MARINA COAST WATER DISTRICT

11 RESERVATION ROAD, MARINA, CA 93933-2099
Home Page: www.mcwd.org
TEL: (831) 384-6131 FAX: (831) 883-5995

Agenda
Regular Meeting
Water Conservation Commission

MCWD Board Room, 11 Reservation Road, Marina, CA
Thursday, September 5, 2019, 5:30 PM

This meeting has been noticed according to the Brown Act rules. The Water Conservation Commission meets regularly on the first Thursday of each month. The meetings normally begin at 5:30 p.m. and are held at the District Office at 11 Reservation Road, Marina, California.

Water Conservation Commission Mission Statement:
To provide input to the Board of Directors on matters pertaining to the preservation of the District's water resource through conservation, technological improvements and policy.

Commission Members

Shawn Storm, P.E., Chair
Phil Clark, Vice Chair
Bill Huynh
Jan Shriner (MCWD Board Liaison)
Audra Walton
Sarah Babcock

1. Call to Order

2. Roll Call

3. Pledge of Allegiance

4. Oral Communications Any person wishing to address the Commission on matters not appearing on the Agenda may do so at this time. Please limit your comment to three minutes. The public may comment on any other item(s) listed on the Agenda at the time the item(s) is considered by the Commission.

5. Consent Calendar

A. Approve the August 1, 2019 Meeting Minutes

This agenda is subject to revision and may be amended prior to the scheduled meeting. Pursuant to Government Code section 54954.2(a)(1), the agenda for each meeting of the Commission shall be posted at the District offices at 11 Reservation Road. The agenda shall also be posted at the following locations, but those locations are not official agenda posting locations for purposes of section 54954.2(a)(1): City of Marina City Hall, and, Marina Library. A complete Commission packet containing all enclosures and staff materials will be available for public review on Thursday, August 29, 2019. Copies will also be available at the Commission meeting. Information about items on this agenda or persons requesting disability related modifications and/or accommodations should contact the Board Clerk 48 hours prior to the meeting at: 831-883-5910.

6. **Action Items** The Commission will review and discuss agenda items and take action or direct staff to return to the Commission for action at a following meeting. The public may address the Commission on these Items as each item is reviewed by the Commission. Please limit your comment to three minutes.

   A. Consider Approval of Proposed Landscape Incentive Program Changes

7. **Staff Reports**

   A. Continue the Review and Discussion about the High-Efficiency Clothes Washer Rebate Program
   B. Review the Water Shortage Contingency Plan

8. **Commission Member Requests for Future Agenda Items**

9. **Commissioner's Comments**

10. **Adjournment** Set or Announce Next Meeting(s), date(s), time(s), and location(s):

Regular Meeting:	Thursday, October 3, 2019, 5:30 p.m., MCWD Board Room, 11 Reservation Road, Marina, CA

Return to Agenda

Marina Coast Water District
Water Conservation Commission
Agenda Transmittal

Agenda Item: 5 Meeting Date: September 5, 2019

Prepared By: Paula Riso Approved By: Patrick Breen

Agenda Title: Consent Calendar

Staff Recommendation: The Water Conservation Commission approve the Consent Calendar as presented.

Background: *5-Year Strategic Plan Mission Statement – We provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

Consent calendar consisting of:

A) Approve the August 1, 2019 Meeting Minutes

Discussion/Analysis: See individual transmittals.

Environmental Review Compliance: None required.

Other Considerations: The Commission can approve this item, or they can pull the item for discussion.

Material Included for Information/Consideration: Draft minutes of August 1, 2019.

Action Required: _____Resolution ___X___Motion _____Review

Commission Action

Motion By_____ Seconded By_____ No Action Taken_____

Ayes_____ Abstained_____

Noes_____ Absent_____

Return to Agenda

Marina Coast Water District
Water Conservation Commission
Agenda Transmittal

Agenda Item: 5-A Meeting Date: September 5, 2019

Prepared By: Paula Riso Approved By: Patrick Breen

Agenda Title: Approve the August 1, 2019 Meeting Minutes

Background: *5-Year Strategic Plan, Mission Statement – We Provide high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

Discussion/Analysis: The draft minutes of August 1, 2019 meeting are provided for the Commission's review and approval.

Environmental Review Compliance: None required.

Financial Impact: _____Yes ___X___No Funding Source/Recap: None

Other Considerations: The Commission can suggest changes/corrections to the minutes.

Material Included for Information/Consideration: Draft minutes of the August 1, 2019 meeting.

Action Required: _____Resolution ___X___Motion _____Review

Commission Action

Motion By_____ Seconded By_____ No Action Taken_____

Ayes_____ Abstained_____

Noes_____ Absent_____

Draft Minutes
Water Conservation Commission

August 1, 2019

1. Call to Order:

The meeting was called to order at 5:34 p.m.

2. Roll Call:

Commission Members Present:

Shawn Storm, P.E. – Chair
Phil Clark – Vice Chair
Audra Walton
Bill Huynh
Sarah Babcock

Commission Members Absent:

None.

Staff Members Present:

Patrick Breen, Water Resources Manager
Paul Lord, Water Conservation Specialist
Paula Riso, Executive Assistant/Clerk to the Board

Audience Members:

None.

3. Pledge of Allegiance:

Chair Storm led the Pledge of Allegiance.

4. Oral Communications:

No comments were made.

5. Consent Calendar:

A. Approve the July 11, 2019 Meeting Minutes:

Vice Chair Clark noted that the July minutes had Commissioner Walton as absent when it should have been Commissioner Babcock. Vice Chair Clark made a motion to approve the July 11, 2019 meeting minutes with the amendment. Chair Storm seconded the motion.

Agenda Item 5-A (continued):

The motion was passed by the following vote:

Commissioner Walton	-	Yes	Vice Chair Clark	-	Yes
Commissioner Huynh	-	Yes	Chair Storm	-	Yes
Commissioner Babcock	-	Yes			

6. Action Item:

   A. Consider Approval of Proposed Landscape Incentive Program Changes:

Mr. Lord introduced this item and reviewed the proposed changes made at the last meeting.

Vice Chair Clark made a motion to approve the proposed Landscape Incentive Program changes. Commissioner Walton seconded the motion.

Chair Storm stated that he would like to suggest a few additional changes. He would like to see the following additions:

- Require a flow rate interlock and pressure reducing valve for landscape with more than four to six stations, and provide an incentive;
- In the documentation process, suggest adding gopher wire/mesh when putting in lawns;
- If a Rain Catchment system is over 250 gallons, require that it be connected to at least one toilet.

Mr. Lord stated that there was testing going on in the region regarding using rainwater for toilets, but it ultimately comes down to the Health Department issuing a permit for its use.

Chair Storm said he would like to see incentives for flow control switches and master valves. Mr. Breen stated staff would look into incentives for flow control switches and master valves as well as rain-to-toilet and bring it back.

Chair Storm made a motion to table this item. Commissioner Huynh seconded the motion. The motion was passed by the following vote:

Commissioner Walton	-	Yes	Vice Chair Clark	-	Yes
Commissioner Huynh	-	Yes	Chair Storm	-	Yes
Commissioner Babcock	-	Yes			

7. Staff Reports:

   A. Receive Updated Gallons Per Capita (GPCD), Water Production, and Water Consumption Data:

Mr. Lord introduced this item and reviewed the water use through June 2019. Discussion followed.

B. Review the High-Efficiency Clothes Washer Rebate Program:

Mr. Lord introduced this item and gave a brief background of the current program. Chair Storm suggested eliminating the rebates for clothes washers with a 3.0 and higher water factor and increasing the rebate for clothes washers with a 2.9 or lower water factor to $250-$300.

Commissioner Babcock noted a typo on the rebate form. Mr. Lord said staff would correct it.

8. Commission Member Requests for Future Agenda Items:

Chair Storm noted that staff has a list of his requests.

9. Commissioner's Comments:

Commissioner Walton thanked staff for bringing this information to them.

Chair Storm thanked Vice Chair Clark for his support at the Fort Ord Clean-Up.

Mr. Lord stated that the District would have a booth at the Monterey County Fair on August 31st and the water conservation education teacher would be on hand with a few tabletop exercises.

10. Adjournment:

Chair Storm thanked staff, the Commission, and the public for their time and contributions. He noted the next meeting was scheduled for Thursday, September 5th at 5:30 p.m. The meeting was adjourned at 7:05 p.m.

Return to Agenda

Marina Coast Water District
Water Conservation Commission
Agenda Transmittal

Agenda Item: 6-A Meeting Date: September 5, 2019

Prepared By: Paul Lord Approved By: Patrick Breen

Agenda Title: Consider Recommending Board Approval of Proposed Landscape Incentive Program Changes

Staff Recommendation: Consider recommending Board approval of the proposed Landscape Incentive Program changes as outlined in the Attached documentation. Consider recommending that the roll-out date of program changes be immediately following upon Board approval.

Background: *5-Year Strategic Plan, Goal 1.7 – Review and update our water conservation program.*

Details of, and possible changes, to the existing Landscape Incentive Program were discussed at two WCC Working Group meetings conducted in the Spring of 2017 and 2018. The goal was to revise the program to improve customer participation, improve the MCWD customer experience, and increase the water savings achieved. At those meetings, the commissioners and staff expressed an opinion that few changes were required to improve the customer experience and water savings, and that the amount of the incentive provided was likely a main factor limiting program participation. The Commissioners agreed that the lawn replacement incentive and the large controller replacement incentive would be more attractive to customers if they were increased.

The Commissioners also discussed creating different incentives for various customer classifications (Commercial, Industrial, Institutional, Single Family, Multi-family), and perhaps increasing the current maximum incentive payment available to some select program participants. Two proposed changes came from those specific discussions.

Following the WCC Working Group meetings, the proposed changes were reviewed and modified by the full Commission and staff in April and May of 2018.

Recently, staff presented the proposed changes to the Commission in July of this year. Several additional proposed changes were suggested. Staff was tasked with incorporating all the changes recommended to date into a final draft document for consideration in August.

At the August 2019 Commission meeting, it was requested that an incentive and requirements for the installation of master valves and flow sensing equipment be included in the program. Those additional changes have been incorporated into the draft program description that is attached.

The current landscape incentives available to District customers are summarized below (before any proposed revisions are approved):

ET Controller Incentive
The District will provide a $150 rebate for a District-approved conversion or replacement of any existing standard irrigation controller to a soil moisture-based or evapotranspiration-based

irrigation controller (ET Controller) that adjusts automatic scheduling parameters at least daily and controls up to six stations. An additional rebate amount of $20 per station will be provided for each additional station that is operational, beyond the initial six stations already included, up to a maximum total rebate of $750 per irrigation controller. The maximum rebate amount for each site is $1,500. The new controller(s) must be installed on a well maintained, fully operational, in-ground irrigation system.

ET Controller Incentive Amounts
The following chart shows an example of the rebate amounts provided for each standard size controller and provides comparison between the controllers estimated cost and the rebate amounts.

6 station	($240 estimated cost)	= $150 rebate
12 Station	($480 estimated cost)	= $270 rebate
24 station	($1,440 estimated cost)	= $510 rebate
36 station	($2,160 estimated cost)	= $750 rebate

Rain and Soil Moisture Shut-off Switch Incentive
When an irrigation controller is modified to include the operation of a new, District approved rain or soil moisture shut-off switch, the district will provide a rebate equal to the purchase price, up to $50 per device installed.

Lawn Replacement Incentive
Customers are eligible for $.25 cents/square foot when they replace established lawn with new, low water use landscaping (plants and permeable mulch material). A rain or soil moisture shut-off switch is required for sites that utilize an automatic irrigation system. The maximum incentive for lawn replacement and sprinkler conversion to drip irrigation combined is $2,000.

Sprinkler Conversion Incentive
The conversion of a sprinkler irrigation system to a drip or dripper line type irrigation system, would be eligible for an incentive of $0.25 per square foot of irrigated area converted. A rain or soil moisture shut-off switch is required for sites that utilize an automatic irrigation system.

Rainwater Catchment Incentive
Rainwater catchment incentives are based on the size of the catchment system (number of gallons that can be stored) and the incentive payment is limited by the customer's expenditures for materials. Customers can receive $1 for each gallon of rainwater storage, up to 250 gallons. For any rainwater storage over 250 gallons and not to exceed 2,500 gallons, the applicant can receive an additional $0.50 per gallon (Maximum incentive per customer, $1,375 for 2,500 gallons). The incentive will not exceed the purchase price of items or materials purchased for the project or the incentive payment calculated by storage capacity (i.e. you purchased an 85 gallon tank for $100 and bought $15 in materials to divert the rain gutter, you will only receive $85).

Discussion/Analysis: Following is an abbreviated summary of proposed changes to the Landscape Incentive Program. All details of the proposed changes are shown in the attached draft revisions of the *Landscape Incentive Program Description*.

Changes To Program Documents

- Add a phrase to the *Landscape Incentive Program Description* that states large projects over 8,000 square feet may apply, and be considered, with unique landscape project criteria that varies from those established.
- Establish and state in the program documentation a dispute resolution process for applicants.
- Establish that the definition of a landscape site is the area served by a single, metered water service.
- Establish that only with District approval, may a projects installation window exceed 60 days from the time of initial project approval.
- Establish that irrigation systems for non-residential landscapes over 1,000 square feet and rehabilitated residential landscapes over 5,000 square feet must include master valves and flow sensors that work in conjunction with weather-based irrigation controllers to detect and limit unauthorized flow.

ET Controller Incentive

- For Multi-Family, Commercial, Institutional, Industrial, and Large Landscape accounts only, increase the ET Controller incentive from $20 to $40 for each additional irrigation station beyond six stations (doubles the incentive for larger sites)
- Establish that the maximum payment for the ET controller incentive will be equal to the net purchase price of the controller/sensor and related controller/sensor equipment.

Rain and Soil Moisture Shut-off Switch Incentive

- Increase the Rain Shut-off Switch Rebate incentive from a maximum payment of $50 to $100.

Master Shut-off Valve Rebate

- Add a new incentive for the modification of an irrigation system to include an approved master shut-off valve. The incentive will be equal to the net purchase price of the valve, up to $100.00.

Flow Sensor Rebate

- Add a new incentive for the modification of an irrigation system to include an approved flow sensor that alerts the user of leaks and unauthorized water flow. The incentive will be equal to the net purchase price of the sensor, up to $100.00.

Lawn Replacement Incentive

- Establish that when replacing lawn with low water use landscaping, varying amounts the lawn area renovated may be replaced with new mature tree canopy area, synthetic grass, decorative rock, or organic mulch.
- Increase the lawn replacement incentive from $0.25 to $1.00 per square foot for the first 5,000 square feet of lawn and replaced.
- For Multi-Family, Commercial, Institutional, Industrial and Large Landscape accounts, raise the maximum rebate amount for lawn replacement and sprinkler conversion to drip irrigation from $2,000 to $5,000 per site or area served by a metered connection. The maximum incentive for single-family homes would remain at $2,000.

- Establish that the required amount of lawn area replaced by plant canopy would decrease as project size increases. The amount of canopy coverage would be at the following rates:
    - 50% - for the renovated lawn area up to 1,000 square feet. (same as before)
    - 25% - for the additional renovated lawn area between 1,000 square feet and 10,000 square feet. (50% of the previous planted area required)
    - 10% - for the additional renovated lawn area over 10,000 square feet. (20% of the previous planted area required)
- Establish that the remaining, lawn replacement project area that is not replaced with low water use plants, new mature tree canopy area, synthetic grass, or new decorative rock must be new porous hardscape or receive a minimum of 3" decorative mulch.
- Establish that hardscape installed in the lawn replacement project area must be permeable, pervious, or porous.
- Establish that the turf replaced may be living or dead at the time of application to the program. But, there must be evidence of a previous lawn. All the turf must still be in place at the time of staff's initial project review and project approval.
- Establish that Solarization and Sheet Mulching are acceptable methods of lawn removal.
- Establish that at least one existing or new tree per ten thousand square feet of project area be present/installed in the converted landscape.

Sprinkler Conversion Incentive

- Establish that without an authorized exemption, only drip or dripper line low volume emission devices are permitted in the irrigation zones retrofitted from sprinklers to drip irrigation.
- Establish that abandoned or inoperative irrigation system components be removed and that the associated water supply lines capped.
- Increase the sprinkler renovation to drip incentive from $0.25 to $0.50 per square foot for the first 5,000 square feet of irrigated area

Environmental Review Compliance: None required.

Financial Impact: X Yes ____No Funding Source/Recap: Current 2019-2020 water conservation budget for Landscape Incentives, Marina and Ord service area water cost centers.

Other Considerations: Modify the draft *Landscape Incentive Program Description*, incentive amounts, eligible customers, and roll-out date of program changes.

Material Included for Information/Consideration: Attached draft version of the *Landscape Incentive Program Description.*

Action Required: X Resolution _____Motion _____Review

Commission Action

Motion By_____ Seconded By_____ No Action Taken_____

Ayes_____ Abstained_____

Noes_____ Absent_____

Water-Wise Landscape Incentive Program Description

Current Incentives

ET Controller Rebate

The District will provide a $150.00 rebate for the conversion of any existing standard irrigation controller with a District-approved ET-based irrigation controller that adjusts automatic scheduling parameters at least daily and can control up to six stations. An additional rebate amount of $20.00 per station for single-family sites, and $40.00 per station for Multi-Family, Commercial, Institutional, Industrial, and Large Landscape sites will be provided for each additional station that is operational, beyond the initial six stations already included. Customers are limited to a~~, up to a~~ maximum total rebate of $1,3~~7~~50.00 per irrigation controller including the initial $150 rebate, or the net purchase price of the irrigation controller/sensor and related controller/sensor equipment, whichever is less. The annual maximum rebate amount for each site is $2~~1~~,75~~0~~00.00. The new controller(s) must be installed on fully operational irrigation system, at least two years old, with a minimum of four valves/zones operating.

Rain or Soil Moisture Shut-off Switch Rebate

When an irrigation controller is modified to include the operation of a new, District approved rain or soil moisture shut-off device, the district will provide a rebate equal to the net purchase price of the device, up to $10~~5~~0.00~~ per device installed.~~

Master Shut-off Valve Rebate

When an irrigation system is modified to include a new, District approved master shut-off valve, the district will provide a rebate equal to the net purchase price of the valve, up to $100.00.

Flow Sensor Rebate

When an irrigation system is modified to include a new, District approved flow sensor that alerts the user of leaks and unauthorized water flow, the district will provide a rebate equal to the net purchase price of the sensor, up to $100.00.

Lawn and Sprinkler Replacement Incentive

Customers can receive $1.00 per square foot for ~~T~~the replacement of natural, irrigated lawn with low water use features (plants, artificial grass, decorative rock, organic mulch~~ and permeable non-plant material~~). ~~ and t~~In addition, or separately from lawn removal, there is a $0.50 per square foot incentive for the conversion of an associated sprinkler irrigation system to drip or

dripper linesoaker hose type irrigation. would be eligible for an incentive of $0.50 per square foot of irrigated lawn area converted. Sprinkler irrigation conversions to drip or soaker hose type irrigation alone without the removal of lawn would be eligible for a $0.25 incentive for each square foot of irrigated landscape area converted, not to exceed a rebate The total incentive provided for these projects may not exceed an amount of $2,000.00 forper Single-family sites, and $5,000 for Multi-Family, Commercial, Institutional, Industrial and Large Landscape sites.

The amount of lawn area required to be replaced by mature plant canopy decreases as project size increases. The following amount of mature plant canopy coverage is required:

- 50% canopy coverage - for renovated lawn area up to 1,000 square feet.
- 25% canopy coverage - for the additional renovated lawn area between 1,000 square feet and 10,000 square feet.
- 10% canopy coverage - for the additional renovated lawn area over 10,000 square feet.

Project and Product Eligibility

Only Marina Coast Water District customers are eligible to participate in the Water-wise Landscape Incentive Program.

Only products and projects purchased and/or installed and approved after October 1, 2007 qualify for the incentives.

The program applicant must be the property owner.

Incentives are only provided for renovations to existing landscapes. New construction projects are not eligible for incentives.

The landscape incentives are estimated and provided by individual landscape sites. The definition of a landscape site is the area served by a single, metered water service.

Only District approved ET-based irrigation controllers and master valves, flow sensors, and rain or soil moisture shut-off switches are eligible for those specific incentives. The ET-based irrigation controllers must adjust watering parameters, including but not limited to, duration, frequency, and start times, automatically based upon current, local reference evapotranspiration data provided by the California Irrigation Management Information System (CIMIS) or similar, localized, weather-based information system or monitoring device.

Program Procedures

BEFORE applying and participating in the program, customers must call (831) 384-6131 to schedule a meeting with District staff. The project will be reviewed, and the required Landscape Site Survey will be conducted by District staff. The Landscape Site Survey takes about one hour

of time on site. The homeowner, responsible party, or a designee who has access to the irrigation system controls must be present for the appointment.

During the site survey appointment, the Applicant shall describe the proposed project or conversion to staff. Staff verifies the existing landscape and irrigation system size and condition, components, and current water use. For large and/or complex projects, staff may request the applicant provide a landscape plan showing in detail the proposed finished project.

To assure efficient operation of any new irrigation system or components, staff recommended adjustments, repairs and modifications to the system must be completed prior to project completion and approval by the District.

To qualify for the Water-wise Landscape Incentive Program and be approved for an incentive, the following Project Criteria must be true of the proposed landscape design. Large projects over 8,000 square feet may apply, and be considered, with unique landscape project criteria that varies from those outlined below.

Project Criteria:

- The water use at the site must be metered.
- Lawn replaced may be living or dead at the time of application to the program. But, there must be evidence of a previous lawn. All the turf must still be in place at the time of staff's initial project review and project approval.
- It is recommended that lawns be physically removed to a depth of 4". Yet, solarization and sheet mulching are acceptable methods of lawn removal.
- It must be possible to water remaining grass areas separately from other bedding areas.
- It must be possible to water high water need plants (such as vegetables, annuals or tropical plants) separately from other areas.
- The irrigation system must be in a good state of repair such that the water is being used efficiently.
- A backflow prevention device must be present and installed as required by law. If required, there must be evidence that the backflow prevention device has recently been inspected, and results filed with the District.
- The irrigation system must water areas with reasonable efficiency such that it can be used without water waste. Examples of unacceptable waste would ~~be:~~be excessive water hitting non-plant areas, excessive water in specific areas or too little water in others, or pooling water from ineffective spray.
- Abandoned or inoperative irrigation system components must be removed, and the associated water supply lines capped.
- As designed, the estimated water use of the new landscape must be lower than that of the landscape replaced.
- To reduce water loss through evaporation, a 3" layer of mulch material must be used in planting beds.
- At least one existing or new tree per ten thousand square feet of project area must be present/installed in the new, converted landscape.

- Hardscape installed in the area of lawn replacement must be porous.
- Manual irrigation controls are permitted, but these systems must have a timer device utilized to shut off the water after an allotted time period. No automatic rain shut off device is required on manually controlled systems.
- All automated irrigation systems must have a rain shut off or soil moisture monitoring device installed. An incentive to purchase this device is provided by the District.
- Irrigation systems for non-residential landscapes over 1,000 square feet and rehabilitated residential landscapes over 5,000 square feet must include master valves and flow sensors that work in conjunction with weather-based irrigation controllers to detect and limit unauthorized flow. Incentives are available to assist in the installation of these devices.

Only once the Landscape Site Survey is completed, the proposed project reviewed, and the application accepted by the District, is the Water-wise Landscape Incentive Application Form filled out with the assistance of the District staff. This application form identifies the Applicant and describes the proposed project. Initial District approval for the allocation of funds to support the project is recorded on this application. The specific design elements and an estimated date of project completion is noted. The application form is then approved and signed by the District Representative.

Once approved, the project may proceed, as planned, to completion. District staff must be notified and approve of any design changes made while the project is proceeding. Without an approved extension of time, a~~A~~ll projects must be completed within 60 days, otherwise the program application will be rejected, and the customer then will no longer be eligible for the incentive.

- ❖ *To assure compliance, quality, and performance, it is recommended that only a licensed, insured landscape contractor install irrigation components or modify your existing landscape. Check with your local jurisdictional officials and inquire about city, county and water district codes and ordinances before installing or modifying your irrigation system or landscape.*

Once the project is completed, the applicant must schedule a follow-up site inspection with the District representative. District staff will verify the installation and compliance with the Design Criteria, check the irrigation system operation, and will assist in irrigation scheduling if required. Staff may require proof of irrigation controller service activation.

Also, at this time, the District staff will request the Applicant provide the original product or service receipts. Original receipts for products and services older than one year are not eligible. District staff then signs the application form verifying project completion. The rebate request is then forwarded to the District Accounting Department for incentive processing and payment. The application form and supporting documentation is then finally placed in District files.

To resolve disputes over eligibility or program procedures, customers may contact the Water Resources Manager. Without resolution, or to appeal a decision at the management level, customers may contact the District's General Manager.

Landscape Incentives Program Description

(Supporting Information)

ET Controllers

Conventional controllers are by far the most common way to regulate irrigation applications. These controllers are now being replaced for the following reasons:

- It is estimated that approx. 50% of residential water use goes towards outdoor use including landscaping. It is estimated that 15 - 40% of this water is not required for optimum plant growth and is therefore wasted.

- Conventional controllers do not adjust the amount of water applied automatically to compensate for changing weather or periods of incidences of rainfall. Due to the high cost and effort required to frequently adjust the conventional controllers; these adjustments are often not made.

- The evapotranspiration rate of landscape microclimates differs greatly and therefore so does the water requirement of each microclimate. Accurate calculations of the water required in each microclimate are laborious due to the various factors such as plant type, soil type, slope, sun exposure, and landscape density. All these factors should be included in such a calculation.

- Irrigation managers often over water to compensate for unexpected dry periods or to meet the higher water requirements of an irrigation system with poor uniformity. Both of these situations would lead to costly damage to the landscape.

- Over-watering leads to runoff and pollution, or gravitational water loss through the soil profile.

- Over watering or the lack of sufficient available water causes diseases, plant stress and plant loss.

- The greatest portion of inefficiency in irrigation systems is due to improper scheduling, one of the easiest factors irrigation managers can change by installing new controllers.

- Average historical ET values may differ significantly from actual ET. Older historical ET controllers do not take into consideration the immediate weather and make-up water required after periods of high ET.

~~ET controllers can address the many problems of conventional controllers that contribute to water waste. The benefits are:~~

- ~~ET controllers directly address the leading cause of water waste in landscapes, the lack of frequent adjustments to duration and frequency.~~

- ~~ET controllers can assist the manager by calculating the proper application duration and frequency daily based on the many factors that effect evapotranspiration and gravitational water loss. This commonly saves 15-40% in irrigation water use.~~

- ~~The high water savings and therefore fast payback period justify the investment to upgrade controllers.~~

- ~~Runoff due to over watering can be reduced by more than 50% or almost eliminated.~~

~~There are some important considerations one must make when considering the retrofitting to an ET controller.~~

- ~~Irrigation scheduling is only one of four important factors affecting the amount of water applied to landscaping. The others are distribution uniformity, irrigation system leaks, and the water need of the landscape plants.~~

- ~~There is a higher initial cost and often a data service fee for ET controllers. The high water savings and fast payback period of ET controllers often justifies the additional expense.~~

- ~~Plant health is often improved due to proper water application based on soil type and evapotranspiration of the landscape.~~

- ~~There is some initial set-up time and an adjustment period that follows the installation of ET controllers. Site data must be collected and programmed into the controller software.~~

~~Appropriate sites for the retrofitting of ET controllers are:~~

1. ~~Dedicated commercial, industrial, and institutional landscape sites.~~

2. ~~Mixed use commercial sites.~~

3. ~~Dedicated and mixed use multi-family sites.~~

~~4. Single family residential sites~~

~~ET Controller Rebate~~

~~The District will provide a $150 rebate for the conversion of any existing standard irrigation controller with a District-approved ET-based irrigation controller that adjusts automatic scheduling parameters at least daily and controls up to six stations. An additional rebate amount of $20 per station will be provided for each additional station that is operational, beyond the initial six stations already included, up to a maximum total rebate of $750 per irrigation controller including the initial $150 rebate. The annual maximum rebate amount for each site is $1,500.~~

~~Staff chose two maximum rebates per site as the limit.~~

~~The Landscape Retrofit Rebate Application Form, District approval, original purchase receipt, verification of service activation and /or operation, and a District Water Use Survey of the property are required prior to issuance of a incentive.~~

~~Often, the incentive amount is can be 50% to 100% of the estimated controller cost. The estimated installed cost of an irrigation controller is $40.00 per zone for smaller 6-12 station sites and $60 for larger 24-36 station sites. The following chart shows an example of the rebate amounts provided for each standard size controller and provides comparison between the controllers estimated cost and the rebate amounts.~~

~~6 Station ($240 estimated cost installed) = $150 rebate~~

~~12 Station ($480 estimated cost installed) = $270 rebate~~

~~24 Station ($1440 estimated cost installed) = $510 rebate~~

~~36 Station ($2160 estimated cost installed) = $750 rebate~~

~~Shown in the sample calculations below, assuming a 20% reduction in water use and the 2019 2nd tier price for water in Marina, the estimated payback period to the residential customer with a larger system is 0.89 years. The estimated customer payback period for the larger commercial system is approx. 1.7 months.~~

~~** District does not guarantee payback period. The payback information is provided only as an estimated benefit of the proposed program~~

~~Example #1~~

~~Residential irrigation system, 4 zones, 1" valves 15gpm x 4 zones~~

~~x 10 minutes/run time each~~

~~x 3 applications/week~~

~~x 42 weeks/year~~

~~x 20% est. savings~~

~~= 15,120 gals saved~~

~~0.89 year payback period for homeowner − $100.05/yr savings~~

~~Using the figures in example #1 above, if the proposed budget annually supported (35) $150 rebates for residential systems similar to the one shown above, the savings would be 529,200 gallons annually or 1.6 AF/Yr. That would equate to $3,281.25 in incentive payments to save one acre-foot of water.~~

~~Example #2~~

~~Commercial irrigation system, 12 zones 1.5" valves 35 gpm x 12 zones~~

~~x 20 minutes/run time each~~

~~x 3 applications/week~~

~~x 42 weeks/year~~

~~x 20 % est. savings~~

~~= 211,680 gals saved~~

~~Est. payback occurs after approx. 1.7 months of irrigation. = $1,400.82/yr savings~~

~~Using the figures in the example above, if the proposed budget annually supported (7) large rebates for systems similar to the one shown in example #2 above, the savings would be 1,481,760 gallons annually or 4.54 AF/Yr. That would equate to $1,890.00 in incentive payments to save one acre-foot of water.~~

~~The water use savings associated with the ET controller rebates are variable based many factors at application sites. Primarily, the larger the area irrigated, the larger the savings. It is estimated that this incentive alone can reduce water use by 1.6AF 13.6 AF annually.~~

~~** District does not guarantee payback period. The payback information is provided only as an estimated benefit of the proposed program~~

Rain Shut-off Switch Rebate

When an irrigation controller is modified to include the operation of a new rain switch device, the district will provide a rebate equal to the purchase price, up to $50.00 per device installed. The budgeted amount for this part of the program is $1,000.00, enough for 20 rebates annually. The quantity of rebates provided is dependant on available funds.

Basic rain switch retail cost ——— $35 -$110

Example #1: Payback Period for a Small Site

Small site at 400 gallons per cycle w/ est. 20 irrigation cycles stopped annually = 13 months (first season)

If $1,000.00 in incentives was to support the installation of 20 rain switches annually at the above rate, the annual water savings is estimated to be 160,000 gallons (.5AF) annually. That would equate to $2000 in incentive payments to save one acre-foot of water.

Example #2: Payback Period for a Medium Sized Site

Medium site or larger at 8,400 gals/cycle = 1 cycle

If $1,000.00 in incentives was to support the installation of 20 rain switches annually at the above rate, the annual water savings is estimated to be 3.36 million gallons (10.31AF) annually. That would equate to $97 in incentive payments to save one acre-foot of water.

** District does not guarantee payback period. The payback information is provided only as an estimated benefit of the proposed program.

Lawn and Sprinkler Replacement Incentive

The replacement of natural, irrigated lawn with low water use plantings and the conversion of associated sprinkler irrigation to drip or soaker hose type irrigation would be eligible for an incentive of $0.50 per square foot of irrigated lawn area converted. Sprinkler irrigation conversions to drip or soaker hose type irrigation alone without the removal of lawn would be eligible for a $0.25 incentive for each square foot of irrigated landscape area converted, not to exceed a rebate amount of $2,000.00 annually per site.

Conversion of 1,000 Sq. Ft. of turf grass to drought tolerant, low water use plants is estimated to reduce the water requirement by 77%. The reduction in plant water needs is lowered from approximately 37,200 gallons/year to 8,680 gallons/year per 1000 square feet. Replacing 1000 Sq. Ft. of turf grass would save approx. 28,520 gallons of water. The annual estimated water savings for a typical 500 Sq. Ft. lawn conversion project in Marina is $94.36.

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Marina Coast Water District
Water Conservation Commission
Staff Report

Agenda Item: 7-A Meeting Date: September 5, 2019

Prepared By: Paul Lord Approved By: Patrick Breen

Subject: Continue the Review and Discussion about the High-Efficiency Clothes Washer Rebate Program

Summary: At the August 1, 2019 Commission meeting, staff presented an outline of the existing High-Efficiency Clothes Washer Rebate Program to the Commissioners for the first time. The intent was to provide a review of the established High-Efficiency Clothes Washer Rebate Program supported by statistics on the clothes washer rebates provided and general water use and savings estimates. While no action to change the program was proposed by staff, one change was suggested by Chair Storm; the elimination of the two lower rebate tiers ($50 and $100) and increasing the rebate for the remaining highest rebate tier that has been established at $150 for the most efficient machines. The justification for this proposal was an estimate that higher water savings per dollar spent by the District could be achieved, and a belief that this proposed change would also encourage more customers to participate in the replacement of older machines with the newest, most efficient models now available.

Staff research into the number and styles of clothes washers available revealed that no top loading washers having integrated water factor of 2.9 (those in the highest existing rebate tier) or lower are available. Therefore, all customers that would purchase a top loading washer (often chosen for various reasons other than water efficiency), would not be eligible for a rebate.

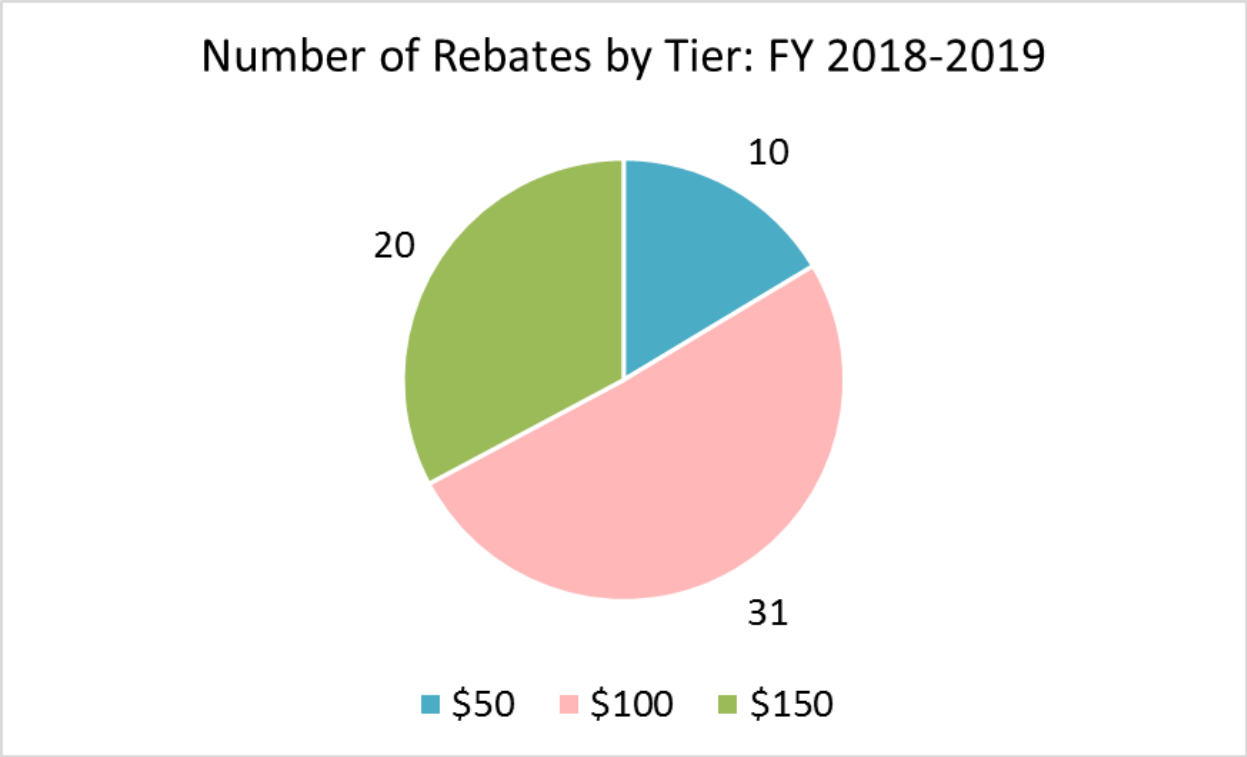
Staff believes that further discussion about the existing HE Clothes Washer Rebate Program and consideration of the proposed changes is warranted. It is requested the Commission continue its review and discussion of these matters.

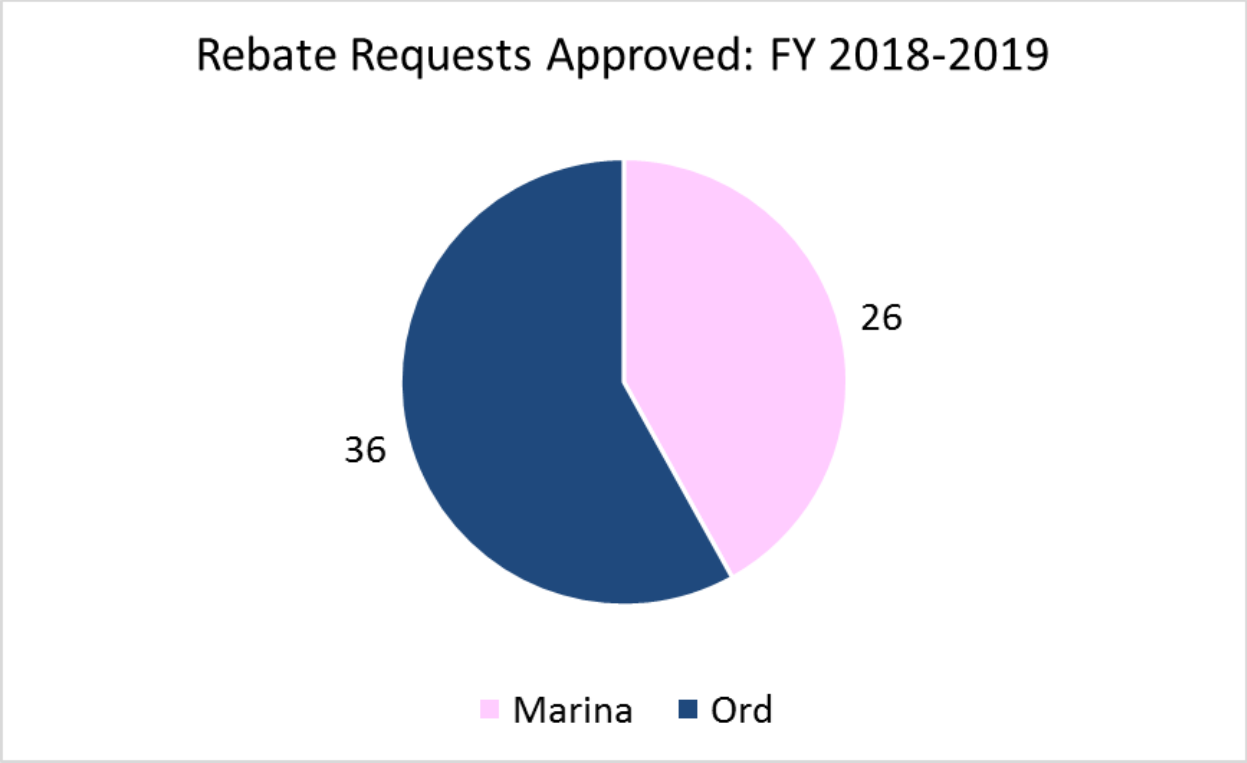
Currently, some options to consider are:
1. Elimination of lower rebate tiers ($50 and $100)
2. Increasing the incentive for the most efficient tiers
3. Making no changes

The current High-Efficiency Clothes Washer rebates available to District customers are summarized below:

Water Factor Gallons Water/Cu. Ft. Laundry Capacity	**Rebate Amount**
Above 3.8	None
3.5 - 3.8	$50
3.0 - 3.4	$100
2.9 or lower	$150

Following are charts depicting the numbers of rebates provided for clothes washer rebates in fiscal year 2018-19.





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Marina Coast Water District
Water Conservation Commission
Staff Report

Agenda Item: 7-B Meeting Date: September 5, 2019

Prepared By: Paul Lord Approved By: Patrick Breen

Subject: Review the Water Shortage Contingency Plan

Summary: Water Code Section 10632 requires the District to adopt an Urban Water Shortage Contingency Plan in response to water supply shortages. The plan was last revised in July of 2015. The text changes made in that last revision helped clarify the types of water uses that commonly occur and brought the water use restrictions for each type of use in-line with the new state mandates that were adopted in that declared period of drought.

The Water Shortage Contingency Plan (WSCP) is a mandatory element of the District's Urban Water Management Plan. The District has adopted these plans under separate resolutions. Therefore, updating the Water Shortage Contingency Plan does not require re-adoption of the Urban Water Management Plan. The updated Water Shortage Contingency Plan must be provided to the State Department of Water Resources for their files.

The State Department of Water Resources (DWR) is currently developing updated guidance on how local agencies are to assemble future water shortage contingency plans. The guidance shall follow the new water conservation and efficiency standards and planning requirements adopted in SB606 and AB1668 in May of 2018. A full summary of the regulations can be found in the DWR primer of that legislation entitled *Making Water Conservation A California Way Of Life*.

It is requested the Commission review the current WSCP to become familiar with its contents and context prior to any evaluation of the recent regulations, and prior to any forthcoming state guidance on the assembly of the District's future Water Shortage Contingency Plan.

MARINA COAST WATER DISTRICT
WATER SHORTAGE CONTINGENCY PLAN

1.0 INTRODUCTION AND BACKGROUND

This Water Shortage Contingency Plan is developed in compliance with California Water Code Section 10632. Requirements of subsections (a)(1)-(a)(9) and (b) are identified below and are accompanied by the required elements and information.

The Marina Coast Water District (MCWD) obtains its water supply from the Salinas Valley Groundwater Basin (SVGB). The SVGB is not adjudicated and provides water for growers, municipalities and other municipal and industrial uses in the Salinas Valley. Due to cumulative basin pumping, coastal aquifers are experiencing seawater intrusion. MCWD continues to work with Monterey County Water Resources Agency (MCWRA) in developing plans to coordinate and encourage preservation of the SVGB aquifers by all municipal and agricultural users.

In 2005, MCWD interconnected its two service areas, Central Marina and the Ord Community. The interconnection has improved system-wide reliability, making maximum use of available water storage tanks in the Ord Community and allowing both areas to be served by any of the eight District wells. In 2007, the District consolidated the two systems under a single Public Water System Permit.

The District continues its participation as a member of the Water Awareness Committee of Monterey County (WAC). Through the WAC, representatives from several agencies throughout Monterey County work together coordinating conservation and other water awareness efforts including education programs, information booths for special events and public understanding of Monterey County water challenges and opportunities.

California Water Code Section 10632(a)(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies, including but not limited to, a regional power outage, an earthquake or other disaster.

The MCWD developed and adopted an Emergency Response Plan[1] for emergency and disaster occurrences with guidelines and agreements for cooperative efforts with other State and local agencies, as required by the State Water Resources Control Board, Division of Drinking Water (DDW). This Plan contains actions MCWD would initiate in the event of a catastrophic reduction in its water supply.

2.0 STAGES OF ACTION

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

[1] Ordinance 44, adopted in 2007

The MCWD has developed a five-stage Water Conservation Plan that includes two voluntary and three mandatory stages. Table 1 generally describes the various stages. Specific water supply conditions applicable to each stage, referred to as "triggering mechanisms" herein, are discussed in the next section.

Table 1: Water Conservation Stages and Demand Reduction Goals

Stage	Water Shortage Level	Demand Reduction Goal	Type Program
Stage 1	0 – 10%	10% reduction	Voluntary Compliance
Stage 2	>10 - 25%	20% reduction	Voluntary Compliance
Stage 3	>25 - 35%	30% reduction	Mandatory Compliance
Stage 4	>35 – 50%	40% reduction	Mandatory Compliance
Stage 5	>50%	50%+ reduction	Mandatory Compliance
Priorities for use of available water, based on California Water Code Chapter 3 are: 1. Health and Safety - interior residential and fire fighting 2. Commercial, Industrial, and Governmental - maintain jobs & economic base 3. Existing Landscaping - especially trees and shrubs 4. New Demand - projects without permits when shortage declared			

California Water Code Section 10632(a)(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

This requirement is oriented toward water supply systems that are primarily supplied with surface water and are therefore directly affected by short-term fluctuations in hydrology (i.e., drought conditions). MCWD's current water supply is produced through groundwater pumping from the large SVGB. MCWD supply availability from this basin has not historically varied due to short-term hydrologic conditions. MCWD's wells are located in the Pressure Sub-Area of the SVGB. Within the Pressure Sub-Area, the historic difference between water levels under average and drought conditions is only 10- to 20-feet. The minimum water supply available during the driest three-year sequence is expected to match demands as discussed in the Urban Water Management Plan.

3.0 TRIGGERING MECHANISMS

The SVGB is currently the most important source of water for MCWD. In 2004, the MCWD's groundwater withdrawals of about 4,600 acre-feet accounted for less than one percent (1%) of the estimated basin-wide annual extractions of roughly 550,000 acre-feet. Given this relatively small percentage, MCWD conservation and contingency management activities can play only a small part within the SVGB. The foremost concern in developing appropriate triggers is achieving the maximum practical protection of an adequate long-term water supply of acceptable quality for MCWD customers. To that end, triggering mechanisms should be tied to factors that, directly or indirectly, have the greatest potential effect on the quality and quantity of available groundwater. Two general types of threats could cause MCWD to experience water shortages:

1. Unanticipated catastrophic system failure due to an earthquake, terrorist attack or sudden contamination of water supply, or
2. Chronic system shortage due to seawater intrusion reaching water supply wells in

concentrations such that those wells would have to be removed from service.

In the case of a catastrophic failure, the MCWD would assess the nature and extent of the failure, and the General Manager would identify the appropriate Conservation Stage in accordance with the expected level of water supply shortage. Should shortages be anticipated in amounts beyond fifty percent of normal demands, emergency actions will be taken in accordance with the MCWD's Emergency Response Plan, including enacting emergency ordinances as may be required by MCWD Board of Directors.

The chronic system threat to MCWD's present water supplies is seawater intrusion, which has occurred along the coastal margin of the Salinas Valley in response to historic over-drafting of the basin. Contamination from volatile organic compounds (VOCs) has also affected MCWD wells and could pose additional problems. Although seawater intrusion has not yet affected the deep zone (900-Foot Aquifer) of the SVGB (which is the source of supply for District Wells No.10, 11, 12 and 34), it is possible that continued extractions in the 900-Foot Aquifer could ultimately lead to contamination of these water supplies by seawater. MCWD monitors the rate of seawater intrusion and plans to develop alternative water resources that would be insulated from intrusion. However, it is possible for intrusion to appear in a relatively short time span and reduce overall supplies available. Consequently, the MCWD has structured this Water Shortage Contingency Plan with the primary goal of reducing water demands to allow time for alternative water supply measures, including the drilling of alternate wells in areas unaffected by intrusion and/or contamination. A specific triggering mechanism for various levels of conservation is tied to concentrations of chlorides in MCWD wells and possible concentrations of VOCs, such as trichloroethylene (TCE) which was previously observed at low levels in Well No. 9 (no longer in service) in Central Marina and is occasionally detected at Wells No. 29, 30 and 31 in the Ord Community. Chloride concentration is directly related to the seawater intrusion problem, and both parameters (chloride and VOCs) are related to the overall basin viability as a secure source of water supply.

Chloride concentration is a key indicator of water quality degradation due to seawater intrusion. Tests for statistically significant changes in chloride concentrations assist in the detection of the earliest stages of intrusion and are appropriate indicators of a water supply emergency. In addition, MCWD currently monitors its Ord Community wells for the presence of TCE and other organic compounds, and works with the U.S. Army regarding the Army's groundwater cleanup actions in the Ord Community.

Climate conditions are monitored by the State of California and by Monterey County. Monterey County specifically monitors water levels in the Salinas Valley Groundwater Basin. During prolonged or extended periods of drought, the State of California, acting through the Legislature, the State Water Resources Control Board (SWRCB) and/or the Department of Water Resources may enact rules or legislation directing urban water suppliers to implement demand reduction measures. Similarly, the County of Monterey, acting through the Board of Supervisors and/or the Monterey County Water Resources Agency may enact rules or ordinances directing urban water suppliers to implement demand reduction measures. Such legislation, rules or ordinances shall be considered as triggering mechanisms under this Plan.

TRIGGERING MECHANISMS FOR CONSERVATION STAGES

These Triggering mechanisms shall be interpreted as guidelines and are summarized in Table 2. The General Manager and/or Board of Directors may impose any of the following conservation stages based upon facts and circumstances which may not have been otherwise anticipated in this plan.

Table 2 Conservation Level Triggering Mechanisms

Conservation Stage and Water Shortage Level	Triggering Mechanism
Stage One 0-10% Water Shortage Voluntary Compliance	1) system malfunction resulting in up to 10% shortage 2) increase in chlorides which do not threaten to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending 4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions
Stage Two >10-25% Water Shortage Voluntary Compliance	1) system malfunction resulting in greater than10% shortage 2) increase in chlorides which may threaten to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending 4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions
Stage Three >25-35% Water Shortage Mandatory Compliance	1) system malfunction resulting in greater than 25% shortage 2) increase in chlorides which are expected to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced by up to 25% 4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions
Stage Four >35-50% Water Shortage Mandatory Compliance	1) system malfunction resulting in greater than 35% shortage 2) increase in chlorides which are expected to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced more than 35% 4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions
Stage Five >50% Water Shortage Mandatory Compliance	1) system malfunction resulting in greater than 50% shortage 2) increase in chlorides which are expected to exceed drinking water quality standard

	3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced more than 50% 4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions

STAGE 1 Triggers: Up to 10% Water Supply Shortage

Stage 1 conservation measures may be called for as a result of malfunction of all or portions of the water system that reduces supplies by up to 10% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey, and/or the determination that there is a need to focus public attention on water conservation.

Further triggering could also be based on:

1) detection of a statistically significant increase in chloride concentrations but where such concentrations do not threaten to exceed the DDW "Upper Level" secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or

2) detection of a statistically significant increase in VOC concentrations but where such concentrations do not threaten to exceed the primary drinking water maximum contaminant level (MCL) for each VOC at the well(s) in question and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards.

STAGE 2 Triggers: >10% to 25% Water Supply Shortage

Stage 2 conservation measures may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 10% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey, and/or the determination that there is a need to focus public attention on water conservation.

Further triggering could also be based on:

1) detection of a statistically significant increase in chloride concentrations where such concentrations may threaten to exceed the DDW "Upper Level" secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or

2) detection of a statistically significant increase in VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC at the well(s) in question and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards.

STAGE 3 Triggers: >25% to 35% Water Supply Shortage

Stage 3 conservation measures may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 25% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey.

Further triggering could also be based on:

1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the DDW "Upper Level" secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or

2) detection of VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or when gross reduced well production of up to 25% is necessary to maintain adequate water quality.

STAGE 4 Triggers: >35% to 50% Water Supply Shortage

Stage 4 conservation measures may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 35% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey.

Further triggering could also be based on:

1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the DDW "Upper Level" secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or

2) detection of VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or gross reduced well production of up to 35% is necessary to maintain adequate water quality.

STAGE 5 Triggers: >50% Water Supply Shortage

Stage 5 conservation measures may be called for due to in malfunction or failure of all or portions of the water system that reduces supplies by 50 % or more on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey.

Further triggering could also be based on:

1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the short term primary drinking water standard of 600 mg/l at

the well(s) in question, or

2) detection of VOC concentrations but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and /or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or gross reduced well production of over 50% is necessary to maintain adequate water quality.

4.0 CONSERVATION REQUIREMENTS AND APPEAL PROCEDURES

The following are MCWD's conservation requirements by customer type and stage and the appeal procedures. These requirements and procedures are adopted as part of MCWD's Water Shortage Contingency Plan.

STAGE 1 Actions: Voluntary – Minimal Conservation Requirement, 10% Demand Reduction Goal

MCWD shall:

- notify all customers of the water shortage
- mail information to every customer and reasonably available potential water user explaining the importance of significant water use reductions
- provide technical information to customers on ways to improve water use efficiency
- conduct media campaign to remind consumers of the need to save water
- publicize the showerhead, toilet rebate and other efficiency programs
- enforce mandatory restrictions on water waste as provided in MCWD Code, Chapter 3

Stage 1 actions shall apply under any triggering event.

STAGE 2 Actions: Voluntary – Moderate Conservation Requirement, 20% Demand Reduction Goal

In addition to the actions listed in Stage 1, MCWD shall call for voluntary reductions of up to 25% for each connection based on the average use during a base period proposed by the Water Conservation Commission and adopted by MCWD's Board of Directors. Stage 2 actions shall apply under any triggering event.

STAGE 3 Actions: Mandatory – Severe Conservation Requirement, 30% Demand Reduction Goal

In addition to the actions listed in Stage 1 and 2, MCWD shall establish mandatory annual allotments for each connection based on the average use of all connections within that category during a base period proposed by the Water Conservation Commission and adopted by MCWD's Board of Directors. When Stage 3 use reductions become necessary, administration and enforcement of the District's mandatory restrictions on water waste become the major focus of MCWD. If necessary, additional temporary personnel may be hired and special meetings of the Water Conservation Commission and /or Board of Directors may be scheduled.

Stage 3 actions shall be applied based upon triggering event, as noted below.

1. Each water service connection shall receive an allotted quantity of water, typically specified in hundred cubic feet (hcf) units per billing cycle. The Board of Directors may elect not to impose this action in response to a drought if the supply reduction trigger is not met.

2. The Board of Directors may pass an emergency ordinance increasing the usage rate for potable water consumed over a connections allocation, and/or in order to ensure stable revenues for operation and maintenance of MCWD. The Board of Directors may elect not to impose this action if water service allocations are not imposed.

3. As individual customers are notified of allotments, it is expected that many requests for special consideration will be received. These petitions must be processed rapidly, efficiently and fairly. Every application for waiver must be heard, evaluated and acted upon by the Water Conservation Commission as rapidly as possible. Every action by the Water Conservation Commission shall be referred to MCWD's Board of Directors for consideration. The procedures for appeal are defined, below. Appeals shall be considered under any Stage in which mandatory restrictions or allocations are imposed.

4. No building permits will be issued or meters installed for new accounts that had not received building permits before the "Severe Shortage" was declared. The Board of Directors may elect not to impose this action in response to a drought if the supply reduction trigger is not met.

5. The following water use restrictions shall be imposed.

Stage	Type Use	Restriction	Applies
3	Existing, Irrigated Landscapes Commercial Complexes, Residential Units, Public Parks, and Athletic Fields	Landscape watering with recycled water or other non-potable water sources may continue without restriction. Landscape watering with potable water shall be subject to the following limits: (1) Landscape watering using sprinklers or automated irrigation systems is permitted only two days per week, Wednesdays and Saturdays, before 10:00 a.m. or after 5:00 p.m. The Board of Directors may choose to assign different watering days to specific areas if daily system-wide usage limits are required. (2) With on-site supervision, including supervision by a professional gardener/landscaper, landscapes may be manually watered with drip irrigation, a soaker hose, a handheld hose with a positive action shut-off nozzle, or a watering can/bucket at any time, on any day, not more than 2 days per week. (3) Irrigation of ornamental turf in roadway medians and parkway strips is prohibited. Plantings of trees, shrubs, ornamental grasses, and ground covers with low water demand, watered by drip irrigation, are encouraged.	During both Water Shortage and Drought Conditions
3	New, Irrigated Landscapes Commercial Complexes, Residential units, Public Parks, and Athletic Fields	Landscape watering with recycled water or other non-potable water sources may continue without restriction. Landscape watering with potable water shall be subject to the following limits: (1) Landscape watering is permitted three (3) days a week to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Watering days for new landscapes are Monday, Wednesday, and Saturday. Property owners must notify the District of the address where new landscape is installed and the date of installation. (2) Following the initial establishment period, landscape watering using sprinklers or automated irrigation systems is permitted only on the days associated with the current conservation stage in effect.	During both Water Shortage and Drought Conditions

Stage	Type Use	Restriction	Applies
3	Golf Courses	Landscape watering with recycled water or other non-potable water sources may continue without restriction. Landscape watering with potable water shall be subject to the following limits: (1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions. (2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.). (3) Course operators shall implement a plan to achieve a twenty (20) percent reduction in monthly irrigation water use.	During both Water Shortage and Drought Conditions
3	Hotels, motels and bed and breakfasts	Hotels, motels and B&B's must offer and clearly notify guests of a "limited linen/towel exchange" program.	During both Water Shortage and Drought Conditions
3	Swimming pools, hot tubs	Initially filling new and existing swimming pools is prohibited. Draining and refilling existing swimming pools is permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation.	During both Water Shortage and Drought Conditions
3	Decorative fountains, ponds and waterfalls over 20 gallons in size	Initially filling new and existing decorative fountains, ponds and waterfalls is prohibited. Adding water to make up for evaporative loss is allowed only for ponds and fountains that serve as aquarium tanks for fish or aquatic animals.	During both Water Shortage and Drought Conditions
3	Industrial and Commercial	Reduction of water use by any means is encouraged. Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.	During both Water Shortage and Drought Conditions
3	Vehicle and Equipment Washing	Washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted on any day, any time of the day, with the use of a positive action shut-off nozzle. All customers are encouraged to only wash those vehicles as is necessary for health and safety utilizing commercial car wash facilities.	During both Water Shortage and Drought Conditions

Stage	Type Use	Restriction	Applies
3	Heavy Construction	The use of potable water for dust control shall be reduced to the greatest extent possible.	During both Water Shortage and Drought Conditions

STAGE 4 Actions: Mandatory – Critical Conservation Requirement, 40% Demand Reduction Goal

In addition to the actions listed in the previous stages, MCWD shall establish allotments based upon a 35% -50% curtailment of water use. All new and previous appeals for waiver shall be evaluated by field audit and shall be reheard by the Water Conservation Commission, if necessary, upon recommendation of MCWD staff. Water rates may be increased by the Board of Directors.

The following water use restrictions shall be imposed.

Stage	Type Use	Restriction	Applies
4	Existing, Irrigated Landscapes Commercial Complexes, Residential units, Public Parks, and Athletic Fields	Landscape watering with recycled water or other non-potable water sources may continue without restriction. Landscape watering with potable water shall be subject to the following limits: (1) Landscape watering using sprinklers or automated irrigation systems is permitted only one day per week, on Wednesdays before 10:00 a.m. or after 5:00 p.m. The Board of Directors may choose to assign different watering days to specific areas if daily system-wide usage limits are required. (2) With on-site supervision, including supervision by a professional gardener/landscaper, landscapes may be manually watered with drip irrigation, a soaker hose, a handheld hose with a positive action shut-off nozzle, or a watering can/bucket at any time, on any day, not more than 1 day per week. (3) Irrigation of ornamental turf in roadway medians and parkway strips is prohibited. Plantings of trees, shrubs, ornamental grasses, and ground covers with low water demand, watered by drip irrigation, are encouraged.	During both Water Shortage and Drought Conditions
4	New, Irrigated Landscapes	Landscape watering with recycled or other non-potable water sources water may continue without restriction.	During both Water

Stage	Type Use	Restriction	Applies
	Commercial Complexes, Residential units, Public Parks, and Athletic Fields	The installation of new landscapes irrigated with potable water is discouraged. Landscape watering with potable water shall be subject to the following limits: (1) Landscape watering is permitted three (3) days a week to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Watering days for new landscapes are Monday, Wednesday, and Saturday. Property owners must notify the District of the address where new landscape is installed and the date of installation. (2) Following the initial establishment period, landscape watering using sprinklers or automated irrigation systems is permitted only on the days associated with the current conservation stage in effect.	Shortage and Drought Conditions
4	Golf Courses	Landscape watering with recycled water or other non-potable water sources may continue without restriction. Landscape watering with potable water shall be subject to the following limits: (1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions. (2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.). Course operators shall implement a plan to achieve a thirty (30) percent reduction in monthly irrigation water use.	During both Water Shortage and Drought Conditions
4	Hotels, motels and bed and breakfasts	Hotels, motels and B&B's must limit linen/towel changes to once every two (2) nights or for the entire stay, whichever is shorter, except for health and safety.	During both Water Shortage and Drought Conditions
4	Swimming pools, hot tubs	Initially filling new and existing swimming pools is prohibited. Draining and refilling existing swimming pools is permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation.	During both Water Shortage and Drought Conditions

Stage	Type Use	Restriction	Applies
4	Decorative fountains, ponds and waterfalls over 20 gallons in size	Filling or refilling new and existing decorative fountains, ponds and waterfalls is prohibited. Adding water to make up for evaporative loss is allowed only for ponds and fountains that serve as aquarium tanks for fish or aquatic animals. Owners are encouraged to move fish and aquatic animals to indoor tanks less subject to evaporation.	During both Water Shortage and Drought Conditions
4	Vehicle and Equipment Washing	Washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted on any day, any time of the day, with the use of a positive action shut-off nozzle. All customers are encouraged to only wash those vehicles as is necessary for health and safety utilizing commercial car wash facilities.	During both Water Shortage and Drought Conditions
4	Industrial and commercial	Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed. Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.	During both Water Shortage and Drought Conditions
4	Heavy Construction	The use of potable water for dust control shall be reduced to the greatest extent possible.	During both Water Shortage and Drought Conditions

STAGE 5 Actions: Mandatory – Emergency Conservation Requirement, 50% Demand Reduction Goal

Appropriate 50% water shortage allotments shall be calculated and noticed to customers. Appropriate administration and enforcement of this stringent program shall be the highest priority of MCWD activity. All resources of MCWD will be directed toward improvement and increase of water supply to the system. Water rates may be further increased by the Board of Directors.

The following water use restrictions shall be imposed:

Stage	Type Use	Restriction	Applies
5	Existing, Irrigated Landscapes Commercial Complexes, Residential units, Public Parks, and Athletic Fields	Landscape watering with recycled water or other non-potable water sources may continue without restriction. Landscape watering with potable water is prohibited.	During both Water Shortage and Drought Conditions
5	New, Irrigated Landscapes Commercial Complexes, Residential units, Public Parks, and Athletic Fields	Landscape watering with recycled water or other non-potable water sources may continue without restriction. The installation of new landscapes irrigated with potable water is prohibited during Conservation Stage 5. New landscapes installed prior to declaration of Conservation Stage 5 may water two (2) days a week to maintain adequate growth on newly installed landscapes, for the remainder of the initial five (5) week establishment period. Watering days for new landscapes are Wednesday and Saturday. Property owners must notify the District of the address where new landscape is installed and the date of installation	During both Water Shortage and Drought Conditions
5	Golf Courses	Landscape watering with recycled water or other non-potable water sources may continue without restriction. Landscape watering with potable water shall be subject to the following limits: (3) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions. (4) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.). Course operators shall implement a plan to achieve a forty (40) percent reduction in monthly irrigation water use.	During both Water Shortage and Drought Conditions
5	Hotels, motels and bed and breakfasts	Hotels, motels and B&B's must limit linen/towel changes to once every three (3) nights or for the entire stay, whichever is shorter, except for health and safety.	During both Water Shortage and Drought Conditions

Stage	Type Use	Restriction	Applies
5	Swimming pools, hot tubs	Filling new swimming pools and/or draining and refilling existing swimming pools is prohibited. All pools and tubs shall be covered when not in use to reduce evaporation. Contact District conservation staff if an existing swimming pool must be repaired and refilled during Conservation Stage 5.	During both Water Shortage and Drought Conditions
5	Decorative fountains, ponds and waterfalls over 20 gallons in size	Filling or refilling new and existing decorative fountains, ponds and waterfalls is prohibited. Adding water to make up for evaporative loss is allowed only for ponds and fountains that serve as aquarium tanks for fish or aquatic animals. Owners are encouraged to move fish and aquatic animals to indoor tanks less subject to evaporation.	During both Water Shortage and Drought Conditions
5	Vehicle and Equipment Washing	Washing of vehicles and mobile equipment is prohibited. Only commercial facilities with water recycling systems may be used.	During both Water Shortage and Drought
5	Industrial and commercial	Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed. Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.	During both Water Shortage and Drought Conditions
5	Heavy Construction	The use of potable water for dust control shall be reduced to the greatest extent possible. The District may establish mandatory construction water budgets, if needed.	During both Water Shortage and Drought Conditions

Appeals Procedure

1. Any person who wishes to appeal a customer classification or allotment shall do so in writing by using the forms provided by MCWD.

2. Appeals will be reviewed by the District staff. Site visits may be scheduled if required.

3. A condition of granting an appeal shall be that all plumbing fixtures or irrigation systems be replaced or modified for maximum water conservation.

4. Examples of appeals that may be considered are as follows:

a. Substantial medical requirements.

b. Commercial/Industrial/Institutional accounts where any additional water supply reductions will result in unemployment or inappropriate hardship, after confirmation by the MCWD staff that the account has instituted all applicable water efficiency improvements.

5. In the event an appeal is requested for irrigation of trees or vegetation, MCWD staff may use the services of a qualified consultant in determining the validity of the request. Costs for such consulting services shall be paid by the party or parties making the request.

6. District staff shall refer all appeals to the Water Conservation Commission. The Water Conservation Commission may refer appeals to MCWD's Board of Directors.

7. If the Water Conservation Commission and the applicant are unable to reach accord, then the appeal shall be heard by the MCWD Board of Directors, who will make the final determination.

8. All appeals shall be reported monthly to the Board as a part of the Water Supply Report.

5.0 MANDATORY PROHIBITIONS ON WATER USE

California Water Code Section 10632(a)(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning. Section 10632(b) Commencing with the urban water management plan update due December 31, 2015, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the 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. Section 10632(a)(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

The MCWD adopted a "Water Waste/Water Conservation" Ordinance (Ordinance No. 20) in April of 1990, which prohibits water waste and promotes water conservation. Since the initial adoption, revisions were adopted by the Board of Directors on April 14, 1992 and October 4, 1993. The ordinance has most recently been revised on and now appears as Chapter 3.36 of MCWD Code. Section 3.36.030, Mandatory Restrictions on Water Waste, details the applicable prohibitions of use. These prohibitions are in force at all times. Additional water use reduction methods available to water users or MCWD to adopt in order to comply with use reductions during the more restrictive stages of water shortages (Stages 4 and 5) include, but are not limited to, the following:

a) elimination of turf irrigation with potable supplies;

b) restriction of landscape watering to shrubs and trees by hand or drip irrigation only;

c) elimination of vehicle washing except in car washes that have water recirculation

systems;

d) prohibition on filling or topping off of swimming pools where damage to pumping equipment will not result;

e) elimination of the issuance of construction meters;

f) shut-off of dedicated landscape irrigation meters; and

g) moratorium on provision of new supply meters.

If water use reductions called for in Stages 3-5 are not achieved, the MCWD may amend this Water Shortage Contingency Plan to make any of the above available conservation tactics mandatory.

6.0 PENALTIES OR CHARGES FOR EXCESSIVE USE

California Water Code Section 10632(a)(6) Penalties or charges for excessive use.

Section 3.36.050 of MCWD Code provides for a system of violations and notices. Violation of provisions of this Water Shortage Contingency Plan shall be enforced under Section 3.36.050 of MCWD Code.

7.0 REVENUE AND EXPENDITURE IMPACTS

California Water Code Section 10632(a)(7) – An analysis of the impacts of each of the actions and conditions described in subdivisions (a)(1) to (a)(6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

Enforcement of the Water Shortage Contingency Plan is assumed to be covered by enhanced revenues from application of excess use charges and penalties. MCWD reserves may be used temporarily should revenues remain below expectations. MCWD's rate structure is based upon adopted rate ranges and allows for modification of rates on short notice within those ranges. MCWD retains the ability to modify rates to meet all legitimate MCWD needs. Revenue impacts from water sales losses are estimated as follows, based upon Tier 2 rates of $2.79/hcf in Central Marina and $3.27/hcf in the Ord Community, and recognizing approximately 10% of MCWD's customers are not metered as of 2013.

Table 3: Potential Revenue Impacts of Implementation of WSCP

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Assumed Reduction	10 percent	20 percent	30 percent	40 percent	50 percent
Water Sales Loss	$579,804	$1,159,607	$1,739,411	$2,319,215	$2,899,018
Revenue Source: Pumping savings at $135/af	$57,807	$115,614	$173,421	$231,228	$289,035
Net Revenue Reduction	$521,997	$1,043,993	$1,565,990	$2,087,987	$2,609,983

Percent of Total Annual Water System Revenue	6%	12%	18%	24%	30%

* Table based on FY2012-13 water sales, $8,839,268 for 4,282 acre-feet

8.0 WATER SHORTAGE CONTINGENCY PLAN IMPLEMENTATION

California Water Code Section 10632 (a)(8) A draft water shortage contingency resolution or ordinance.

MCWD Board of Directors adopted the Water Shortage Contingency Plan in Resolution No. 2014-__, which enables implementation of the Plan upon advice of staff based in part on the triggering mechanisms discussed herein. The resolution is attached as Appendix A to this Plan.

Chapter 3.36.035 of the MCWD Code of Ordinances[2] provides for enforcement of the current Water Shortage Contingency Plan. Chapter 2.09 of the Code of Ordinances[3] contains a sample ordinance which may be adopted in the event of a local emergency, including a water shortage.

9.0 WATER USE MONITORING PROCEDURES

California Water Code Section 10632* (a)(9) *A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency plan.

Normal Monitoring Procedure:

In normal water supply conditions, production figures are recorded daily by MCWD O&M personnel. Totals are reported monthly to the O&M Superintendent. Production figures are reported in the Annual Report to the Drinking Water Program, which is submitted to the SWRCB Division of Drinking Water each year.

Stage 1 and 2 Water Shortages

During a Stage 1 or 2 water shortage, daily production figures will be reported to the O&M Superintendent. The O&M Superintendent compares the weekly production to the target weekly production to verify that the reduction goal is being met. Monthly reports are forwarded to the District Engineer and the General Manager, the Water Conservation Commission and the MCWD Board of Directors. If reduction goals are not met, the General Manager may notify the Board of Directors so that corrective action can be taken.

Stage 3 and 4 Water Shortages

During a Stage 3 or 4 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the General Manager and weekly reports to the Water Conservation Commission and Board of Directors. Special meetings may be called for administration of the

[2] Ordinance 41, adopted in 2005
[3] Ordinance 44, adopted in 2007

Water Shortage Contingency Plan.

Stage 5 Water Shortage

During a Stage 5 shortage, production figures will be reported to the O&M Superintendent hourly, and to the General Manager daily. Reports will also be provided to MCWD's Board of Directors, the Monterey County Office of Emergency Services, and land use jurisdictions located within MCWD's service territory.