

UPDATE ON WATER BUDGET ALLOCATION FOR LANDSCAPE TYPES

JANUARY 7, 2020



WATER BUDGET ALLOCATION

BACKGROUND SUMMARY

- Pre-2018 code calculated irrigation water budgets using landscape area and evapotranspiration rate (ET).
- Pre-2018 change, Castle Rock Water standard operating procedure assumed all landscape types were Kentucky Blue Grass (KBG) for budget calculation purposes.
- July 23, 2003, Landscape Regulations required non-residential irrigation customers to install hybrid grasses instead of KBG.
- Pre-2018 Irrigation (Tier 2) water budgets were based on water needs for KBG versus hybrid grasses.
- To encourage efficient water usage, water budgets were changed to reflect actual landscape type in 2018.
- While updating budgets for landscape type CRW also updated irrigated areas for all customers based on 2018 flyover.

WATER BUDGET ALLOCATION

CURRENT TIER 2 WATER BUDGET CALCULATION

Pre-2018 Code Change for Tier 2 Water Budget Allocation Calculation:

- KBG ET Factor = plant coefficient (80%) of the 7 year historical monthly average for Castle Rock
- Irrigated area (sq. ft.) as determined by the Town
- Calculation:
 - ✓ Water Budget Allocation = Monthly ET Factor (for KBG) in kgals per square feet “times” irrigated area in square feet
 - ✓ One Non-Residential Customer Example: Apr-Oct Irrigation Season Water Budget = 342,000 gallons

WATER BUDGET ALLOCATION

WATER BUDGET CALCULATION CHANGE

Code Adopted in 2018 Changed Tier 2 Water Budget Allocation Calculation:

- Hybrid grass ET Factor = plant specific coefficient (50% for most hybrid grasses) of the 7 year historical monthly average for Castle Rock
- Irrigated area (sq. ft.) as determined by the Town
- Calculation:
 - ✓ Water Budget Allocation = Monthly ET Factor (hybrid) in kgals per square feet “times” irrigated area in square feet
 - ✓ One Non-Residential Customer Example: Apr-Oct Irrigation Season Water Budget = 214,000 gallons

WATER BUDGET ALLOCATION

CODE CHANGES ADOPTED IN 2018

- Water budgets historically calculated **assuming KBG** and using landscaped area and historical monthly ET
- Changed to calculate water budgets **using actual landscape type**, landscaped area and historical monthly ET
- Added reference to Castle Rock Water standard operating procedure for calculating water budget
- Cleaned up reference to “weekly” ET to be “monthly” ET in accordance with standard operating procedure

WATER BUDGET ALLOCATION

SCHEDULE HISTORY AND UPDATES

- Castle Rock Water Commission - October 24, 2018 and Update on December 11, 2019
- Town Council – 1st Reading - Nov 6, 2018, 2nd Reading -Dec 4, 2018, Update Jan 7, 2020
- New non-residential accounts - hybrid budget allocation – January 2019
- Existing non-residential accounts prior to July 23, 2003 – updated irrigated areas based on flyover allowing for KBG
- Existing non-residential accounts after July 23, 2003, but prior to 12/31/2018 – updated irrigated areas based on flyover and actual landscape types not allowing for KBG
- All Existing non-residential accounts prior to 1/1/2019
 - ✓ 2019 irrigation season – outreach completed w/ budget adjustment comparison, no financial impact to customers
 - ✓ 2020 irrigation season – outreach with financial impact and budget adjustments, no financial impact to customers
 - ✓ 2021 irrigation season – put new policy into place – i.e. Financial Consequences

WATER BUDGET ALLOCATION

RESULTS FROM 2019 EDUCATION AND OUTREACH ON 2018 CODE CHANGES

% of Cost Over 2019 Budget Using Adjusted Budget	
Percent of Cost Over Range	Number of Accounts
Bill Decreased	139
0%-Bill Remained the Same	236
1%-5%	138
6%-10%	114
10%-15%	80
16%-20%	75
20%-30%	79
31%-50%	24
51% and Above	5
Total	890

WATER BUDGET ALLOCATION

RECOMMENDATIONS

- Staff recommends providing another year of outreach to customers focusing on financial impacts of irrigated area updates and then implementing in 2021.
- Castle Rock Water Commission agreed with staff recommendation by general consensus.



QUESTIONS

RECOMMENDED MOTION: I MOVE TO DIRECT CASTLE ROCK WATER TO PROVIDE ANOTHER YEAR OF EDUCATION FOR WATER BUDGET CHANGES FOR PRE 1/1/2019 NON-RESIDENTIAL CUSTOMERS PRIOR TO FINANCIAL IMPACTS