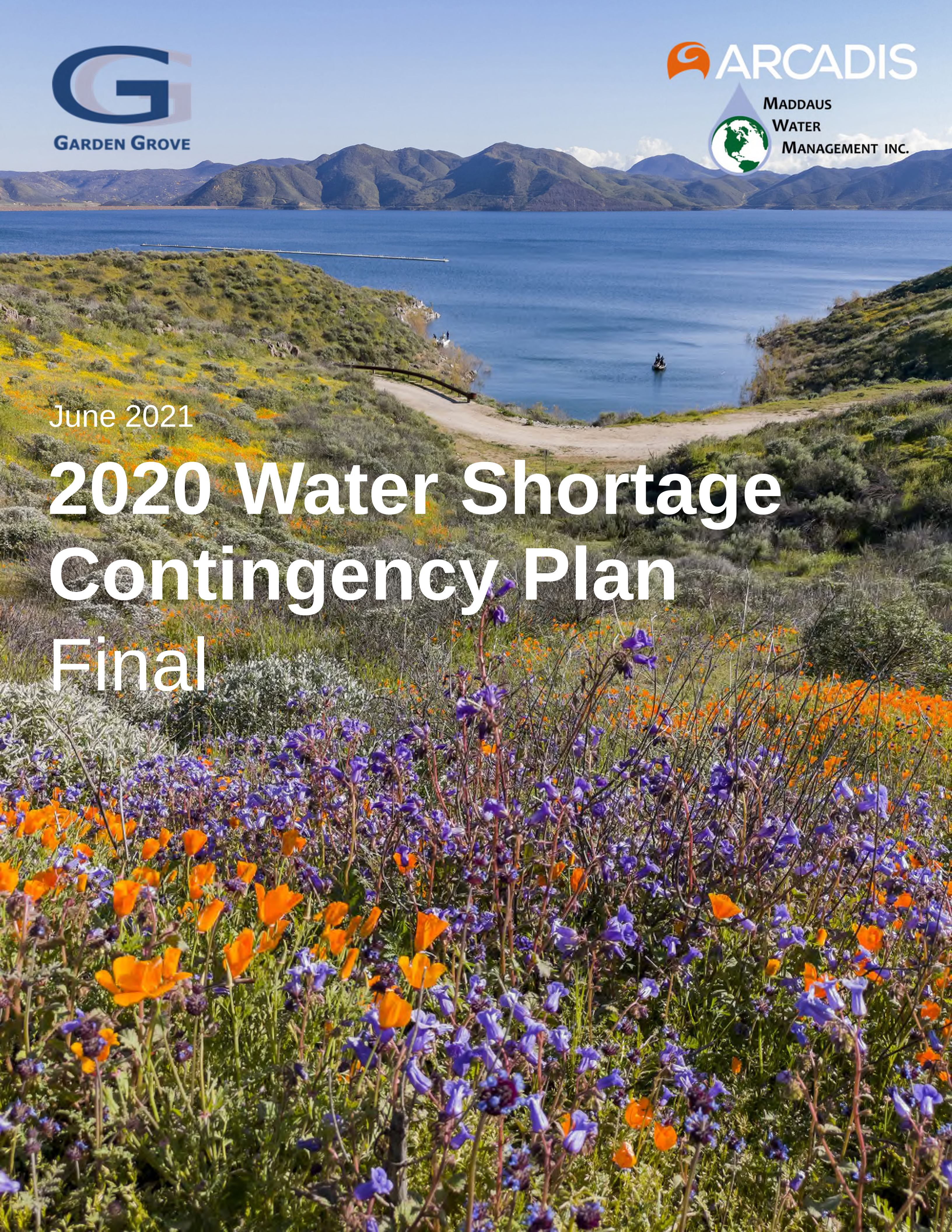

GARDEN GROVE

ARCADIS

MADDAUS WATER MANAGEMENT INC.

June 2021

2020 Water Shortage Contingency Plan

Final

2020 Water Shortage Contingency Plan

June 2021

Prepared By:
Arcadis U.S., Inc.
320 Commerce, Suite 200
Irvine
California 92602
Phone: 714 730 9052
https://www.arcadis.com

Prepared For:
City of Garden Grove
13802 Newhope Street
Garden Grove
California 92843
Phone: 888 867 2992
https://ggcity.org/

Maddaus Water Management, Inc.
Danville, California 94526
Sacramento, California 95816
www.maddauswater.com

Our Ref:
30055240

Lisa Maddaus, P.E.
Technical Lead

Sarina Sriboonlue, P.E.
Project Manager

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Acronyms and Abbreviations

%	Percent
AF	Acre-Feet
Annual Assessment	Annual Water Supply and Demand Assessment
BPP	Basin Production Percentage
City	City of Garden Grove
CRA	Colorado River Aqueduct
DDW	Division of Drinking Water
DRA	Drought Risk Assessment
DVL	Diamond Valley Lake
DWR	California Department of Water Resources
EAP	Emergency Operations Center Actions Plan
EOC	Emergency Operation Center
EOP	Emergency Operations Plan
FY	Fiscal Year
GIS	Geographic Information System
GSP	Groundwater Sustainability Plan
HMP	Hazard Mitigation Plan
IAWP	Interim Agricultural Water Program
IRP	Integrated Water Resource Plan
M&I	Municipal and Industrial
MCL	Maximum Contaminant Level
MET	Metropolitan Water District of Southern California
Metropolitan Act	Metropolitan Water District Act
MWDOC	Municipal Water District of Orange County
NIMS	National Incident Management System
OCWD	Orange County Water District
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfanate
Producer	Groundwater Producer
RL	Response Level
SCADA	Supervisory Control and Data Acquisition
SEMS	California Standardized Emergency Management System
Supplier	Urban Water Supplier
SWP	State Water Project
SWRCB	California State Water Resources Control Board
UWMP	Urban Water Management Plan
Water Code	California Water Code
WEROC	Water Emergency Response Organization of Orange County

WSAP	Water Supply Allocation Plan
WSCP	Water Shortage Contingency Plan
WSDM	Water Surplus and Drought Management Plan

1 INTRODUCTION AND WSCP OVERVIEW

The Water Shortage Contingency Plan (WSCP) is a strategic planning document designed to prepare for and respond to water shortages. This WSCP complies with California Water Code (Water Code) Section 10632, which requires that every urban water supplier (Supplier) shall prepare and adopt a WSCP as part of its Urban Water Management Plan (UWMP). This level of detailed planning and preparation is intended to help maintain reliable supplies and reduce the impacts of supply interruptions.

The WSCP is the City of Garden Grove (City)'s operating manual that is used to prevent catastrophic service disruptions through proactive, rather than reactive, management. A water shortage, when water supply available is insufficient to meet the normally expected customer water use at a given point in time, may occur due to a number of reasons, such as drought, climate change, and catastrophic events. This plan provides a structured guide for the City to deal with water shortages, incorporating prescriptive information and standardized action levels, along with implementation actions in the event of a catastrophic supply interruption. This way, if and when shortage conditions arise, the City's governing body, its staff, and the public can easily identify and efficiently implement pre-determined steps to manage a water shortage. A well-structured WSCP allows real-time water supply availability assessment and structured steps designed to respond to actual conditions, to allow for efficient management of any shortage with predictability and accountability.

The WSCP also describes the City's procedures for conducting an Annual Water Supply and Demand Assessment (Annual Assessment) that is required by Water Code Section 10632.1 and is to be submitted to the California Department of Water Resources (DWR) on or before July 1 of each year, or within 14 days of receiving final allocations from the State Water Project (SWP), whichever is later. The City's 2020 WSCP is included as an appendix to its 2020 UWMP which will be submitted to DWR by July 1, 2021. However, this WSCP is created separately from City's 2020 UWMP and can be amended, as needed, without amending the UWMP. Furthermore, the Water Code does not prohibit a Supplier from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP.

1.1 Water Shortage Contingency Plan Requirements and Organization

The WSCP provides the steps and water shortage response actions to be taken in times of water shortage conditions. The WSCP has prescriptive elements, such as an analysis of water supply reliability; the water shortage response actions for each of the six standard water shortage levels that correspond to water shortage percentages ranging from 10% to greater than 50%; an estimate of potential to close supply gap for each measure; protocols and procedures to communicate identified actions for any current or predicted water shortage conditions; procedures for an Annual Assessment; monitoring and reporting requirements to determine customer compliance; and reevaluation and improvement procedures for evaluating the WSCP.

This WSCP is organized into three main sections, with Section 3 aligned with Water Code Section 16032 requirements.

Section 1 Introduction and WSCP Overview gives an overview of the WSCP fundamentals.

Section 2 Background provides a background on the City's water service area.

Section 3 Water Shortage Contingency Preparedness and Response Planning

Section 3.1 Water Supply Reliability Analysis provides a summary of the water supply analysis and water reliability findings from the 2020 UWMP.

Section 3.2 Annual Water Supply and Demand Assessment Procedures provide a description of procedures to conduct and approve the Annual Assessment.

Section 3.3 Six Standard Water Shortage Levels explains the WSCP's six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, 50, and more than 50% shortages.

Section 3.4 Shortage Response Actions describes the WSCP's shortage response actions that align with the defined shortage levels.

Section 3.5 Communication Protocols addresses communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding any current or predicted shortages and any resulting shortage response actions.

Section 3.6 Compliance and Enforcement describes customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions.

Section 3.7 Legal Authorities is a description of the legal authorities that enable the City to implement and enforce its shortage response actions.

Section 3.8 Financial Consequences of the WSCP provides a description of the financial consequences of and responses for drought conditions.

Section 3.9 Monitoring and Reporting describes 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**.**

Section 3.10 WSCP Refinement Procedures addresses reevaluation and improvement procedures for monitoring and evaluating the functionality of the WSCP.

Section 3.11 Special Water Feature Distinction is a required definition for inclusion in a WSCP per the Water Code.

Section 3.12 Plan Adoption, Submittal, and Implementation provides a record of the process the City followed to adopt and implement its WSCP.

1.2 Integration with Other Planning Efforts

As a retail water supplier in Orange County, the City considered other key entities in the development of this WSCP, including the Municipal Water District of Orange County ([MWDOC] (regional wholesale supplier)), the Metropolitan Water District of Southern California ([MET] (regional wholesaler for Southern California and the direct supplier of imported water to MWDOC)), and Orange County Water District ([OCWD] (Orange County Groundwater Basin [OC Basin] manager and provider of recycled water in North Orange County). As a MWDOC member agency, the City also developed this WSCP with input from several coordination efforts led by MWDOC.

Some of the key planning and reporting documents that were used to develop this WSCP are:

- **MWDOC's 2020 UWMP** provides the basis for the projections of the imported supply availability over the next 25 years for the City's service area.
- **MWDOC's 2020 WSCP** provides a water supply availability assessment and structured steps designed to respond to actual conditions that will help maintain reliable supplies and reduce the impacts of supply interruptions.
- **2021 Orange County Water Demand Forecast for MWDOC and OCWD Technical Memorandum (Demand Forecast TM)** provides the basis for water demand projections for MWDOC's member agencies as well as Anaheim, Fullerton, and Santa Ana.
- **MET's 2020 Integrated Water Resources Plan (IRP)** is a long-term planning document to ensure water supply availability in Southern California and provides a basis for water supply reliability in Orange County.
- **MET's 2020 UWMP** was developed as a part of the 2020 IRP planning process and was used by MWDOC as another basis for the projections of supply capability of the imported water received from MET.
- **MET's 2020 WSCP** provides a water supply assessment and guide for MET's intended actions during water shortage conditions.
- **OCWD's 2019-20 Engineer's Report** provides information on the groundwater conditions and basin utilization of the OC Basin.
- **OCWD's 2017 Basin 8-1 Alternative** is an alternative to the Groundwater Sustainability Plan (GSP) for the OC Basin and provides significant information related to sustainable management of the basin in the past and hydrogeology of the basin, including groundwater quality and basin characteristics.
- **2020 Local Hazard Mitigation Plan (HMP)** provides the basis for the seismic risk analysis of the water system facilities.
- **Orange County Local Agency Formation Commission's 2020 Municipal Service Review for MWDOC Report** provides a comprehensive service review of the municipal services provided by MWDOC.
- **Water Master Plan and Sewer Master Plan** of the City provide information on water infrastructure planning projects and plans to address any required water system improvements.
- **Groundwater Management Plans** provide the groundwater sustainability goals for the basins in the MWDOC's service area and the programs, actions, and strategies activities that support those goals.

2 BACKGROUND INFORMATION

Governed by a seven-member City Council, the City established a Municipal Water Department in 1958, which is now recognized as the Water Services Division of the Public Works Department and is the principal water retailer within the City boundaries. The Water Services Division is the principal water retailer within the City boundaries and also provides water service for two small neighborhoods outside the City. The Water Services Division is responsible for operating and maintaining wells, reservoirs, imported water connections, distribution pipelines, fire hydrants, water meters and related infrastructure, and for meter reading, billing and accounting services. The Water Services Division also conducts comprehensive water quality testing and monitoring programs and develops long range operational and engineering plans designed to prepare for future needs and contingencies.

2.1 City Service Area

The City covers 18.2 square miles, in north central Orange County, located south of Anaheim and north of Santa Ana and is about 25 miles south of Los Angeles and 9 miles inland from the Pacific Ocean. The water service area is generally contagious with City limits except for the small areas allocated within the City of Stanton that are served by the City's water system. The City operates 13 groundwater wells, 8 storage and distribution reservoirs at five sites with a combined capacity of 53 million-gallon and manages 436-mile water mains system with 34,080 service connections. The City's water service area is shown on Figure 2-1.

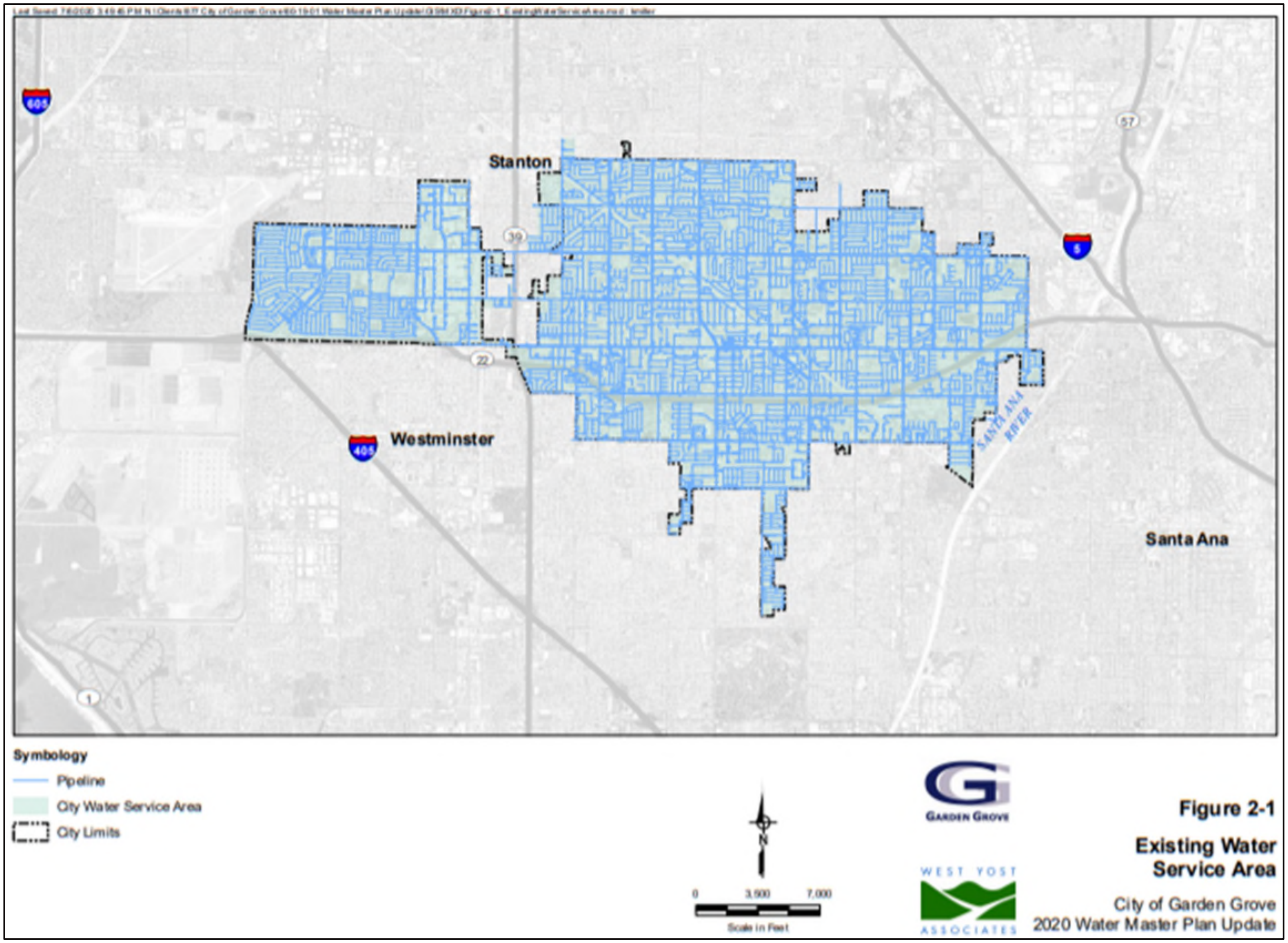

Figure 2-1: City Service Area

2.2 Relationship to Wholesalers

The Metropolitan Water District of Southern California: MET is the largest water wholesaler for domestic and municipal uses in California, serving approximately 19 million customers. MET wholesales imported water supplies to 26 member cities and water districts in six Southern California counties. Its service area covers the Southern California coastal plain, extending approximately 200 miles along the Pacific Ocean from the City of Oxnard in the north to the international boundary with Mexico in the south. This encompasses 5,200 square miles and includes portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Approximately 85% of the population from the aforementioned counties reside within MET's boundaries.

MET is governed by a Board of Directors comprised of 38 appointed individuals with a minimum of one representative from each of MET’s 26 member agencies. The allocation of directors and voting rights are determined by each agency’s assessed valuation. Each member of the Board shall be entitled to cast one vote for each ten million dollars ($10,000,000) of assessed valuation of property taxable for district purposes, in accordance with Section 55 of the Metropolitan Water District Act (Metropolitan Act). Directors can be appointed through the chief executive officer of the member agency or by a majority vote of the governing board of the agency. Directors are not compensated by MET for their service.

MET is responsible for importing water into the region through its operation of the Colorado River Aqueduct (CRA) and its contract with the State of California for SWP supplies. Member agencies receive water from MET through various delivery points and pay for service through a rate structure made up of volumetric rates, capacity charges and readiness to serve charges. Member agencies provide estimates of imported water demand to MET annually in April regarding the amount of water they anticipate they will need to meet their demands for the next five years.

The Municipal Water District of Orange County: In Orange County, MWDOC and the cities of Anaheim, Fullerton, and Santa Ana are MET member agencies that purchase imported water directly from MET. Furthermore, MWDOC purchases both treated potable and untreated water from MET to supplement its retail agencies’ local supplies.

The City is one of MWDOC’s 28 member agencies receiving imported water from MWDOC. The City’s location within MWDOC’s service area is shown on Figure 2-2.

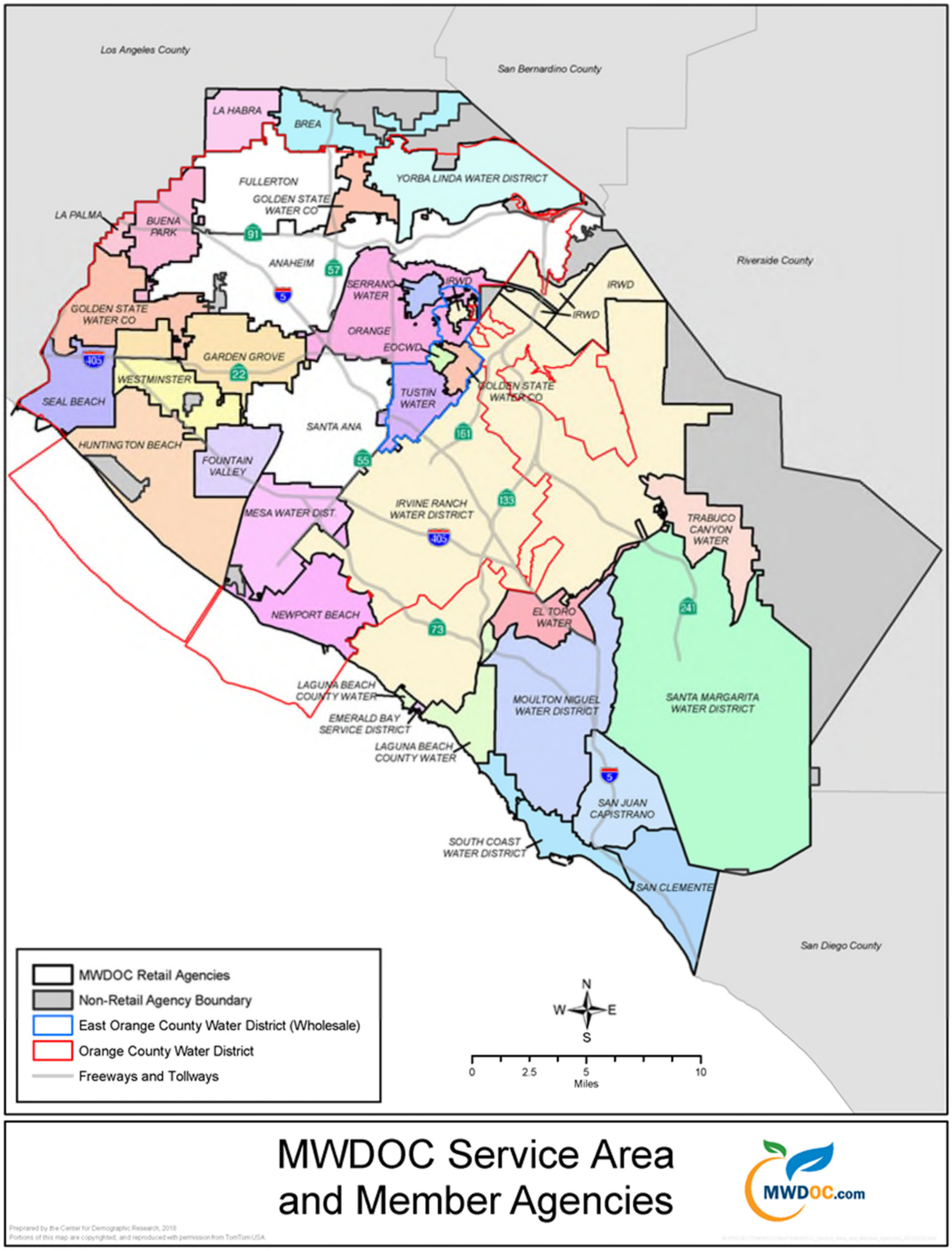

Figure *2-2*: Regional Location of the City and Other MWDOC Member Agencies

2.3 Relationship with Wholesaler Water Shortage Planning

The WSCP is designed to be consistent with MET's Water Shortage and Demand Management (WSDM) Plan, MWDOC's Water Supply Allocation Plan (WSAP), and other emergency planning efforts as described below. MWDOC's WSAP is integral to the WSCP's shortage response strategy in the event that MET or MWDOC determines that supply augmentation (including storage) and lesser demand reduction measures would not be sufficient to meet a projected shortage levels needed to meet demands.

2.3.1 MET Water Surplus and Drought Management Plan

MET evaluates the level of supplies available and existing levels of water in storage to determine the appropriate management stage annually. Each stage is associated with specific resource management actions to avoid extreme shortages to the extent possible and minimize adverse impacts to retail customers should an extreme shortage occur. The sequencing outlined in the WSDM Plan reflects anticipated responses towards MET's existing and expected resource mix.

Surplus stages occur when net annual deliveries can be made to water storage programs. Under the WSDM Plan, there are four surplus management stages that provides a framework for actions to take for surplus supplies. Deliveries in Diamond Valley Lake (DVL) and in SWP terminal reservoirs continue through each surplus stage provided there is available storage capacity. Withdrawals from DVL for regulatory purposes or to meet seasonal demands may occur in any stage.

The WSDM Plan distinguishes between shortages, severe shortages, and extreme shortages. The differences between each term are listed below.

- **Shortage**: MET can meet full-service demands and partially meet or fully meet interruptible demands using stored water or water transfers as necessary (Stages 1-3).
- **Severe Shortage**: MET can meet full-service demands only by making withdrawals from storage, calling on its water transfers, and possibly calling for extraordinary conservation and reducing deliveries under the Interim Agricultural Water Program (IAWP) (Stages 4-5).
- **Extreme Shortage**: MET must allocate available imported supplies to full-service customers (Stage 6).

There are six shortage management stages to guide resource management activities. These stages are defined by shortfalls in imported supply and water balances in MET's storage programs. When MET must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Figure 2-3 gives a summary of actions under each surplus and shortage stages when an allocation plan is necessary to enforce mandatory cutbacks. The goal of the WSDM plan is to avoid Stage 6, an extreme shortage (MET, 1999).

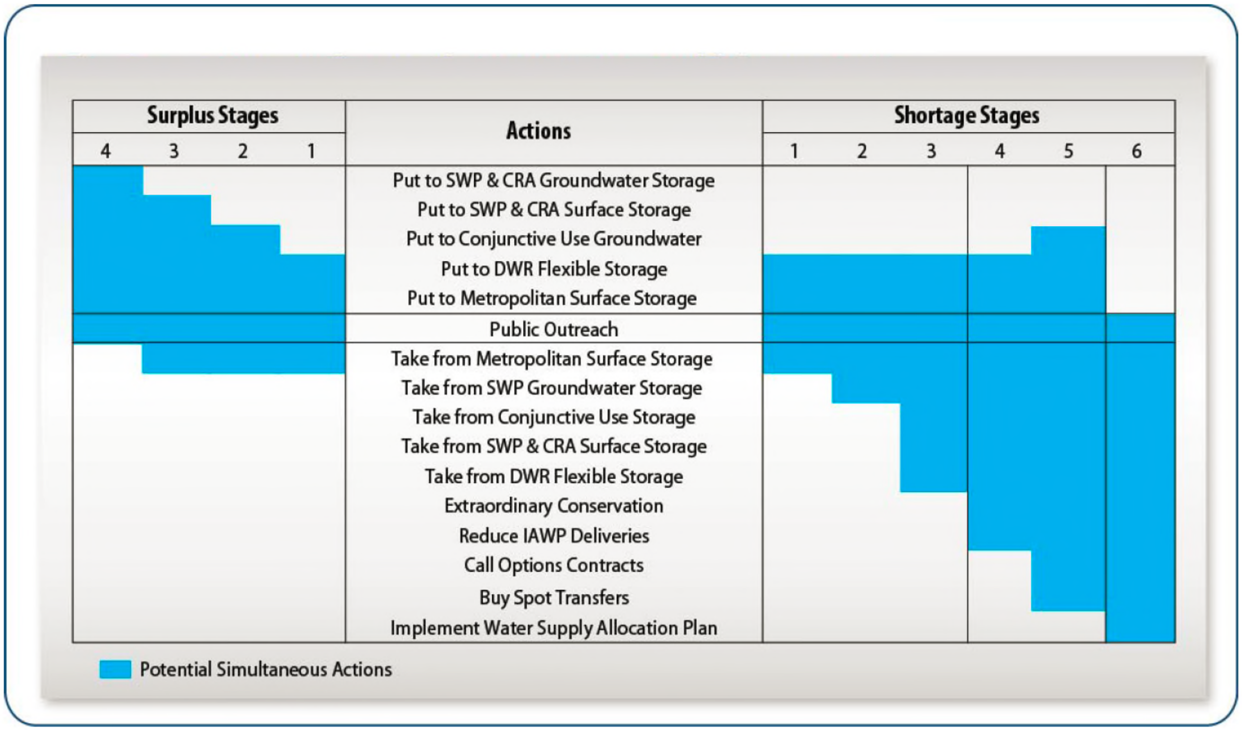

Figure 2-3: Resource Stages, Anticipated Actions, and Supply Declarations
Source: MET, 1999.

MET's Board of Directors adopted a Water Supply Condition Framework in June 2008 in order to communicate the urgency of the region's water supply situation and the need for further water conservation practices. The framework has four conditions, each calling increasing levels of conservation. Descriptions for each of the four conditions are listed below:

- Baseline Water Use Efficiency: Ongoing conservation, outreach, and recycling programs to achieve permanent reductions in water use and build storage reserves.
- Condition 1 Water Supply Watch: Local agency voluntary dry-year conservation measures and use of regional storage reserves.
- Condition 2 Water Supply Alert: Regional call for cities, counties, member agencies, and retail water agencies to implement extraordinary conservation through drought ordinances and other measures to mitigate use of storage reserves.
- Condition 3 Water Supply Allocation: Implement MET's WSAP.

As noted in Condition 3, should supplies become limited to the point where imported water demands cannot be met, MET will allocate water through the WSAP (MET, 2021a).

2.3.2 MET Water Supply Allocation Plan

MET's imported supplies have been impacted by a number of water supply challenges as noted earlier. In case of extreme water shortage within the MET service area is the implementation of its WSAP.

MET's Board of Directors originally adopted the WSAP in February 2008 to fairly distribute a limited amount of water supply and applies it through a detailed methodology to reflect a range of local conditions and needs of the region's retail water consumers (MET, 2021a).

The WSAP includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering an allocation. MET's WSAP is the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and is part of MET's 2020 UWMP.

MET's WSAP was developed in consideration of the principles and guidelines in MET's 1999 WSDM Plan with the core objective of creating an equitable "needs-based allocation." The WSAP's formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of MET supplies of greater than 50% cutbacks. The formula takes into account a number of factors, such as the impact on retail customers, growth in population, changes in supply conditions, investments in local resources, demand hardening aspects of water conservation savings, recycled water, extraordinary storage and transfer actions, and groundwater imported water needs.

The formula is calculated in three steps: 1) based period calculations, 2) allocation year calculations, and 3) supply allocation calculations. The first two steps involve standard computations, while the third step contains specific methodology developed for the WSAP.

Step 1: Base Period Calculations – The first step in calculating a member agency's water supply allocation is to estimate their water supply and demand using a historical based period with established water supply and delivery data. The base period for each of the different categories of supply and demand is calculated using data from the two most recent non-shortage years.

Step 2: Allocation Year Calculations – The next step in calculating the member agency's water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population growth and changes in local supplies.

Step 3: Supply Allocation Calculations – The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2.

In order to implement the WSAP, MET's Board of Directors makes a determination on the level of the regional shortage, based on specific criteria, typically in April. The criteria used by MET includes current levels of storage, estimated water supplies conditions, and projected imported water demands. The allocations, if deemed necessary, go into effect in July of the same year and remain in effect for a 12-month period. The schedule is made at the discretion of the Board of Directors (MET, 2021b).

As demonstrated by the findings in MET's 2020 UWMP, both the Water Reliability Assessment and the Drought Risk Assessment (DRA) demonstrate that MET is able to mitigate the challenges posed by hydrologic variability, potential climate change, and regulatory risk on its imported supply sources through the significant storage capabilities it has developed over the last two decades, both dry-year and emergency storage (MET, 2021a).

Although MET's 2020 UWMP forecasts that MET will be able to meet projected imported demands throughout the projected period from 2025 to 2045, uncertainty in supply conditions can result in MET needing to implement its WSAP to preserve dry-year storage and curtail demands (MET, 2021b).

2.3.3 MWDOC Water Supply Allocation Plan

To prepare for the potential allocation of imported water supplies from MET, MWDOC worked collaboratively with its 28 retail agencies to develop its own WSAP that was adopted in January 2009 and amended in 2016. The MWDOC WSAP outlines how MWDOC will determine and implement each of its retail agency's allocation during a time of shortage.

The MWDOC WSAP uses a similar method and approach, when reasonable, as that of the MET's WSAP. However, MWDOC's plan remains flexible to use an alternative approach when MET's method produces a significant unintended result for the member agencies. The MWDOC WSAP model follows five basic steps to determine a retail agency's imported supply allocation.

Step 1: Determine Baseline Information – The first step in calculating a water supply allocation is to estimate water supply and demand using a historical based period with established water supply and delivery data. The base period for each of the different categories of demand and supply is calculated using data from the last two non-shortage years.

Step 2: Establish Allocation Year Information – In this step, the model adjusts for each retail agency's water need in the allocation year. This is done by adjusting the base period estimates for increased retail water demand based on population growth and changes in local supplies.

Step 3: Calculate Initial Minimum Allocation Based on MET's Declared Shortage Level – This step sets the initial water supply allocation for each retail agency. After a regional shortage level is established, MWDOC will calculate the initial allocation as a percentage of adjusted Base Period Imported water needs within the model for each retail agency.

Step 4: Apply Allocation Adjustments and Credits in the Areas of Retail Impacts and Conservation – In this step, the model assigns additional water to address disparate impacts at the retail level caused by an across-the-board cut of imported supplies. It also applies a conservation credit given to those agencies that have achieved additional water savings at the retail level as a result of successful implementation of water conservation devices, programs and rate structures.

Step 5: Sum Total Allocations and Determine Retail Reliability – This is the final step in calculating a retail agency's total allocation for imported supplies. The model sums an agency's total imported allocation with all of the adjustments and credits and then calculates each agency's retail reliability compared to its Allocation Year Retail Demand.

The MWDOC WSAP includes additional measures for plan implementation, including the following (MWDOC, 2016):

- **Appeal Process –** An appeal process to provide retail agencies the opportunity to request a change to their allocation based on new or corrected information. MWDOC anticipates that under most circumstances, a retail agency's appeal will be the basis for an appeal to MET by MWDOC.
- **Melded Allocation Surcharge Structure –** At the end of the allocation year, MWDOC would only charge an allocation surcharge to each retail agency that exceeded their allocation if MWDOC exceeds its total allocation and is required to pay a surcharge to MET. MET enforces allocations to retail agencies through an allocation surcharge to a retail agency that exceeds its total annual allocation at the end of the 12-month allocation period. MWDOC's surcharge would be assessed

according to the retail agency's prorated share (acre-feet [AF] over usage) of MWDOC amount with MET. Surcharge funds collected by MET will be invested in its Water Management Fund, which is used to in part to fund expenditures in dry-year conservation and local resource development.

- **Tracking and Reporting Water Usage –** MWDOC will provide each retail agency with water use monthly reports that will compare each retail agency's current cumulative retail usage to their allocation baseline. MWDOC will also provide quarterly reports on its cumulative retail usage versus its allocation baseline.
- **Timeline and Option to Revisit the Plan –** The allocation period will cover 12 consecutive months and the Regional Shortage Level will be set for the entire allocation period. MWDOC only anticipates calling for allocation when MET declares a shortage; and no later than 30 days from MET's declaration will MWDOC announce allocation to its retail agencies.

3 WATER SHORTAGE CONTINGENCY PREPAREDNESS AND RESPONSE PLANNING

The City's WSCP is a detailed guide of how the City intends to act in the case of an actual water shortage condition. The WSCP anticipates a water supply shortage and provides pre-planned guidance for managing and mitigating a shortage. Regardless of the reason for the shortage, the WSCP is based on adequate details of demand reduction and supply augmentation measures that are structured to match varying degrees of shortage will ensure the relevant stakeholders understand what to expect during a water shortage situation.

3.1 Water Supply Reliability Analysis

Per Water Code Section 10632 (a)(1), the WSCP shall provide an analysis of water supply reliability conducted pursuant to Water Code Section 10635, and the key issues that may create a shortage condition when looking at the City's water asset portfolio.

Understanding water supply reliability, factors that could contribute to water supply constraints, availability of alternative supplies, and what effect these have on meeting customer demands provides the City with a solid basis on which to develop appropriate and feasible response actions in the event of a water shortage. In the 2020 UWMP, the City conducted a Water Reliability Assessment to compare the total water supply sources available to the water supplier with long-term projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years (Garden Grove, 2021).

The City also conducted a DRA to evaluate a drought period that lasts five consecutive water years starting from the year following when the assessment is conducted. An analysis of both assessments determined that the City is capable of meeting all customers' demands from 2021 through 2045 for a normal year, a single dry year, and a drought lasting five consecutive years with significant imported water supplemental dedicated drought supplies from MWDOC/MET and ongoing conversation program efforts. The City also has added reliability through receiving the majority of its water supply from groundwater supplies from the OC Basin and supplemental imported supplies from MWDOC/MET. As a result, there is no projected shortage condition due to drought that will trigger customer demand reduction actions until MWDOC notifies the City of insufficient imported supplies. More information is available in the City's 2020 UWMP Section 6 and 7 (Garden Grove, 2021).

3.2 Annual Water Supply and Demand Assessment Procedures

Per Water Code Section 10632.1, the City will conduct an Annual Assessment pursuant to subdivision (a) of Section 10632 and by July 1st of each year, beginning in 2022, submit an Annual Assessment with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the Supplier's WSCP.

The City must include in its WSCP the procedures used for conducting an Annual Assessment. The Annual Assessment is a determination of the near-term outlook for supplies and demands and how a perceived shortage may relate to WSCP shortage level response actions in the current calendar year. This determination is based on information available to the City at the time of the analysis. Starting in 2022, the Annual Assessment will be due by July 1 of every year.

This section documents the decision-making process required for formal approval of the City's Annual Assessment determination of water supply reliability each year and the key data inputs and the methodologies used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry.

3.2.1 Decision-Making Process

The following decision-making process describes the functional steps that the City will take to formally approve the Annual Assessment determination of water supply reliability each year.

3.2.1.1 City Steps to Approve the Annual Assessment Determination

The Annual Assessment will be predicated on the OCWD Basin Production Percentage (BPP) and on MWDOC's Annual Assessment outcomes.

The City receives groundwater from OCWD. The OC Basin is not adjudicated and as such, pumping from the OC Basin is managed through a process that uses financial incentives to encourage groundwater producers (Producers) to pump a sustainable amount of water. The framework for the financial incentives is based on establishing the BPP, the percentage of each Producer's total water supply that comes from groundwater pumped from the OC Basin. The BPP is set uniformly for all Producers by OCWD on an annual basis in by OCWD Board of Directors. Based on the projected water demand and water modeled water supply, over the long-term, OCWD anticipates sustainably supporting a BPP of 85%; however, volumes of groundwater and imported water may vary depending on OCWD's actual BPP projections. A supply reduction that may result from the annual BPP projection will be included in the Annual Assessment.

While the City's primary source of water is OCWD groundwater, any remaining source to meet retail demands comes from the purchase of imported water from MWDOC. MWDOC surveys its member agencies annually for anticipated water demands and supplies for the upcoming year. MWDOC utilizes this information to plan for the anticipated imported water supplies for the MWDOC service area. This information is then shared and coordinated with MET and is incorporated into their analysis of their service area's annual imported water needs. Based on the year's supply conditions and WSDM actions, MET will present a completed Annual Assessment for its member agencies' review from which they will then seek Board approval in April of each year. Additionally, MET expects that any triggers or specific shortage response actions that result from the Annual Assessment would be approved by their Board at that time. Based upon MET's Assessment and taking into consideration information provided to MWDOC through the annual survey, MWDOC will provide an anticipated estimate of imported supplies for the City to incorporate into the Annual Assessment.

The Water Manager, or designee, will be responsible to approve the Annual Assessment and formally submit to DWR prior to the July 1 deadline.

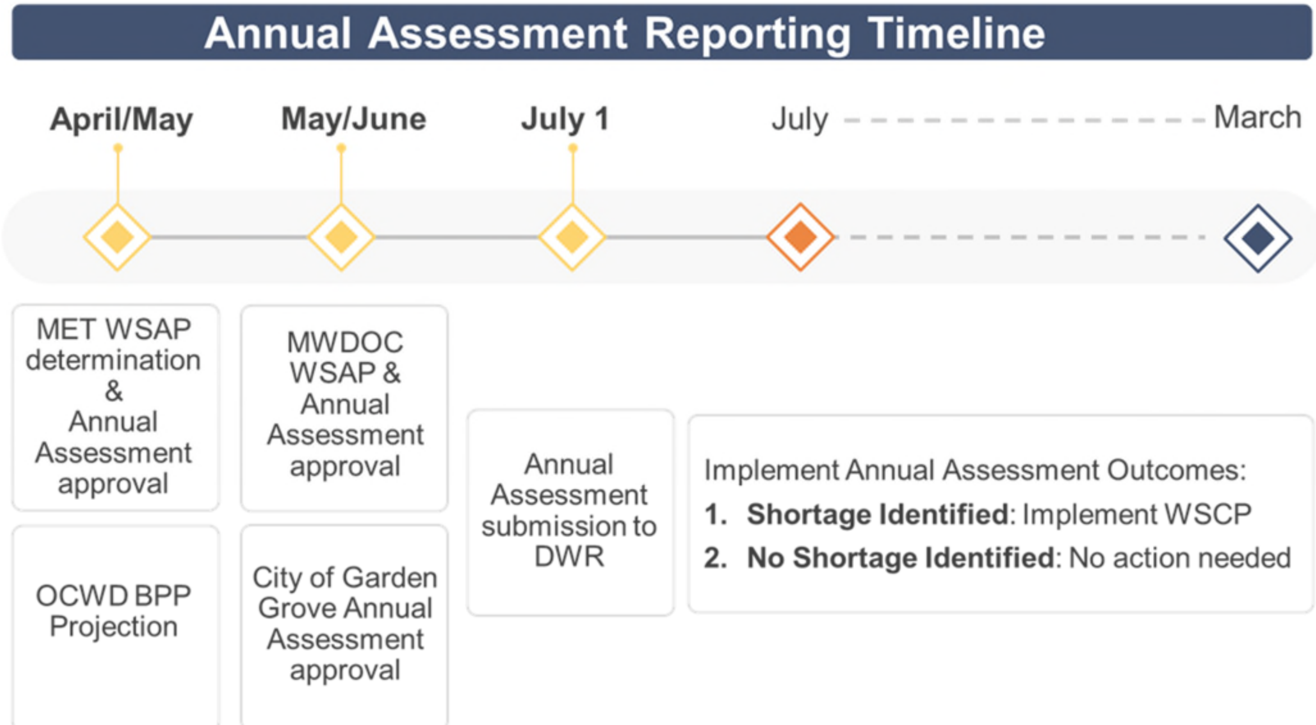

Figure 3-1: Annual Assessment Reporting Timeline

3.2.2 Data and Methodologies

The following paragraphs document the key data inputs and methodologies that are used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry.

3.2.2.1 Assessment Methodology

The City will evaluate water supply reliability for the current year and one dry year for the purpose of the Annual Assessment. The Annual Assessment determination will be based on considerations of unconstrained water demand, local water supplies, MWDOC imported water supplies, planned water use, and infrastructure considerations. The balance between projected in-service area supplies, coupled with MWDOC imported supplies, and anticipated unconstrained demand will be used to determine what, if any, shortage level is expected under the WSCP framework as presented in Figure 3-2. The WSCP's standard shortage levels are defined in terms of shortage percentages. Shortage percentages will be calculated by dividing the difference between water supplies and unconstrained demand by total unconstrained demand. This calculation will be performed separately for anticipated current year conditions and for assumed dry year conditions.

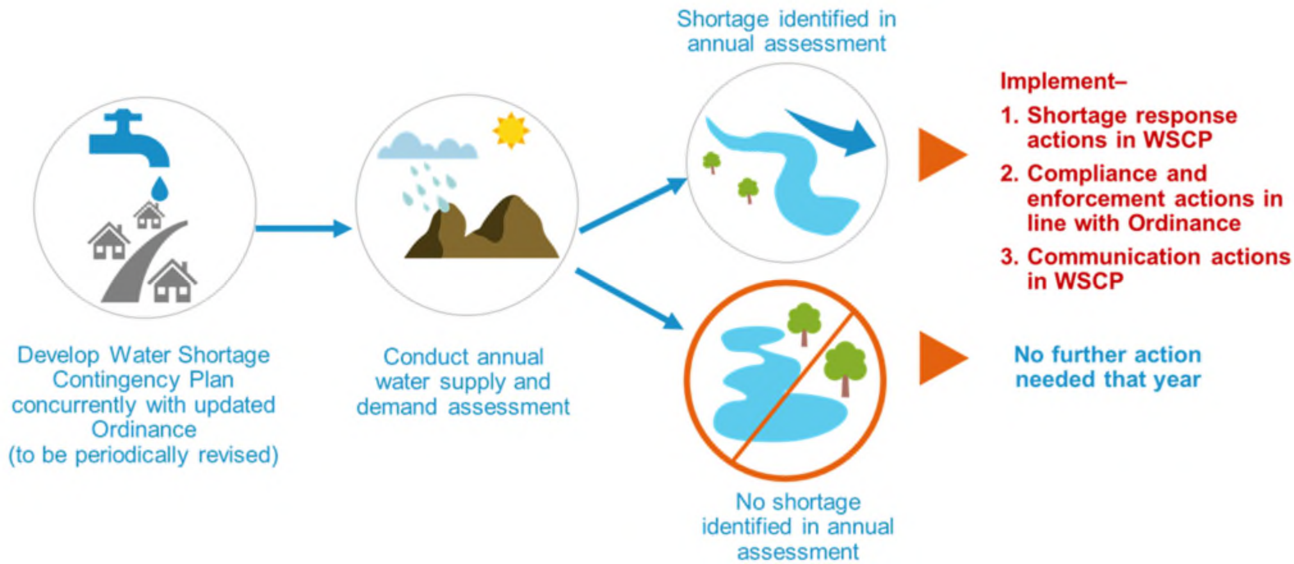

Figure 3-2: Water Shortage Contingency Plan Annual Assessment Framework

3.2.2.2 Locally Applicable Evaluation Criteria

Within Orange County, there are no significant local applicable criteria that directly affect reliability. Through the years, the water agencies in Orange County have made tremendous efforts to integrate their systems to provide flexibility to interchange with different sources of supplies. There are emergency agreements in place to ensure all parts of the County have an adequate supply of water. In the northern part of the County, agencies have the ability to meet a majority of their demands through groundwater with very little limitation, except for the OCWD BPP.

The City will also continue to monitor emerging supply and demand conditions related to supplemental imported water from MWDOC/MET and take appropriate actions consistent with the flexibility and adaptiveness inherent to the WSCP. The City's Annual Assessment was based on the City's service area, water sources, water supply reliability, and water use as described in Water Code Section 10631, including available data from state, regional, or local agency population, land use development, and climate change projections within the service area of the City. Some conditions that affect MWDOC's wholesale supply and demand, such as groundwater replenishment, surface water and local supply production, can differ significantly from earlier projections throughout the year.

If a major earthquake on the San Andreas Fault occurs, it has the potential to damage all three key regional water aqueducts and disrupt imported supplies for up to six months. The region would likely impose a water use reduction ranging from 10-25% until the system is repaired. However, MET has taken proactive steps to handle such disruption, such as constructing DVL, which mitigates potential impacts. DVL, along with other local reservoirs, can store a six to twelve-month supply of emergency water (MET, 2021b).

3.2.2.3 Water Supply

As detailed in the City's 2020 UWMP, the City meets all of its customers' demands with a combination of local groundwater from the OC Basin and imported water from MWDOC/MET. The City's main source of water supply is groundwater, with imported water from MET through MWDOC making up the rest of the City's water supply portfolio. In fiscal year (FY) 2019-20, the City relied on 50% groundwater and 50% imported water. It is projected that by 2045, the water supply portfolio will change to approximately 85% groundwater and 15% imported water, reflecting the increase in OCWD's BPP to 85% beginning in 2025 (Garden Grove, 2021).

3.2.2.4 Unconstrained Customer Demand

The WSCP and Annual Assessment define unconstrained demand as expected water use prior to any projected shortage response actions that may be taken under the WSCP. Unconstrained demand is distinguished from observed demand, which may be constrained by preceding, ongoing, or future actions, such as emergency supply allocations during a multi-year drought. WSCP shortage response actions to constrain demand are inherently extraordinary; routine activities such as ongoing conservation programs and regular operational adjustments are not considered as constraints on demands.

The City's DRA reveals that its supply capabilities are expected to balance anticipated total water use and supply, assuming a five-year consecutive drought from FY 2020-21 through FY 2024-25 (Garden Grove, 2021). Water demands in a five-year consecutive drought are calculated as a 6% increase in water demand above a normal year for each year of the drought, without compounding increases (CDM Smith, 2021).

3.2.2.5 Planned Water Use for Current Year Considering Dry Subsequent Year

Water Code Section 10632(a)(2)(B)(ii) requires the Annual Assessment to determine "current year available supply, considering hydrological and regulatory conditions in the current year and one dry year."

The Annual Assessment will include two separate estimates of City's annual water supply and unconstrained demand using: 1) current year conditions, and 2) assumed dry year conditions. Accordingly, the Annual Assessment's shortage analysis will present separate sets of findings for the current year and dry year scenarios. The Water Code does not specify the characteristics of a dry year, allowing discretion to the Supplier. The City will use its discretion to refine and update its assumptions for a dry year scenarios in each Annual Assessment as information becomes available and in accordance with best management practices.

Supply and demand analyses for the single-dry year case was based on conditions affecting the SWP as this supply availability fluctuates the most among MET's, and therefore MWDOC and the City's, sources of supply. FY 2013-14 was the single driest year for SWP supplies with an allocation of 5% to Municipal and Industrial (M&I) uses. Unique to this year, the 5% SWP allocation was later reduced to 0%, before ending up at its final allocation of 5%, highlight the stressed water supplies for the year. Furthermore, on January 17, 2014 Governor Brown declared the drought State of Emergency citing 2014 as the driest year in California history. Additionally, within MWDOC's service area, precipitation for FY 2013-14 was the second lowest on record, with 4.37 inches of rain, significantly impacting water demands.

The water demand forecasting model developed for the Demand Forecast TM isolated the impacts that weather and future climate can have on water demand through the use of a statistical model. The impacts of hot/dry weather conditions are reflected as a percentage increase in water demands from the normal year condition (average of FY 2017-18 and FY 2018-19). For a single dry year condition (FY 2013-14), the model projects a 6% increase in demand for the OC Basin area where the City's service area is located (CDM Smith, 2021). Detailed information of the model is included in the City's 2020 UWMP.

The City has documented that it is 100% reliable for single dry year demands from 2025 through 2045 with a demand increase of 6% from normal demand with significant reserves held by MET, local groundwater supplies, and conservation (Garden Grove, 2021).

3.2.2.6 Infrastructure Considerations

The Annual Assessment will include consideration of any infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity. MWDOC closely coordinates with MET and its member agencies, including the City, on any planned infrastructure work that may impact water supply availability. Throughout each year, MET regularly carries out preventive and corrective maintenance of its facilities within the MWDOC service area that may require shutdowns to inspect and repair pipelines and facilities and support capital improvement projects. These shutdowns involve a high level of planning and coordination between MWDOC, MWDOC's member agencies, and MET to ensure that major portions of the distribution system are not out of service at the same time. Operational flexibility within MET's system and the cooperation of member agencies allow shutdowns to be successfully completed while continuing to meet all system demands.

3.2.2.7 Other Factors

For the Annual Assessment, any known issues related to water quality would be considered for their potential effects on water supply reliability.

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of manmade chemicals that includes perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). PFAS compounds were once commonly used in many products including, among many others, stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams. Beginning in the summer of 2019, the California State Division of Drinking Water (DDW) began requiring testing for PFAS compounds in some groundwater production wells in the OCWD area.

PFAS has been detected in six of the City's wells, four of which are now inactive and two are on standby for emergency purposes; however, the City is collaborating with OCWD for treatment. PFAS are of particular concern for groundwater quality, and since the summer of 2019, DDW requires testing for PFAS compounds in some groundwater production wells in the OCWD area. In February 2020, the DDW lowered its Response Levels (RL) for PFOA and PFOS to 10 and 40 parts per trillion (ppt), respectively. The DDW recommends Producers not serve any water exceeding the RL – effectively making the RL an interim Maximum Contaminant Level (MCL) while DDW undertakes administrative action to set a MCL. In response to DDW's issuance of the revised RL, as of December 2020, approximately 45 wells in the OCWD service area have been temporarily turned off until treatment systems can be constructed. As additional wells are tested, OCWD expects this figure may increase to at least 70 to 80 wells. The state has begun the process of establishing MCLs for PFOA and PFOS and anticipates these MCLs to be in effect by the Fall of 2023. OCWD anticipates the MCLs will be set at or below the RLs.

In April 2020, OCWD as the groundwater basin manager, executed an agreement with the impacted Producers to fund and construct the necessary treatment systems for production wells impacted by PFAS compounds. The PFAS treatment projects includes the design, permitting, construction, and operation of PFAS removal systems for impacted Producer production wells. Each well treatment system will be evaluated for use with either granular activated carbon or ion exchange for the removal of PFAS compounds. These treatment systems utilize vessels in a lead-lag configuration to remove PFOA and PFOS to less than 2 ppt (the current non-detect limit). Use of these PFAS treatment systems are designed to ensure the groundwater supplied by Producer wells can be served in compliance with current and future PFAS regulations. With financial assistance from OCWD, the Producers will operate and maintain the new treatment systems once they are constructed.

To minimize expenses and provide maximum protection to the public water supply, OCWD initiated design, permitting, and construction of the PFAS treatment projects on a schedule that allows rapid deployment of treatment systems. Construction contracts were awarded for treatment systems for production wells in the City of Fullerton and Serrano Water District in Year 2020. Additional construction contracts will likely be awarded in the first and second quarters of 2021. OCWD expects the treatment systems to be constructed for most of the initial 45 wells above the RL within the next 2 to 3 years.

As additional data are collected and new wells experience PFAS detections at or near the current RL, and/or above a future MCL, and are turned off, OCWD will continue to partner with the affected Producers and take action to design and construct necessary treatment systems to bring the impacted wells back online as quickly as possible.

Groundwater production in FY 2019-20 was expected to be approximately 325,000 AF but declined to 286,550 AF primarily due to PFAS impacted wells being turned off around February 2020. OCWD expects groundwater production to be in the area of 245,000 AF in FY 2020-21 due to the currently idled wells and additional wells being impacted by PFAS and turned off. As PFAS treatment systems are constructed, OCWD expects total annual groundwater production to slowly increase back to normal levels (310,000 to 330,000 AF) (OCWD, 2020).

3.3 Six Standard Water Shortage Levels

Per Water Code Section 10632 (a)(3)(A), the City must include the six standard water shortage levels that represent shortages from the normal reliability as determined in the Annual Assessment. The shortage levels have been standardized to provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions. This is an outgrowth of the severe statewide drought of 2012-2016, and the widely recognized public communication and state policy uncertainty associated with the many different local definitions of water shortage Levels.

The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10, 20, 30, 40, 50, and greater than 50% shortage compared to the normal reliability condition) and align with the response actions the Supplier would implement to meet the severity of the impending shortages (Table 3-1).

Table 3-1: Retail: Water Shortage Contingency Plan Levels

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions**
0	0% (Normal)	A Level 0 Water Supply Shortage – Condition exists when the City notifies its water users that no supply reductions are anticipated in this year. The City proceeds with planned water efficiency best practices to support consumer demand reduction in line with state mandated requirements and local City goals for water supply reliability. Permanent water waste prohibitions are in place as stipulated in the City's Municipal Code Chapter 14.40 Water Conservation Program.

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions**
1	Up to 10%	A Level 1 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 10% is necessary to make more efficient use of water and respond to existing water conditions. The City shall implement the mandatory Level 1 conservation measures identified in this ordinance. The type of event that may prompt the City to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that its wholesale water provider calls for extraordinary water conservation.
2	11% to 20%	A Level 2 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 20% is necessary to make more efficient use of water and respond to existing water conditions. Upon declaration of a Level 2 Water Supply Shortage condition, the City shall implement the mandatory Level 2 conservation measures identified in this ordinance.
3	21% to 30%	A Level 3 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 30% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
4	31% to 40%	A Level 4 Water Supply Shortage - Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 40% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
5	41% to 50%	A Level 5 Water Supply Shortage - Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions**
6	>50%	A Level 6 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that greater than 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
NOTES:		

3.4 Shortage Response Actions

Water Code Section 10632 (a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels. The City has defined specific shortage response actions that align with the defined shortage levels in DWR Tables 8-2 and 8-3 (Appendix A). These shortage response actions were developed with consideration to the system infrastructure and operations changes, supply augmentation responses, customer-class or water use-specific demand reduction initiatives, and increasingly stringent water use prohibitions.

3.4.1 Demand Reduction

The demand reduction measures that would be implemented to address shortage levels are described in DWR Table 8-2 (Appendix A). This table indicates which actions align with specific defined shortage levels and estimates the extent to which the actions will reduce the gap between supplies and demands to deliver the outcomes necessary to meet the requirements of a given shortage level. This table also identifies the enforcement action, if any, associated with each demand reduction measure.

3.4.2 Supply Augmentation

The supply augmentation actions are described in DWR Table 8-3 (Appendix A). These augmentations represent short-term management objectives triggered by MET's WSDM Plan and do not overlap with the long-term new water supply development or supply reliability enhancement projects. Supply Augmentation is made available to the City through MWDOC and MET. The City relies on MET's reliability portfolio of water supply programs including existing water transfers, storage and exchange agreements to supplement gaps in the City's supply/demand balance. MET has developed significant storage capacity (over 5 million AF) in reservoirs and groundwater banking programs both within and outside of the Southern California region. Additionally, MET can pursue additional water transfer and exchange programs with other water agencies to help mitigate supply/demand imbalances and provide additional dry-year supply sources.

MWDOC, and in turn its retail agencies, including the City, has access to supply augmentation actions through MET. MET may exercise these actions based on regional need, and in accordance with their WSCP, and may include the use of supplies and storage programs within the Colorado River, SWP, and in-region storage. The City has the ability to augment its supply to reduce the shortage gap by up to 100% by purchasing additional imported water through MWDOC or pumping additional groundwater in the OC Basin; however, both are subject to rate penalties from MWDOC and OCWD, respectively.

3.4.3 Operational Changes

During shortage conditions, operations may be affected by supply augmentation or demand reduction responses. The City will consider their operational procedures when it completes its Annual Assessment or as needed to identify changes that can be implemented to address water shortage on a short-term basis, such as temporarily altering maintenance cycles, deferring planned system outages, and adjusting the flow and routing of water through its system to more effectively distribute available supply across the service area.

3.4.4 Additional Mandatory Restrictions

Water Code Section 10632(a)(4)(D) calls for “additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions” to be included among the WSCP’s shortage response actions. The City will identify additional mandatory restrictions as needed based on the City’s existing Municipal Code Chapter 14.40 Water Conservation Program (Appendix B). The City intends to update any mandatory restrictions in a subsequently adopted ordinance which will supersede the existing ordinance.

3.4.5 Emergency Response Plan (Hazard Mitigation Plan)

A catastrophic water shortage would be addressed according to the appropriate water shortage level and response actions. It is likely that a catastrophic shortage would immediately trigger Shortage Level 6 and response actions have been put in place to mitigate a catastrophic shortage. In addition, there are several Plans that address catastrophic failures and align with the WSCP, including MET’s WSDM and WSAP, the City’s HMP, and the Water Emergency Response Organization of Orange County (WEROC)’s Emergency Operations Plan (EOP).

3.4.5.1 MET’s WSDM and WSAP

MET has comprehensive plans for stages of actions it would undertake to address a catastrophic interruption in water supplies through its WSDM and WSAP. MET also developed an Emergency Storage Requirement to mitigate against potential interruption in water supplies resulting from catastrophic occurrences within the Southern California region, including seismic events along the San Andreas Fault. In addition, MET is working with the state to implement a comprehensive improvement plan to address catastrophic occurrences outside of the Southern California region, such as a maximum probable seismic event in the Sacramento-San Joaquin River Delta that would cause levee failure and disruption of SWP deliveries.

3.4.5.2 Water Emergency Response Organization of Orange County Emergency Operations Plan

In 1983, the Orange County water community identified a need to develop a plan on how agencies would respond effectively to disasters impacting the regional water distribution system. The collective efforts of these agencies resulted in the formation of WEROC to coordinate emergency response on behalf of all Orange County water and wastewater agencies, develop an emergency plan to respond to disasters, and conduct disaster training exercises for the Orange County water community. WEROC was established with the creation of an indemnification agreement between its member agencies to protect each other against civil liabilities and to facilitate the exchange of resources. WEROC is unique in its ability to provide a single point of contact for representation of all water and wastewater utilities in Orange County during a disaster. This representation is to the county, state, and federal disaster coordination agencies. Within the Orange County Operational Area, WEROC is the recognized contact for emergency response for the water community, including the City.

As a member of WEROC, the City will follow WEROC's EOP in the event of an emergency and coordinate with WEROC to assess damage, initiate repairs, and request and coordinate mutual aid resources in the event that the City is unable to provide the level of emergency response support required by the situation.

The EOP defines the actions to be taken by WEROC Emergency Operations Center (EOC) staff to reduce the loss of water and wastewater infrastructure; to respond effectively to a disaster; and to coordinate recovery operations in the aftermath of any emergency involving extensive damage to Orange County water and wastewater utilities. The EOP includes activation notification protocol that will be used to contact partner agencies to inform them of the situation, activation status of the EOC, known damage or impacts, or resource needs. The EOP is a standalone document that is reviewed annually and approved by the Board every three years.

WEROC is organized on the basis that each member agency is responsible for developing its own EOP in accordance with the California Standardized Emergency Management System (SEMS), National Incident Management System (NIMS), and Public Health Security and Bioterrorism Preparedness and Response Act of 2002 to meet specific emergency needs within its service area.

The WEROC EOC is responsible for assessing the overall condition and status of the Orange County regional water distribution and wastewater collection systems including MET facilities that serve Orange County.
The EOC can be activated during an emergency situation that can result from both natural and man-made causes, and can be activated through automatic, manual, or standby for activation.

WEROC recognized four primary phases of emergency management, which include:

- **Preparedness:** Planning, training, and exercises that are conducted prior to an emergency to support and enhance response to an emergency or disaster.
- **Response:** Activities and programs designed to address the immediate and short-term effects of the onset of an emergency or disaster that helps to reduce effects to water infrastructure and speed recovery. This includes alert and notification, EOC activation, direction and control, and mutual aid.
- **Recovery:** This phase involved restoring systems to normal, in which short-term recovery actions are taken to assess the damage and return vital life-support systems to minimum operating standards, while long-term recovery actions have the potential to continue for many years.
- **Mitigation/Prevention:** These actions prevent the occurrence of an emergency or reduce the area's vulnerability in ways that minimize the adverse impacts of a disaster or emergency. MWDOC's HMP outlines threats and identifies mitigation projects.

The EOC Action Plans (EAP) provide frameworks for EOC staff to respond to different situations with the objectives and steps required to complete them, which will in turn serve the WEROC member agencies. In the event of an emergency which results in a catastrophic water shortage, the City will declare a water shortage condition of up to Level 3 for the impacted area depending on the severity of the event, and coordination with WEROC is anticipated to begin at Level 4 or greater (WEROC, 2018).

3.4.5.3 City of Garden Grove Emergency Response Plan

The City will also refer to its current American Water Infrastructure Act Risk and Resilience Assessment and Emergency Response Plan in the event of a catastrophic supply interruption.

3.4.6 Seismic Risk Assessment and Mitigation Plan

Per the Water Code Section 10632.5, Suppliers are required to assess seismic risk to water supplies as part of their WSCP. The plan also must include the mitigation plan for the seismic risk(s). Given the great distances that imported supplies travel to reach Orange County, the region is vulnerable to interruptions along hundreds of miles of aqueducts, pipelines and other facilities associated with delivering the supplies to the region. Additionally, the infrastructure in place to deliver supplies are susceptible to damage from earthquakes and other disasters.

In lieu of conducting a seismic risk assessment specific to the City's 2020 UWMP, the City has included the previously prepared regional HMP by MWDOC as the regional imported water wholesaler that is required under the federal Disaster Mitigation Act of 2000 (Public Law 106-390).

MWDOC's HMP identified that the overarching goals of the HMP were the same for all of its member agencies, which include:

- Goal 1: Minimize vulnerabilities of critical infrastructure to minimize damages and loss of life and injury to human life caused by hazards.
- Goal 2: Minimize security risks to water and wastewater infrastructure.
- Goal 3: Minimize interruption to water and wastewater utilities.
- Goal 4: Improve public outreach, awareness, education, and preparedness for hazards in order to increase community resilience.
- Goal 5: Eliminate or minimize wastewater spills and overflows.
- Goal 6: Protect water quality and supply, critical aquatic resources, and habitat to ensure a safe water supply.
- Goal 7: Strengthen Emergency Response Services to ensure preparedness, response, and recovery during any major or multi-hazard event.

MWDOC's HMP evaluates hazards applicable to all jurisdictions in its entire planning area, prioritized based on probability, location, maximum probable extent, and secondary impacts. The identification of hazards is highly dependent on the location of facilities within the City's jurisdiction and takes into consideration the history of the hazard and associated damage, information provided by agencies specializing in a specific hazard, and relies upon the City's expertise and knowledge.

Earthquake fault rupture and seismic hazards, including ground shaking and liquefaction, are among the highest ranked hazards to the region as a whole because of its long history of earthquakes, with some resulting in considerable damage. A significant earthquake along one of the major faults could cause substantial casualties, extensive damage to infrastructure, fires, damages and outages of water and wastewater facilities, and other threats to life and property.

Nearly all of Orange County is at risk of moderate to extreme ground shaking, with liquefaction possible throughout much of Orange County but the most extensive liquefaction zones occur in coastal areas. Based on the amount of seismic activity that occurs within the region, there is no doubt that communities within Orange County will continue to experience future earthquake events, and it is a reasonable assumption that a major event will occur within a 30-year timeframe.

The mitigation actions identify the hazard, proposed mitigation action, location/facility, local planning mechanism, risk, cost, timeframe, possible funding sources, status, and status rationale, as applicable. Mitigation actions for the City for seismic risks include (MWDOC, 2019):

- Update supervisory control and data acquisition (SCADA) software, install new monitors, and install fiber optic links.
- Identify all major fuel pipelines, rail transportation corridors, manufacturing facilities, and their relative vulnerability relative to hazardous material releases.
- Update system geographic information system (GIS) maps to reflect current conditions and hazards.
- Reconfigure piping, valves, and add metering devices of intertie facilities bordering Anaheim.
- Examine opportunities for on-line water quality sensing relative to potential human induced contamination and implement if feasible.
- Survey and improve site fencing and other forms of hardening facility deterrence.

3.4.7 Shortage Response Action Effectiveness

For each specific Shortage Response Action identified in the plan, the WSCP also estimates the extent to which that action will reduce the gap between supplies and demands identified in DWR Table 8-2 (Appendix A). To the extent feasible, the City has estimated percentage savings for the chosen suite of shortage response actions, which can be anticipated to deliver the expected outcomes necessary to meet the requirements of a given shortage level.

3.5 Communication Protocols

Timely and effective communication is a key element of the WSCP implementation. In the context of water shortage response, the purpose may be an immediate emergency water shortage situation, such as may result from an earthquake, or a longer-term, emergency, shortage condition, such as may result from a drought. In an immediate emergency, the City will activate the communication protocol detailed in the Emergency Response Plan. In a longer-term emergency water shortage situation, the City will follow the communication protocols described below.

Per the Water Code Section 10632 (a)(5), the City has established communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments regarding any current or predicted shortages as determined by the Annual Assessment described pursuant to Section 10632.1; any shortage response actions triggered or anticipated to be triggered by the Annual Assessment described pursuant to Section 10632.1; and any other relevant communications.

Non-emergency water shortage communication protocols are focused on communicating the water shortage contingency planning actions that can be derived from the results of the Annual Assessment, and it would likely trigger based upon the decision-making process in Section 3.2. Prior to water shortage level declaration, the City will pursue outreach to inform customers of water shortage levels and definitions, targeted water savings for each shortage level, guidelines that customers are to follow during each level, and sources of current information on the City's supply and demand response status.

The type and degree of communication varies with each shortage level, thus predefined and actionable communication protocols improve the City's ability to message necessary events. These communication objectives and tools are summarized in Table 3-2.

The City's Public Relations department will lead public information and outreach efforts in close coordination with other MWDOC and MET. The City will share information and provide guidance to its customers as well as monitor the customer response and attitude toward both voluntary and mandatory customer response guidelines. The City's customer outreach is required to successfully achieve targeted water savings during each shortage level.

The City has outlined a water shortage response approach in Section 3.4.1. The City will communicate information on shortage level, targeted water savings, and water saving guidelines that customers are expected to practice.

Table 3-2 : Communication Procedures

Shortage level	Communication Objectives	Communication Protocol/Process
0	Permanent Water Waste Prohibitions, Water Awareness	Social Media/Bill Inserts/ Website Information on the "City" homepage/
1	Compliance with response actions, 10% reduction in water use	Social Media/Bill Inserts/ Website Information on the "City" homepage
2	Compliance with response actions, 20% reduction in water use	Social Media/Bill Inserts/Local TV/ Website Information on the "City" homepage
3	Compliance with response actions, 30% reduction in water use	Social Media/ Bill Inserts/ Local TV/ Website Information on the "City" homepage/Direct communication with high water users/Communication with commercial/industrial water users
4	Compliance with response actions, 40% reduction in water use	Social Media/ Bill Inserts/ Local TV/ Website Information on the "City" homepage/Direct communication with high water users/Communication with commercial/industrial water users

Shortage level	Communication Objectives	Communication Protocol/Process
5	Compliance with response actions, 50% reduction in water use	Social Media/ Bill Inserts/Local TV Station/PSA by Garden Grove City Manager/ Website Information on the "City" homepage/Direct communication with high water users/Communication with commercial/industrial water users
6	Compliance with response actions, .50% reduction in water use	Social Media/ Bill Inserts/Local TV Station/PSA by Garden Grove City Manager / Website Information on the "City" homepage/Direct communication with high water users/Communication with commercial/industrial water users

3.6 Compliance and Enforcement

Per the Water Code Section 10632 (a)(6), the City has defined customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions. Communication procedures to ensure customer compliance are described in Section 3.5 and customer enforcement, appeal, and exemption procedures are defined in the City's Municipal Code Chapter 14.40 Water Conservation Program (Appendix B).

3.7 Legal Authorities

Per Water Code Section 10632 (a)(7)(A), the City has provided a description of the legal authorities that empower the City to implement and enforce its shortage response in the City's Municipal Code Chapter 14.40 Water Conservation Program (Appendix B).

Per Water Code Section 10632 (a)(7) (B), the City shall declare a water shortage emergency condition to prevail within the area served by such wholesaler 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.

Per Water Code Section 10632 (a)(7)(C), the City shall coordinate with any agency or county within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558). Table 3-3 identifies the contacts for all cities or counties for which the Supplier provides service in the WSCP, along with developed coordination protocols, can facilitate compliance with this section of the Water Code in the event of a local emergency as defined in subpart (c) of Government Code Section 8558.

Table 3-3: Agency Contacts and Coordination Protocols

Contact	Agency	Coordination Protocols
Huch Nguyen	Orange County Clerk-Recorder	Phone/email contact
Allan Rigg	City of Stanton	Phone/email contact
Nabil Saba	City of Santa Ana	Phone/email contact
Hye Jin Lee	City of Westminster	Phone/email contact

3.8 Financial Consequences of WSCP

Per Water Code Section 10632(a)(8), Suppliers must include a description of the overall anticipated financial consequences to the Supplier of implementing the WSCP. This description must include potential reductions in revenue and increased expenses associated with implementation of the shortage response actions. This should be coupled with an identification of the anticipated mitigation actions needed to address these financial impacts.

During a catastrophic interruption of water supplies, prolonged drought, or water shortage of any kind, the City will experience a reduction in revenue due to reduced water sales. Throughout this period of time, expenditures may increase or decrease with varying circumstances. Expenditures may increase in the event of significant damage to the water system, resulting in emergency repairs. Expenditures may also decrease as less water is pumped through the system, resulting in lower power costs. Water shortage mitigation actions will also impact revenues and require additional costs for drought response activities such as increased staff costs for tracking, reporting, and communications.

The City receives water revenue from a service charge and a commodity charge based on consumption. The service charge recovers costs associated with providing water to the serviced property. The service charge does not vary with consumption and the commodity charge is based on water usage. Rates have been designed to recover the full cost of water service in the charges. Therefore, the total cost of purchasing water would decrease as the usage or sale of water decreases. In the event of a drought emergency, the City will impose excessive water use penalties on its customers, which may include additional costs associated with reduced water revenue, staff time taken for penalty enforcement, and advertising the excessive use penalties. The excessive water use penalties are further described in the City's Municipal Code Chapter 14.40 Water Conservation Program (Appendix B).

However, there are significant fixed costs associated with maintaining a minimal level of service. The City will monitor projected revenues and expenditures should an extreme shortage and a large reduction in water sales occur for an extended period of time. To overcome these potential revenue losses and/or expenditure impacts, the City may use reserves. If necessary, the City may reduce expenditures by delaying implementation of its Capital Improvement Program and equipment purchases to reallocate funds to cover the cost of operations and critical maintenance, adjust the work force, implement a drought surcharge, and/or make adjustments to its water rate structure.

Based on current water rates, a volumetric cutback of 50% and above of water sales may lead to a range of reduction in revenues (Table 3-4). The impacts to revenues will depend on a proportionate reduction in variable costs related to supply, pumping, and treatment for the specific shortage event. The City has set aside reserve funding to mitigate short-term water shortage situation.

Table 3-4: Revenue Impacts Analysis

Demand	Baseline (Normal Year)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		10%	20%	30%	40%	50%	>50%
Water Produced / Purchased (HCF)	9,573,859	8,616,473	7,659,087	6,701,701	5,744,315	4,786,929	4,786,929
Water Losses (HCF)	771,862	694,676	617,489	540,303	463,117	385,931	385,931
Water Sales (HCF)	8,801,997	7,921,797	7,041,598	6,161,398	5,281,198	4,400,999	4,400,999
Revenue	8,801,997	7,921,797	7,041,598	6,161,398	5,281,198	4,400,999	4,400,999
Commodity Rate ($)	Tier 1 $3.09 Tier 2 $4.32	Tier 1 $3.09 Tier 2 $4.32	Tier 1 $3.09 Tier 2 $4.32	Tier 1 $3.09 Tier 2 $4.32	Tier 1 $3.09 Tier 2 $4.32	Tier 1 $3.09 Tier 2 $4.32	Tier 1 $3.09 Tier 2 $4.32
Revenue	$34,451,896	$31,006,707	$27,561,517	$24,116,328	$20,671,138	$17,225,948	$17,225,948
Fixed Monthly Charge Revenue	$8,734,812	$8,734,812	$8,734,812	$8,734,812	$8,734,812	$8,734,812	$8,734,812
Total Rate Revenue	$43,186,708	$39,741,519	$36,296,329	$32,851,140	$29,405,950	$25,960,760	$25,960,760

Demand	Baseline (Normal Year)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		10%	20%	30%	40%	50%	>50%
Revenue Lost		($3,445,190)	($6,890,379)	($10,335,569)	($13,780,759)	($17,225,948)	($17,225,948)
Variable Costs							
Sources of Supply, Pumping, Treatment	$18,762,983	$16,886,685	$15,010,386	$13,134,088	$11,257,790	$9,381,492	$9,381,492
Unit Costs ($/HCF)	$1.96	$1.96	$1.96	$1.96	$1.96	$1.96	$1.96
Sources of Supply, Pumping, Treatment							
Avoided Costs		$1,876,298	$3,752,597	$5,628,895	$7,505,193	$9,381,492	$9,381,492
Net Revenue Change		($1,568,891)	($3,137,783)	($4,706,674)	($6,275,565)	($7,844,457)	($7,844,457)
Rate Revenue Increase Required		3.77%	7.83%	12.23%	17.00%	22.20%	22.20%

3.9 Monitoring and Reporting

Per Water Code Section 10632(a)(9), the City is required to provide a description of the monitoring and reporting requirements and procedures that have been implemented to ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

Monitoring and reporting key water use metrics is fundamental to water supply planning and management. Monitoring is also essential in times of water shortage to ensure that the response actions are achieving their intended water use reduction purposes, or if improvements or new actions need to be considered (see Section 3.10). Monitoring for customer compliance tracking is also useful in enforcement actions.

Under normal water supply conditions, potable water production figures are recorded daily. Weekly and monthly reports are prepared and monitored. This data will be used to measure the effectiveness of any water shortage contingency level that may be implemented. As levels of water shortage are declared by MET and MWDOC, the City will follow implementation of those levels as appropriate based on the City's risk profile provided in UWMP Chapter 6 and continue to monitor water demand levels. When MET calls for extraordinary conservation, MET's Drought Program Officer will coordinate public information activities with MWDOC and monitor the effectiveness of ongoing conservation programs.

The City will participate in monthly member agency manager meetings with both MWDOC and OCWD to monitor and discuss monthly water allocation charts. This will enable the City to be aware of import and groundwater use on a timely basis as a result of specific actions taken responding to the City's WSCP.

3.10 WSCP Refinement Procedures

Per Water Code Section 10632 (a)(10), the City must provide 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.

The City's WSCP is prepared and implemented as an adaptive management plan. The City will use the monitoring and reporting process defined in Section 3.9 to refine the WSCP. In addition, if certain procedural refinements or new actions are identified by City staff, or suggested by customers or other interested parties, the City will evaluate their effectiveness, incorporate them into the WSCP, and implement them quickly at the appropriate water shortage level.

It is envisioned that the WSCP will be periodically re-evaluated to ensure that its shortage risk tolerance is adequate and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP will be revised and updated during the UWMP update cycle to incorporate updated and new information. For example, new supply augmentation actions will be added, and actions that are no longer applicable for reasons such as program expiration will be removed. However, if revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle. In the course of preparing the Annual Assessment each year, City staff will routinely consider the functionality the overall WSCP and will prepare recommendations for the Water Manager if changes are found to be needed.

3.11 Special Water Feature Distinction

Per Water Code Section 10632 (b), the City has defined water features in 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, in the City's Municipal Code Chapter 14.40 Water Conservation Program (Appendix B).

3.12 Plan Adoption, Submittal, and Availability

Per Water Code Section 10632 (a)(c), the City provided notice of the availability of the draft 2020 UWMP and draft 2020 WSCP and notice of the public hearing to consider adoption of the WSCP. The public review drafts of the 2020 UWMP and the 2020 WSCP were posted prominently on the City's website in advance of the public hearing on June 22, 2021. Copies of the draft WSCP were also made available for public inspection at the City Clerk's and Utilities Department offices and public hearing notifications were published in local newspapers. A copy of the published Notice of Public Hearing is included in Appendix C.

The City held the public hearing for the draft 2020 UWMP and draft WSCP on June 22, 2021, at the City Council meeting. The City Council reviewed and approved the 2020 UWMP and the WSCP at its June 22, 2021 meeting after the public hearing. See Appendix D for the resolution approving the WSCP.

By July 1, 2021, the City's adopted 2020 UWMP and WSCP was filed with DWR, California State Library, and the County of Orange. The City will make the WSCP available for public review on its website no later than 30 days after filing with DWR.

Based on DWR's review of the WSCP, the City will make any amendments in its adopted WSCP, as required and directed by DWR.

If the City revises its WSCP after UWMP is approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

4 REFERENCES

CDM Smith. (2021, March 30). *Orange County Water Demand Forecast for MWDOC and OCWD Technical Memorandum.*

City of Garden Grove. (2021, July). *2020 Urban Water Management Plan*.

Metropolitan Water District of Southern California (MET). (2021a, April. *Water Shortage Contingency Plan*. http://www.mwdh2o.com/PDF_About_Your_Water/Draft%20Metropolitan%20Water%20Shortage%20Contingency%20Plan%20April%202021.pdf

Metropolitan Water District of Southern California (MET). (2021b, June). *2020 Urban Water Management Plan.*

Metropolitan Water District of Southern California (MET). (1999, August). *Water Surplus and Drought Management Plan*. http://www.mwdh2o.com/PDF_About_Your_Water/2.4_Water_Supply_Drought_Management_Plan.pdf

Municipal Water District of Orange County (MWDOC). (2016). *Water Supply Allocation Plan*.

Municipal Water District of Orange County (MWDOC). (2019, August). *Orange County Regional Water and Wastewater Hazard Mitigation Plan*.

Water Emergency Response Organization of Orange County (WEROC). (2018, March). *WEROC Emergency Operations Plan (EOP).*

Appendix A

DWR Submittal Tables

Table 8-1: Water Shortage Contingency Plan Levels

Table 8-2: Demand Reduction Actions

Table 8-3: Supply Augmentation and Other Actions

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description)*
0	0% (Normal)	A Level 0 Water Supply Shortage – Condition exists when the City notifies its water users that no supply reductions are anticipated in this year. The City proceeds with planned water efficiency best practices to support customer demand reduction in line with state mandated requirements and local City goals for water supply reliability. Permanent water waste prohibitions are in place as stipulated by the City's Municipal Code Chapter 14.40 Water Conservation Program.
1	Up to 10%	A Level 1 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 10% is necessary to make more efficient use of water and respond to existing water conditions. The City shall implement the mandatory Level 1 conservation measures identified in this ordinance. The type of event that may prompt the City to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that its wholesale water provider calls for extraordinary water conservation.
2	11% to 20%	A Level 2 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 20% is necessary to make more efficient use of water and respond to existing water conditions. Upon declaration of a Level 2 Water Supply Shortage condition, the City shall implement the mandatory Level 2 conservation measures identified in this ordinance.
3	21% to 30%	A Level 3 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 30% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
4	31% to 40%	A Level 4 Water Supply Shortage - Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 40% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
5	41% to 50%	A Level 5 Water Supply Shortage - Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
6	>50%	A Level 6 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that greater than 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.

NOTES:

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
0	Other water feature or swimming pool restriction	Statewide Prohibition is Required	All decorative water features must re-circulate water or users must secure a waiver from the City.	Yes
0	Other	Statewide Prohibition is Required	Washing or hosing down vehicles is prohibited except by use of a hand held container, hose with an automatic shut off device, or at a commercial car wash.	Yes
0	Other - Prohibit use of potable water for washing hard surfaces	Statewide Prohibition is Required	Washing hard or paved surfaces is prohibited except to alleviate safety or sanitary hazards using a hand held container, hose with an automatic shut off device, or a low-volume high pressure cleaning machine that recycles used	Yes
0	Landscape - Restrict or prohibit runoff from landscape irrigation	Statewide Prohibition is Required	Watering vegetated areas in a manner that causes excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter, or ditch is prohibited.	Yes
0	Landscape - Other landscape restriction or prohibition	Statewide Prohibition is Required	Irrigating ornamental turf on public street medians is prohibited.	No
0	Landscape - Other landscape restriction or prohibition	Statewide Prohibition is Required	No landscape watering shall occur within 48 hours after measurable precipitation.	Yes
0	Landscape - Limit landscape irrigation to specific times	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Watering or irrigation with a device that is not continuously attended to is limited to fifteen (15) minutes per day per valve. Low flow drip type systems, water efficient stream rotor systems, and sensor/weather controlled systems are exempt.	Yes
0	Landscape - Other landscape restriction or prohibition	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Any new planting should be performed with drought tolerant plants, as listed in Metropolitan's list of California friendly plants and the City's established Drought Tolerant Plant List.	No
0	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Fix leaks or faulty sprinklers promptly/within 7 day(s).	Yes
0	CII - Restaurants may only serve water upon request	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	CII - Restaurants may only serve water upon request	Yes
0	CII - Lodging establishment must offer opt out of linen service	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	CII - Lodging establishment must offer opt out of linen service	Yes
0	CII - Other CII restriction or prohibition	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No single pass cooling systems may be installed in new or remodeled buildings.	Yes

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
0	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	All new commercial car wash and laundry facilities must re-circulate the wash water or obtain a waiver from the City.	Yes
0	CII - Commercial kitchens required to use pre-rinse spray valves	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Food preparation establishments must use water efficient kitchen spray valves.	No
0	Landscape - Limit landscape irrigation to specific times	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Watering or irrigation of vegetated areas is prohibited between 9 am and 6 pm except by use of a hand held device, hose equipped with an automatic shutoff device, or for adjusting or repairing an irrigation system for short periods of time.	Yes
0	Other - Require automatic shut of hoses	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Use a shutoff nozzle on hoses.	Yes
0	Other	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Unauthorized use of hydrants is prohibited. Authorization for use must be obtained from water supplier.	Yes
1	Expand Public Information Campaign	0-1%	Community Outreach and Messaging (Expand Public Information Campaign)	Yes
1	Expand Public Information Campaign	0-1%	Encourage customers to wash only full loads when washing dishes or clothes.	Yes
1	Expand Public Information Campaign	0-1%	Encourage customers to use pool covers to minimize evaporation.	Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers promptly/within 5 day(s).	Yes
1	Landscape - Other landscape restriction or prohibition	0-5%	New and existing residential automated irrigation systems must be equipped with rain sensors that shut off the system when it rains, or smart controllers or evapo-transpiration sensors that use weather-based data to set efficient watering	No
1	Landscape - Limit landscape irrigation to specific times	0-5%	Watering or irrigation of vegetated areas is prohibited between 9 am and 6 pm except by use of a hand held device, hose equipped with an automatic shutoff device, or for adjusting or repairing an irrigation system for short periods of time.	Yes
1	CII - Other CII restriction or prohibition	0-1%	Commercial, industrial, institutional equipment must be properly maintained and in full working order	No
1	Landscape - Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for nurseries should cease.	No

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
1	Landscape - Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for public entities should cease.	No
1	Landscape - Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for commercial and industrial use should cease.	No
1	Other	5-10%	Other Prohibited Uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	No
1	Other	5-10%	The City may reduce water allocations in all categories to meet the available water	No
1	Improve Customer Billing	0-3%	AMI Customer Leak Reports with Detection and Repair Assistance	No
1	Provide Rebates for Landscape Irrigation Efficiency	0-1%	Expanded/Enhanced Rebate Programs	No
1	Reduce System Water Loss	0-5%	Real Loss Reduction - Pressure Management and More Aggressive Leak Detection and Repair	No
1	Offer Water Use Surveys	0-1%	Offer Water Use Surveys	No
1	Provide Rebates on Plumbing Fixtures and Devices	0-1%	Provide Rebates on Plumbing Fixtures and Devices	No
1	Provide Rebates for Turf Replacement	0-1%	Provide Rebates for Turf Replacement	No
1	Increase Water Waste Patrols	0-1%	Increase Water Waste Patrols	No
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 4 day(s).	No
2	Landscape - Limit landscape irrigation to specific days	5-10%	Irrigation shall be limited to 3 days per week turf watering when using potable water. Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or	Yes
2	Implement or Modify Drought Rate Structure or Surcharge	0-5%	Drought Rates and Surcharges	No
2	Improve Customer Billing	0-1%	Improve customer billing reports to include more details on water use	No
2	Decrease Line Flushing	0-1%	Decrease Line Flushing	No
2	Pools and Spas - Require covers for pools and spas	0-1%	Pools and Spas - Require covers for pools and spas	No
2	Pools - Allow filling of swimming pools only when an appropriate cover is in place.	0-1%	Pools - Allow filling of swimming pools only when an appropriate cover is in place.	Yes
2	Other	5-10%	Other Prohibited Uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	No
2	Other	5-10%	The City may reduce water allocations in all categories to meet the available water	No

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
3	Water Features - Restrict water use for decorative water features, such as fountains	0-1%	Filling or refilling ornamental lakes and ponds is prohibited. Ornamental lakes and ponds that sustain aquatic life of significant value and were actively managed prior to the storage declaration are exempt.	Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 3 day(s).	Yes
3	Other water feature or swimming pool restriction	0-1%	Decorative water features that use potable water must be drained and kept dry.	Yes
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	Car washing is only permitted using a commercial carwash that recirculates water or by high pressure/low volume wash systems.	Yes
3	Other - Prohibit use of potable water for construction and dust control	0-1%	Require a construction water use plan be submitted to the water supplier that addresses how impacts to existing water users will be mitigated (such as dust	No
3	Landscape - Other landscape restriction or prohibition	0-1%	With the exception of landscapes watered with non-potable water, limit the installation of new landscaping to drought tolerant trees, shrubs and groundcover. Prohibit installation of new turf or hydroseed. Customers may apply for a waiver to irrigate during an establishment period for the installation of new turf or hydroseed.	No
3	Landscape - Limit landscape irrigation to specific days	10-25%	Irrigation shall be limited to 2 days per week turf watering when using potable water. Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or	Yes
3	Landscape - Prohibit certain types of landscape irrigation	0-1%	Plant containers, trees, shrubs and vegetable gardens shall be watered only by drip irrigation or hand watering.	No
4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 2 day(s).	Yes
4	Other water feature or swimming pool restriction	0-1%	Existing pools shall not be emptied and refilled using potable water unless required for public health and safety purposes.	Yes
4	Other water feature or swimming pool restriction	0-1%	No new permits for pools will be issued.	No
4	Landscape - Other landscape restriction or prohibition	0-1%	No new landscape installations or renovations will be permitted.	No
4	Landscape - Prohibit all landscape irrigation	0-1%	Previous waivers for watering during an establishment period will be revoked.	Yes

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
4	Landscape - Limit landscape irrigation to specific days	5-20%	Irrigation shall be limited to 1 days per week turf watering when using potable water. Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or	Yes
4	Other	5-10%	Other Prohibited Uses: The Citymay implement other prohibited water uses as determined by the City, after notice to customers.	No
4	Other	5-10%	The City may reduce water allocations in all categories to meet the available water	No
5	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 1 day(s).	Yes
5	Other	0-1%	Water for agricultural or commercial nursery purposes, except for livestock watering, is prohibited.	No
5	Landscape - Prohibit all landscape irrigation	0-1%	All irrigation is prohibited.	Yes
5	Landscape - Prohibit certain types of landscape irrigation	0-1%	Watering of all golf course areas is prohibited	Yes
5	Landscape - Prohibit certain types of landscape irrigation	0-1%	Watering of parks, school grounds, and recreation fields is prohibited, except for rare plant or animal species	Yes
5	Moratorium or Net Zero Demand Increase on New Connections	0-2%	Moratorium or Net Zero Demand Increase on New Connections	Yes
5	Other	0-50%	Water use for public health and safety purposes only.	Yes
6	Other	0-1%	The City may discontinue service to consumers who willfully violate any water conservation provisions	Yes
6	Other	0-1%	Water for air conditioning is prohibited	Yes
6	Landscape - Prohibit all landscape irrigation	0-5%	The City may shut off all non-essential water services. All irrigation is prohibited.	Yes
6	CII - Other CII restriction or prohibition	0-15%	Water for commercial, manufacturing, or processing purposes shall be reduced in volume by up to 50% or exceeded if necessary for public health and safety purposes.	Yes
6	Other	0-70%	Water use for public health and safety purposes only. Customer rationing may be implemented.	Yes
NOTES:				

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
1 through 6	Other Purchases	0 - 100%	Additional imported water purchases through MWDOC
1 through 6	Other Purchases	0 - 100%	Additional groundwater pumping in the Orange County Groundwater Basin
NOTES:			

Appendix B

Garden Grove Municipal Code Chapter 14.40 Water Conservation Program

Below is the weblink to the current ordinance (last accessed on June 1, 2021)
http://www.qcode.us/codes/gardengrove/

Appendix C

Notice of Public Hearing

March 11, 2021

County of Orange
Attn: Mr. Hugh Nguyen, Clerk Recorder
12 Civic Center Plaza, Room 101
Santa Ana, California 92701

Subject: City of Garden Grove 2020 Urban Water Management Plan Update

The City of Garden Grove (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

Water Code section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as City's notice that it is preparing and updating its 2020 UWMP, to be adopted and submitted to the California Department of Water Resources before the July 1, 2021 deadline. City will be adopting its Water Shortage Contingency Plan as part of the 2020 UWMP.

City is also considering an Addendum to the 2015 UWMP to demonstrate consistency with the Delta Plan Policy to Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit. 23, § 5003). The 2015 UWMP Addendum and a copy of City's draft 2020 UWMP will be available for review on the City website (www.ggcity.org) in spring of 2021, and City will subsequently hold noticed public hearings on the 2020 UWMP, Water Shortage Contingency Plan, and 2015 UWMP Addendum in advance of their proposed adoption.

City invites you to submit comments and consult with City regarding its 2020 UWMP update and 2015 UWMP Addendum. City anticipates holding a public comment period in spring 2021, with a public hearing planned during that time.

If you have any input for the matters contained in this notice letter, require additional information, or would like to set up a meeting to discuss City's 2020 UWMP update, please contact me at (714) 741-5276, or by email at celp@ggcity.org.

Sincerely,

Cel Pasillas
Water Quality Supervisor

CITY OF GARDEN GROVE
PUBLIC WORKS

March 11, 2021

Municipal Water District of Orange County
Attn: Mr. Rob Hunter, General Manager
PO Box 20895
Fountain Valley, California 92728

Subject: City of Garden Grove 2020 Urban Water Management Plan Update

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If you have any input for the matters contained in this notice letter, require additional information, or would like to set up a meeting to discuss City's 2020 UWMP update, please contact me at (714) 741-5276, or by email at celp@ggcity.org.

Sincerely,

Cel Pasillas
Water Quality Supervisor

GARDEN GROVE

CITY OF GARDEN GROVE
PUBLIC WORKS

March 11, 2021

Orange County Sanitation District
Attn: Mr. Jim Herberg, General Manager
10844 Ellis Avenue
Fountain Valley, California 92708

Subject: City of Garden Grove 2020 Urban Water Management Plan Update

The City of Garden Grove (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

Water Code section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as City's notice that it is preparing and updating its 2020 UWMP, to be adopted and submitted to the California Department of Water Resources before the July 1, 2021 deadline. City will be adopting its Water Shortage Contingency Plan as part of the 2020 UWMP.

City is also considering an Addendum to the 2015 UWMP to demonstrate consistency with the Delta Plan Policy to Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit. 23, § 5003). The 2015 UWMP Addendum and a copy of City's draft 2020 UWMP will be available for review on the City website (www.ggcity.org) in spring of 2021, and City will subsequently hold noticed public hearings on the 2020 UWMP, Water Shortage Contingency Plan, and 2015 UWMP Addendum in advance of their proposed adoption.

City invites you to submit comments and consult with City regarding its 2020 UWMP update and 2015 UWMP Addendum. City anticipates holding a public comment period in spring 2021, with a public hearing planned during that time.

If you have any input for the matters contained in this notice letter, require additional information, or would like to set up a meeting to discuss City's 2020 UWMP update, please contact me at (714) 741-5276, or by email at celp@ggcity.org.

Sincerely,

Cel Pasillas
Water Quality Supervisor

March 11, 2021

Orange County Water District
Attn: Mr. Mike Markus, General Manager
PO Box 8300
Fountain Valley, California 92728

Subject: City of Garden Grove 2020 Urban Water Management Plan Update

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Sincerely,

Cel Pasillas
Water Quality Supervisor

GARDEN GROVE

CITY OF GARDEN GROVE
PUBLIC WORKS

March 11, 2021

Mayor and Council Members
City of Santa Ana
20 Civic Center Plaza
Santa Ana, CA 92701

Subject: City of Garden Grove 2020 Urban Water Management Plan Update

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Sincerely,

Cel Pasillas
Water Quality Supervisor

13802 Newhope St. • P.O. Box 3070 • Garden Grove, CA 92843
ggcity.org

March 11, 2021

Mayor and Council Members
City of Stanton
7800 Katella Ave.
Stanton, CA 90680

Subject: City of Garden Grove 2020 Urban Water Management Plan Update

The City of Garden Grove (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

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Sincerely,

Cel Pasillas
Water Quality Supervisor

March 11, 2021

Mayor and Council Members
City of Westminster
8200 Westminster Blvd.
Westminster, CA 92683

Subject: City of Garden Grove 2020 Urban Water Management Plan Update

The City of Garden Grove (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

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If you have any input for the matters contained in this notice letter, require additional information, or would like to set up a meeting to discuss City's 2020 UWMP update, please contact me at (714) 741-5276, or by email at celp@ggcity.org.

Sincerely,

Cel Pasillas
Water Quality Supervisor

The Orange County Register
1771 S. Lewis Street
Anaheim, CA 92805
714-796-2209

5235411

CITY OF GARDEN GROVE
TERESA POMEROY
11222 ACACUA PARKWAY
GARDEN GROVE, CA 92840

AFFIDAVIT OF PUBLICATION

STATE OF CALIFORNIA, } ss.
County of Orange

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of The Orange County Register, a newspaper of general circulation, published in the city of Santa Ana, County of Orange, and which newspaper has been adjudged to be a newspaper of general circulation by the Superior Court of the County of Orange, State of California, under the date of November 19, 1905, Case No. A-21046, that the notice, of which the annexed is a true printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

06/09/2021, 06/16/2021

I certify (or declare) under the penalty of perjury under the laws of the State of California that the foregoing is true and correct:

Executed at Anaheim, Orange County, California, on Date: June 16, 2021.

Sandra Campos

Signature

PROOF OF PUBLICATION

Legal No. **0011468374**

CITY OF GARDEN GROVE

NOTICE OF PUBLIC HEARING

2020 URBAN WATER MANAGEMENT PLAN & WATER SHORTAGE CONTINGENCY PLAN

NOTICE IS HEREBY GIVEN that the City of Garden Grove City Council will conduct a public hearing on Tuesday, June 22, 2021 at 6:30 p.m., in the Community Meeting Center, at 11300 Stanford Avenue, Garden Grove, California, 92840, to receive and consider all evidence and reports relative to the City of Garden Grove's proposed 2020 Urban Water Management Plan ("UWMP"), 2020 Water Shortage Contingency Plan ("WSCP"), and Appendix C as an Addendum to its 2015 UWMP in advance of their proposed adoption.

The public hearing is being held in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 through 10656; herein referred to as the "Act"). The Act requires "every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually" to prepare, adopt, and file a UWMP with the California Department of Water Resources and review and update its UWMP every five years. The purpose of the public hearing will be to solicit public comment prior to adoption of the proposed updated UWMP and WSCP. Copies of the proposed 2020 UWMP, 2020 WSCP, and Appendix C as an Addendum to its 2015 UWMP can be viewed upon request by contacting the Water Services Division at (714) 741-5395. It will also be available on the City's website, https://ggcity.org/pw/water-conservation .

ALL INTERESTED PARTIES are invited to attend the City Council Public Hearing, or by writing a letter, to express opinions or submit evidence for or against the proposal as outlined above. If you challenge the City Council decision 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. Please deliver written correspondence to the attention of the City Clerk at cityclerk@ggcity.org or mail to PO Box 3070, Garden Grove, California, 92842-3070, no later than 3:00 p.m. on the day of the City Council meeting.

/s/ Teresa Pomeroy, CMC
City Clerk

Date: June 7, 2021
Publish: June 9, 2021 and June 16, 2021 OC Register

Appendix D

Adopted WSCP Resolution

GARDEN GROVE CITY COUNCIL

RESOLUTION NO. 9695-21

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GARDEN GROVE ADOPTING A WATER SHORTAGE CONTINGENCY PLAN (WSCP)

WHEREAS, The California Urban Water Management Planning Act, (Wat. Code §10610, et seq. (the Act)), mandates that every urban supplier of water providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare and adopt, in accordance with prescribed requirements, a Water Shortage Contingency Plan (WSCP) as part of its Urban Water Management Plan (Plan); and

WHEREAS, the Act specifies the requirements and procedures for adopting such WSCPs; and

WHEREAS, pursuant to recent amendments to the Act, urban water suppliers are required to adopt and electronically submit their WSCPs to the California Department of Water Resources (DWR) by July 1, 2021; and

WHEREAS, pursuant to the Act, "urban water supplier" means a supplier, either publicly or privately owned, providing 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. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers; and

WHEREAS, the City of Garden Grove ("City") meets the definition of an urban water supplier for purposes of the Act and is required to prepare and adopt and WSCP as part of its 2020 Plan; and

WHEREAS, the City has prepared a WSCP in accordance with the Act, and in accordance with applicable legal requirements, has undertaken certain coordination, notice, public involvement, public comment, and other procedures in relation to its WSCP; and

WHEREAS, in accordance with the Act, the City has prepared its WSCP with its own staff, with the assistance of consulting professionals, and in cooperation with other governmental agencies, and has utilized and relied upon industry standards and the expertise of industry professionals in preparing its WSCP, and has also utilized DWR's Urban Water Management Plan Guidebook 2020, including its related appendices, in preparing its WSCP; and

WHEREAS, in accordance with applicable law, including Water Code section 10642, and Government Code section 6066, a Notice of a Public Hearing regarding City's WSCP was published within the jurisdiction of City on June 9, 2021 and June 16, 2021; and

WHEREAS, in accordance with applicable law, including but not limited to Water Code section 10642, a public hearing was held on June 22, 2021 at 6:30 PM or soon thereafter, in in order to provide members of the public and other interested entities with the opportunity to be heard in connection with proposed adoption of the WSCP and issues related thereto; and

WHEREAS, pursuant to said public hearing on City's WSCP, City, among other things, encouraged the active involvement of diverse social, cultural, and economic members of the community within City's service area with regard to the WSCP, and encouraged community input regarding City's WSCP; and

WHEREAS, the City Council has reviewed and considered the purposes and requirements of the Act, the contents of the WSCP, and the documentation contained in the administrative record in support of the WSCP, and has determined that the factual analyses and conclusions set forth in the WSCP are legally sufficient; and

WHEREAS, the City Council desires to adopt the WSCP and to incorporate it as part of its 2020 Plan prior to July 1, 2021 in order to comply with the Act.

WHEREAS, Section 10652 of the California Water Code provides that the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) (CEQA) does not apply to the preparation and adoption of a WSCP as part of Plan pursuant to California Water Code section 10632.

NOW THEREFORE BE IT RESOLVED, the City Council of the City of Garden Grove hereby resolves as follows:

1. The Water Shortage Contingency Plan (WSCP) is hereby adopted as amended by changes incorporated by the City Council as a result of input received (if any) at the public hearing and ordered filed with the Secretary of the City Council and shall be incorporated into City's 2020 Plan;

2. The Mayor is hereby authorized and directed to include a copy of this Resolution in City's WSCP and/or in City's 2020 Plan;

3. The Mayor is hereby authorized and directed, in accordance with Water Code sections 10621(d) and 10644(a)(1)-(2), to electronically submit a copy of the WSCP, as part of its 2020 Plan, to DWR no later than July 1, 2021;

4. The Mayor is hereby authorized and directed, in accordance with Water Code section 10644(a), to submit a copy of the WSCP, as part of its 2020 Plan, to the California State Library, and to any city or county within which the City provides water supplies no later than thirty (30) days after this adoption date;

5. The Mayor is hereby authorized and directed, in accordance with Water Code section 10645, to make the WSCP available for public review at the City's

offices during normal business hours and on its website at ggcity.org no later than thirty (30) days after filing a copy of the WSCP, as part of its 2020 Plan, with DWR;

6. The Mayor is hereby authorized and directed to implement the WSCP in accordance with the Act and to provide recommendations to the City Council regarding the necessary budgets, procedures, rules, regulations, or further actions to carry out the effective and equitable implementation of the WSCP.

7. The City Council finds and determines that this resolution is not subject to CEQA pursuant to Water Code Section 10652 because CEQA does not apply to the preparation and adoption of a WSCP or to the implementation of the actions taken pursuant to such plans. Because this resolution comprises the City Council's adoption of its WSCP and involves its implementation, no CEQA review is required.

8. Pursuant to CEQA, the City Council directs staff to file a Notice of Exemption with the City Clerk's Office within five (5) working days of adoption of this resolution.

9. The document and materials that constitute the record of proceedings on which this resolution and the above findings have been based are located at 11222 Acacia Pkwy, Garden Grove, CA 92840. The custodian for these records is the City Clerk.

Adopted this 22nd day of June 2021.

Steve Jones

STEVE JONES, MAYOR

ATTEST:

Teresa Pomeroy

TERESA POMEROY, CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF ORANGE) SS:
CITY OF GARDEN GROVE)

I, TERESA POMEROY, City Clerk of the City of Garden Grove, do hereby certify that the foregoing Resolution was duly adopted by the City Council of the City of Garden Grove, California, at a meeting held on June 22, 2021, by the following vote:

AYES:	COUNCIL MEMBERS:	(4)	NGUYEN D., KLOPFENSTEIN, NGUYEN K., JONES
NOES:	COUNCIL MEMBERS:	(0)	NONE
ABSENT:	COUNCIL MEMBERS:	(3)	BRIETIGAM, O'NEILL, BUI

Teresa Pomeroy

TERESA POMEROY, CITY CLERK

Arcadis U.S., Inc.
320 Commerce, Suite 200
Irvine
California 92602
Phone: 714 730 9052
www.arcadis.com

Maddaus Water Management, Inc.
Danville, California 94526
Sacramento, California 95816
www.maddauswater.com