URBAN WATER SHORTAGE CONTINGENCY PLAN

FOR

STOCKTON EAST WATER DISTRICT

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Table of Contents

List of Tables

1 - PURPOSES AND PRINCIPLES OF PLAN

The purpose of the Stockton East Water District (SEWD or District) Urban Water Shortage Contingency Plan (WSCP) is to provide a methodology for analyzing water supply reliability, establishing water shortage stages, identifying appropriate response actions, and documenting protocols for implementing the WSCP. This WSCP was prepared according to requirements in Sections 10632 & 10635 of the California Water Code. Certain components of the WSCP, such as water use restrictions and enforcement, are not applicable to SEWD since they provide wholesale water. The District's Urban Contractors also have their own Water Shortage Contingency Plans applicable to their customers.

2 - PROCEDURES FOR CONDUCTING ASSESSMENT

Decision Making Process

The District provides wholesale treated water to the City of Stockton, California Water Service Company, and San Joaquin County, collectively called the Urban Contractors. The District policy has been to provide as much treated surface water to the urban area as possible because of the danger of saline intrusion into the groundwater basin from the Delta. The percentages and amounts of entitlements to each Urban Contractor are calculated annually. When the District declares a supply shortage, all Urban Contractors receive a uniform percentage reduction from their contractual allocation. The District can only deliver what is available. Any deficiencies in treated water deliveries from the treatment plant are reflected in additional groundwater pumping by the contractors to make up the difference. It is the Urban Contractors' responsibility to implement water use restrictions from their customers during a water shortage.

The following general process is performed in assessing water supplies and demands and determining urban water deliveries.

1. Urban Contractors provide their estimated demands for a calendar year each preceding fall.
2. Annual crop water demands are estimated from the District's previous Annual Crop Report.
3. Estimated surface water allocations are provided for the New Melones Reservoir, New Hogan Reservoir, and District's agreement with Central San Joaquin Water Conservation District by the Spring each year.
4. Groundwater capacity is estimated by the number of operational wells and recent pumping data.
5. Per agreement with Urban Contractors, minimum of 20,000 ac-ft/yr is used for urban demands.
6. If total supplies are not adequate to meet all urban and agricultural demands, agricultural deliveries may be reduced, as long as there are adequate groundwater supplies to meet demands while maintaining a sustainable groundwater supply.
7. If demands are significantly higher than supplies, then groundwater wells and water transfers may be used to augment supplies.

Quantification of Water Supply

The District has three water supplies: New Hogan Reservoir, New Melones Reservoir, and groundwater. Following are discussions on how available water supplies are quantified.

New Hogan Reservoir (Calaveras River)

The District receives water from the New Hogan Project pursuant to an August 25, 1970 Contract among the USBR, the District, and Calaveras County Water District (CCWD). The Contract allocates 56.5 percent of the yield from New Hogan Reservoir to the District, and the remaining 43.5 percent to CCWD. The total annual supply available is approximately 84,100 ac-ft/yr in normal water years. The Allocation Contract also provides that any water not used by CCWD can be used by the District. At the current level of CCWD use, the District can rely on about 83,000 ac-ft/yr of supply from the New Hogan Project in normal water years under safe yield operation. If CCWD maintains its percentage entitlement (43.5 percent) and exercises it, the District's share would be reduced. The District is the water master and controls New Hogan Dam releases for irrigation and municipal use for the District and CCWD during non-flood control periods. The United States Army Corps of Engineers (USACE) operates the dam for flood control.

New Melones Reservoir (Stanislaus River)

The District receives water from the New Melones Project pursuant to a December 1983 Contract with USBR allocating the District 75,000 ac-ft annually. New Melones Reservoir is a part of the Central Valley Project (CVP), receives its water from rain and snowmelt runoff, and has a capacity of 2.4 million ac-ft. It is located approximately 40 miles east of Stockton, north of State Highway 120 in Stanislaus County. Central San Joaquin Water Conservation District (CSJWCD) also has a water supply contract with USBR for the New Melones Project. Together the District and CSJWCD are entitled to up to 155,000 ac-ft of water from New Melones Reservoir annually. Water allocation amounts are based on the March-September water forecast and the February end of month storage in the New Melones Reservoir each year. This water is subject to cutbacks based on the USBR's overall CVP operations.

In 2014, the District entered into an agreement with Central San Joaquin Water Conservation District (Central) by which Central permanently assigned to the District, for the benefit of the City of Stockton and Cal Water, 15,000 ac-ft per year of firm water Central is entitled to receive under its existing contract with the USBR. Central takes their 80,000 ac-ft contract amount before SEWD receives it's allocated 15,000 ac-ft, but this occurs in all years except some years of a multi-year drought.

Groundwater

The District has five wells that are only used during operational emergencies or severe droughts. The capacity of the wells was estimated to be 13,700 ac-ft/yr in 2020. The capacity available each year is based on the number of wells operational and recent pumping data.

Existing Infrastructure Constraints

Primary infrastructure includes a 65-MGD water treatment plant, five groundwater wells, New Melones Dam and New Hogan Dam, and conveyance facilities that bring water from the dams to the water treatment plant.

Water Treatment Plant. The Water Treatment Plant has six backup generators so it can continue operating during a power outage. The Water Treatment Plan may temporarily be down in case of malfunction or other operational problem.

Groundwater Wells. The District operates five wells for use during severe droughts or operational emergencies related to the dams or conveyance facilities.

Dams. New Hogan Dam and New Melones Dam are owned and managed by the Federal government. Consequently, infrastructure problems at either facility are outside of the control of SEWD. If problems at either facility restricts water supplies, then the District can use their wells to provide a temporary water supply.

Conveyance Facilities. All surface water is delivered to the water treatment plant and to the Urban Contractor connections by gravity through a series of creeks, diversion structures, and canals. No power is needed for conveyance. If the conveyance facilities experience damage or malfunctions that limit water deliveries, then the District can use their wells as a temporary water supply.

3 - WATER SHORTAGE STAGES

The Water Code lists six standard Water Shortage Stages for use in WSCPs, each increasing gradually by 10% up to the highest level which is a 50+% reduction. These stages are generally not applicable to SEWD since they provide a wholesale supply and have limited mitigation options. Further, due to a reliable water supply, aggressive responses are only needed in extreme water shortages.

Table 1 summarizes four supply reduction conditions that align better with the District's response actions described in the following section:

Table 1: Water Shortage Stages

Stage	Period	Supply Reduction	Water Supply Condition
1	Long-term	0%-50%	Water Supply Shortage
2	Long-term	50%-75%	Severe Water Supply Shortage
3	Long-term	75+%	Critical Water Supply Shortage
4	Short-term	>50%	Severe Water Supply Shortage

Notes:
1 – Short term conditions occur for 45 days or less and may be attributed to infrastructure, water quality, or power issues, as well as hydrologic conditions. Long-term conditions are greater than 45 days and are typically due to hydrologic conditions.

4 - SHORTAGE RESPONSE ACTIONS

Response Actions by Water Shortage Stage

The District is a wholesaler of treated water and has no authority over mandatory prohibitions on water use. Any resolution or ordinance to end users would be issued by the Urban Contractors. The

District, however, can take a few actions during water shortages to improve water supply conditions. These are described below.

1. Water Conservation Education. The District funds and supports water conservation education through the Stockton Area Water Suppliers group. These education programs could potentially be expanded or re-focused on specific topics during a water shortage.
2. Reduce Agricultural Water Deliveries. A primary method to reduce surface water use is to decrease water deliveries to agricultural customers. This method has been successfully used in the past. The growers practice conjunctive use and rely on groundwater to supplement surface water, especially during dry periods. SEWD performs both in-lieu and direct recharge to sustain groundwater levels and is developing a long-term recharge program that will help ensure sustainable groundwater supplies. This will allow growers to accommodate reduced surface water deliveries in dry years through higher groundwater pumping. This method is often used; however, the District still strives to meet all of the urban and agricultural water demands each year and tries to minimize surface water cutbacks to agricultural customers.
3. Pumping Groundwater. The District has five wells that are only used during operational emergencies or severe droughts. They were used in 2015 and 2016 due to a serious multi-year drought. The well water is delivered to the water treatment plant and conveyed to the Urban Contractors.
4. Water Transfer Purchases. Water supplies could be augmented through water transfers. However, any such transfer would likely be on a temporary annual basis. While SEWD may seek such transfers in future droughts, they are not guaranteed.

Table 2 lists the Response Actions that can be taken during each Water Shortage Stage.

Table 2: Response Actions During Water Shortages

Stage	Period	Supply Reduction	Response Actions
1	Long-term	0%-50%	Expand/re-focus water conservation education Reduce deliveries to agricultural customers
2	Long-term	50%-75%	Expand/re-focus water conservation education Reduce deliveries to agricultural customers Pump groundwater from District wells
3	Long-term	75+%	Expand/re-focus water conservation education Reduce deliveries to agricultural customers Pump groundwater from District wells Water transfer purchases
4	Short-term	>50%	Expand/re-focus water conservation education Reduce deliveries to agricultural customers Pump groundwater from District wells

Locally Appropriate Supply Augmentation Actions

Locally appropriate supply augmentation actions are pumping groundwater from District wells and water transfer purchases. These are discussed above.

Locally Appropriate Operational Changes
During a drought, operational changes to the water treatment plant may be needed to accommodate different mixtures of the three water supplies (New Hogan, New Melones, and groundwater). In addition, the District may reduce intentional groundwater recharge to preserve water for customer demands.

Gap Between Supply and Demand
Wells. The District's wells have an annual capacity of about 13,700 ac-ft as of 2020. The District also plans to construct one new well every five years, adding an additional 2,400 ac-ft/yr capacity with each new well.

Water Transfers. The supply from a water transfer will vary based on the amount purchased. Surplus waters are often limited in supply or not available at reasonable costs during droughts. However, in 2016, SEWD did purchase 10,000 ac-ft from Oakdale Irrigation District during a severe drought.

5 - COMMUNITY OUTREACH

Current and Predicted Shortages
If a water shortage occurs, SEWD will inform the Urban Contractors as soon as feasible. The Urban Contractors are responsible for notifying local residents of specific water use restrictions, water waste penalties, and water conditions specific to their individual agency.

Shortage Response Actions
SEWD notifies the Urban Contractors on a regular basis about the availability of water supplies. They will generally be notified if wells or water transfers are used to augment supplies and how it will impact their deliveries.

6 - LEGAL AUTHORITY OF THE PLAN

This WSCP adheres with the California Water Code 10632. This document is also required by State law as outlined in the Water Code, which states that, "Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan…" (WC 10632). As an established California Water District, SEWD has the authority to implement the WSCP, declare water shortages, and implement shortage response actions.

Declaring a Water Shortage Emergency
SEWD will follow the protocols outlined in this Plan should it become necessary to declare a water shortage emergency. The process will follow the pertinent sections of the California Water Code and be noticed for a public hearing, typically at a Board of Directors meeting.

Supplier Coordination
The District Manager or designated staff will be available and responsible for coordinating with the Urban Contractors if there will be a proclamation of a water shortage.

7 - REVENUE REDUCTIONS AND EXPENSE INCREASES

The various revenue sources available to the District during droughts include, but are not limited to water sales, assessments, and other non-operating revenues such as grant funding when available. In addition, special outside funding sources may be made available to water agencies during a water emergency or drought.

Each year a budget is adopted at a public hearing to determine the amount of revenue needed from the Urban Contractors to meet treatment plant related expenses for the succeeding year. Revenue requirements are adjusted for over or under collection from the previous year, which are generally related to the amount of water treated. At the end of each year, budgeted expenditures are compared with actual expenditures. Credits are applied to retailer accounts in the event that actual expenditures are less than budgeted expenditures.

Each year a review is conducted to compare increases in District expenses to revenues, in order to determine if rate adjustments may be necessary to help ensure an adequate budget for operations and maintenance expenses.

Potential Revenue Reductions and Expense Increases

Potential revenue reductions in droughts may include but are not limited to:

- Decreased water sales to the Urban Contractors
- Decreased water sales to agricultural customers

Potential expense increases in droughts may include but are not limited to:

- Additional costs for groundwater pumping
- Purchases of higher priced transfer water

Mitigation Actions

To assure adequate operating budget, the District strives to maintain dry year reserves. One reserve account is provided for agricultural supply and another account is provided for municipal and industrial supply. Each year a contribution is made to each reserve fund based upon the quantity of water delivered in that year to irrigators and Urban Contractors. The amount in the reserves is limited based on the District's enabling legislations. The reserve accounts help to keep the District financially viable during droughts when water sales are lower.

8 - MONITORING AND EVALUATING THE PLAN

The District first adopted their WSCP in 1991. This WSCP has been updated to incorporate new requirements established in 2020, as well as important lessons learned during the historic drought of 2013-2016. The WSCP will be re-evaluated at least every five years and at the end of each drought period to assess its performance. If deemed necessary, it will be modified and improved based on lessons learned. The Plan may also be updated in the middle of a drought year if needed.