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**Water Shortage Contingency Plan**

**Kings Canyon High School**

NTNC School Public Water System #CA1000316

10026 S. Crawford Ave. Dinuba, CA 93618

05-02-2024

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# Chapter 1: Introduction

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| System Identification No. | CA1000316 |
| System Name, Address, County | Kings Canyon High School  10026 S. Crawford Ave. Dinuba, CA 93618  Fresno County |
| Basic Description and Location of System Facilities | The school serves 124 students and staff in six buildings. In the winter without irrigation, the school typically uses 16,000 gallons of water per month. With irrigation in the late summer, the school typically uses 50,000 gallons per month. The school has one potable well, Well 01, which has a total depth of 370 feet and is located at a latitude of 36°35'20"N by longitude of 119°22'32"W, near the North fence line. The well was built in 1983 by Meyers Brothers, Inc. located in Hanford, CA. It has a 7.5-hp submersible pump normally maintained at a depth of 189 feet. The average elevations in the well in March and August are 100 feet below ground surface and 135 feet below ground surface, respectively.  Well water is treated with sodium hypochlorite for disinfection before being transferred to a 1000-gallon inline well pressure tank that normally maintains between 40-60 pounds per square inch (psi) pressure in the distribution system.  There is an irrigation system which is supplied water through a backflow prevention device that is connected to the distribution system.  The water system is typically checked at least once a week by the D-1/T-2 certified operator, Joel Stevens. |

|  |  |
| --- | --- |
| **Authorized Official Responsible for Plan Response and Development** | **Joseph Gonzalez Director of Maintenance and Operations**  **1500 I Street Reedley, CA 93654**  **559-217-0373**  **gonzalez-j@kcusd.com**  **Role: Plan development, response and coordination** |
| **Plan Development, Implementation and Updates** | **Joel Stevens Crafts and Trades II Plumber**  **1500 I Street Reedley, CA 93654**  **559-351-3970**  **stevens-jo@kcusd.com**  **Role: Plan Development, Implementation and**  **Updates plan every five years** |
| **Communications** | **Zelda Davila Maintenance Secretary**  **1500 I Street Reedley, CA 93654**  **559-305-7061**  [**davila-z@kcusd.com**](mailto:bsmith@school.edu)  **Role: Communications** |

Plan Coordinators

# Chapter 2: Contacts

The **Director of Maintenance and Operations**, or designees specified below, is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to maintain adequate water supplies for the school or to meet other community public health needs. The **Director of Maintenance and Operations**, or designees, shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan.

## **Internal Chain of Command – Lines of Authority**

|  |  |
| --- | --- |
| **Name, Title and Contact Information** | **Responsibilities during an emergency** |
| **Joseph Gonzalez** **Director of Maintenance and Operations**  **1500 I Street Reedley, CA 93654**  **559-217-0373**  **gonzalez-j@kcusd.com** | * All elements of this plan |
| **Joel Stevens Crafts and Trades II Plumber**  **1500 I Street Reedley, CA 93654**  **559-351-3970**  **stevens-jo@kcusd.com** | * Notify Director of Maintenance and Operations of needs * Meet and assist emergency personnel and/or outside agencies, as needed * Ensure Plan implementation |
| **Zelda Davila Maintenance Secretary**  **1500 I Street Reedley, CA 93654**  **559-305-7061**  [**davila-z@kcusd.com**](mailto:bsmith@school.edu) | * Oversee communications * Assist with emergency personnel and outside agencies, as needed * Coordinate with vendors * Coordinate with water haulers |

## **External Emergency Notification List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Organization or Dept.** | **Name & Position** | **Telephone** | **Email** |
| **State Water Board, DDW[[1]](#footnote-2) District Engineer** | Sudarshan Poudyal, Fresno District Engineer | 559-447-3038 | sudarshan.poudyal@waterboards.ca.gov |
| **State Water Board, DDW Staff Engineer** | Rakel Hairabedian  Water Resource Control Engineer | 559-447-3394 | rakel.hairabedian@waterboards.ca.gov |
| **County**  **Environmental Health Specialist** | Rick Heinrichs, Environmental Health Specialist-Supervisor | 559-600-3357 | [rheinrichs@fresnocountyca.gov](mailto:rheinrichs@fresnocountyca.gov) |
| **CAL FIRE**  **Fresno-Kings County**  **Emergency Command Center** | Paul Pumarejo  Battalion Chief | 559-493-4300 | paul.pumarejo@fire.ca.gov |
| **Fresno County Office of Emergency Services (OES)** | David Luchini  Director of Fresno County Department of Public Health | 559-600-4065  559-600-4055 | [OES@fresnocountyca.gov](mailto:oes@fresnocountyca.gov) |
| **Mutual Aid Contact** | Stephen Johnson | 559-896-3417 | stejohnson@calwater.com |

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## **Service / Repair Contacts**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Organization Type** | **Name & Company** | **Telephone** | **Night or Call Phone** | **Email** |
| **Water Operator** | Joel Stevens  KCUSD | 559-351-3970 | 559-704-2167 | stevens-jo@kcusd.com |
| **Electric Utility** | PG&E | 256-449-3333 | 877-660-6789 | Outage map:  [PGE Emergency Site - Outage Center](https://pgealerts.alerts.pge.com/outagecenter/) |
| **Electrician** | John Martin  KCUSD | 559-318-0090 | 559-318-0090 | martin-j@kcusd.com |
| **Plumber** | Ruben Gomez  KCUSD | 559-351-0136 | 559-351-0136 | gomez-r@kcusd.com |
| **Technical Assistance Provider** | Manuel Soto | 559-802-1625 | N/A | manuels@selfhelpenterprises |
| **Water Hauler3** | NRK Services Inc. | 559-840-7766 | 559-840-7766 | eugenekeeney@gmail.com |
| **Bottled Water Vendor** | Culligan Water | 877-386-0823 | 888-614-0547 | customerrelations@culligan.com |
| **Portable Restrooms and Showers** | Mickey Zweigle  Zweigle Septic Tank Service | 559-638-8811 | 559-375-3840 | zweigleseptic90@gmail.com |
| **Well Drilling/Pump Company** | Ray Remy  Sam Jorgensen Pump Co. | 559-638-7867 | 559-285-0900 | rdremy@sjp-co.com |

3 Use only licensed water haulers from the California Department of Public Health, see website below under “Licensed Water Haulers by County” for an Excel file – hit “cancel” when it requests a username and password:

https://www.cdph.ca.gov/Programs/CEH/DFDCS/pages/fdbprograms/foodsafetyprogram/water.aspx

# Chapter 3: Criteria for Initiation and Termination of Water Shortage Response Stages

The table below provides a summary of possible events that may trigger water shortages for school water systems. These events should be considered as initiation and termination of Water Shortage Triggers are developed and updated.

|  |  |
| --- | --- |
| **Events for Consideration** | **Potential Water System Impacts &**  **Appropriate Agency Contacts** |
| **Drought** | California has experienced continuous and historic drought levels. Potential local impacts from drought can be assessed using the available [California Water Watch](https://cww.water.ca.gov/)[[2]](#footnote-3) tool and by measuring elevations in drinking water sources. Drought may result in the need for varying levels of conservation. If County, State or Federal Drought Orders are put in place, water conservation may also be legally required.  In the event that water outages appear to be imminent or outages have occurred, the State Water Resources Control Board staff should be contacted for additional direction. During water outages, local fire departments should also be notified. |
| **Fire** | Fire potential is high throughout much of California. Fire officials may request water conservation while they are addressing active fires; and some schools may be a shelter-in-place site during these emergencies. Thus, conservation may be required due to the additional water supply demand. Additionally, in all cases of water outage fire officials and the State Water Resources Control Board staff should be notified. |
| **Earthquake** | Earthquakes occur throughout California and may result in well failure due to ground movement, or water loss due to broken pipes. Potential contamination of water supply can also occur when broken sewers or septic lines occur near broken drinking water pipes. Should the water system be severely impacted due to an earthquake and need assistance, the County Office of Emergency Services should be contacted. Subsequent calls to the State Water Resource Control Board are also appropriate. If water outages occur, local fire departments should also be notified. |
| **Significant Treatment Failure** | If water is treated to remove contamination, either chemical or bacterial, the failure of that treatment may result in the need for conservation and reliance on storage, or other actions, until the treatment system can be repaired. Public noticing and/or alternative water may also need to be provided. The State Water Resources Control Board staff should be notified to discuss corrective actions. |
| **Pandemic** | In the event of illness or death of the certified operator, particularly where extensive treatment is necessary, water conservation and reliance on storage maybe necessary when no trained backup operator is readily available to operate the water system. The State Water Resources Control Board staff should be notified to discuss options. |
| **Vandalism/**  **Terrorism** | Depending on the severity of the event, water in wells or storage tanks that have been tampered with may not be safe to be utilized until additional investigation is performed. Alternative water supplies may be necessary in this case as well as coordination with enforcement authorities and the State Water Resources Control Board. |
| **Power Outage** | Power outages may result in pump failure. If backup power and adequate water storage are unavailable, this may lead to water outages or the need for extensive conservation. In the event of water outages, the State Water Resources Control Board staff should be notified to discuss options. |
| **Well Pump or Well Failure** | Well pumps may unexpectedly fail if not properly maintained or utilized beyond its typical life expectancy. Wells also have a life expectancy and need to be replaced as the internal casing can fail over time. Typical life expectancies of water treatment and water distribution equipment is available for review on the State Water Resources Control Board website for reference[[3]](#footnote-4). This equipment should be properly maintained and replaced to prevent failure. However, should water outages occur State Water Resources Control Board staff should be notified to discuss options. |

This Plan includes four stages of water conservation for the school campus. The triggers for initiation of each Stage and the requirements for termination of each Stage are described below.

**Stage 1 Triggers -- Water Shortage WATCH Conditions**

Requirements for initiation:

The school shall implement actions and certain restrictions on non-essential water uses provided in Chapter 4 of this Plan when any of the following occur:

* + Typical water supply capacity or water elevation in Well 01 decreases by more than 15% of its expected average seasonal value.
  + California Water Watch[[4]](#footnote-5) “Current Drought Map” shows the school’s region is in an area of moderate or severe drought.
  + California Water Watch for the school’s zip code shows “Water Year to Date Precipitation” less than 60% of average.
  + GSA’s or nearby cities and public water systems are initiating drought measures.

Requirements for termination:

Stage 1 of the Plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of 5 consecutive days.

**Stage 2 Triggers -- Water Shortage ACUTE Conditions**

Requirements for initiation:

The school shall implement actions and certain restrictions on non-essential water uses provided in Chapter 4 of this Plan when any of the following occur:

* + Typical water supply capacity or water elevation in Well 01 decreases by more than 25% of its expected average seasonal value.
  + California Water Watch “Current Drought Map” shows the school’s region is in an area of extreme drought.
  + California Water Watch for the school’s zip code shows “Water Year to Date Precipitation” less than 40% of average.
  + Local, State or Federal Drought Emergency Orders are in put in place.

Requirements for termination:

Stage 2 of the Plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of 15 consecutive days or immediately if only Local, State, or Federal Drought Emergency Orders are lifted and no other requirements for initiation are present. Upon termination of Stage 2, Stage 1 becomes operative unless otherwise specified.

**Stage 3 Triggers – EMERGENCY Water Shortage Conditions**

Requirements for initiation:

The school shall implement actions and certain restrictions on non-essential water uses provided in Chapter 4 of this Plan when any of the following occur:

* + California Water Watch for the school’s zip code shows “Water Year to Date Precipitation” less than 25% of average,
  + Typical water supply capacity or water elevation in Well 01 decreases by more than 40% of its expected average seasonal value.

Requirements for termination:

Stage 3 of the Plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of 15 consecutive days and if there are no local, State, or Federal mandates on water conservation. Upon termination of Stage 3, Stage 2 becomes operative unless otherwise specified.

**Stage 4 Triggers – CATASTROPHIC Water Shortage Conditions**

Requirements for initiation:

The school shall implement actions and certain restrictions on water uses provided in Chapter 4 of this Plan when any event occurs that may impact the ability of the water system to maintain mandatory school functions:

* + Typical water supply capacity or water elevation in Well 01 decreases by more than 50% of its expected average seasonal value.
  + A natural disaster occurs that may critically impact the water supply (e.g. fire, earthquake, pandemic, power outage cause by weather, etc.)
  + Other water systems failures occur that may critically impact the water supply or its safety (e.g. well collapse, well pump failure, treatment failure, vandalism/terrorism)

Requirements for termination:

Stage 4 of the Plan may be rescinded immediately when:

* All the conditions listed as triggering events have ceased to exist

and in the case of any water outage and/or significant treatment failures, the following have been met:

* Public health officials have deemed the water supply safe for human consumption,
* Other directed actions by public health officials have been implemented to notify the public and take corrective actions of any water system hazards.

Upon termination of Stage 4, Stage 3 becomes operative unless otherwise specified.

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# Chapter 4: Drought Response Actions

The **Director of Maintenance and Operations**, or designee, shall monitor water supply and/or demand conditions on a monthly basis and, in accordance with the triggering criteria set forth in this Plan, shall determine if a water shortage condition exists and the severity of any such water shortage conditions (*e.g., 1-Watch, 2-Acute, 3-Emergency, 4-Catastrophic Water Loss*), and shall implement the following notification procedures accordingly.

**Description of Customer Notification Methods:**

The **Director of Maintenance and Operations**, or designee, shall notify the staff, parents, students, and public by means of one of the following Methods:

* Method 1:  Notice to everyone on school website
* Method 2:  Notice to everyone by posting in public area of school campus
* Method 3:  Mail to staff and student mailing list.

Prepared materials from Department of Water Resources, “Save Our Water Toolkit”, may be used as drought communication tools with the school system logo added.  The link for these materials is provided below.

<https://saveourwater.com/en/Partner-Toolkit>

Additionally, K-12 focused water conservation and water education materials, provided in Chapter 6, may also be utilized for drought and/or water conservation awareness and supporting science curriculum.

**Stage 1 Response -- Water Shortage WATCH Conditions**

**Target: Achieve a 15% percent reduction in total monthly water usage.**

Best Management Practices for Supply Management:

1. Verify mutual aid relationship contacts with **CalWARN and NRK Services Inc.** are up to date should water need to be hauled to/from their school district.

Water Use Restrictions for Reducing Demand:

1. Do a visual survey for pipe leaks and repair/replace any faucets, sprinklers or other apparatuses that may be resulting in water loss.
2. Limit distribution system flushing.
3. Ensure irrigation does not occur within 48 hours after measurable rainfall.
4. Limit irrigation to no more than four days per week.

Notification Methods:

* Method 1: Put up water supply saving tips on website.
* Method 2: Notice to everyone by posting in public area of school campus

**Stage 2 Response -- Water Shortage WARNING Conditions**

**Target:  Achieve a** **25% percent reduction in total monthly usage.**

Best Management Practices for Supply Management:

1. Begin performing groundwater well elevation assessments every two weeks.
2. Evaluate if drought conditions persist and additional storage capacity or well will be necessary. If so, determine what engineering and permitting will be required. Long lead times may be necessary to obtain engineering designs and all necessary permits. Permits may be needed from the Division of State Architect, County Environmental Health, County Planning and/or the Division of Drinking Water. Also, consider that an environmental assessment to meet California Environmental Quality Act (CEQA) requirements may also be necessary.
3. Seek potential funding opportunities to cover costs. Submit a Funding Inquiry Form request on the California Financing Coordinating Committee website[[5]](#footnote-6).

Water Use Restrictions for Reducing Demand:

1. Limit all irrigation to two days per week, consider replacement of non-drought resistant plants.
2. Cease using water to washdown any sidewalks, walkways, etc. unless required to address a sanitary hazard.
3. Begin incorporating drought/conservation posters across school property.
4. Cease regular distribution flushing.
5. Evaluate if free/inexpensive leak detection services are currently available from technical assistance providers funded by the state, such as California Rural Water Association, Rural Community Assistance Corp. or others. If so, determine if these may benefit the school and schedule, as appropriate.

Notification Method(s) and Frequency:

* Method 1:  Notice to everyone on school website
* Method 2:  Notice to everyone by posting in public area of school campus

Agencies Contacted:

Notify the State Water Board’s Division of Drinking Water that the school is seeing drought impacts and determine if any funding possibilities are available.

**Stage 3 Response -- ACUTE Water Shortage Conditions**

**Target:  Achieve a** **40 percent reduction in total monthly usage.**

Best Management Practices for Supply Management:

1. Begin outreach to approved water haulers[[6]](#footnote-7), bottled water suppliers, and sanitation services such as portable bathrooms to prepare should further drought impacts occur.
2. Begin performing groundwater well elevation assessments every week.
3. Contract for engineering services to obtain plans and permitting approval for an additional well and/or storage capacity, if not already completed. If a well will be added, determine scheduling for local well drillers and schedule, if appropriate. If additional storage is proposed, determine manufacturer lead times.

Mandatory Water Use Restrictions for Reducing Demand:

1. Limit all irrigation to only critical landscaping such as trees. Plan for replacement of non-drought resistant plants.
2. Increase communication to students on the importance of water conservation.
3. No distribution system flushing.
4. Cease using water to washdown any sidewalks, walkways, etc. unless needed to address a sanitary hazard.

Notification Method(s) and Frequency:

* Method 1:  Notice to everyone on school website
* Method 2:  Notice to everyone by posting in public area of school campus
* Method 3:  Mail to staff and student mailing list.

Agencies Contacted:

Notify the State Water Board’s Division of Drinking Water that the school is continuing to see drought impacts and determine if any funding possibilities are available from the State Water Resources Control Board, Department of Water Resources, and/or County Office of Emergency Services.

**Stage 4 Response -- CATASTROPHIC Water Shortage Conditions**

In the event of water outages, or water shortage conditions that would otherwise result in school closure, the **Director of Maintenance and Operations**, or designee, shall at minimum implement the following steps.

1. **Notify Emergency Service Providers and Public Health Agencies**

CAL FIRE

* Notify the local fire district of any water outage/low pressure event so that if a fire occurred at the school alternative or supplemental water supply could be provided.

State Water Board, Division of Drinking Water:

* Notify Division of Drinking Water of water outage or any potential changes in source water, including hauling. Changes of sources **must** be approved ahead of time to ensure their safety. Obtain instructions on any next steps, any special sampling, and/or public noticing requirements.

County Office of Emergency Services:

* Notify of water outages and needed assistance, particularly in disaster events such as earthquakes, fires, or if the facility is being utilized as a shelter-in-place location.

1. **Seek Replacement Water Supply to Address Potential or Actual Water Outages.**

Alternative Water Supply and/or Sanitation:

* Water will be hauled, using a licensed water hauler from either our mutual aid partner, or another approved source. This will be coordinated with the Division of Drinking Water prior to implementation to determine any special treatment, sampling or public notification requirements. Do not utilize irrigation well for drinking water supply.
* If not already initiated, implement any additional well drilling and/or additional storage capacity construction developed in earlier phases.
* If hauled water supply is extremely limited, sanitation facilities such as portable toilets and handwashing stations may be provided to decrease water usage, depending on the circumstances. Coordination with public health officials at the County would be appropriate.

1. **Notification of Students, Parents and Public.**

* Method 1:  Notice to everyone on school website
* Method 2:  Notice to everyone by posting in public area of school campus
* Method 3:  Mail to staff and student mailing list.

1. **Ensure all non-essential uses of water, such as irrigation and leaks, have ceased.**

1. State Water Resource Control Board, Division of Drinking Water (DDW) [↑](#footnote-ref-2)
2. California Water Watch Tool website: https://cww.water.ca.gov/ [↑](#footnote-ref-3)
3. Typical life expectancies of water treatment equipment:

   https://www.waterboards.ca.gov/drinking\_water/certlic/drinkingwater/documents/tmfplanningandreports/Typical\_life.pdf [↑](#footnote-ref-4)
4. California Water Watch map -- https://cww.water.ca.gov/ [↑](#footnote-ref-5)
5. California Financing Coordinating Committee website: https://www.cfcc.ca.gov/ [↑](#footnote-ref-6)
6. Use only licensed water haulers from the California Department of Public Health, see website below under “Licensed Water Haulers by County” for an Excel file – hit “cancel” when it requests a username and password:

   https://www.cdph.ca.gov/Programs/CEH/DFDCS/pages/fdbprograms/foodsafetyprogram/water.aspx [↑](#footnote-ref-7)