|---------------------|--|---|--|---|-------------------------|
|                         |   | Exported<br>Water * | Change in<br>Dist. System<br>Storage*<br>(+/-) | Indirect<br>Recycled<br>Water<br><i>This column will<br/>remain blank<br/>until SB X7-7<br/>Table 4-B is<br/>completed.</i> | Water<br>Delivered for<br>Agricultural<br>Use* | Process Water<br><i>This column will<br/>remain blank<br/>until SB X7-7<br/>Table 4-D is<br/>completed.</i> |                         |
|                         | 9,232   |                     |  | -   |  | -   | 9,232                   |

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

NOTES:

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

Complete one table for each source.

| <b>Name of Source</b>  | Raw water imported from CCWD                        |  |   |
|--|---|--|---|
| <b>This water source is (check one) :</b>  |   |  |   |
| <input type="checkbox"/>   | The supplier's own water source                     |  |   |
| <input checked="" type="checkbox"/>  | A purchased or imported source                      |  |   |
| Compliance Year<br>2020  | Volume Entering<br>Distribution System <sup>1</sup> | Meter Error<br>Adjustment <sup>2</sup><br><i>Optional</i><br>(+/-) | Corrected Volume<br>Entering<br>Distribution System |
|  | 7,752   | -  | 7,752   |
| <sup>1</sup> <b>Units of measure (AF, MG , or CCF)</b> must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.<br><sup>2</sup> <b>Meter Error Adjustment</b> - See guidance in Methodology 1, Step 3 of Methodologies Document |   |  |   |
| NOTES  |   |  |   |

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

Complete one table for each source.

| <b>Name of Source</b>  | Local Groundwater                                   |  |   |
|--|---|--|---|
| <b>This water source is (check one) :</b>  |   |  |   |
| <input checked="" type="checkbox"/>  | The supplier's own water source                     |  |   |
| <input type="checkbox"/>   | A purchased or imported source                      |  |   |
| Compliance Year<br>2020  | Volume Entering<br>Distribution System <sup>1</sup> | Meter Error<br>Adjustment <sup>2</sup><br><i>Optional</i><br>(+/-) | Corrected Volume<br>Entering<br>Distribution System |
|  | 1,480   |  | 1,480   |
| <sup>1</sup> <b>Units of measure (AF, MG , or CCF)</b> must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.<br><sup>2</sup> <b>Meter Error Adjustment</b> - See guidance in Methodology 1, Step 3 of Methodologies Document |   |  |   |
| NOTES:   |   |  |   |

| SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD) |   |           |
|---|---|-----------|
| 2020 Gross Water<br><i>Fm SB X7-7 Table 4</i>           | 2020 Population <i>Fm</i><br><i>SB X7-7 Table 3</i> | 2020 GPCD |
| 9,232   | 74,321  | 111       |
| NOTES:  |   |           |

**SB X7-7 Table 9: 2020 Compliance**

| Actual 2020<br>GPCD <sup>1</sup> | Optional Adjustments to 2020 GPCD    |                                       |                                     |                                   |   | 2020 Confirmed<br>Target GPCD <sup>1, 2</sup> | Did Supplier<br>Achieve<br>Targeted<br>Reduction for<br>2020? |
|----------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|-----------------------------------|---|---|---|
|                                  | Enter "0" if Adjustment Not Used     |                                       |                                     | TOTAL<br>Adjustments <sup>1</sup> | Adjusted 2020<br>GPCD <sup>1</sup><br><i>(Adjusted if<br/>applicable)</i> |   |   |
|                                  | Extraordinary<br>Events <sup>1</sup> | Weather<br>Normalization <sup>1</sup> | Economic<br>Adjustment <sup>1</sup> |                                   |   |   |   |
| 111                              | -                                    | -                                     | -                                   | -                                 | 111   | 131   | YES   |

<sup>1</sup> All values are reported in GPCD

<sup>2</sup> **2020 Confirmed Target GPCD** is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.

NOTES:

**SB X7-7 Table 0: Units of Measure Used in UWMP\*** *(select one from the drop down list)*

Acre Feet

*\*The unit of measure must be consistent with Submittal Table 2-3*

NOTES:

**SB X7-7 Table-1: Baseline Period Ranges**

| Baseline                                  | Parameter  | Value  | Units             |
|---|--|--------|-------------------|
| <b>10- to 15-year<br/>baseline period</b> | 2008 total water deliveries                          | 11,649 | Acre Feet         |
|   | 2008 total volume of delivered recycled water        | 80     | Acre Feet         |
|   | 2008 recycled water as a percent of total deliveries | 1%     | <b>See Note 1</b> |
|   | Number of years in baseline period <sup>1, 2</sup>   | 10     | Years             |
|   | Year beginning baseline period range                 | 1999   |                   |
|   | Year ending baseline period range <sup>3</sup>       | 2008   |                   |
| <b>5-year<br/>baseline period</b>         | Number of years in baseline period                   | 5      | Years             |
|   | Year beginning baseline period range                 | 2004   |                   |
|   | Year ending baseline period range <sup>4</sup>       | 2008   |                   |

<sup>1</sup> If the 2008 recycled water delivery is less than 10 percent of total water deliveries, then the 10-15year baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater of total deliveries, the 10-15 year baseline period is a continuous 10- to 15-year period.

<sup>2</sup> The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

<sup>3</sup> The ending year for the 10-15 year baseline period must be between December 31, 2004 and December 31, 2010.

<sup>4</sup> The ending year for the 5 year baseline period must be between December 31, 2007 and December 31, 2010.

NOTES:

**SB X7-7 Table 2: Method for Population Estimates**

| Method Used to Determine Population<br>(may check more than one) |  |
|--|--|
| <input checked="" type="checkbox"/>                              | <b>1. Department of Finance (DOF) or American Community Survey (ACS)</b> |
| <input type="checkbox"/>   | <b>2. Persons-per-Connection Method</b>                                  |
| <input type="checkbox"/>   | <b>3. DWR Population Tool</b>  |
| <input type="checkbox"/>   | <b>4. Other</b><br>DWR recommends pre-review                             |
| NOTES:   |  |

**SB X7-7 Table 3: Service Area Population**

| Year                              |      | Population |
|-----------------------------------|------|------------|
| 10 to 15 Year Baseline Population |      |            |
| Year 1                            | 1999 | 55,461     |
| Year 2                            | 2000 | 56,338     |
| Year 3                            | 2001 | 57,031     |
| Year 4                            | 2002 | 57,723     |
| Year 5                            | 2003 | 58,416     |
| Year 6                            | 2004 | 59,108     |
| Year 7                            | 2005 | 59,801     |
| Year 8                            | 2006 | 60,494     |
| Year 9                            | 2007 | 61,186     |
| Year 10                           | 2008 | 61,879     |
| Year 11                           |      |            |
| Year 12                           |      |            |
| Year 13                           |      |            |
| Year 14                           |      |            |
| Year 15                           |      |            |
| 5 Year Baseline Population        |      |            |
| Year 1                            | 2004 | 59,108     |
| Year 2                            | 2005 | 59,801     |
| Year 3                            | 2006 | 60,494     |
| Year 4                            | 2007 | 61,186     |
| Year 5                            | 2008 | 61,879     |
| NOTES:                            |      |            |

**SB X7-7 Table 4: Annual Gross Water Use \***

| Baseline Year<br><i>Fm SB X7-7 Table 3</i>   | Volume Into<br>Distribution System<br><i>This column will remain<br/>blank until SB X7-7 Table<br/>4-A is completed.</i> | Deductions        |   |   |   |   | Acre Feet              |        |
|--|--|-------------------|---|---|---|---|------------------------|--------|
|  |  | Exported<br>Water | Change in<br>Dist. System<br>Storage<br>(+/-) | Indirect<br>Recycled<br>Water<br><i>This column will<br/>remain blank<br/>until SB X7-7<br/>Table 4-B is<br/>completed.</i> | Water<br>Delivered for<br>Agricultural<br>Use | Process Water<br><i>This column will<br/>remain blank<br/>until SB X7-7<br/>Table 4-D is<br/>completed.</i> | Annual Gross Water Use |        |
| 10 to 15 Year Baseline - Gross Water Use   |  |                   |   |   |   |   |                        |        |
| Year 1   | 1999   | 10,106            |   |   | -   |   | -                      | 10,106 |
| Year 2   | 2000   | 10,113            |   |   | -   |   | -                      | 10,113 |
| Year 3   | 2001   | 10,742            |   |   | -   |   | -                      | 10,742 |
| Year 4   | 2002   | 10,431            |   |   | -   |   | -                      | 10,431 |
| Year 5   | 2003   | 10,808            |   |   | -   |   | -                      | 10,808 |
| Year 6   | 2004   | 10,977            |   |   | -   |   | -                      | 10,977 |
| Year 7   | 2005   | 10,227            |   |   | -   |   | -                      | 10,227 |
| Year 8   | 2006   | 10,753            |   |   | -   |   | -                      | 10,753 |
| Year 9   | 2007   | 11,574            |   |   | -   |   | -                      | 11,574 |
| Year 10  | 2008   | 11,648            |   |   | -   |   | -                      | 11,648 |
| Year 11  | 0  | -                 |   |   | -   |   | -                      | -      |
| Year 12  | 0  | -                 |   |   | -   |   | -                      | -      |
| Year 13  | 0  | -                 |   |   | -   |   | -                      | -      |
| Year 14  | 0  | -                 |   |   | -   |   | -                      | -      |
| Year 15  | 0  | -                 |   |   | -   |   | -                      | -      |
| 10 - 15 year baseline average gross water use  |  |                   |   |   |   |   |                        | 10,738 |
| 5 Year Baseline - Gross Water Use  |  |                   |   |   |   |   |                        |        |
| Year 1   | 2004   | 10,977            |   |   | -   |   | -                      | 10,977 |
| Year 2   | 2005   | 10,227            |   |   | -   |   | -                      | 10,227 |
| Year 3   | 2006   | 10,753            |   |   | -   |   | -                      | 10,753 |
| Year 4   | 2007   | 11,574            |   |   | -   |   | -                      | 11,574 |
| Year 5   | 2008   | 11,648            |   |   | -   |   | -                      | 11,648 |
| 5 year baseline average gross water use  |  |                   |   |   |   |   |                        | 11,036 |
| * Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3. |  |                   |   |   |   |   |                        |        |
| NOTES:   |  |                   |   |   |   |   |                        |        |

**SB X7-7 Table 4-A: Volume Entering the Distribution System(s)**

Complete one table for each source.

**Name of Source** Raw Water from CCWD**This water source is:**☐ The supplier's own water source☒ A purchased or imported source

| Baseline Year<br><i>Fm SB X7-7 Table 3</i> | Volume Entering<br>Distribution<br>System <sup>1</sup> | Meter Error<br>Adjustment <sup>2</sup><br><i>Optional</i><br>(+/-) | Corrected<br>Volume Entering<br>Distribution<br>System |
|--|--|--|--|
|--|--|--|--|

**10 to 15 Year Baseline - Water into Distribution System**

|         |      |        |  |        |
|---------|------|--------|--|--------|
| Year 1  | 1999 | 8,629  |  | 8,629  |
| Year 2  | 2000 | 8,759  |  | 8,759  |
| Year 3  | 2001 | 9,999  |  | 9,999  |
| Year 4  | 2002 | 9,671  |  | 9,671  |
| Year 5  | 2003 | 10,121 |  | 10,121 |
| Year 6  | 2004 | 10,149 |  | 10,149 |
| Year 7  | 2005 | 9,415  |  | 9,415  |
| Year 8  | 2006 | 8,980  |  | 8,980  |
| Year 9  | 2007 | 9,749  |  | 9,749  |
| Year 10 | 2008 | 9,556  |  | 9,556  |
| Year 11 | 0    |        |  | -      |
| Year 12 | 0    |        |  | -      |
| Year 13 | 0    |        |  | -      |
| Year 14 | 0    |        |  | -      |
| Year 15 | 0    |        |  | -      |

**5 Year Baseline - Water into Distribution System**

|        |      |        |  |        |
|--------|------|--------|--|--------|
| Year 1 | 2004 | 10,149 |  | 10,149 |
| Year 2 | 2005 | 9,415  |  | 9,415  |
| Year 3 | 2006 | 8,980  |  | 8,980  |
| Year 4 | 2007 | 9,749  |  | 9,749  |
| Year 5 | 2008 | 9,556  |  | 9,556  |

<sup>1</sup> **Units of measure** (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.<sup>2</sup> **Meter Error Adjustment** - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES:

**SB X7-7 Table 4-A: Volume Entering the Distribution System(s)**

Complete one table for each source.

**Name of Source** Local Groundwater**This water source is:**☒ The supplier's own water source☐ A purchased or imported source

| <b>Baseline Year</b><br><i>Fm SB X7-7 Table 3</i> | <b>Volume Entering<br/>Distribution<br/>System <sup>1</sup></b> | <b>Meter Error<br/>Adjustment <sup>2</sup><br/><i>Optional</i><br/>(+/-)</b> | <b>Corrected<br/>Volume Entering<br/>Distribution<br/>System</b> |
|---|---|--|--|
|---|---|--|--|

**10 to 15 Year Baseline - Water into Distribution System**

|         |      |      |  |       |
|---------|------|------|--|-------|
| Year 1  | 1999 | 1477 |  | 1,477 |
| Year 2  | 2000 | 1354 |  | 1,354 |
| Year 3  | 2001 | 743  |  | 743   |
| Year 4  | 2002 | 760  |  | 760   |
| Year 5  | 2003 | 687  |  | 687   |
| Year 6  | 2004 | 828  |  | 828   |
| Year 7  | 2005 | 812  |  | 812   |
| Year 8  | 2006 | 1773 |  | 1,773 |
| Year 9  | 2007 | 1825 |  | 1,825 |
| Year 10 | 2008 | 2092 |  | 2,092 |
| Year 11 | 0    |      |  | 0     |
| Year 12 | 0    |      |  | 0     |
| Year 13 | 0    |      |  | 0     |
| Year 14 | 0    |      |  | 0     |
| Year 15 | 0    |      |  | 0     |

**5 Year Baseline - Water into Distribution System**

|        |      |      |  |       |
|--------|------|------|--|-------|
| Year 1 | 2004 | 828  |  | 828   |
| Year 2 | 2005 | 812  |  | 812   |
| Year 3 | 2006 | 1773 |  | 1,773 |
| Year 4 | 2007 | 1825 |  | 1,825 |
| Year 5 | 2008 | 2092 |  | 2,092 |

<sup>1</sup> **Units of measure** (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.<sup>2</sup> **Meter Error Adjustment** - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES:

**SB X7-7 Table 5: Baseline Gallons Per Capita Per Day (GPCD)**

| Baseline Year<br><i>Fm SB X7-7 Table 3</i> |      | Service Area<br>Population<br><i>Fm SB X7-7<br/>Table 3</i> | Annual Gross<br>Water Use<br><i>Fm SB X7-7<br/>Table 4</i> | Daily Per<br>Capita Water<br>Use (GPCD) |
|--|------|---|--|---|
| 10 to 15 Year Baseline GPCD                |      |   |  |   |
| Year 1                                     | 1999 | 55,461  | 10,106   | 163                                     |
| Year 2                                     | 2000 | 56,338  | 10,113   | 160                                     |
| Year 3                                     | 2001 | 57,031  | 10,742   | 168                                     |
| Year 4                                     | 2002 | 57,723  | 10,431   | 161                                     |
| Year 5                                     | 2003 | 58,416  | 10,808   | 165                                     |
| Year 6                                     | 2004 | 59,108  | 10,977   | 166                                     |
| Year 7                                     | 2005 | 59,801  | 10,227   | 153                                     |
| Year 8                                     | 2006 | 60,494  | 10,753   | 159                                     |
| Year 9                                     | 2007 | 61,186  | 11,574   | 169                                     |
| Year 10                                    | 2008 | 61,879  | 11,648   | 168                                     |
| Year 11                                    | 0    | -   | -  |   |
| Year 12                                    | 0    | -   | -  |   |
| Year 13                                    | 0    | -   | -  |   |
| Year 14                                    | 0    | -   | -  |   |
| Year 15                                    | 0    | -   | -  |   |
| 10-15 Year Average Baseline GPCD           |      |   |  | <b>163</b>                              |
| 5 Year Baseline GPCD                       |      |   |  |   |
| Baseline Year<br><i>Fm SB X7-7 Table 3</i> |      | Service Area<br>Population<br><i>Fm SB X7-7<br/>Table 3</i> | Gross Water Use<br><i>Fm SB X7-7<br/>Table 4</i>           | Daily Per<br>Capita Water<br>Use        |
| Year 1                                     | 2004 | 59,108  | 10,977   | 166                                     |
| Year 2                                     | 2005 | 59,801  | 10,227   | 153                                     |
| Year 3                                     | 2006 | 60,494  | 10,753   | 159                                     |
| Year 4                                     | 2007 | 61,186  | 11,574   | 169                                     |
| Year 5                                     | 2008 | 61,879  | 11,648   | 168                                     |
| 5 Year Average Baseline GPCD               |      |   |  | <b>163</b>                              |
| NOTES:                                     |      |   |  |   |

| <b>SB X7-7 Table 6: Baseline GPCD</b> <i>Summary</i><br><i>From Table SB X7-7 Table 5</i> |     |
|---|-----|
| 10-15 Year Baseline GPCD  | 163 |
| 5 Year Baseline GPCD  | 163 |
| NOTES:<br><br><br><br><br><br><br><br><br><br>  |     |

**SB X7-7 Table 7: 2020 Target Method***Select Only One*

| Target Method                       |          | Supporting Tables  |
|-------------------------------------|----------|--|
| <input checked="" type="checkbox"/> | Method 1 | SB X7-7 Table 7A   |
| <input type="checkbox"/>            | Method 2 | SB X7-7 Tables 7B, 7C, and 7D  |
| <input type="checkbox"/>            | Method 3 | SB X7-7 Table 7-E  |
| <input type="checkbox"/>            | Method 4 | Method 4 Calculator <i>Located in the WUE Data Portal at <a href="http://wuedata.water.ca.gov">wuedata.water.ca.gov</a> Resources button</i> |

NOTES:

**SB X7-7 Table 7-A: Target Method 1**

20% Reduction

| 10-15 Year Baseline<br>GPCD | 2020 Target<br>GPCD |
|-----------------------------|---------------------|
| 163                         | 131                 |

NOTES:

**SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target**

| 5 Year<br>Baseline GPCD<br>From SB X7-7<br>Table 5 | Maximum 2020<br>Target <sup>1</sup> | Calculated<br>2020 Target <sup>2</sup>                                  |                                 |  | Confirmed 2020<br>Target <sup>4</sup> |
|--|-------------------------------------|---|---------------------------------|--|---------------------------------------|
|  |                                     | As calculated by<br>supplier in this<br>SB X7-7<br>Verification<br>Form | Special Situations <sup>3</sup> |  |                                       |
|  |                                     |   | Prorated 2020<br>Target         | Population<br>Weighted<br>Average<br>2020 Target |                                       |
| 163  | 155                                 | 131   |                                 |  | 131                                   |

<sup>1</sup> **Maximum 2020 Target** is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

<sup>2</sup> **Calculated 2020 Target** is the target calculated by the Supplier based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target. Supplier may only enter one calculated target.

<sup>3</sup> **Prorated targets and population weighted target** are allowed for special situations only. These situations are described in Appendix P, Section P.3

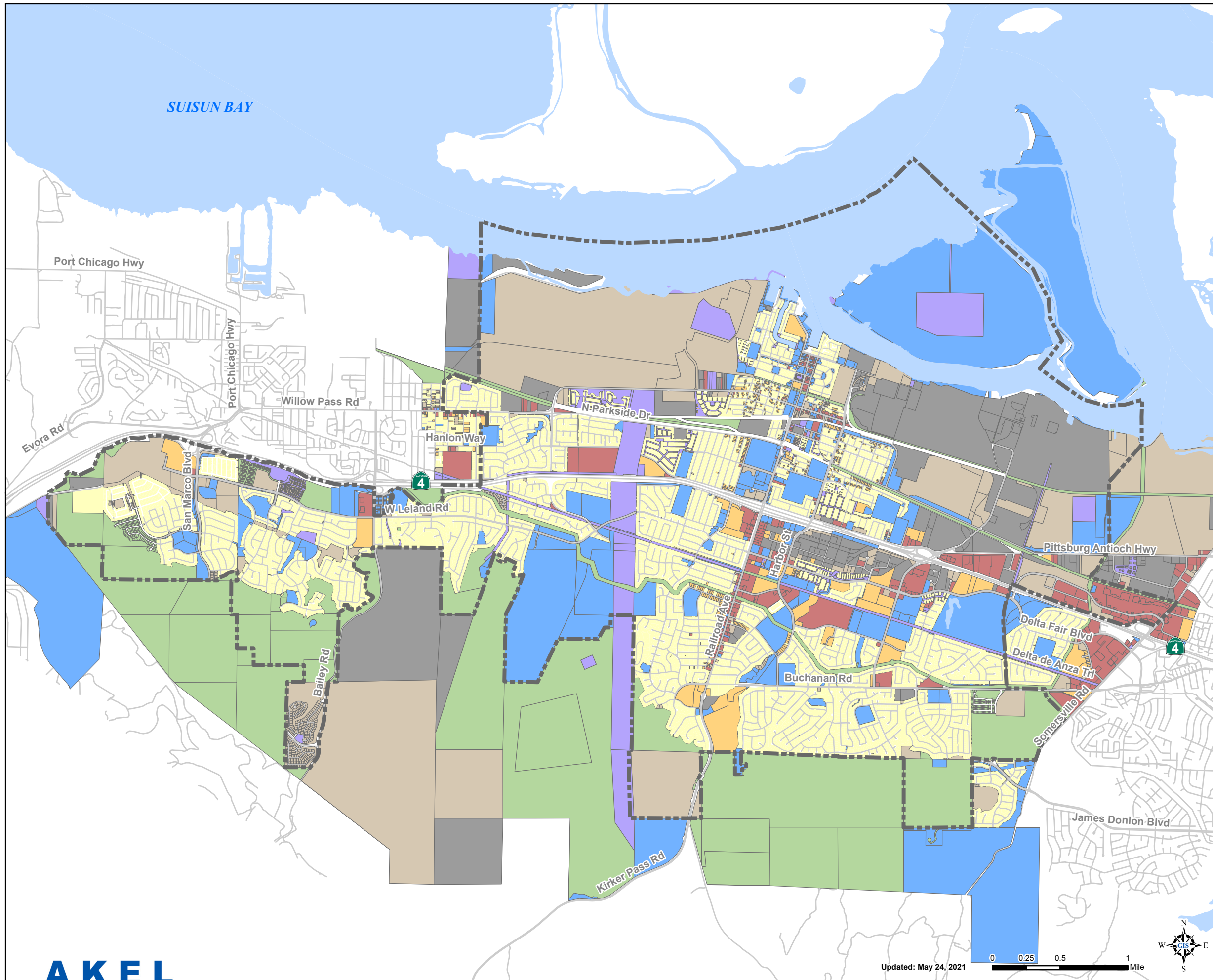
**Confirmed Target** is the lesser of the Calculated 2020 Target (C5, D5, or E5) or the Maximum 2020 Target (Cell B5)

4

NOTES:

## **APPENDIX B**

### Existing and Alternative Future Land Use Maps



## Legend

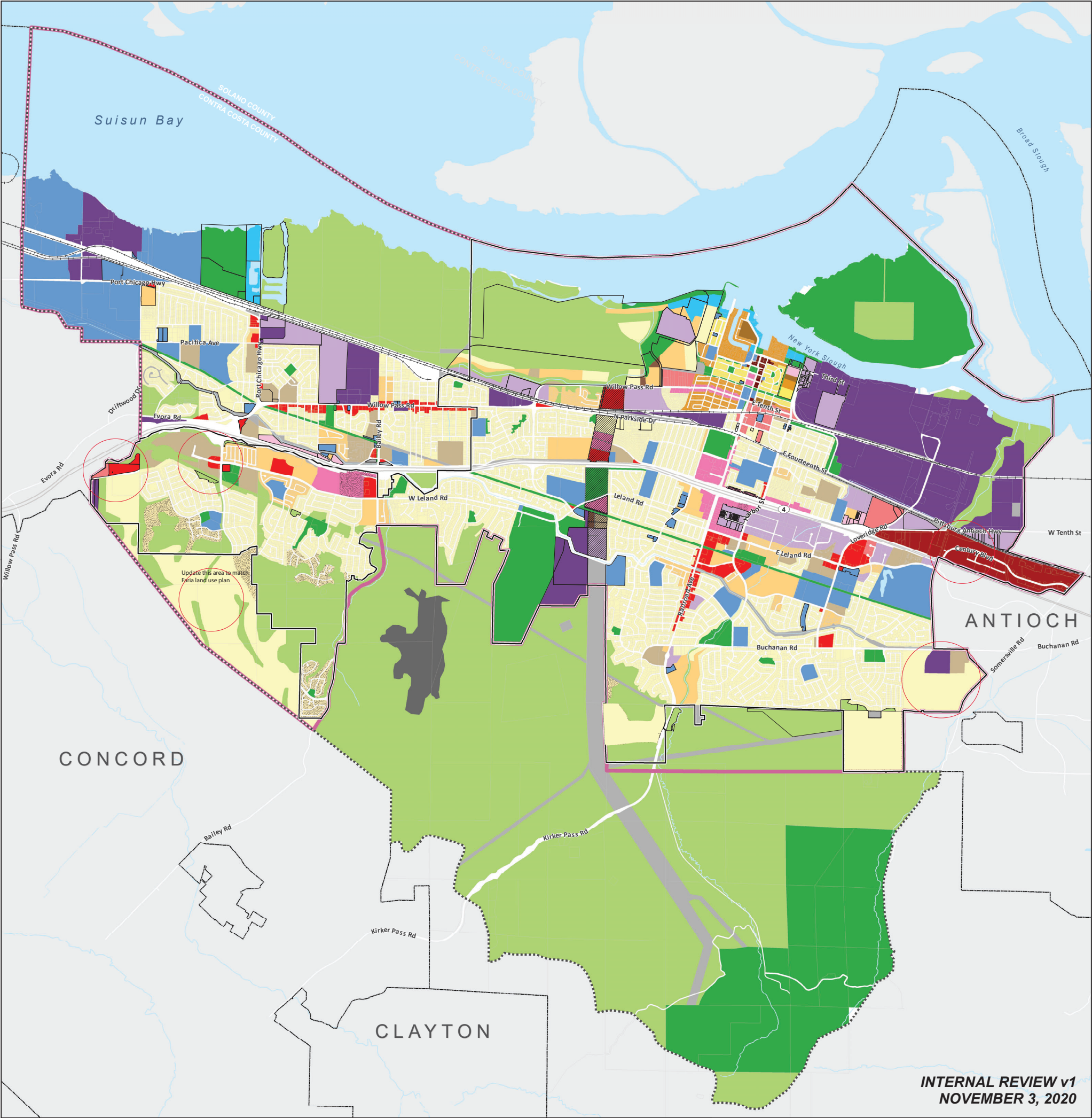
### Existing Land Use

- Single-Family Residential
- Multi-Family Residential
- Institutional
- Commercial
- Industrial
- Land
- Miscellaneous
- Vacant
- Pittsburg City Limits
- Water Bodies

**PRELIMINARY**

## Appendix B Existing Land Use 2020 Urban Water Management Plan City of Pittsburg

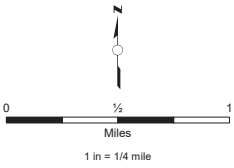




INTERNAL REVIEW v1  
NOVEMBER 3, 2020

Legend

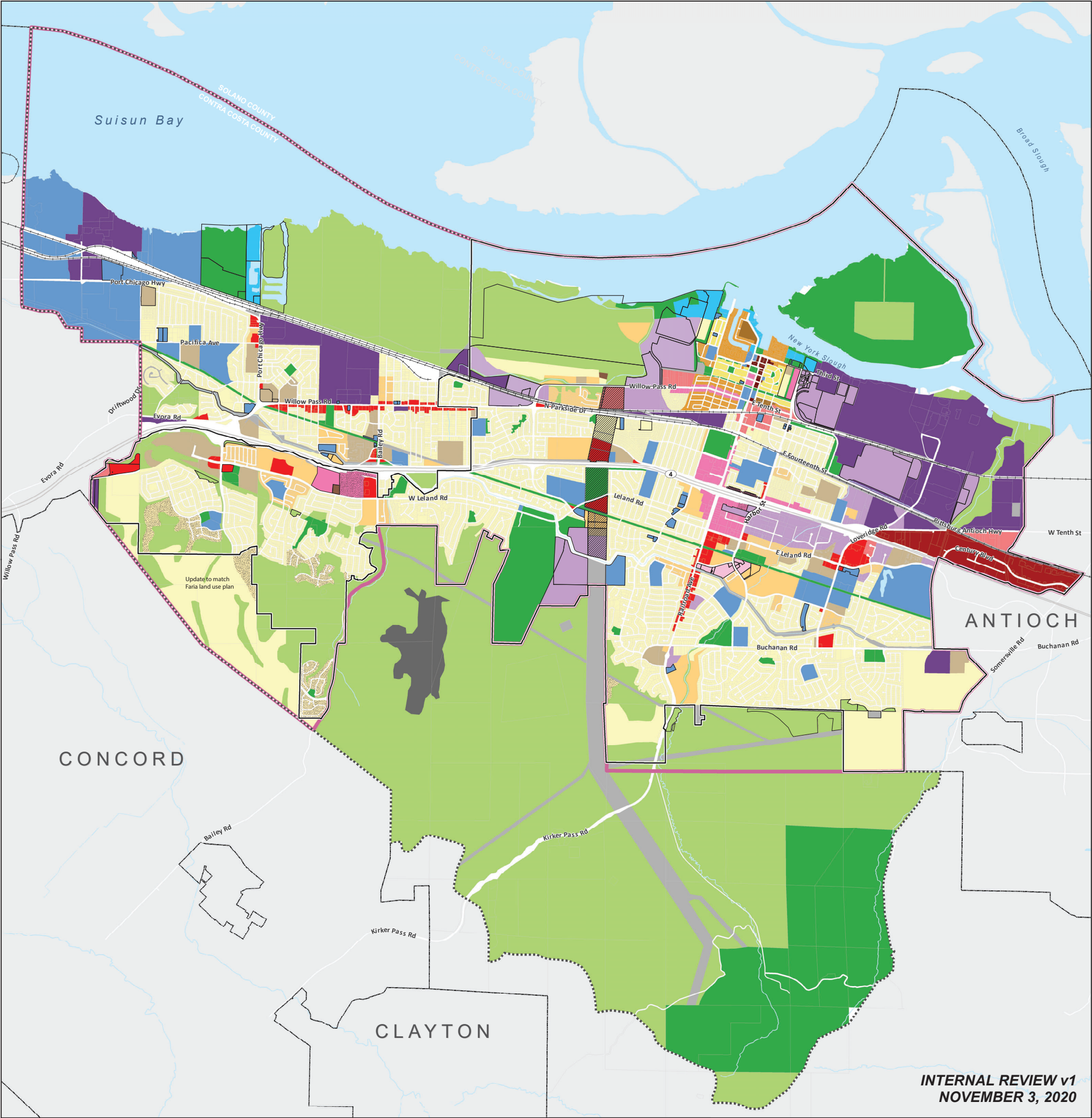
- |   |                                    |                                   |
|---|------------------------------------|-----------------------------------|
| Pittsburg City Limits                                       | High Density Residential           | Landfill                          |
| Sphere of Influence   | Very High Density Residential      | Open Space                        |
| Planning Area   | Regional Commercial                | Park                              |
| Assessor Parcel Boundary                                    | Service Commercial                 | Public/Institutional              |
| Assessor Parcel with Designation Change (Existing to Alt A) | Community Commercial               | Utility/ROW                       |
| PG&E Corridor Conversion Overlay                            | Community Commercial Mixed Use     | Downtown Low Density Residential  |
| Transit-Oriented Development Overlay                        | Mixed Use                          | Downtown Med Density Residential  |
| Hillside Low Density Residential                            | Marina Commercial                  | Downtown High Density Residential |
| Low Density Residential                                     | Employment Center Light Industrial | Downtown Commercial               |
| Medium Density Residential                                  | Industrial                         | Water                             |



De Novo Planning Group  
A Land Use Planning, Design, and Development Firm  
Pittsburg, CA 94554  
www.dnovoplanning.com  
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GENERAL PLAN LAND USE  
ALTERNATIVE A

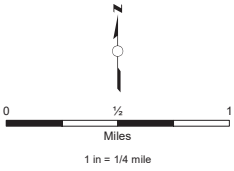




INTERNAL REVIEW v1  
NOVEMBER 3, 2020

Legend

- |   |                                    |                                   |
|---|------------------------------------|-----------------------------------|
| Pittsburg City Limits                                       | High Density Residential           | Landfill                          |
| Sphere of Influence   | Very High Density Residential      | Open Space                        |
| Planning Area   | Regional Commercial                | Park                              |
| Assessor Parcel Boundary                                    | Service Commercial                 | Public/Institutional              |
| Assessor Parcel with Designation Change (Existing to Alt B) | Community Commercial               | Utility/ROW                       |
| PG&E Corridor Conversion Overlay                            | Community Commercial Mixed Use     | Downtown Low Density Residential  |
| Transit-Oriented Development Overlay                        | Mixed Use                          | Downtown Med Density Residential  |
| Hillside Low Density Residential                            | Marina Commercial                  | Downtown High Density Residential |
| Low Density Residential                                     | Employment Center Light Industrial | Downtown Commercial               |
| Medium Density Residential                                  | Industrial                         | Water                             |



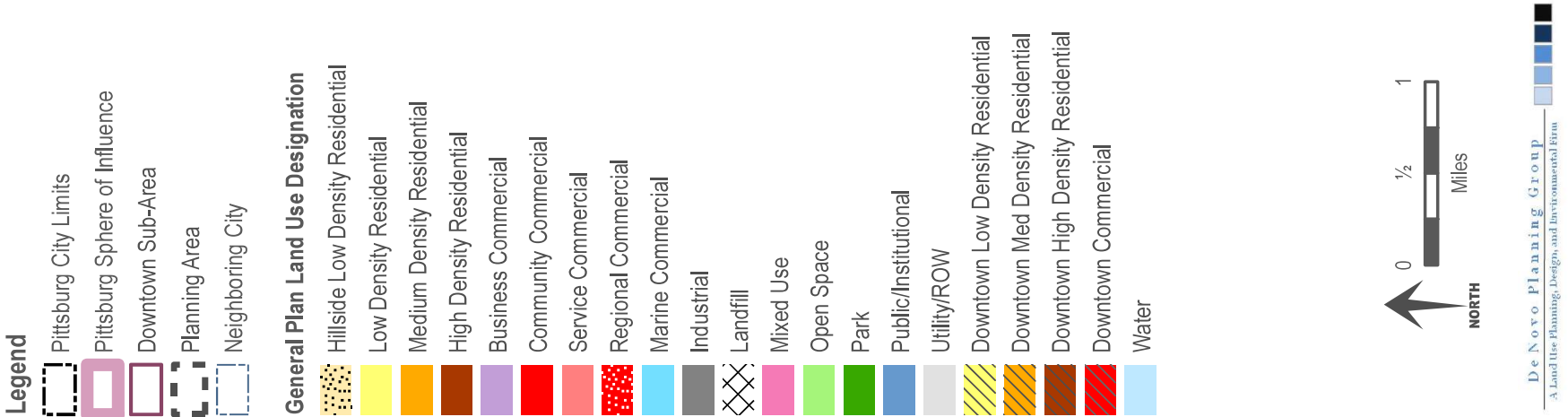
De Novo Planning Group  
A Land Use Planning, Design, and Implementation Firm  
Pittsburg City of Planning and Community Development Department, 2020

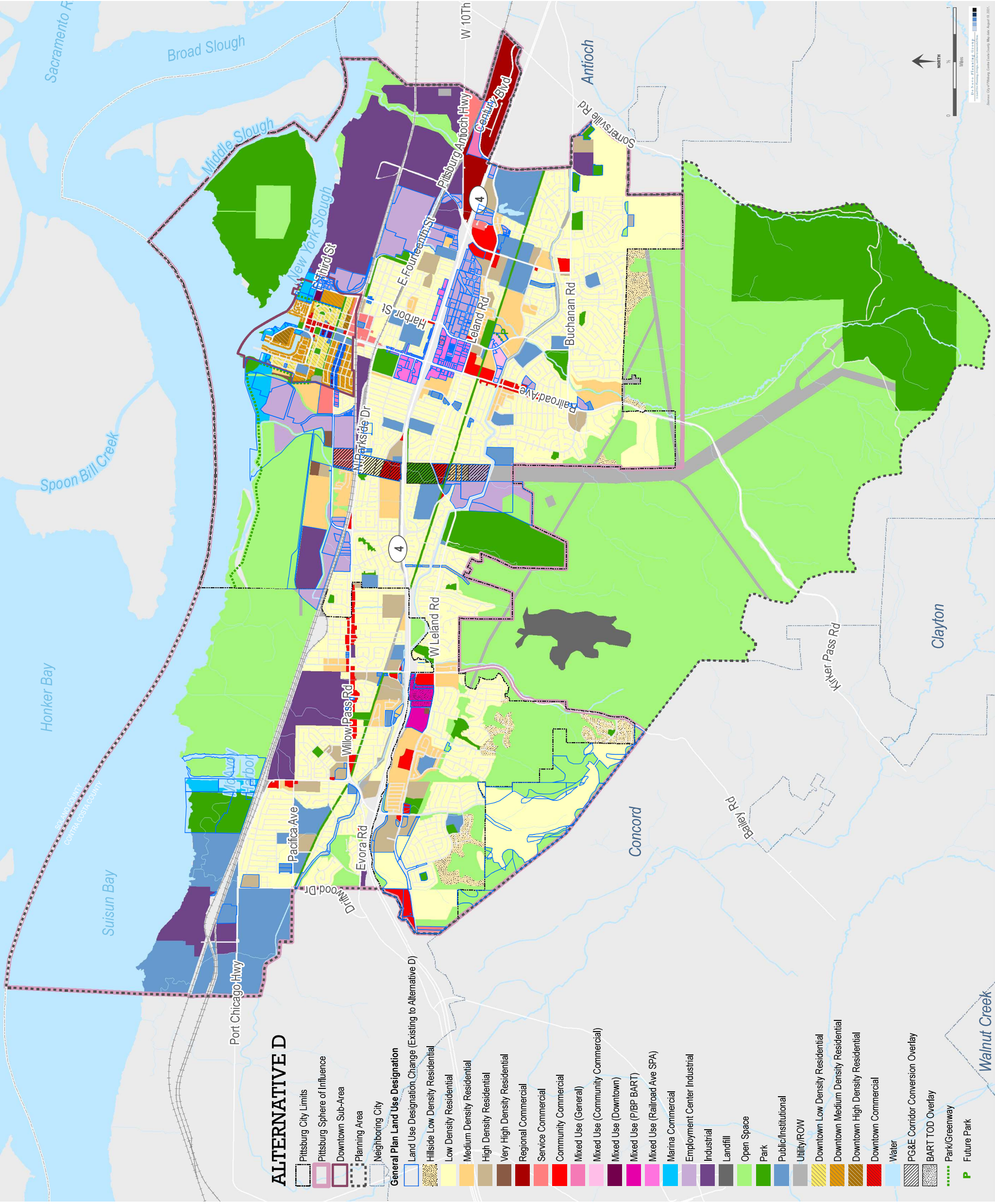
GENERAL PLAN LAND USE  
ALTERNATIVE B



Figure 5:

ALTERNATIVE C





## APPENDIX C

### Energy Intensity Analysis

**Urban Water Supplier:**

City of Pittsburgh

**Water Delivery Product** (If delivering more than one type of product use Table O-1C)

Retail Potable Deliveries

**Table O-1B: Recommended Energy Reporting - Total Utility Approach**

|  |  |  |                              |             |
|--|--|--|------------------------------|-------------|
| Enter Start Date for Reporting Period  | 7/1/2019                                       | Urban Water Supplier Operational Control |                              |             |
| End Date   | 6/30/2020                                      |  |                              |             |
| <input type="checkbox"/> Is upstream embedded in the values reported?            |  | Sum of All Water Management Processes    | Non-Consequential Hydropower |             |
| Water Volume Units Used  | AF   | Total Utility                            | Hydropower                   | Net Utility |
|  | Volume of Water Entering Process (volume unit) | 9232                                     |                              | 9232        |
|  | Energy Consumed (kWh)                          | 5419810                                  |                              | 5419810     |
|  | Energy Intensity (kWh/vol. converted to MG)    | 1801.7                                   | #DIV/0!                      | 1801.7      |
| Quantity of Self-Generated Renewable Energy                                      |  |  |                              |             |
| kWh  |  |  |                              |             |
| Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data) |  |  |                              |             |
| Metered Data   |  |  |                              |             |
| Data Quality Narrative:  |  |  |                              |             |
|  |  |  |                              |             |
| Narrative:   |  |  |                              |             |
|  |  |  |                              |             |

## APPENDIX D

### Water Shortage Contingency Plan



**FINAL**



City of Pittsburgh

SEPTEMBER 2021

# 2020 Water Shortage Contingency Plan

**A K E L**  
ENGINEERING GROUP, INC.



CITY OF PITTSBURG

# 2020 WATER SHORTAGE CONTINGENCY PLAN

Final

September 2021

**AKEL**  
ENGINEERING GROUP, INC.



November 15<sup>th</sup>, 2021

City of Pittsburg  
357 E 12<sup>th</sup> Street  
Pittsburg California, 94565

Attention: Jason Moser, Project Manager

Subject: **2020 Water Shortage Contingency Plan**

Dear Jason:

We are pleased to submit the City of Pittsburg 2020 Water Shortage Contingency Plan (2020 WSCP) which is intended to address the Urban Water Management Planning Act (UWMPA) of 1983 and amendments thereof.

The City's Water Shortage Contingency Plan (WSCP) was originally included in the 2015 UWMP, which received letters of review and completeness from the Department of Water Resources. As part of amendments to the UWMPA the WSCP is now required to be prepared and adopted separately from the UWMP. The 2020 WSCP builds upon previous water shortage contingency planning efforts completed by the City and reflects updates to the City's water shortage levels and water conservation measures for consistency with state-wide requirements provided by the Department of Water Resources.

We extend our thanks to you, Richard Abono, Public Works Director, Gina Haynes, Senior Civil Engineer, and other City staff whose courtesy and cooperation were valuable in reviewing and completing this study.

Sincerely,

AKEL ENGINEERING GROUP, INC.



Tony Akel, P.E.  
Principal

Enclosure: 2020 Water Shortage Contingency Plan



## Acknowledgements

### City Council

**Merl Craft**, Mayor

**Holland Barrett White**, Vice Mayor

**Shanelle Scales-Preston**

**Juan Antonio Banales**

**Jelani Killings**

### Management Personnel

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**City of Pittsburgh**  
**2020 Water Shortage Contingency Plan**

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# City of Pittsburgh 2020 Water Shortage Contingency Plan

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## Section 1 INTRODUCTION

This report documents the City of Pittsburgh's Water Shortage Contingency Plan (WSCP). This 2020 Water Shortage Contingency Plan (WSCP) document builds upon previous water shortage contingency planning efforts completed by the City and documented in the 2010 and 2015 Urban Water Management Plans (UWMP). This WSCP reflects updates to the City's water shortage levels and water conservation measures for consistency with state wide requirements provided by the Department of Water Resources. As part of the 2020 UWMP update the Department of Water Resources requires urban water suppliers to prepare a stand-alone 2020 WSCP, that is separate from the 2020 UWMP, and intended to manage a water shortage. As the City continues to monitor the effectiveness of the WSCP this document can be updated and adopted separately from the UWMP.

Though it is a stand-alone document, the 2020 WSCP is still considered one of the elements of the 2020 UWMP, as required by the State Law.

Based on DWR requirements, and consistent with previous planning efforts, this WSCP includes the following sections:

- Water Supply Reliability Analysis
- Annual Water Supply and Demand Assessment
- Shortage Response Actions
- Communication Protocols
- Compliance and Enforcement
- Legal Authorities
- Financial Consequences of WSCP Activation
- Monitoring and Reporting
- Special Water Feature Distinction
- Plan Adoption, Submittal, and Availability

## Section 2 WATER SUPPLY RELIABILITY ANALYSIS

### *Law*

10632 (a)(1)     *The analysis of water supply reliability conducted pursuant to Section 10635.*

The City currently uses the following water supplies:

- **Groundwater:** Two groundwater wells extract water from the Pittsburgh Plain groundwater basin, which is delivered to the City's Water Treatment Plant (WTP) before entering the water distribution system.

- **Surface Water:** A majority of the City's water supply is provided by the Contra Costa Water District (CCWD) in the form of surface water diversions from the Contra Costa Canal. These surface water supplies are delivered to the City's WTP before entering the water distribution system.
- **Recycled Water:** Delta Diablo operates and maintains a recycled water delivery system within the City's service area, which provides recycled water supplies to a number of users for irrigation purposes.

Consistent with previous planning efforts, the City's Water Supply Reliability Analysis considers the available supply volume for each water source. The Water Supply Reliability Analysis also considers the effects on available supply during a single-dry and five-year dry period.

As part of the 2020 UWMP the City has also prepared a Drought Risk Assessment (DRA), which is a proactive planning review that readies the City for worst case water supply conditions should they occur in the immediate future. The DRA compares the City's projected demands over the next five years to estimate available supplies should a five-year dry period occur. The results of the DRA prepared as part of the 2020 UWMP indicate that the City has sufficient supplies to meet projected demands over the next five years.

### **Section 3 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES**

Updates to the California Water Code now require that urban water suppliers prepare a water supply and demand assessment on an annual basis (Annual Assessment). The findings of this Annual Assessment will be summarized in a report submitted to the Department of Water Resources by July 1<sup>st</sup> of each calendar year, with the first report required for submission on July 1<sup>st</sup>, 2022. The purpose of this annual assessment is to ensure water suppliers are proactively considering the available water supplies and service area demand requirements, as well as identifying the potential need for implementing the Water Shortage Contingency Plan.

It should be noted that DWR is in the process of preparing a stand-alone guidance document that will outline general procedures to aid urban water suppliers in preparing the Annual Assessment. The decision-making process and Annual Assessment completion steps are preliminary at this point in time and will be further refined as the guidance document by DWR is completed.

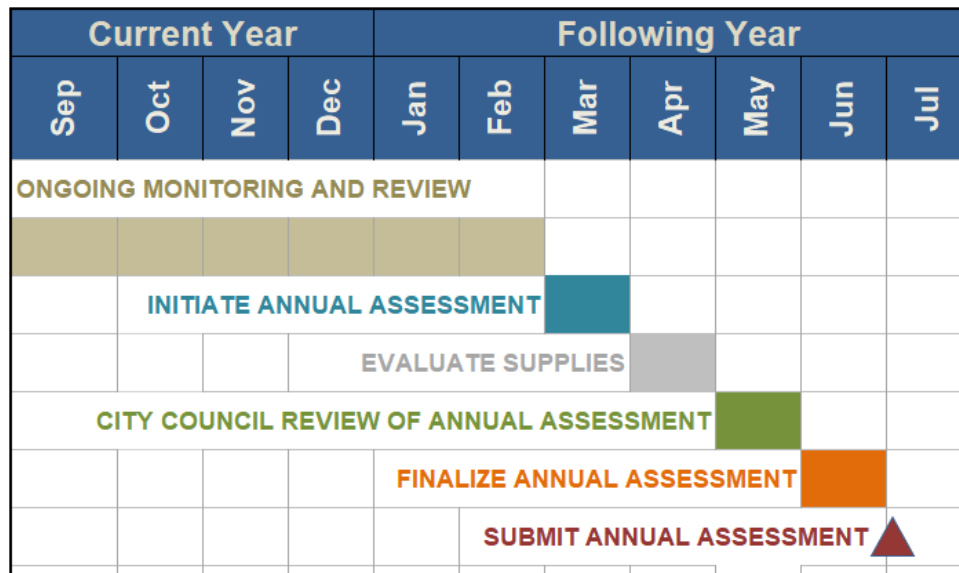
## Law

|              |   |
|--------------|---|
| 10632 (a)(2) | <p><i>The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:</i></p> <p><i>(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.</i></p> <p><i>(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:</i></p> <p><i>(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.</i></p> <p><i>(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.</i></p> <p><i>(iii) Existing infrastructure capabilities and plausible constraints.</i></p> <p><i>(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.</i></p> <p><i>(v) A description and quantification of each source of water supply.</i></p> |
| 10632.1      | <p><i>An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.</i></p>   |

### 3.1 Decision Making Process

This section describes the decision-making process to prepare and approve the Annual Assessment each year. It should be noted that the Annual Assessment and decision-making process will rely on the findings of the CCWD Annual Assessment, which will include documentation of available water supply information and any County-wide required water shortage actions to be implemented. The reporting timeline is shown on [Figure 3-1](#).

**Figure 3-1 Annual Assessment Reporting Timeline**



#### **September to February – Ongoing Monitoring and Review**

For a majority of the year City staff will continue to monitor and report monthly water consumption and production. This information will be used when the Annual Assessment is initiated to prepare a year-to-year comparison of system-wide water demands for the purpose of projecting demands for the following year.

#### **March – Initiate WSCP Annual Assessment**

City staff will initiate the Annual Assessment process by gathering the collected demand and production data. Other relevant information includes but is not limited to the following:

- [Land Use/Planning](#): Changes in land use or number of building permits will be used in estimating the next year's demands.
- [Hydrologic Year Review](#): The City's wet year typically ends in April and rainfall information over the past year can be gathered and reviewed.
- [Climate Forecast](#): Any available climate projection

The purpose of gathering this information will be to compare the various factors that affect water demand throughout the City's service area. This comparison will guide the City's projection for water demand in the upcoming year.

#### **April – Review Available Supply Information**

The City will coordinate with CCWD to determine available supply for the upcoming water year. This supply information from CCWD will serve as a primary basis of the supply and demand assessment, and whether or not demand reduction measures will be required in the upcoming year.

#### **May – City Council Review of Annual Assessment**

The draft Annual Assessment will be presented to City Council for their information and discussion. If water shortage actions are recommended by the Annual Assessment, the City Council will be asked to begin the implementation of the recommended actions.

#### **June – Finalize Annual Assessment**

The Annual Assessment is finalized based on any feedback received during the City Council review process.

#### **July – Submit Annual Assessment**

The Annual Assessment will be submitted to DWR on or before July 1<sup>st</sup>.

### **3.2 Data and Methodologies**

This section describes the key data and methodologies used in the preparation of the Annual Assessment. This includes historical water supply information, historical and projected water demand, demand and projected water supply demand, the city uses to evaluate their water supply reliability for a normal and a dry subsequent year.

#### **3.2.1 Evaluation Criteria**

The primary criteria used in preparing the City's Annual Assessment are the projected water demand and available supply. The available supply information will be based on a County-wide review of available water supplies prepared by CCWD. The demand projections will be prepared using a combination of factors including a comparison to historical demand, land use changes, building permits, and historical rainfall. The City will continue to review its Annual Assessment preparation process and additional criteria may be added if considered advisable.

#### **3.2.2 Water Supply**

The City currently relies on raw surface water and groundwater as the sources of supply. The City is within the CCWD service area and receives surface water diversions from the Contra Costa Canal as provided by CCWD. The City also delivers extracted groundwater from two wells to the WTP. Surface water from CCWD and groundwater from the City's wells are blended at the City's water treatment plant, metered, and delivered to customers within the City.

As part of the DRA, monthly production records will be reviewed and used to characterize the City's current water production requirement. The current demands will be compared to previous years to estimate production requirements for the upcoming year.

### **3.2.3 Current Year Unconstrained Customer Demand**

Billed water consumption is reported on a monthly basis and will be used to characterize the current water consumption requirements for the City. The monthly records will be compared to corresponding months of the previous year to identify any significant changes in water use behavior throughout the City's service area. In addition to consumption records, known recent developments or current building permits will enable City staff to estimate changes to water demand in the upcoming year.

### **3.2.4 Current Year Available Supply**

The Annual Assessment estimates the current year available supply for current hydrological conditions as well as a possible subsequent dry year. The supply estimate will be based on the Drought Risk Assessment supply estimation methodology documented in the 2020 UWMP and will also incorporate information from the CCWD Annual Assessment.

### **3.2.5 Infrastructure Considerations**

The annual assessment will include a review of any ongoing capital projects that are expected to affect the demands and supply projections. Examples of such capital projects include water loss reductions, distribution expansion to serve growth, or new groundwater wells. The City is also in the process of updating their 2015 Water System Master Plan, which will identify any additional infrastructure considerations to be implemented within the City's service area.

## **Section 4 SIX STANDARD WATER SHORTAGE LEVELS**

### **Law**

10632 (a)(1) *Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.*

10632 (a)(3)

(A) *Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including but not limited to, a regional power outage, an earthquake, and other potential emergency events.*

(B) *An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.*

The City recently adopted the DWR-recommended six standard water shortage levels, as documented on [Table 4-1](#). Identifying the appropriate shortage level will be in accordance with the procedures outlined in [Section 3 – Annual Water Supply and Demand Assessment Procedures](#). As an example, if the Annual Assessment determines a shortage of 22%, the City would be considered in a Severe Drought condition. With recommendations from City staff, the City Council has the authority to declare the appropriate conservation level considered necessary to manage the system demands and mitigate the water shortage. The City Council can also downgrade, upgrade, or terminate a shortage response level based on City staff recommendations.

**Table 4-1 Water Shortage Levels**

| Shortage Level | Shortage Level Condition | Percent Shortage Range |
|----------------|--------------------------|------------------------|
| <b>0</b>       | <b>Normal</b>            | None                   |
| <b>Level 1</b> | <b>Alert</b>             | Up to <b>10%</b>       |
| <b>Level 2</b> | <b>Significant</b>       | 11 to <b>20%</b>       |
| <b>Level 3</b> | <b>Severe</b>            | 21 to <b>30%</b>       |
| <b>Level 4</b> | <b>Critical</b>          | 31 to <b>40%</b>       |
| <b>Level 5</b> | <b>Crisis</b>            | 41 to <b>50%</b>       |
| <b>Level 6</b> | <b>Emergency</b>         | <b>&gt; 50%</b>        |

The City's surface water supply relies on raw water import provided by CCWD. In periods of drought, when less imported water is available to CCWD delta area, CCWD will contact with water suppliers to reduce raw water import to maintain sustainable water supply within delta area. In order to reduce water consumption city-wide, the City has a water conservation ordinance that may be invoked to implement restrictions on water use.

Currently, the City's conservation program describes water use restrictions as well as a multiple-stage water rationing plan that can be invoked to adjust water use with shortage conditions. Each water rationing stage includes a water demand reduction percentage, which is to be applied to normal water demands. The plan is dependent on the cause, severity, and anticipated duration of the water shortage, and a combination of voluntary and mandatory water conservation measures, which can be put in place to reduce City-wide water usage. The water shortage stages are summarized on the following page in [Table 4-2](#).

**Table 4-2 Water Shortage Contingency Plan Levels**

| Shortage Level | Percent Supply Shortage/Reduction | Pittsburg Shortage Level | Water Supply Condition  |
|----------------|-----------------------------------|--------------------------|---|
| Level 0        | <b>None</b>                       | <b>Normal</b>            | At Level 0, no Water Supply Shortage condition exists.  |
| Level 1        | <b>Up to 10%</b>                  | <b>Alert</b>             | A Level 1 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are up to 10%.        |
| Level 2        | <b>11 to 20%</b>                  | <b>Significant</b>       | A Level 2 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 11 to 20%.        |
| Level 3        | <b>21 to 30%</b>                  | <b>Severe</b>            | A Level 3 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 21 to 30%.        |
| Level 4        | <b>31 to 40%</b>                  | <b>Critical</b>          | A Level 4 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 31 to 40%.        |
| Level 5        | <b>41 to 50%</b>                  | <b>Crisis</b>            | A Level 5 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 41 to 50%.        |
| Level 6        | <b>&gt; 50%</b>                   | <b>Emergency</b>         | A Level 6 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are greater than 50%. |

## Section 5 SHORTAGE RESPONSE ACTIONS

### Law

- 10632 (a)(4) *Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:*
- (F) *Locally appropriate supply augmentation actions.*
  - (G) *Locally appropriate demand reduction actions to adequately respond to shortages.*
  - (H) *Locally appropriate operational changes*
  - (I) *Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.*
  - (J) *For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.*

Pursuant to the CWC 10632 (a) (4), this section documents the detailed shortage response actions which align with the shortage levels into different categories.

### 5.1 Demand Reduction

There are a number of demand reduction measures that the urban water suppliers can implement as response actions to corresponding water shortage levels. Some of these may include irrigating and outdoor water usage prohibitions, water rate structure changes, public educations or water supply service adjustments. Other demand reductions such as infrastructure improvements or installing water-efficient fixtures is considered as a long-term water demand reduction but is not listed in the water shortage contingency plan.

Consumption reduction actions are methods taken by a water supplier to reduce demand within the service area, whereas prohibitions are specific limitations on water use; the City's restrictions and prohibitions on water use are summarized on [Table 5-1](#).

### 5.2 Supply Augmentation

The City currently relies on a combination of groundwater and surface water to meet demand requirements within the service area and there are no known opportunities for water supply augmentation through actions such as exchanges, transfers, or purchase programs. Therefore, supply augmentation actions are excluded from the City's Water Shortage Contingency Plan at this time.

### 5.3 Operation Changes

During a water shortage, changes to water system operations may be considered. These operational changes may include improving water usage consumption and tracking, changes to fire hydrant testing frequencies, alteration in maintenance cycles, and expedited water leak repairs.

**Table 5-1 Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions   | How much is this going to reduce the shortage gap? | Additional Explanation or Reference  | Penalty, Charge, or Other Enforcement? |
|----------------|--|--|--|--|
| 1              | Landscape - Limit landscape irrigation to specific times                             | 5%   | Irrigation between 11 am and 6 pm is discouraged.  | No                                     |
| 1              | Landscape - Prohibit certain types of landscape irrigation                           | 5%   | Irrigating landscaped areas with water in excess of that minimal amount required to sustain plant life.            | Yes                                    |
| 1              | Landscape - Other landscape restriction or prohibition                               | 5%   | The application of potable water to outdoor landscapes during and up to within 48 hours after measurable rainfall. | Yes                                    |
| 1              | Water Features - Restrict water use for decorative water features, such as fountains | 5%   | The use of water for decorative fountain/pools, except for recycled water approved for such use.                   | Yes                                    |

**Table 5-1 Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions   | How much is this going to reduce the shortage gap? | Additional Explanation or Reference  | Penalty, Charge, or Other Enforcement? |
|----------------|--|--|--|--|
| 1              | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | 5%   | Failing to repair a controllable leak of water.  | Yes                                    |
| 1              | Other - Require automatic shut off hoses   | 5%   | Using a hose without an automatic shutoff nozzle.  | Yes                                    |
| 1              | Other - Prohibit use of potable water for washing hard surfaces                  | 5%   | Washing sidewalks, driveways, parking areas, tennis courts, patios, or other exterior paved areas except to alleviate a condition inimical to the public health or safety. | Yes                                    |
| 1              | Other  | 5%   | Permitting water to flow onto a sidewalk, driveway or street, or escape down a gutter, ditch or other service drain.   | Yes                                    |
| 1              | Expand Public Information Campaign   | 5%   | Education program.   | No                                     |

**Table 5-1 Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions                            | How much is this going to reduce the shortage gap? | Additional Explanation or Reference   | Penalty, Charge, or Other Enforcement? |
|----------------|---|--|---|--|
| 1              | Offer Water Use Surveys                             | 5%   | City currently providing water use surveys to 112 irrigators, and CCWD is offering free surveys to residential customers. | No                                     |
| 1              | Provide Rebates on Plumbing Fixtures and Devices    | 5%   | CCWD provides rebates for efficient plumbing fixtures and devices in Pittsburgh.  | No                                     |
| 1              | Provide Rebates for Landscape Irrigation Efficiency | 5%   | CCWD provides rebates for CIMIS controlled irrigation systems.  | No                                     |
| 1              | Provide Rebates for Turf Replacement                | 5%   | CCWD provides rebates for lawn replacements in Pittsburgh.  | No                                     |
| 1              | Other   | 5%   | Demand reduction program.   | No                                     |

**Table 5-1 Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions                                | How much is this going to reduce the shortage gap? | Additional Explanation or Reference  | Penalty, Charge, or Other Enforcement? |
|----------------|---|--|--|--|
| 1              | Other   | 5%   | Voluntary Rationing.   | No                                     |
| 1              | Decrease Line Flushing                                  | 5%   |  | No                                     |
| 1              | Reduce System Water Loss                                | 5%   |  | No                                     |
| 1              | Increase Water Waste Patrols                            | 5%   |  | No                                     |
| 2              | Landscape - Limit landscape irrigation to specific days | 10%  | Irrigation watering limited to three days per week, unless controlled by a CIMIS-connected water controller, and verified by City. | Yes                                    |
| 2              | Landscape - Limit landscape irrigation to specific days | 10%  | Irrigation watering limited to two days per week, unless controlled by a CIMIS-connected water controller, and verified by City.   | Yes                                    |
| 3              | Other   | 15%  | Mandatory rationing.   | Yes                                    |
| 3              | Other   | 15%  | Percentage reduction by customer type, and/or high use penalties.  | Yes                                    |

**Table 5-1 Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions                                  | How much is this going to reduce the shortage gap? | Additional Explanation or Reference    | Penalty, Charge, or Other Enforcement? |
|----------------|---|--|--|--|
| 4              | Moratorium or Net Zero Demand Increase on New Connections | 20%  |  | Yes                                    |
| 4              | Implement or Modify Drought Rate Structure or Surcharge   | 20%  | Water rate increases.                  | Yes                                    |
| 5              | Other   | 20%  | Restrict building permits.             | Yes                                    |
| 6              | Other   | 20%  | Per capita allotment by customer type. | Yes                                    |
| 6              | Other   | 20%  | Nonessential use of water prohibited.  | Yes                                    |

## 5.4 Additional Mandatory Restrictions

Additional mandatory restrictions have been reported in a previous section.

## 5.5 Emergency Response Plan

The City has an Emergency Operations Plan (EOP), most recently updated in 2018, that provides a framework for the City to address a catastrophic supply interruption due to various hazards, including seismic, geological, wildfire, and flooding hazards. The plan is intended to define the actions required of the City before, during, and after an emergency. It also guides the City's response to major emergencies and disasters.

## 5.6 Seismic Risk Assessment and Mitigation Plan

### Law

- |             |   |
|-------------|---|
| 10632.5 (a) | <i>In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.</i>  |
| (b)         | <i>An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.</i>   |
| (c)         | <i>An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multi-hazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multi-hazard mitigation plan addresses seismic risk.</i> |

In addition to the emergency response plan described in a previous section, the California Water Code now requires urban water suppliers to document a locally appropriate multi-hazard mitigation plan, as developed under the federal Disaster Mitigation Act of 2000, that includes documentation of seismic risk assessment. County of Contra Costa developed such a hazard mitigation plan in January 2018. The City's service area is included in the boundaries reviewed as part of this mitigation plan. The City also developed a Hazard Mitigation Plan in February 2017.

## 5.7 Shortage Response Action Effectiveness

In addition to documenting demand reduction actions, the 2020 UWMP also estimates the effectiveness of these actions on reduce system-wide demand. The City records water consumption and production on a monthly basis and this data can be used to estimate the effect of any demand reduction actions implemented. Most recently, during the 2012-2016 drought, the City entered Water Shortage Level 2 for several summer months of 2015 through 2016. This included the implementation of multiple demand reduction actions described in a previous section. Based on a comparison of historical monthly production data it is estimated that the system-wide water use was 10%-20% lower for the duration of the Level 2 Water Shortage as compared to

other years. Therefore, as documented on [Table 5-2](#), the Level 2 Water Shortage response actions have an estimated reduction effectiveness of 10%-15%. For conservative planning purposes the Level 3 and higher Water Shortage response actions were given estimated reduction effectiveness of 20%.

## Section 6 COMMUNICATION PROTOCOLS

### Law

10632 (a)(5) *Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, and of the following:*  
(A) *Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.*  
(B) *Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.*  
(C) *Any other relevant communications.*

When the City plans for short-term water use reduction as directed by the Water Shortage Contingency Plan or Annual Assessment, clear and effective communication will be critical to achieve the necessary demand reductions. Methods of public notification include newspaper publications, bill inserts, City website announcements, social media posts, and press releases or informational campaigns. These public notification methods would be implemented in the event of a Level 2 Water Shortage and would increase in frequency in the event of a Level 3 and higher Water Shortage.

## Section 7 COMPLIANCE AND ENFORCEMENT

### Law

10632 (a) (6) *For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.*

Customers who violate the provisions noted in the water code for water shortage conditions shall receive the following penalties:

- First violation within any 12 consecutive months will result in a fine of one hundred dollars.
- Second violation within any 12 consecutive months will result in a fine of two hundred dollars.
- Third violation within any 12 consecutive months will result in a fine of three hundred dollars.

## Section 8    LEGAL AUTHORITIES

### Law

- 10632 (a) (7)    (A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.
- (B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1. [see below]
- (C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

*Water Code Section Division 1, Section 350*

*Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.*

This section describes the legal authorities that empower the City of Pittsburg to implement and enforce its water shortage response actions and relative penalties, water charge adjustments, and water service alteration or prohibition.

In 2015, the City passed Resolution 15-13030 “Water Conservation Program and 2010 Urban Water Management Plan” in response to ongoing drought conditions experienced in the State and a request from CCWD to reduce water use by 15%. This resolution defines ‘prohibited non-essential uses’ and outlines the four water shortage stages and their respective customer reduction goals. In addition, the City passed Resolution 15-13051 “Increase Water Rates and Establish Penalties for High Water Use” in response to the State’s emergency regulations requiring the City to reduce its total water use by 20% for the months of June 2015 through February 2016. This resolution defines tiered water rates for residential customers and a flat rate for all other customers, as well as the penalties for excessive use.

## Section 9 FINANCIAL CONSEQUENCES OF WSCP ACTIVATION

### Law

- |               |   |
|---------------|---|
| 10632 (a) (8) | <i>A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:</i>                                    |
| (A)           | <i>A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).</i>                            |
| (B)           | <i>A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).</i> |
| (C)           | <i>A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1. [retail urban suppliers only]</i>  |

The activation of the Water Shortage Contingency Plan and related Water Shortage Levels have financial consequences for the City. Reduced water consumption will contribute to reduced revenue, while proactive operational practices will contribute to higher operational and maintenance costs. The City Council has the authority to increase water rates to offset reduced revenues. These reserve funds or rate modifications have the ability to mitigate financial consequences of the Water Shortage Contingency Plan. Additionally, potential mitigation actions are documented in [Table 9.1](#) below. These are preliminary actions and would be evaluated in more detail should a water shortage occur.

## Section 10 MONITORING AND REPORTING

### Law

- |               |   |
|---------------|---|
| 10632 (a) (9) | <i>For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.</i> |
|---------------|---|

All water service connections are metered and each water supply source includes a flow-monitoring device that tracks water production. Readings from these devices are used to measure and monitor City-wide water production and consumption on a monthly basis. Pursuant to implemented shortage response actions and water shortage levels, the City's Water Department will increase the frequency of reading meters in order to collect, track, and analyze the water use, effectiveness of shortage response actions.

**Table 9-1 Financial Consequences of WSCP**

| Stage      | Supply Reduction | Financial Consequences  | Anticipated Mitigation Actions                              |
|------------|------------------|---|---|
| <b>0</b>   | None             | None  | Funding provided for supplemental water supply reserve.     |
| <b>1-2</b> | 0 – 20%          | Potential increase in O&M expenses and mild reduction in revenue. | Reduce O&M costs and identify supplemental funding sources. |
| <b>3-4</b> | 21 – 40%         | Moderate increase to O&M expenses and decrease in revenue.        | Defer capital expenditures and consider use of reserves.    |
| <b>5-6</b> | >40%             | Significant increases to O&M and decreases in revenue.            | Implement long-term O&M budget reductions.                  |

## Section 11 WSCP REFINEMENT PROCEDURES

### Law

*10632 (a) (10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed*

While the WSCP is a standalone document adopted separately from the 2020 UWMP it should be considered a dynamic planning tool and be subject to ongoing refinement efforts as necessary. Following the declaration of a water shortage and implementation of the WSCP, the monitoring and reporting steps described in a previous section will provide valuable insight into the effectiveness of the WSCP. City staff will evaluate the effectiveness of communication protocols, demand reduction actions, operational changes, or financial consequence mitigation. If this review

reveals opportunities for procedural refinements or new WSCP actions, City staff may elect to incorporate these items into an amended version of the WSCP.

## **Section 12 SPECIAL WATER FEATURE DISTINCTION**

### ***Law***

|           |  |
|-----------|--|
| 10632 (b) | <i>For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.</i> |
|-----------|--|

The California Water code requires urban water suppliers to distinguish between water features that are artificially supplied with water as opposed to swimming pools and spas. The City's current demand reduction actions include this distinction, as documented in a previous section.

## **Section 13 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY**

### ***Law***

|           |   |
|-----------|---|
| 10632 (c) | <i>The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.</i> |
|-----------|---|

The WSCP adoption and submittal process, as well as the public availability, are the same as those for the City's UWMP. However, the WSCP may be periodically amended independently from the City's UWMP. Should an amendment to the WSCP be implemented, stakeholder and public notification methods consistent with the UWMP will be performed prior to adoption of the amended plan.

## APPENDIX A

### Water Shortage Contingency Plan Adoption Resolution

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Adopt Resolution Approving the 2020 )  
Urban Water Management Plan )

RESOLUTION NO. 21-13983

WHEREAS, the City of Pittsburg operates and maintains a potable water system for Pittsburg water customers; and

WHEREAS as a municipal water service provider to more that 3,000 customers, the City is required by the Water Code of the State of California (Water Code section 10610 et seq., known as the Urban Water Management Planning Act) to develop an Urban Water Management Plan every five (5) years; and

WHEREAS, the City of Pittsburg has prepared and circulated for public review the 2020 Urban Water Management Plan and 2020 Water Shortage Contingency Plan (the "Plan") and properly noticed the public regarding adoption of the Plan.

NOW, THEREFORE, the City Council DOES RESOLVE as follows:

- Section 1. The Plan for the City of Pittsburg was prepared following applicable standards developed by the California Department of Water Resources and represents the City's effort to meet applicable standards under the Water Planning Act.
- Section 2. The Plan was developed by Akel Engineering Group, Inc., and City staff in coordination with water supply information provided by Contra Costa Water District and information provided by other applicable sources.
- Section 3. The Plan is approved, and the Public Works Director/City Engineer is authorized and directed to submit the Plan to the California Department of Water Resources, the California State Library and Contra Costa County within 30 days of adoption.

PASSED AND ADOPTED by the City Council of the City of PITTSBURG at a regular meeting on the 20th day of September 2021, by the following vote:

|            |   |
|------------|---|
| AYES:      | Banales, Killings, Scales-Preston, White, Craft |
| NOES:      | None  |
| ABSTAINED: | None  |
| ABSENT:    | None  |

  
Merl Craft, Mayor

ATTEST:

  
Alice E. Evenson, City Clerk

**CITY OF PITTSBURG  
NOTICE OF PUBLIC HEARING**

**THE PITTSBURG CITY COUNCIL WILL HOLD AN  
ONLINE PUBLIC HEARING ON:**

**Date: August 16, 2021**

**Time: 7:00 P.M.**

**Place: City Council Chamber at City Hall, 65  
Civic Avenue, Pittsburgh, CA**

If Executive Order N-29-20, issued by Governor Newsom on March 17, 2020 is still in effect, the public hearing will be held and accessible through Zoom Teleconference via Streaming Media on the City's website homepage: [www.ci.pittsburg.ca.us](http://www.ci.pittsburg.ca.us)

Concerning the following matter:

**PUBLIC HEARING ON URBAN WATER MANAGEMENT PLAN & WATER SHORTAGE CONTINGENCY PLAN FOR 2020**

The Pittsburg City Council will hold a Public Hearing to receive comments from the public on the final draft of the City of Pittsburg 2020 Urban Water Management Plan (UWMP) and 2020 Water Shortage Contingency Plan. The City is preparing its 2020 UWMP to continue to provide adequate water supplies to meet existing and future water demands within the City's water service area. The 2020 UWMP updates the information in the existing 2015 UWMP and provides an overview of the City's efficient water uses, water supplies, and demand management measures. Additionally, the 2020 WSCP builds upon previous planning efforts and outlines the City's plan to address potential future water shortages. At the conclusion of receipt of comments by the public, the Public Hearing will be closed.

Comments or objections to this can be made by writing or through e-mailed testimony during the meeting. Written comments may be mailed or delivered to Pittsburg Engineering Division, 65 Civic Avenue, Pittsburg, CA 94565. Comments during the meeting can be submitted via email to [meetingcomments@ci.pittsburg.ca.us](mailto:meetingcomments@ci.pittsburg.ca.us).

If you challenge the above matter in court, you may be limited to raising only those issues you or someone else raised at the Public Hearing described in this Notice, or in written correspondence delivered to the City Council at, or prior to, the Public Hearing.

Questions regarding the plan, or to request a copy of the draft 2020 UWMP, can be sent to [2020UWMP@ci.pittsburg.ca.us](mailto:2020UWMP@ci.pittsburg.ca.us). Also, the final draft plans are available for review at the City Clerks Office located at 65 Civic Avenue, Pittsburg, CA 94565, Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. or downloaded at: <https://www.pittsburgca.gov/services/public-works/water-department>.

**ADOPTION OF THE 2020 URBAN WATER MANAGEMENT PLAN and 2020 WATER SHORTAGE CONTINGENCY PLAN**

At the regularly scheduled meeting of the Pittsburg City Council on Sep 20, 2021, the City Council will also consider adoption of a resolution approving the City of Pittsburg 2020 UWMP and 2020 WSCP and directing staff to submit the plan to the State Department of Water Resources.

For further details on this matter, contact Richard Abono, Public Works Director City Engineer, 65 Civic Avenue, Pittsburg, CA (925) 252-4930.

Dated: July 28, 2021

Alice E. Evenson, City Clerk  
ECT# 6596352 Aug. 2, 2021

**CITY OF PITTSBURG  
NOTICE OF PUBLIC HEARING**

**THE PITTSBURG CITY COUNCIL WILL HOLD AN  
ONLINE PUBLIC HEARING ON:**

**Date: SEPTEMBER 20, 2021**

**Time: 7:00 P.M.**

**Place: City Council Chamber at City Hall, 65  
Civic Avenue, Pittsburg, CA**

If Executive Order N-29-20, issued by Governor Newsom on March 17, 2020 is still in effect, the public hearing will be held and accessible through Zoom Teleconference via Streaming Media on the City's website homepage: [www.ci.pittsburg.ca.us](http://www.ci.pittsburg.ca.us)

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For further details on this matter, contact Richard Abono, Public Works Director City Engineer, 65 Civic Avenue, Pittsburg, CA (925) 252-4930.

Dated: August 25, 2021

Alice E. Evenson, City Clerk

## APPENDIX E

### Urban Water Management Plan Adoption Resolution and Notifications

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Adopt Resolution Approving the 2020 )  
Urban Water Management Plan )

RESOLUTION NO. 21-13983

WHEREAS, the City of Pittsburg operates and maintains a potable water system for Pittsburg water customers; and

WHEREAS as a municipal water service provider to more that 3,000 customers, the City is required by the Water Code of the State of California (Water Code section 10610 et seq., known as the Urban Water Management Planning Act) to develop an Urban Water Management Plan every five (5) years; and

WHEREAS, the City of Pittsburg has prepared and circulated for public review the 2020 Urban Water Management Plan and 2020 Water Shortage Contingency Plan (the "Plan") and properly noticed the public regarding adoption of the Plan.

NOW, THEREFORE, the City Council DOES RESOLVE as follows:

- Section 1. The Plan for the City of Pittsburg was prepared following applicable standards developed by the California Department of Water Resources and represents the City's effort to meet applicable standards under the Water Planning Act.
- Section 2. The Plan was developed by Akel Engineering Group, Inc., and City staff in coordination with water supply information provided by Contra Costa Water District and information provided by other applicable sources.
- Section 3. The Plan is approved, and the Public Works Director/City Engineer is authorized and directed to submit the Plan to the California Department of Water Resources, the California State Library and Contra Costa County within 30 days of adoption.

PASSED AND ADOPTED by the City Council of the City of PITTSBURG at a regular meeting on the 20th day of September 2021, by the following vote:

|            |   |
|------------|---|
| AYES:      | Banales, Killings, Scales-Preston, White, Craft |
| NOES:      | None  |
| ABSTAINED: | None  |
| ABSENT:    | None  |

  
Merl Craft, Mayor

ATTEST:

  
Alice E. Evenson, City Clerk

**CITY OF PITTSBURG  
NOTICE OF PUBLIC HEARING**

**THE PITTSBURG CITY COUNCIL WILL HOLD AN  
ONLINE PUBLIC HEARING ON:**

**Date:** August 16, 2021

**Time:** 7:00 P.M.

**Place:** City Council Chamber at City Hall, 65  
Civic Avenue, Pittsburgh, CA

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For further details on this matter, contact Richard Abono, Public Works Director City Engineer, 65 Civic Avenue, Pittsburg, CA (925) 252-4930.

Dated: July 28, 2021

Alice E. Evenson, City Clerk  
ECT# 6596352 Aug. 2, 2021

**CITY OF PITTSBURG  
NOTICE OF PUBLIC HEARING**

**THE PITTSBURG CITY COUNCIL WILL HOLD AN  
ONLINE PUBLIC HEARING ON:**

**Date:** SEPTEMBER 20, 2021

**Time:** 7:00 P.M.

**Place:** City Council Chamber at City Hall, 65  
Civic Avenue, Pittsburg, CA

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Dated: August 25, 2021

Alice E. Evenson, City Clerk