

FACT SHEET ON FRAMEWORK RESIDENTIAL OUTDOOR STANDARD

Overview

SB606 and AB1668, passed in 2018, intend to “make water conservation a California way of life” by providing a framework for water conservation and efficiency. The bills direct state agencies Department of Water Resources (DWR) and State Water Resources Control Board (SWRCB) to develop overall water efficiency targets for each retail water agency (over 3,000 connections) based on the combination of indoor water use, outdoor water use, water loss, water use for variances and adjustments for recycled water use. This FAQs document is focused on the outdoor water use component, and specifically single family- and multi-family residential. A water use efficiency standard will also be established for CII dedicated irrigation meter accounts. This FAQ does not address the CII landscape standard. For more information about SB 606/AB 1668 visit CalWEP.org.

CalWEP is committed to responding to our members’ needs and working with both DWR and the team conducting the state-wide analysis for DWR, Eagle Aerial Solutions and Quantum Spatial, to ensure agencies have access to the resources they need to prepare, assess, implement, and comply with these new outdoor water use regulations.

FREQUENTLY ASKED QUESTIONS

How will each agency’s outdoor standard be calculated?

An agency’s outdoor standard (aka “target”) will be calculated using the formula below. Water budgets are being assessed at the parcel level for both single family residential and multifamily residential, however, an agency’s outdoor targets will be provided as an aggregate of all parcel budgets

$$\text{Outdoor Target (CCF)} = (\text{Annual Reference Evapotranspiration(ETo)}) \times (\text{Landscape Area}) \times (\text{Evapotranspiration Adjustment Factor (ETAF)})/1200$$

- Reference Evapotranspiration or “ETo”: the total volume of water transpired by cool season turf grass maintained at 4-6” for a specific location and measured in inches and reported by the CA Irrigation Management Information System (CIMIS) for years 2017 - 2019. [Click here to find your service area’s ETo value.](#)
- Evapotranspiration Adjustment Factor or “ETAF”: a factor used to adjust ETo for a specific plant type and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. (The Model Water Efficient Landscape Ordinance (MWELO) uses ETAF to establish water budgets for landscapes. The ETAF for this regulation has not been determined yet.)

Measurement and Classification

What are the different classifications used for landscape measurement?

The aggregate supplier landscape area (LAs) is comprised of three classes:

- *Class 1: Irrigable-Irrigated (LAs-II)*– turf, trees, landscape, pools, water features
- *Class 2: Irrigable-Not Irrigated (LAs-INI)* – land that has likely been or is intended to be irrigated but isn't currently such as brown lawns with less than 60% visible green, trees surrounded by brown lawn, agricultural areas like small orchards, mulched areas without plants, bare soil
- *Class 3: Not Irrigable (LAs-NI)* – hardscape and undeveloped land including roads, driveways, decks, artificial turf as well as natural open landscape with native vegetation

DWR considers irrigable landscape area to be the sum of LAs-II and LAs-INI. (Irrigable = LAs-II + LAs-INI)

How will DWR measure an agency's landscape area?

The measurement of the landscape area involves aerial surveys and highly sophisticated remote sensing analysis to determine the amount of Irrigable-Irrigated (II) and Irrigable-Not Irrigated (INI) landscape area for each water agency's service area. DWR contracted the Eagle Aerial and Quantum Spatial team to conduct the study. The regulation will rely on irrigable area measurement for the base of the water budget calculation.

What resolution imagery is the analysis based on?

The imagery being used in the study has a 1-foot pixel resolution. This means that each pixel of digital, orthorectified imagery, equals 1 square foot of land on the ground.

When was the aerial imagery taken?

DWR's analysis are largely based off of late-summer 2018 imagery. Some of the early pilots were analyzed with 2016 data. The early pilots will be re-run with 2018 imagery to assess differences.

How are the parcel classification (residential, commercial, etc.) and boundaries determined and measured?

All parcel information is based off publicly available county assessor data for each county in California. Single-family and multi-family residential were segregated using land use codes.

How are parkway strips measured?

Currently, DWR does not intend to include parkway strip in the Landscape Area Measurement.

How will DWR account for the fact that a sloped surface area is larger than the non-sloped surface area when aerial imagery is used?

Current methods do not correct for slope.

FREQUENTLY ASKED QUESTIONS, continued

Validation and Verification

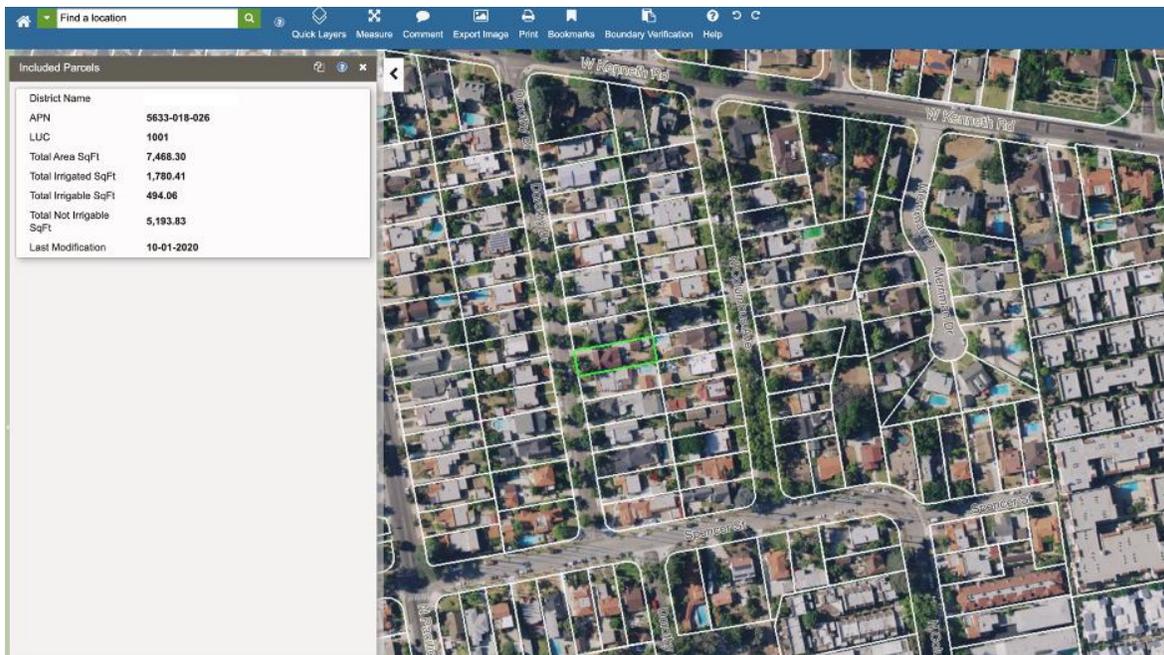
How is the landscape classification (II, INI, and NI) validated?

For this statewide project, the team has committed to a 95% accuracy rate at the water agency level. In order to reach such a high level of accuracy, several validation processes are carried out not only by the Eagle/Quantum team, but also by DWR and an additional consulting firm, Formation Environmental (FE). Within each water agency's service area, a statistically based number of residential parcels are selected at random and run through a validation process first by the Eagle/Quantum team. The same parcels are then run through another independent validation process by DWR and Formation Environmental. Any found differences in the classification results are reconciled between all teams. The learned information from these processes are then applied to the classification models and used throughout the analysis where appropriate. Note that classification errors are calculated in area and units of square feet.

What kind of data will each agency receive from DWR?

DWR will be providing residential landscape area measurement data to every retail urban water agency in the state. All suppliers will receive their data by the end of March 2021. The data will be provided via a hyperlink and will consist of one zip file containing data files (i.e., GIS layers, CSV) and a Water District Summary Report and Landscape Area Estimated Project document both in pdf.

The total predicted area for II, INI, and NI in square feet will be available in tabular format and will be accompanied by aerial imagery hosted on a verification portal (see screen shot below).



FREQUENTLY ASKED QUESTIONS, *continued*

When will I have access to the DWR verification portal?

As DWR releases the data packages (as mentioned above) to each water agency, access to the DWR Verification Portal will also be made available in parallel at no cost to the water agency. While agencies will be able to retain the spatial and tabular files permanently, they will only be able to access the associated aerial imagery and verification portal for a 6-month period to review their agency's data.

What will I be able to do in the verification portal?

The DWR Verification Portal was designed as a viewing platform that allows the user to see the tabular results in a GIS environment. This includes total square feet of Irrigable-Irrigated (II), irrigable-Not-irrigated (INI), and Not-irrigable (NI) area at a water agency and residential parcel level. The three active data layers in the verification portal include: 1) Service Area Boundary, 2) Included Parcels, and 3) Disputed Parcels. A few simple tools are available (measuring, bookmarks, notes) for the user to perform internal QC of the results. It is important to note that the DWR verification portal is NOT a direct communication channel with DWR. Any feedback needs to be sent to directly to DWR outside of the portal, for example, via email.

How often will this analysis be updated?

DWR budget covers analysis for the initial measurement. Several pilot agencies were analyzed on 2016 data and DWR plans to re-run these pilots on 2018 data and use a sensitivity analysis to assess any adjustments. Based on the data changes, DWR may request budget to do more aerial imagery analysis on an on-going access. However there currently is no funding to obtain additional imagery in the future.

Additional FAQs

Will water agencies get credit for using recycled water for irrigation?

Legislation provides a bonus credit for recycled water. For more information, see [WateReuse's informational factsheet](#) that covers this issue.

How will commercial, industrial and institutional (CII) dedicated water meters be handled?

Dedicated irrigation water meters will be included in an Agency's overall water use objective through a commercial, industrial and institutional landscape standard, not within the residential outdoor standard. DWR is not able to determine the area served by dedicated irrigation meters. Water agencies will be required to identify which dedicated water meters serve CII properties. DWR will be setting standards for the size of landscape included in this measurement. District's will need to report this data to DWR by January 2024 in its annual water use report. The data they will report will need to include the number of dedicated CII accounts, the landscape area associated with accounts, and water use to those dedicated irrigation accounts.

FREQUENTLY ASKED QUESTIONS, *continued*

How will properties that irrigate using groundwater be handled?

To date, DWR has not run into a significant number of self-supplied lots. DWR is interested in working with specific agencies that would experience a significant impact. Some properties have both groundwater wells and municipal supplies to irrigate their land. DWR is currently assessing how to approach this.

Why isn't the imagery going to be available to the public in perpetuity?

The state currently does not have funding to provide the imagery in perpetuity. However, water agencies have expressed an interest in acquiring aerial imagery of their service areas for various reasons. Discounted imagery is available for purchase directly from Eagle Aerial Solutions. It is the same imagery that DWR is using for these regulations. Purchasing this data is *not mandatory* for compliance and is completely optional. The cost per agency is \$750 plus \$6 for each square mile over 125 square miles. Interested agencies should contact Jaz Malloy from Eagle Aerial Solutions directly at JMolloy@eagleaerial.com.

Other Resources for CalWEP Members

- [MyCalWEP Framework Resource Hub](#)
- [CalWEP's SB 606/AB 1668 FAQ](#)
- WaterView Portal Subscription FAQ (coming soon)
- Landscape Budgets Resources (coming soon)