2020 Water Shortage Contingency Plan for South Tahoe Public Utility District
FINAL DRAFT
2020 Water Shortage Contingency Plan

3 May 2021

Prepared for
South Tahoe Public Utility District
1275 Meadow Crest Drive
South Lake Tahoe, CA 96150

KJ Project No. 2070009.00
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A Template for Annual Water Supply and Demand Assessment
B 60-day and Public Hearing Notification
C Board of Directors Acceptance and Approval of WSCP
## List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-2016 Event</td>
<td>Statewide drought emergency declared under the California Emergency Services Act</td>
</tr>
<tr>
<td>Annual Assessment</td>
<td>Annual Water Supply and Demand Assessment</td>
</tr>
<tr>
<td>Acre-feet</td>
<td>AF</td>
</tr>
<tr>
<td>Board</td>
<td>Board Members of the South Tahoe Public Utility District</td>
</tr>
<tr>
<td>CWC</td>
<td>California Water Code</td>
</tr>
<tr>
<td>District</td>
<td>South Tahoe Public Utility District</td>
</tr>
<tr>
<td>DWR</td>
<td>California Department of Water Resources</td>
</tr>
<tr>
<td>EOP</td>
<td>Emergency Operations Plan</td>
</tr>
<tr>
<td>GMP</td>
<td>Groundwater Management Plan</td>
</tr>
<tr>
<td>GSA</td>
<td>Groundwater Sustainability Agency</td>
</tr>
<tr>
<td>GSP</td>
<td>Groundwater Sustainability Plan</td>
</tr>
<tr>
<td>LHMP</td>
<td>Local Hazard Mitigation Plan</td>
</tr>
<tr>
<td>RA</td>
<td>Recommended Action</td>
</tr>
<tr>
<td>RPO</td>
<td>regional power outage</td>
</tr>
<tr>
<td>TRPA</td>
<td>Tahoe Regional Planning Agency</td>
</tr>
<tr>
<td>TSS</td>
<td>Tahoe South Subbasin (6-005.01)</td>
</tr>
<tr>
<td>UWMP</td>
<td>Urban Water Management Plan</td>
</tr>
<tr>
<td>WSCP</td>
<td>Water Shortage Contingency Plan</td>
</tr>
<tr>
<td>WY</td>
<td>Water Year (October 1 of preceding year through September 30 of water year)</td>
</tr>
</tbody>
</table>
Chapter 1:  Water Supply Reliability Analysis

From DWR Guidebook p. 206

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

From Guidebook: Water Code Section 10632(a)(1)
The analysis of water supply reliability conducted pursuant to Section 10635. The narrative in this section examines (a) the findings related to water system reliability conducted pursuant to Water Code Section 10635, and (b) the key issues that may create a shortage condition when looking at the Supplier’s water asset portfolio. More specifically, this section provides a concise narrative, summarizing the Supplier’s water supply analysis in Chapter 6 and its water reliability findings in Chapter 7, recognizing that the WSCP can be a stand-alone document that will be submitted with the 2020 UWMP.

The Supplier is encouraged to consider all issues—foreseeable or unforeseeable—that could lead to water supply shortages. For example, a Supplier that relies exclusively on groundwater may show that its water supplies are reliable under all statutorily required conditions, but that a low probability, high impact issue—like the sudden presence of an unforeseen toxin—may require shutting the main groundwater pumping system and activating the WSCP. This section would provide the context for evaluation of threats to water supply reliability that are identified in the WSCP.

The South Tahoe Public Utility District (District) provides water service throughout the South Lake Tahoe area (Figure 1-1) Water supply is provided by eleven (11) active drinking water wells and four (4) standby wells which supply more than 14,000 homes and businesses. All the District’s drinking water is pumped from the Tahoe South Subbasin (designated by the California Department of Water Resources (DWR) as Groundwater Subbasin 6-005.01) of the Tahoe Valley Groundwater Basin (6-005)). The District is the largest water purveyor in the Tahoe South Subbasin (TSS). The District does not currently serve water from Lake Tahoe or any other surface water source for potable use.

The TSS historically has shown little to no response to hydrologic year types, and the District’s water supply was not severely impacted during the most recent statewide drought emergency declared under the California Emergency Services Act (2012-2016 Event). Figure 1-2 presents groundwater elevations from the 2004 Water Year (WY) through 2019 WY. The District assumes the TSS supply is highly reliable with no anticipated water supply shortage in the planning period of this Plan. Therefore, this Water Shortage Contingency Plan (WSCP) is most likely triggered due to the restraints of groundwater conveyance and focuses on relatively short and extreme events such as wildfire, power outage, loss of critical infrastructure, providing emergency supply to neighboring agencies per Mutual Aid Agreement occurring during Dry Years. Table 1-1, which is has the same content as UWMP Table 6-7 – Drought Risk Assessment, shows the District’s near-term water supply reliability assuming 5-year drought. The supply values are derived from the groundwater model Q6 supply-deficit calculations for first five years of simulated 10-year drought cycle. The calculations imply that even in the event of a 5 year drought the basin would still have a surplus in excess of 7,000 AF.
### Table 1-1: Near Term Water Supply Reliability Assuming 5-Year Drought (DWR Table 7-5)

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th>Total</th>
<th>2022</th>
<th>Total</th>
<th>2023</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Water Use</td>
<td>5,779</td>
<td></td>
<td></td>
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<tr>
<td>Total Supplies</td>
<td>29,425</td>
<td></td>
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**Surplus/Shortfall w/o WSCP Action**

23,646

**Planned WSCP Actions (use reduction and supply augmentation)**

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<tr>
<th></th>
<th>2021</th>
<th></th>
<th>2022</th>
<th></th>
<th>2023</th>
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<tr>
<td>WSCP - supply augmentation benefit</td>
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<td>WSCP - use reduction savings benefit</td>
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<td>Revised Surplus/(shortfall)</td>
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<td>19,376</td>
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<td>15,082</td>
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<td>Resulting % Use Reduction from WSCP action</td>
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<td>0%</td>
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<td>0%</td>
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<tr>
<td>Year</td>
<td>Total Water Use</td>
<td>Total Supplies</td>
<td>Surplus/Shortfall w/o WSCP Action</td>
<td>Planned WSCP Actions (use reduction and supply augmentation)</td>
<td>Resulting % Use Reduction from WSCP action</td>
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<td>----------------------------------</td>
<td>------------------------------------------------------------</td>
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<td>2024</td>
<td>5,864</td>
<td>21,712</td>
<td>15,848</td>
<td>WSCP - supply augmentation benefit</td>
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<td>WSCP - use reduction savings benefit</td>
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<td></td>
<td></td>
<td>Revised Surplus/(shortfall) 15,848</td>
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<td>Resulting % Use Reduction from WSCP action 0%</td>
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<td>2025</td>
<td>5,886</td>
<td>13,163</td>
<td>7,277</td>
<td>WSCP - supply augmentation benefit</td>
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<td>WSCP - use reduction savings benefit</td>
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<td>Revised Surplus/(shortfall) 7,277</td>
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<td></td>
<td></td>
<td>Resulting % Use Reduction from WSCP action 0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Legend

- Green polygon: District Water Service Area
- Blue dashed line: District Service Area Boundary
- Pink area: Tahoe South Subbasin

Kennedy/Jenks Consultants
South Tahoe Public Utility District
2020 Urban Water Management Plan

District Boundaries and Tahoe South Subbasin

Figure X
Figure 1-2: TSS Hydrographs (2005 WY through 2019 WY)
Chapter 2: Annual Water Supply and Demand Assessment Procedures

From Guidebook P. 206

Water Code Section 10632(a)(2)

The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier’s water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

Water Code Section 10632.1.

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier’s water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

These Annual Assessment procedures described herein are one tool to be used to determine if a water shortage is to be declared.

New provisions in Water Code Section 10632.1. requires that an urban water supplier, such as the District, conduct an annual water supply and demand assessment (“Annual Assessment”), on or before July 1 of each year, to be submitted to DWR. The requirement to perform the Annual Assessment begins in July 2022. The procedures for performing the Annual Assessment are to be detailed in an urban suppliers’ WSCP.
Water shortages occur with unpredictable frequency, intensity and duration. Developing and maintaining a healthy water supply to serve its customers has always been an ongoing District priority, and the District wants to be prepared for water shortages. The District is 100% reliant on groundwater for water supply. As the Groundwater Sustainability Agency (GSA) for the portion of the TSS within its service area, the District is required to submit an Annual Report to DWR to report the current condition of the groundwater basin since 2015 per CWC and Groundwater Sustainability (GSP) Regulations. The main reporting aspects within the TSS annual report include descriptions of groundwater conditions over the preceding WY but are not limited to:

- Climate in terms of total precipitation and water year type;
- Groundwater conditions in terms of groundwater levels and groundwater recharge (as calculated using the South Tahoe Groundwater Model);
- Groundwater extractions in terms of groundwater pumpage and water use; and
- Annual and cumulative changes in groundwater storage (as derived from the flow budget calculated using the South Tahoe Groundwater Model).

In July 2019, DWR approved the District’s 2014 Groundwater Management Plan (2014 GMP) and additional plans, reports and other documents related to the 2014 GMP as an approved Alternative to a GSP. As part of DWR’s assessment, eight (8) recommended actions (RAs) were presented describing information to be included in the first 5-year update of the approved Alternative due to DWR by January 1, 2022. RA 3 recommended STPUD reconcile the differing future water demand projects between the GMP and the District’s Urban Water Management Plan (UWMP) and incorporate the reconciliation into the projected water budget for the TSS. The annual report is the starting point for preparing the procedures to perform the Annual Assessment. A template of the Annual Assessment is included in Appendix A of the WSCP.

Water supply projections and hydrologic conditions are significant components in deciding when a water shortage response is needed. The amount of the water supply shortage contributes to the severity of shortage declared and the necessary level of response from the District and customers. The procedure described in this Chapter was developed to help satisfy the water demand requirements for the approved Alternative GMP and the water supply and demand assessment requirements for the WSCP.

### 2.1 Timeline for Conducting the Annual Assessment

Figure 2-1 provides procedures for performing the Annual Assessment. The figure outlines actions for a normal year and one year of drought. By gathering information on groundwater conditions over the preceding WY in December, the District will get a snapshot of the available water supply conditions for the Annual Assessment, in terms of change in groundwater storage within the TSS. The annual change in groundwater storage is the difference between groundwater recharge and discharge. Tracking this annual difference allows the District to monitor the amount of groundwater stored in the TSS. The District can then allocate resources to mitigate supply deficiencies, if any, and start outreach to customers to manage demand. Major actions are proposed in January to March, when an initial estimate of supply is made and compared to demand. A final annual assessment is proposed in May.
Figure 2-1: Procedure for Performing Annual Assessment

Dec - Jan
- Compile annual total precipitation data from the TSS Reference Station: Hagans Meadow (SNOTEL 508) to determine water year type;
- Compile and evaluate TSS Groundwater Elevation Monitoring data to evaluate long-term trends in groundwater levels
- Compile annual groundwater pumpage data to evaluate long-term trends in groundwater extractions

Feb - Mar
- Update South Tahoe Groundwater Model
  - Calculate water budget for preceding water year
  - Generate plot tracking trends in climate (in terms of annual water year type), water demand (in terms of annual groundwater demand) and available water supply (in terms of available groundwater storage)

Apr - May
- Submit TSS Annual Report to DWR by April 1st;
- Conduct public hearing presenting the Annual Report to the District's Board
- Evaluate trends in groundwater recharge, groundwater pumpage and available groundwater storage for the annual water supply and demand assessment
- If necessary, determine need for shortage response actions
- Start Public Outreach

Jun - Jul
- Prepare Annual Water Supply and Demand Assessment report
- Submit Annual Water Supply and Demand Assessment to DWR by July 1st
- Continue public outreach
- If necessary, declare water shortage and implement supply mitigations and demand reduction actions
- Monitor customer response to water shortage messaging and other actions
2.2 **Factors Affecting Demand and Supply**

2.2.1 **Weather Outlook**
Weather affects the District supplies in many ways. For many of the supplies, the effects of weather are seen over the short-term and are reflected in seasonal changes in groundwater elevations.

- **Water Year Classification.** The District monitors total precipitation measured at the National Resources Conservation Service SNOTEL station 508: Hagan’s Meadow, CA. Based on water years 1979 through 2017, total accumulated precipitation measures at SNOTEL 508: Hagan’s Meadow, CA is classified as “Very Wet”, “Wet”, “Above Normal”, “Normal”, “Below Normal”, “Dry”, and “Critical”. The total precipitation is an input used to calculate groundwater recharge in the groundwater model. By this manner the District directly considers the impacts of climate in terms of total precipitation and groundwater recharge on available water supply and will affect how the District considers demand in the current year and the next year as a drought year.

2.3 **Water Supply Assessment**
The District will update the groundwater model on an annual basis to calculate the changes in groundwater storage presented in the TSS Annual Report. Tracking the annual changes in groundwater storage will allow the District to quantify the available water supply in terms of cumulative change in groundwater storage (in AF) within the TSS and District’s service area (see Figure 1-1).

2.4 **Water Demand Assessment**
DWR guidance for the Annual Assessment is to consider the expected water use in the upcoming year, based on recent water use, and before any projected response actions a Supplier may trigger under its WSCP. The District will follow the guidance in the Annual Assessment template to report the unconstrained current demand and projected demand for the subsequent year, in terms of total monthly and annual groundwater pumpages for District Wells.
2.5  Current Predicted Shortages Based on Annual Water Supply and Demand Assessment

From DWR Guidebook p. 210 of pdf

While the first Annual Assessment is not required to be submitted to DWR until July 1, 2022, Suppliers are encouraged to use the procedures documented in its WSCP to prepare and include the outcome of an Annual Assessment for 2021, and to present the results in their UWMP as an example.

Further, although the Annual Assessment must be submitted to DWR on or before July 1 of every year, an early Annual Assessment allows Suppliers and customers to identify uncertainties and prepare financially and logistically for any anticipated water supply constraints in the coming months. Therefore, Suppliers are encouraged to develop procedures, including decision-making processes, that facilitate early analysis and adoption.

The District staff will compare the water budget based on groundwater model output and the anticipated demand based on groundwater pumpages and determine if a supply shortage is anticipated, the level of shortage, and determine whether the shortage condition requires implementation of its WSCP.

2.6  Coordination with Cities and Counties

Should a water shortage be declared, the District will coordinate with any City or County within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.
Chapter 3: Six Standard Water Shortage Stages

From DWR Guidebook
Water Code Section 10632(a)(3)

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

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

3.1 Definitions/Criteria Establishing Shortage

The District currently applies a three-stage plan during declared water shortages in accordance with it’s Administrative Code. The District has a reliable groundwater resource as described in the Water Supply Reliability Analysis. Applying WSCP percent shortages up to 50% of the total source capacity for the water system was calculated and compared to the District’s monthly water production over the past 30 years. Comparison of these values indicates that the District would likely experience water shortage conditions under the following scenarios:

- A water shortage in a neighboring water system(s) could result in an emergency condition requiring the District to provide emergency water through inter-tie(s) under a mutual aid agreement. Under below normal water year or dry water years, unexpected delivery of emergency water could possibly trigger 10%-20% water shortage for the District's system.

- An extended regional power outage (RPO) during a maximum demand in summertime would result in 40%-50% water shortage.

- A wildfire with extended RPO during a maximum demand in summertime would result in >50% water shortage.

The District decided to crosswalk the current water shortage levels in the Administrative Code to those mandated by the State. Table 3-1 summarizes the water shortage plan and stages of action.
### Table 3-1: Water Shortage Contingency Plan Levels

<table>
<thead>
<tr>
<th>Shortage Level</th>
<th>District Administrative Code</th>
<th>Complete Both</th>
<th>Percent Shortage Range(^1)</th>
<th>Water Shortage Condition (Narrative description)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stages</td>
<td></td>
<td>Numerical value as a percent</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I</td>
<td>Up to 10%</td>
<td>Minor Supply Reduction(^2)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Up to 20%</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>II</td>
<td>Up to 30%</td>
<td>Significant Supply Reduction (e.g., RPO)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Up to 40%</td>
<td></td>
<td></td>
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<td>5</td>
<td></td>
<td>Up to 50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>III</td>
<td>&gt;50%</td>
<td>Significant Supply Reduction under Water Emergency Condition (e.g., wildfire with RPO)</td>
<td></td>
</tr>
</tbody>
</table>

Add additional rows as needed

\(^1\) One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

NOTES:
1. Table format based on DWR Guidebook Table 8-1.
2. This water shortage condition could be triggered if the District provides emergency supply to neighboring water systems under below normal or dry water years.

### 3.2 Determining Water Shortage Reductions

The District assigns requirements and actions to apply in each stage designed to achieve the necessary demand reduction. The District will monitor monthly or weekly production values for each of its wells, depending on shortage conditions. The District will also compare production to actual customer usage to determine demand reduction results. Based on production and demand trends, the District will act to adjust the water shortage stage declaration, as necessary.

### 3.3 Actions to Prepare for Catastrophic Interruption

The District has developed an Emergency Operations Plan (EOP). This EOP guides response to unpredicted catastrophic events that might impact water delivery including regional power outages, earthquakes or other disasters and outlines standard operating procedures for all levels of emergency, from minor accidents to major disaster. In addition, the District has prepared a Local Hazard Mitigation Plan (LHMP). These plans have been coordinated with neighboring agencies.
3.4 Seismic Risk Analysis

DWR Guidebook p. 218

Water Code Section 10632.5.(a)
In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

As part of the District’s 2019 LHMP, the District evaluated seismic risk to water facilities and identified mitigation measures to lessen the risk. This plan, available at https://stpud.us/assets/st_docs/Final-STPUD_Local_Hazard_Mitigation_Plan-2019-Update-Revised-July-2019.pdf, meets the requirements of the federal Disaster Mitigation Act of 2020 (Public Law 106-390) as well as the requirements of Water Code Section 10644. A copy of the 2019 LHMP will be submitted to DWR with the adopted WSCP.

The District is currently carrying out a risk and reliability analysis throughout the Tahoe Region and will document the seismic impacts accordingly.
Chapter 4: Water Shortage Response Actions (by Shortage Stage)

From Guidebook

Water Code Section 10632 (a)(4)
Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.
(B) Locally appropriate demand reduction actions to adequately respond to shortages.
(C) Locally appropriate operational changes.
(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.
(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

4.1 Supply Augmentation Actions

Any water shortage event should trigger a review of potential sources for supplemental water supply. Since the groundwater basin is highly reliable based on the historical record, potential actions for supplemental water could be alleviated by turning on District standby wells, rehabilitate existing wells to meet target flow rates, and construct new wells if needed. The District may also adjust the delivery of emergency water to neighboring water purveyors during water shortage event if needed. Additional supply sources for consideration by the District include developing surface water from South Lake Tahoe with the water right, and other alternatives based on the actual circumstances at that time. Table 4-1 summarizes the supply augmentation actions that the District could take under water shortage conditions.

Table 4-1: Supply Augmentation and Other Actions

<table>
<thead>
<tr>
<th>Shortage Level</th>
<th>Supply Augmentation Methods and Other Actions by Water Supplier</th>
<th>How much is this going to reduce the shortage gap?</th>
<th>Additional Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Other actions (describe)</td>
<td>600 gpm (2)</td>
<td>The District has interties/bypass with neighboring agencies and could get water from neighboring agencies under emergency conditions.</td>
</tr>
<tr>
<td>3-6</td>
<td>Other actions (describe)</td>
<td>1,870 gpm</td>
<td>The District could turn on standby wells and/or extend the operation period of the active production wells as needed.</td>
</tr>
</tbody>
</table>
NOTES:
1. Table format based on DWR Guidebook Table 8-3.
2. There are four water suppliers adjacent to the District’s service area and there are five emergency interties between the various suppliers. When Lukins Brother Water Company (LBWC) equips treatment to its wells, the District could get a 600 gpm supply from LBWC through a bypass.

4.2  Prohibitions on End Uses

Stage 1 (Shortage Level 1 and 2, up to 20 percent shortage level): During a Stage 1 - normal conditions, Water Users shall not waste water and shall abide by the following:

- Water Users shall not allow water to flow over the ground surface or from sprinklers onto impervious surfaces or adjacent property.
- Water Users shall repair all leaks in plumbing and irrigation systems.
- Hoses shall not be used for washing motor vehicles without an automatic shut-off nozzle attached to the hose. Continuous discharge from hose nozzle is prohibited. Notwithstanding any provision in this Section to the contrary, motor vehicles washing may be done at any time, subject to any other applicable laws, on the property of a Commercial Car Wash or service station. Further, such washing is exempted from these regulations where the health, safety and welfare of the public is dependent upon frequent vehicle cleanings, such as garbage trucks and vehicles which transport food.
- All Water Users are encouraged to report to the District all signs or indications of water leaks or water waste.
- The irrigation of non-landscaped, natural vegetation or undeveloped property is expressly prohibited.
- Designated irrigation days are established: Properties with street addresses ending with an even number shall irrigate on Monday, Wednesday and Friday; and properties with street addresses ending with an odd number shall irrigate on Sunday, Tuesday and Thursday. There will be no irrigation permitted on Saturday. An individual irrigation zone in a property’s irrigation system shall not irrigate more than one hour per day, unless the zone is irrigated exclusively by drip or other low-flow irrigation systems.
- Irrigation exclusively utilizing drip or other low-flow systems shall be exempt from designated irrigation days.
- Water shall not be used to wash sidewalks, driveways, parking areas, tennis courts, decks, patios or other improved areas, except in conjunction with driveway repair and sealing, or to alleviate immediate fire or sanitation hazards.
- All commercial establishments where food or beverages are provided should encourage the serving of water to their customers only when specifically requested by the customer.
Stage 2 (Shortage Level 3, 4 and 5, up to 50 percent shortage): During a Stage 2 – significant water shortage, Stage 1 applies, and also the following shall apply:

- The filling with water of outdoor swimming pools, which are not covered during periods of non-use, is prohibited.

- The operation of any ornamental fountain or similar decorative water structure is prohibited unless a recycling system is used and a notice to the public of such recycling system is prominently displayed.

- Outdoor irrigation of all vegetation including lawns and landscaping is limited to twice per week, one hour per zone - even number addresses shall irrigate on Monday and Thursday and odd number addresses shall irrigate on Tuesday and Friday - except more frequent irrigation of public facilities may be permitted pursuant to Section 3.4.3(h) and 3.4.12 per District’s Administrative Code.

- No water shall be used for irrigating landscaping for new construction.

Stage 3 (Shortage Level 6, greater than 50 percent shortage): During a Stage 3 - Water shortage emergency, Stages 1 and 2 restrictions apply and the Members of the South Tahoe Public Utility District Board (Board) may designate specific areas for further restrictions as follows:

- The use of water for other than domestic and commercial use is prohibited except irrigation of public facilities may be permitted pursuant to Section 3.4.16 per District’s Administrative Code.

- The use of water for air conditioning purposes, where an alternate source of fresh air is available, is prohibited.

4.3 Penalties, Charges, Other Enforcement of Prohibitions

Enforcement actions are described in detail in the Water Shortage and Drought Response Standards in the District’s Administrative Code (Appendix H of the UWMP). The District sends a notification to a customer for a first violation of the water shortage requirements. Subsequent notifications include increasing fines through the fourth notification. After the third notification, the District may install a flow-restricting device on the service. At the fourth notification the District may discontinue water service. The customer will be billed for the installation and removal of the flow-restrictor device, and for the disconnection and re-connection of the water service when conducted.

4.4 Consumption Reduction Method

In addition to prohibitions and penalties, the District can use other consumption reduction methods to reduce water use. Based on the requirements of the Act, Table 4-2 summarizes the District’s demand reduction actions to be implemented at each Shortage Stage.
### Table 4-2: Demand Reduction Actions

<table>
<thead>
<tr>
<th>Shortage Level</th>
<th>Demand Reduction Actions</th>
<th>How much is this going to reduce the shortage gap?</th>
<th>Additional Explanation or Reference (optional)</th>
<th>Penalty, Charge, or Other Enforcement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-6</td>
<td>Expand Public Information Campaign</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-6</td>
<td>Improve Customer Billing</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>1-6</td>
<td>Offer Water Use Surveys</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>1-6</td>
<td>Provide Rebates on Plumbing Fixtures and Devices</td>
<td>20% - 36%</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>1-6</td>
<td>Provide Rebates for Landscape Irrigation Efficiency</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>1-6</td>
<td>Landscape – Limit Landscape Irrigation to Specific Days</td>
<td></td>
<td>Per District Administrative Code, the irrigation frequency will switch from 3 days/week to 2 days/week when the water shortage goes from level 2 to level 3.</td>
<td>Yes</td>
</tr>
<tr>
<td>1-6</td>
<td>Provide Rebates for Turf Replacement</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>1-6</td>
<td>Other – Require automatic shut off hoses</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

**NOTE:**
1. Table format based on DWR Guidebook Table 8-3.

### 4.5 Operational Changes

The District will follow its Operation Plans to adjust the water production and supply based on the water shortage level. Operational Changes under water shortage conditions will include but not limited to:

- Turn on standby well(s).
Adjust deliveries of emergency water to neighboring water systems.
Increase monitoring of pumping water levels in groundwater production wells to allow for potential increases in short-term groundwater pumping rates.
Increase meter reading frequency.

4.6 Customer Compliance, Enforcement and Appeal and Exemption Procedures for Triggered Response Actions

An exemption shall exist under Stage 1 (up to 40 percent shortage) for new lawns planted to comply with Tahoe Regional Planning Agency (TRPA) Best Management Practices (BMPs) or, for any other reason, as follows:

- Newly planted sod will be exempt for twenty-one (21) days from the date it was installed.
- Seeded lawns, whether by hydrosed or other means, will be exempt for thirty (30) days from the date of application.
- Bedding plants, including annuals and perennials, will be exempt for fifteen (15) days from the date of planting.

The property owner, or his/her designee, must notify the District verbally or in writing to obtain an exemption for the establishment of new vegetation as outlined above.

- The General Manager may permit extended periods of irrigation of public facilities if:
  - a hand-held hose with an automatic shut-off is used, or
  - a hand-held, faucet filled bucket of five (5) gallons or less is used, or
  - a drip or low-flow irrigation system is used, or
  - daytime use of public facilities prevents irrigation of all zones on the designated days listed above.

Discretionary Exemptions. The Board may, in its discretion, exempt Water Users and individual facilities of Water Users from the provisions of this Section 3.4, or impose reasonable conditions in lieu of compliance with this Section 3.4, if the Board finds that any of the following conditions exist:

- Hardship. The requirements of this Section would cause an unnecessary and undue hardship upon the Water User, the Water User facility or the public.

- Health and Safety. Strict compliance with the requirements of this Section 3.4 would create an emergency condition, as determined by the Board or other governmental entity with appropriate jurisdiction, affecting the health, protection or safety of the Water User or the public.

- No Impact on Water Use. The granting of the exemption or imposition of reasonable conditions in lieu of compliance with this Section 3.4 would not increase the quantity of water consumed by the Water User or otherwise adversely affect service to other Water Users. In granting any such relief, the departure from the requirements of this Section 3.4 shall be limited to the minimum necessary to address the circumstances upon which such departure is required by a Water User.
Appeals. Any customer or applicant for a variance permit may appeal any decision in accordance with Section 6.7 of the District’s Administrative Code.
Chapter 5: Communication Protocols

DWR Guidebook p. 221  
Water Code Section 10632 (a)(5)  
Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:  
(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.  
(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.  
(C) Any other relevant communications

The District’s Customer Service and Public Affairs and Conservation Departments will develop internal and external outreach protocols to provide notice of any current or predicted shortages and any shortage response actions triggered or anticipated to be triggered. Actions in the outreach protocols will include but not limited to:

- Coordinate with any City, County and land use authorities within which it provides water supply services for the possible proclamation of local emergency, as defined in Section 8558 of the Government Code.

- Writing to water customer either through delivery or mail at his/her last known address with their water billings.

- Post the notification through the District’s website.

- Send out email/text to customers under emergency at his/her last known email address/cell phone number.

- Notify and meet with Mutual Aid Agreement water systems to discuss possible adjustment of emergency water deliveries.
Chapter 6: Legal Authorities

From DWR Guidebook:

Water Code Section 10632 (a)(7)

(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1. [see below]

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

Water Code Section Division 1, Section 350

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

Description of legal authorities to Implement and Enforce Shortage Response Actions

The General Manager, and other District authorized representatives have the duty and are authorized to enforce all provisions stated in Section 3.4 of the District’s Administrative Code under determined shortage conditions.

Based on the outcome of the Annual Water Supply and Demand Assessment, the General Manager will work with the Board to implement the WSCP.

Should a water shortage be declared, the District will coordinate with the City of South Lake Tahoe and El Dorado County for the possible proclamation of a local emergency, in accordance with Chapter 3 Division 1.
Chapter 7: Financial Consequences of Actions during Shortages

From DWR Guidebook p. 225

Water Code Section 10632(a)(8)
A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:
(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).
(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).
(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

The District water rate structure includes rates for metered and unmetered customers. The metered rates for single family connections include two tiers, and all rates include a base fixed charge. The base fixed charge will not be affected by a water shortage. There will be an expected decrease in volumetric revenue if demands are reduced. District energy expenses are expected to decrease slightly with reduced water demands, as less water will be pumped, reducing electrical costs. The District will follow the Administrative Code to issue fines to water user’s bill in case of violation and shall be reimbursed for its costs and expenses in enforcing the provisions under conservation. Other District operating costs are not expected to change significantly during water shortage conditions.

Though there may be reduced volumetric revenue, it is not expected to impact District finances significantly. The District maintains a reserve fund to address financial and supply needs should any of the wells be taken offline. In addition, if the supply shortage is projected to last longer, the District will investigate and implement as necessary water crisis/emergency pricing to offset potential long-term revenue reductions.
Chapter 8: Monitoring and Reporting

From DWR Guidebook p. 225

Water Code Section 10632(a)(9)
For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

Certain aspects of water conservation can be readily monitored and evaluated, such as metered water use and production quantities. Other aspects such as public education are more difficult to monitor in terms of effectiveness.

When severe shortage occurs and some degree of mandatory reduction is required, a program’s effectiveness can be judged directly by water billings. In these cases, targeted results must be met and even reluctant customers will, on the whole, meet the goals. Specific methods to evaluate effectiveness of water conservation programs to be employed by STPUD are:

1. Monitoring of Metered Water Usage – This will determine how much has been used. Compiling statistics to track usage of customer groups to determine trends is currently being done through the water billing computer system. Meter readings/billings can be compared and analyzed to determine the effectiveness of conservation for all customer classes.

2. Monitoring Production Quantities – The Field Operations Manager and Water and Sewer Operations (PUMPS) Supervisor monitor the accuracy of the monthly production totals. The totals are incorporated into the monthly water supply report to the State Water Resources Control Board by the Field Operations Manager.

To verify that conservation reduction goals are being met, production and metered usage reports will be provided to the General Manager when a shortage stage is in effect. Water production figures will be compared to previous year production figures for the same time period to ascertain if conservation goals are being reached.

Additional actions available to the District include:

1. Continue the process of customer meter installation as scheduled to allow overall monitoring throughout the District’s service area.
Chapter 9: Refinement Procedures

From DWR Guidebook p. 226

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

The District will convene the following departmental staff as needed to refine the WSCP:

- Administrative
- Engineering
- Customer Service
- Public Affairs and Conservation
- Field Operations

The WSCP will be updated and refined as appropriate and needed following significant changes to the District’s water supply portfolio or significant changes to the emergency water allocation plans of its mutual aid and assistance agreement agencies (e.g., Lukins Brother Water Company and Tahoe Key Property Owners Association), but no less than every 5 years.
Chapter 10: Special Water Feature Distinction

DWR Guidebook p. 226

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

In its Prohibitions on End Uses, section 4.2 of this Plan, decorative water features are defined separately from swimming pools.
Chapter 11: Plan Adoption Resolution or Ordinance

DWR Guidebook p. 227

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

11.1 Notice of Public Hearing

The WSCP requires specific coordination efforts as well. The agency must send a notice to all county and city governments within its service area of its intent to develop and adopt a 2020 WSCP. This notice must be sent at least 60 days prior to the public hearing to discuss the WSCP. A notice was sent to El Dorado County, City of South Lake Tahoe, TRPA, and El Dorado County Water Agency informing them of the District's WSCP process as presented in Appendix B.

A public review process was included in the WSCP development. The District held a public review of the WSCP to discuss the plan and receive comments from the public. The meeting was conducted at the June 16, 2021 Board of Directors Meeting. Public notice of the meeting was provided per the WSCP Guideline Requirements, and is included in Appendix B.

11.2 Public Hearing and Adoption

The WSCP was approved at the June 16, 2020 Board of Directors meeting. The adoption resolution is provided in Appendix C.

11.3 Plan Submittal

The District will submit the WSCP electronically to DWR by July 1, 2020. Within 30 days of adoption, the District will submit a copy of the WSCP to the State Library and El Dorado County. A copy of the WSCP is available for public viewing at the District Office during normal business hours located at 1275 Meadow Crest Drive, South Lake Tahoe, CA 96150 and available online at the District's website.

11.4 Implementation

The District has maintained its efforts for the conservation program with positive results as evidenced by decreased water demands. The District will monitor its gallon per capita day water usage and investigate alternative programs based on need. The District is a signatory of the Alliance for Water Efficiency and may utilize Alliance programs as necessary.
Implementation of the 2020 WSCP will be tracked through a variety of methods. Supply reliability issues will mostly be tracked through the District’s water quality monitoring program, well infrastructure program, and production values. Progress and results of the conservation program will continue to be tracked and submitted to the State as required to for UWMP and WSCP updates.
**References**


Appendix A: Template for Annual Water Supply and Demand Assessment

UNDER DEVELOPMENT
Appendix B: 60-day and Public Hearing Notifications

UNDER DEVELOPMENT
Appendix C: Board of Directors Acceptance and Adoption of WSCP

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