



Legislation Details (With Text)

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**Title:** Actions related to a Pilot Program for Automated Enforcement of Outdoor Watering Restrictions with University of Chicago:  
 1. Authorize a Pilot Program for Automated Enforcement of Outdoor Watering Restrictions with the University of Chicago Urban Labs (UChicago) to optimize water usage and conservation data, including modified enforcement of the outdoor watering schedule from July 1, 2018 through September 30, 2018.  
 2. \*\*\*RESOLUTION - 544th Amendment to the Master Fee Resolution (MFS) No. 80-420 to adjust the conditions of service work related to water conservation fines language to reflect an upper limit rather than a single fine amount (Subject to Mayor's Veto)

**Sponsors:** Department of Public Utilities

**Indexes:**

**Code sections:**

**Attachments:** 1. Enforcement\_Pilot\_Implementation\_Plan - Attachment 1.pdf, 2. Master Fee Reso - 544th Amendment -DPU Water Fines - Attachment 2.pdf, 3. Pilot Program PowerPoint Presentation - Attachment 3.pdf, 4. Supplement - UPDATED Water Conservation Pilot Program Slides.pdf

Date	Ver.	Action By	Action	Result
5/17/2018	1	City Council	approved	Pass

**REPORT TO THE CITY COUNCIL**

**May 17, 2018**

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**SUBJECT**

Actions related to a Pilot Program for Automated Enforcement of Outdoor Watering Restrictions with University of Chicago:

1. Authorize a Pilot Program for Automated Enforcement of Outdoor Watering Restrictions with the University of Chicago Urban Labs (UChicago) to optimize water usage and conservation data, including modified enforcement of the outdoor watering schedule from July 1, 2018 through September 30, 2018.

2. \*\*\*RESOLUTION - 544<sup>th</sup> Amendment to the Master Fee Resolution (MFS) No. 80-420 to adjust the conditions of service work related to water conservation fines language to reflect an upper limit rather than a single fine amount (Subject to Mayor's Veto)

## **RECOMMENDATION**

Staff recommends Council approve a Pilot Program for Automated Enforcement of Outdoor Watering Restrictions modifying enforcement of the outdoor watering schedule from July 1 through September 30 of 2018, and corresponding Master Fee Schedule (MFS) revisions.

## **EXECUTIVE SUMMARY**

The Department of Public Utilities (DPU) seeks approval to partner with UChicago to implement a pilot program using existing water meters citywide to assess optimal water conservation enforcement at varying penalty and water use thresholds, to determine the most effective combination for achieving water conservation compliance while minimizing the financial burden to customers. The pilot would use the City's approved water conservation penalties as a "ceiling" to evaluate how water customers respond to automated enforcement across a variety of fine and water threshold combinations. Compliance for almost half of the City's customers will be assessed through automated enforcement, with a majority of the customers experiencing decreased fines and/or increased gallons-per-hour thresholds for "excessive water use," to find the most effective water conservation enforcement. The pilot program would be implemented July 1, 2018, through September 30, 2018. Council approval is required to amend the Master Fee Schedule to reflect a temporary change to the water conservation penalty schedule for the purposes of carrying out this pilot program.

## **BACKGROUND**

In 2013, the City completed installing water meters citywide in response to a requirement that all federal Central Valley Project water users install meters and bill customers for water usage at a metered rate. Water meters with Advanced Metering Infrastructure (AMI) technology (aka "Smart Meters") were installed on every residential property within the City of Fresno.

On October 19, 2017, along with making permanent certain water conservation measures, Council adopted a definition for "excessive water use" - using water in excess of 300 gallons per hour during days or hours when outdoor irrigation is prohibited, as observed by City staff or recorded by the City's water meter reading system. An updated fine schedule was adopted with the updated water conservation measures.

The City recently implemented a meter reading and data management system (Beacon), which allows for full utilization of AMI technology within the City's metering system. This data management system includes an "Eye on Water" customer access portal, through which customers are able to retrieve hourly water usage data for their property.

The City is now ready to begin utilizing the AMI technology and Beacon data management system to enforce water conservation. Currently, Smart Meter data is utilized by City staff to focus visual inspections on those properties that are flagged as having possible violations, but notices are issued only if City staff actually observes a violation. Recognizing that moving to a fully automated system

of enforcement may result in significantly increased fines which could overly burden customers, and other undesirable consequences, DPU is partnering with UChicago to implement a pilot program which will test different variants of enforcement in order to determine which implementation best balances increased compliance, decreased water use, and customer feedback.

### Pilot Study Design

The pilot project would aim to determine what level of automated enforcement for outdoor watering schedule violations is most effective. It will cover all single-family residential customers with eligible water meters in the City of Fresno, which constitutes approximately 115,500 households. Customers will be randomized into groups differing in enforcement method and fines. Historical data suggests that up to 5,000 notifications might be issued in the first month of the pilot program. This number does not account for the impact of messaging prior to the start of the pilot, or any other behavioral response, rendering it an unlikely upper bound. The City has historically issued approximately 1,000 notices per month.

### Varying Enforcement Method

Each customer will be *randomly* assigned to one of two enforcement methods: 1) the current visual inspection system, or 2) the new system of automated enforcement based on Smart Meter data. Within the automated enforcement method, customers will be further randomized into three levels of water usage thresholds: 1) Baseline (300 gal/hr threshold), 2) Reduced Enforcement 1 (500 gal/hr threshold), and 3) Reduced Enforcement 2 (700 gal/hr threshold). Comparison of the two enforcement methods and the varying usage thresholds will provide an evaluation of the effectiveness of utilizing automated meter readings to reduce water use.

DPU has limited capacity to issue and follow up with an increased number of notices and fines. As a result, the majority of customers (55%) will be assigned to the status quo Visual Inspection research group. This group is expected to receive fewer violations than the Automated Enforcement groups, resulting in significantly fewer notices and fines overall.

### Varying Fines

Each customer will also be randomized into one of three levels of fine schedules: 1) Baseline Fine, 2) 50% Fine Reduction, and 3) 75% Fine Reduction. The purpose of testing varying fine schedules is to determine whether a reduced fine level will result in a reduction of violations - and therefore behavior change - similar to the fine schedule that is currently established, yet with a reduced burden to customers.

The Master Fee Schedule is being amended to reflect a temporary change to the water conservation penalty schedule, setting an upper limit on water conservation fines, rather than a single fine amount, for the purposes of carrying out this pilot program.

### Implementation

Throughout the pilot program, enforcement will be conducted in one of two ways:

- a) **Visual Inspections** - Visual inspections will be conducted by City conservation representatives utilizing the current enforcement method. This method utilizes meter read data to flag possible violations and deploy staff to the field for visual confirmation of violations before issuing a fine.
- b) **Automated Enforcement** - Through the Automated Enforcement method, notices and fines will be issued automatically based on meter usage data. To reduce time spent by City staff to identify violators, Beacon (Badger Meter) will implement a module that will automatically pull data for all customers whose water use exceeds a set threshold.

City staff will continue to exercise discretion around issues such as marginal violations, leak issues, and pool refills. However, when practicable, steps will be taken to automate this process to reduce the time burden on City staff.

### Opting Out or Pausing Pilot

Customers will have the option to opt out of the pilot program by email, phone, or website. UChicago will provide support to the City in handling phone calls by preparing a FAQ response sheet and script for City staff handling inquiries from customers. In addition, the City will have the option to pause the pilot project if more calls are received than it can handle.

## **ENVIRONMENTAL FINDINGS**

By the definition provided in the California Environmental Quality Act Guidelines Section 15378 this item does not qualify as a "project" and is therefore exempt from the California Environmental Quality Act requirements.

## **LOCAL PREFERENCE**

Local preference was not applied as this pilot program does not include a bid or award of a contract.

## **FISCAL IMPACT**

There is no financial obligation for the General Fund for the amendment to the FMC or for this pilot program. The cost for the production and mailing of the program notices will be paid from the Water Enterprise Fund. Revenue generated from fines will be deposited into the Water Enterprise Fund.

## **Attachments:**

Automated Enforcement of Outdoor Watering Restrictions Pilot Program: Implementation Plan (Attachment 1)  
Master Fee Resolution - 544<sup>th</sup> Amendment-DPU Water Fees (Attachment 2)  
Pilot Program PowerPoint Presentation (Attachment 3)