

Aurora, CO: A Case Study in Land Use Planning, Water Efficiency and Collaboration

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Outline

- History of collaboration
- Water use reduction
- Other benefits realized



History

2003: Significant Landscape Code changes

2007: Water Conservation Management Plan

2009: City of Aurora Comprehensive Plan

2011: Land Use Assessment Model (LUAM)

2014: Integrated Water Master Plan (IWMP)

2015: Water Conservation Management Plan

2015: Population and Employment Allocation Tool (PEAT)

2015: Z-zone Tap Fee Structure and Incentives

2016: Evaluation of new Landscape Code changes

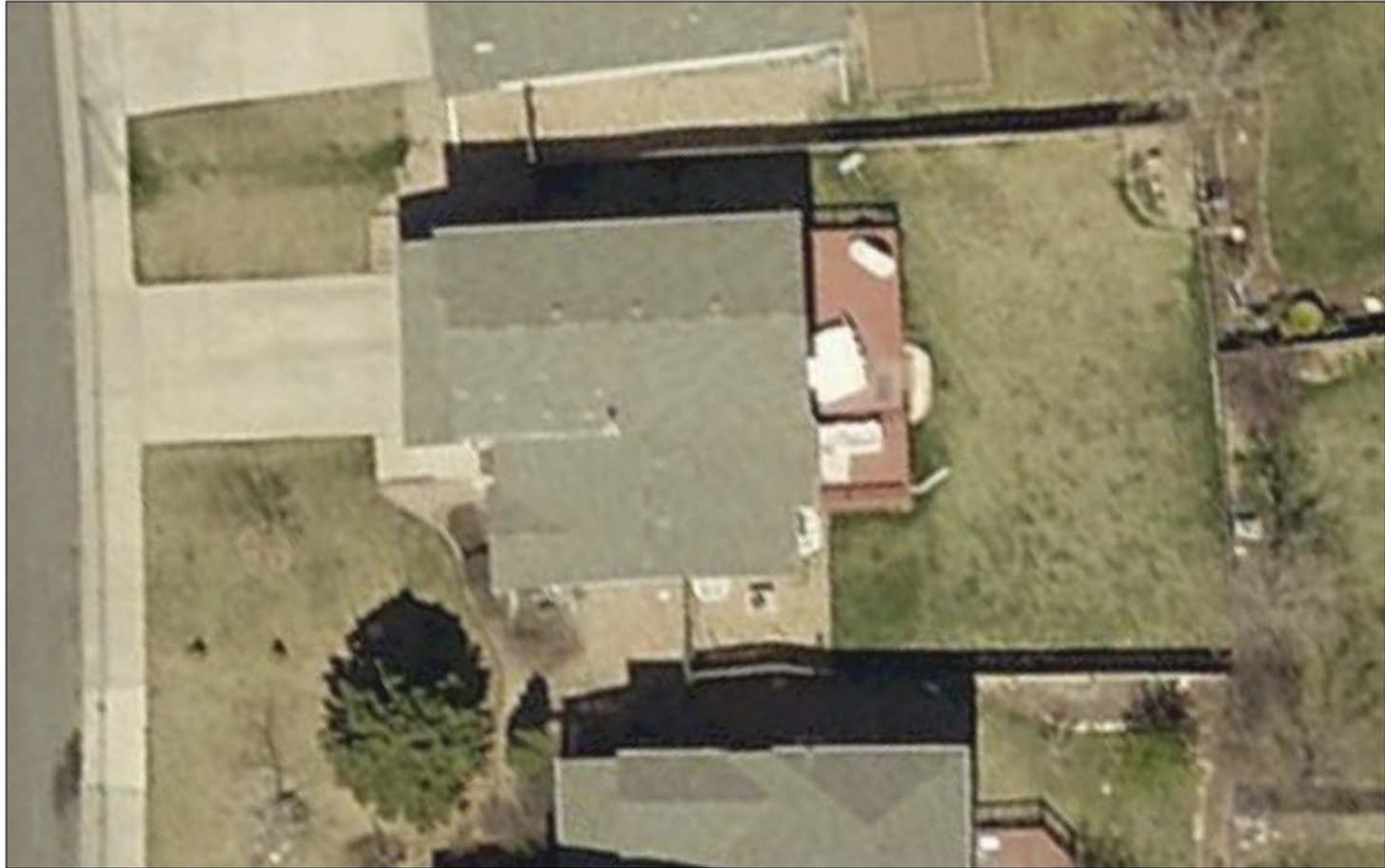


2003 Landscape Code Changes

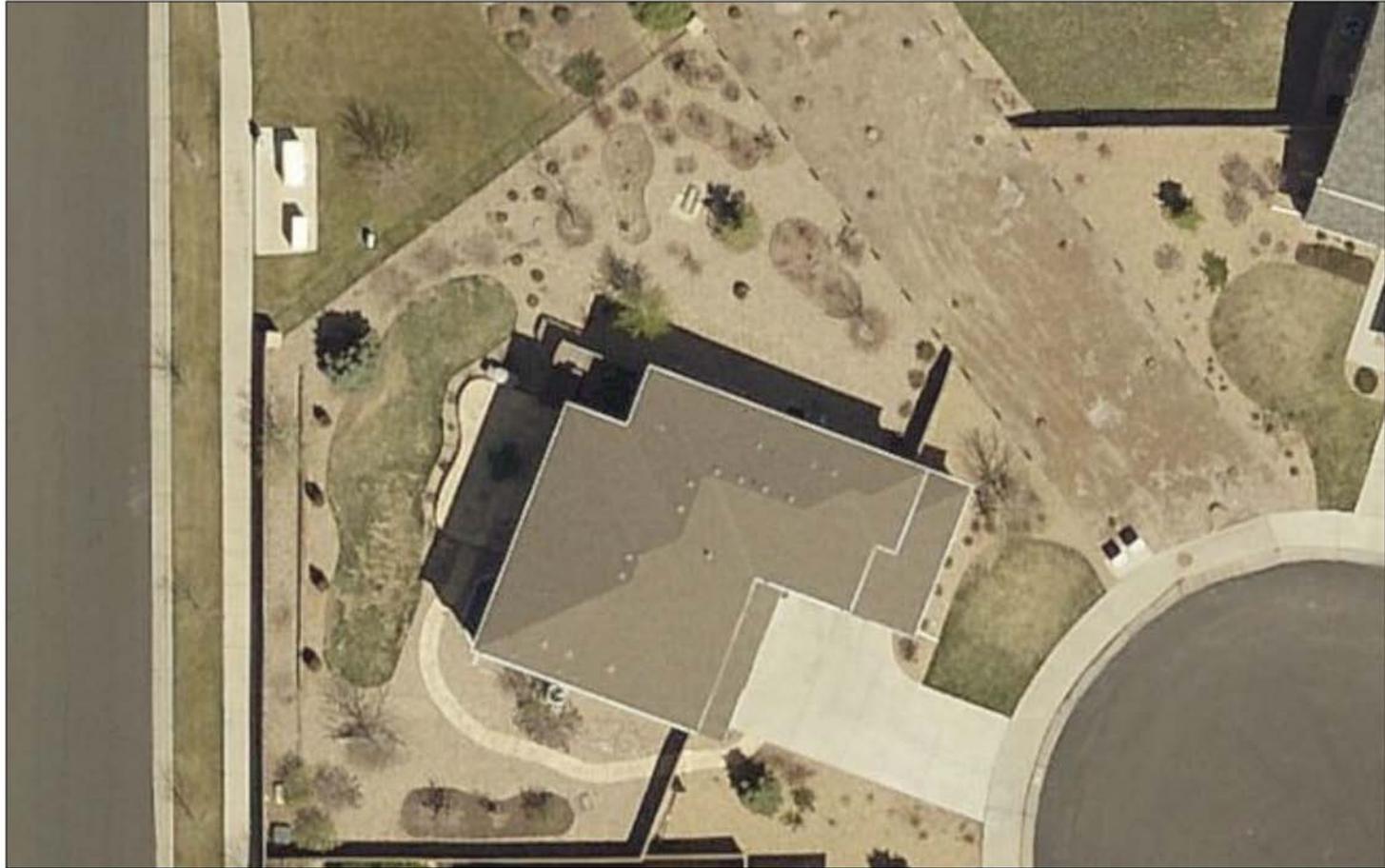
- Response to 2002 drought
- Pre-2003 code did not address water concerns
- 2003 code limited turf and promoted xeriscape
 - 40-50% turf maximum in front yards
 - 45% turf maximum in back yards



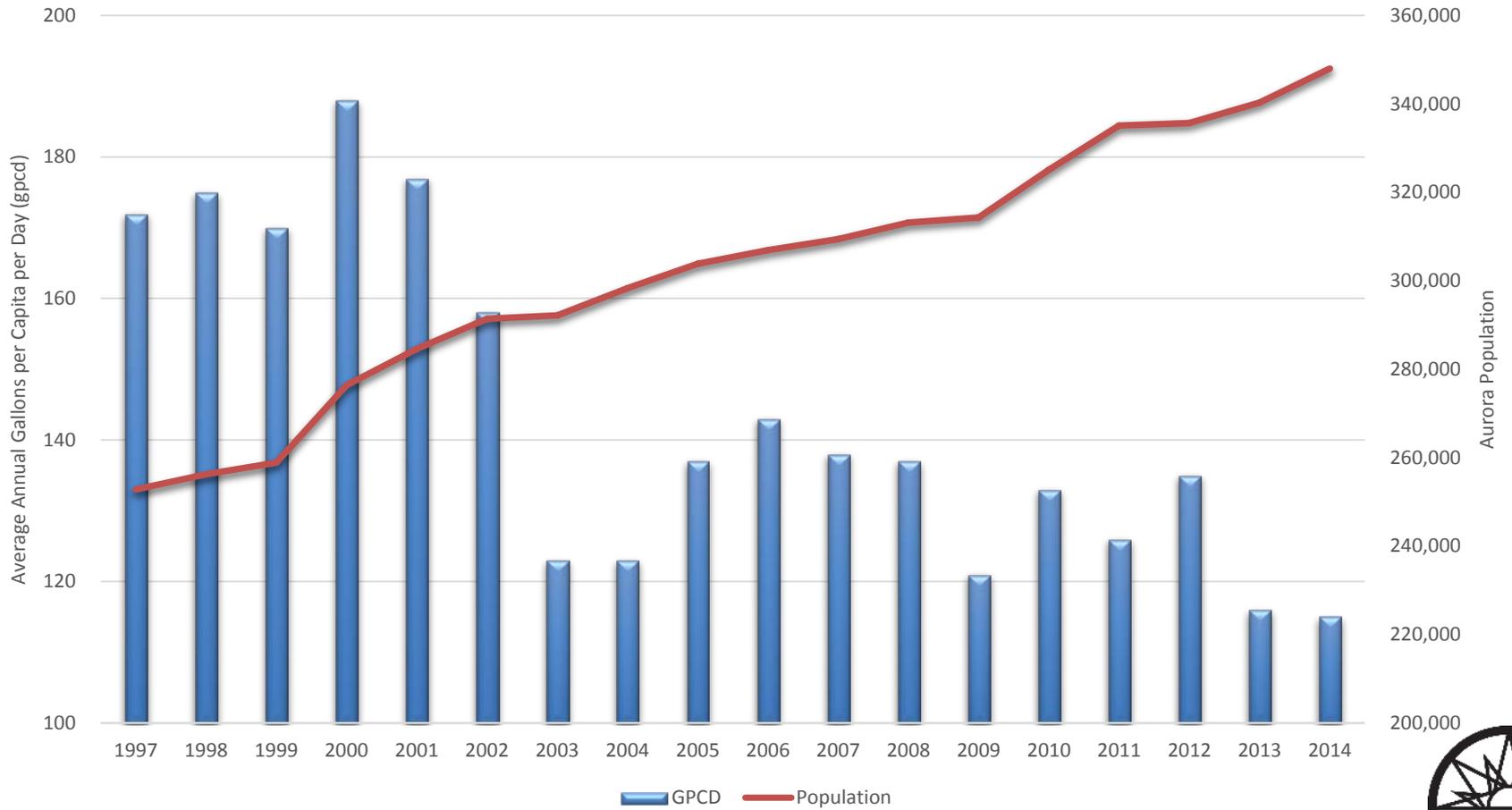
Pre-2003 Lots...



Post-2003 Lots...



Water Consumption Since Drought



Z-zone Tap Fee (Irrigation)

- Z-Zone Tap Fee (Irrigation Meters)
 - 3 year establishment period
 - Water allocations based on landscape

Revised 2014 Tap Fees

High-Water Use (HWU)	\$2.75/sf
Low-Water Use (LWU)	\$1.47/sf
No Water Use (Z-Zone)	\$0.00/sf



No supplemental water



Predicted Water Savings

Zone	Pre-Z-Zone Option	Post-Z-Zone Option	Post-Z-Zone SF
High Water	47%	17.5%	415,305
Low Water	47%	40.1%	953,744
No Water	6%	42.4%	1,009,164

Potential Savings = 9,430,638 gallons/year

7 out of 8 developments have opted for Z-zone



Incentives (residential)

- Front Yard xeriscape tap fee credit
 - 100% xeriscape in front yard
 - \$1,000 credit
- Estate Lot Variance
 - $\frac{3}{4}$ acre minimum “developed”
 - Tap fee based on water need and landscape
 - Recovery fee component



It's already being practiced



Proposed Changes

1. Reduction of turf requirements

1. Disallow turf in streetscapes (arterial, common areas)
2. Change turf limitations in residential development

2. Simpler xeriscape requirements

1. Turf and xeric options have same standards
3. Streetscapes considered part of front lawn
 4. Plant quantity requirement standardized



Turf Option Changes

Current

- Turf:
 - Small: 40% - 50%
 - Standard: 30% - 40%
 - Large: 25% - 40%
 - Estate: 25% - 40%
- Shrubs:
 - Small – 8
 - Standard – 16
 - Large – 26
 - Estate – 36
- No hardscape required

Proposed

- Turf:
 - Min: 400 SF
 - Max: 40% or 1,000 SF (all sizes)
- Shrubs:
 - 0.025 / SF
 - SF = (Landsaped Area – Turf Area)
- Hardscape required (to match xeric requirements)



Water Savings with Turf Adjustments

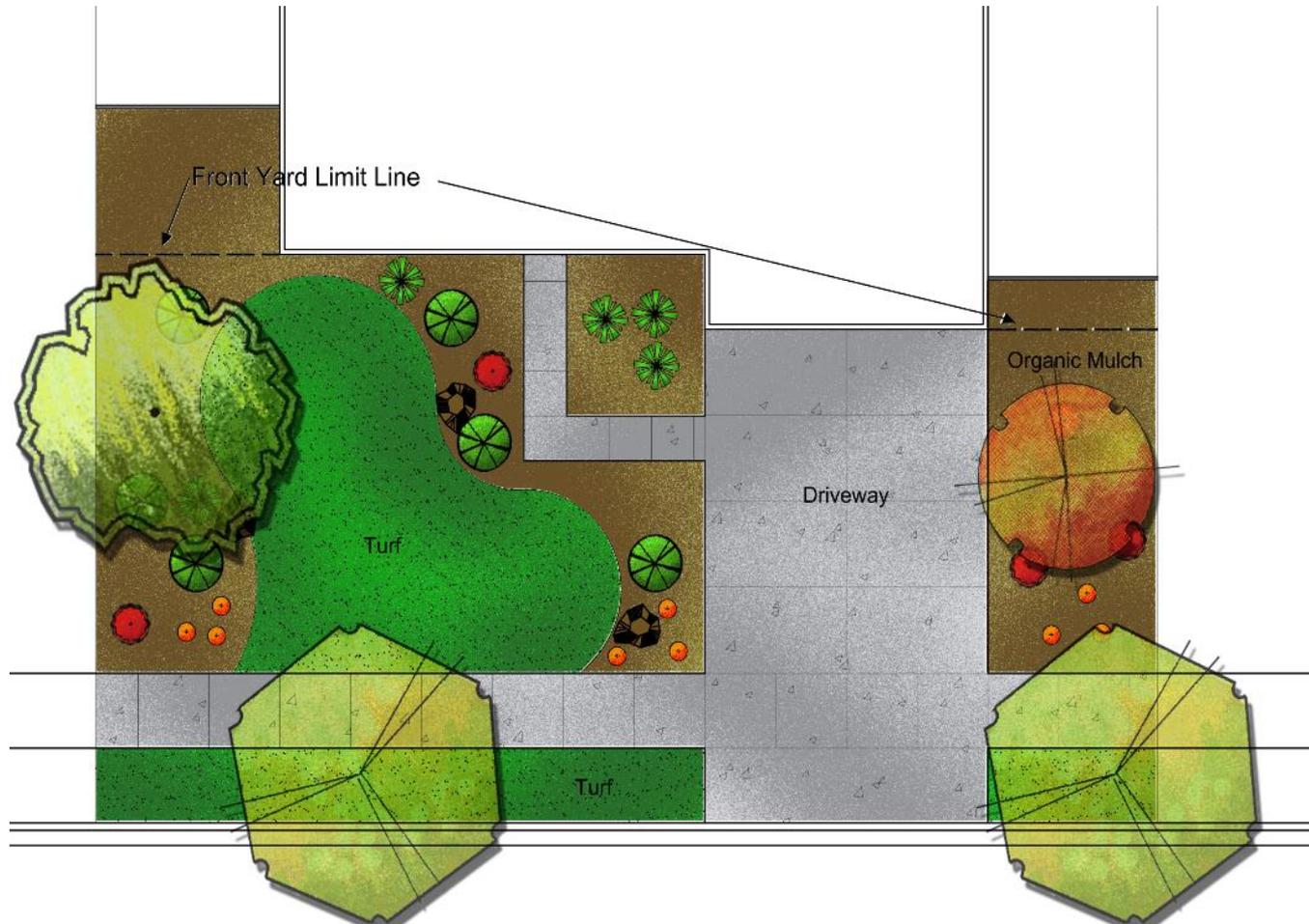
Residential Water Savings Potential 2016 -2020				
	Turf SF	% Turf Reduction	H2O Savings (AF)	% Water Savings
Residential FY*:	2,043,208	43%	60	31%
Non-Residential Water Savings Potential 2016 - 2020				
Arterials**:	721,057	100%	89	45%

* Front yard turf option: Minimum = 400 square feet, Maximum = 40% of front yard area or 1,000 square feet, whichever comes first

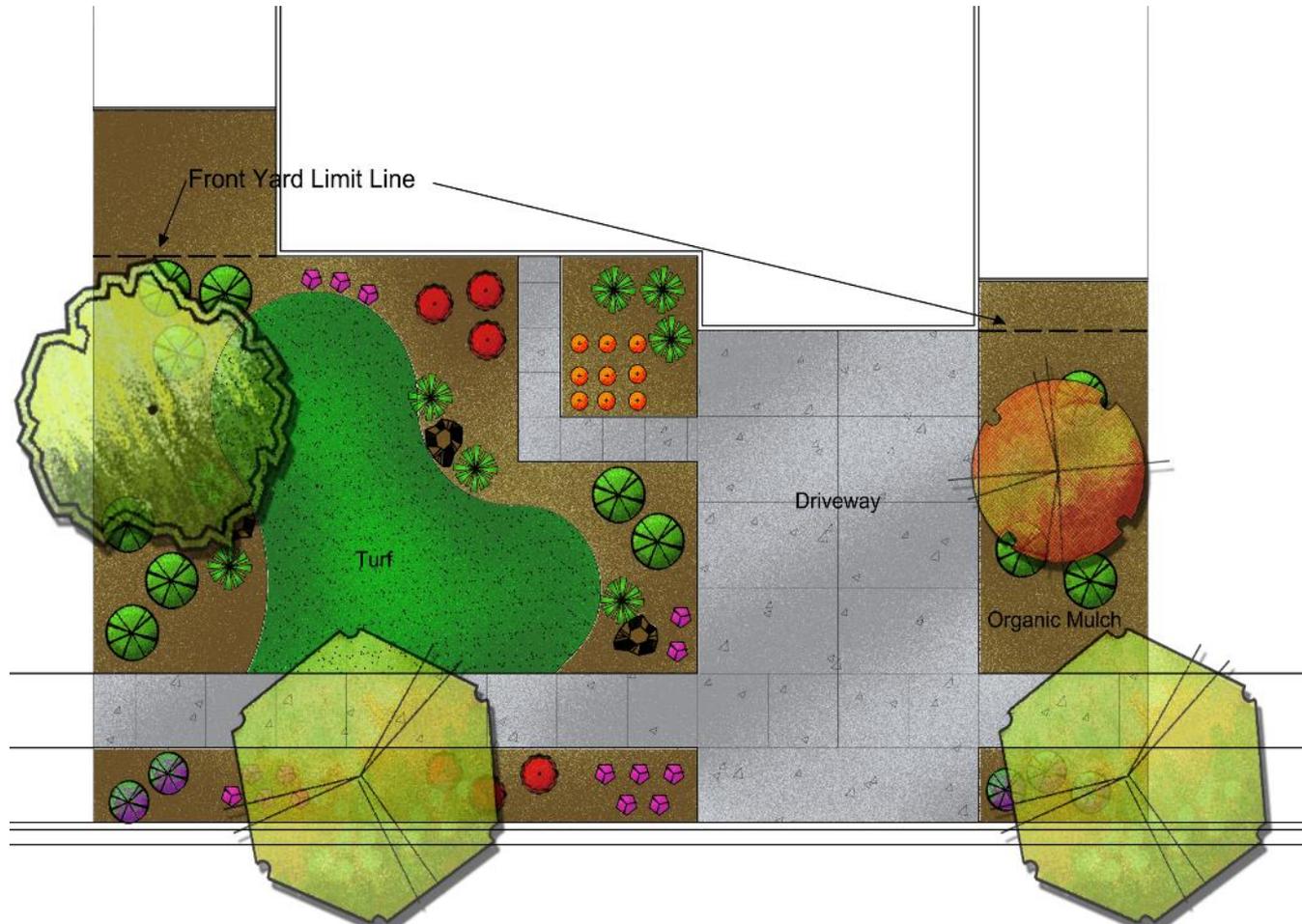
** Streetscapes that are along arterials and commonly owned and maintained by any non-single family residential customers



Standard Lot – Current Turf Requirements

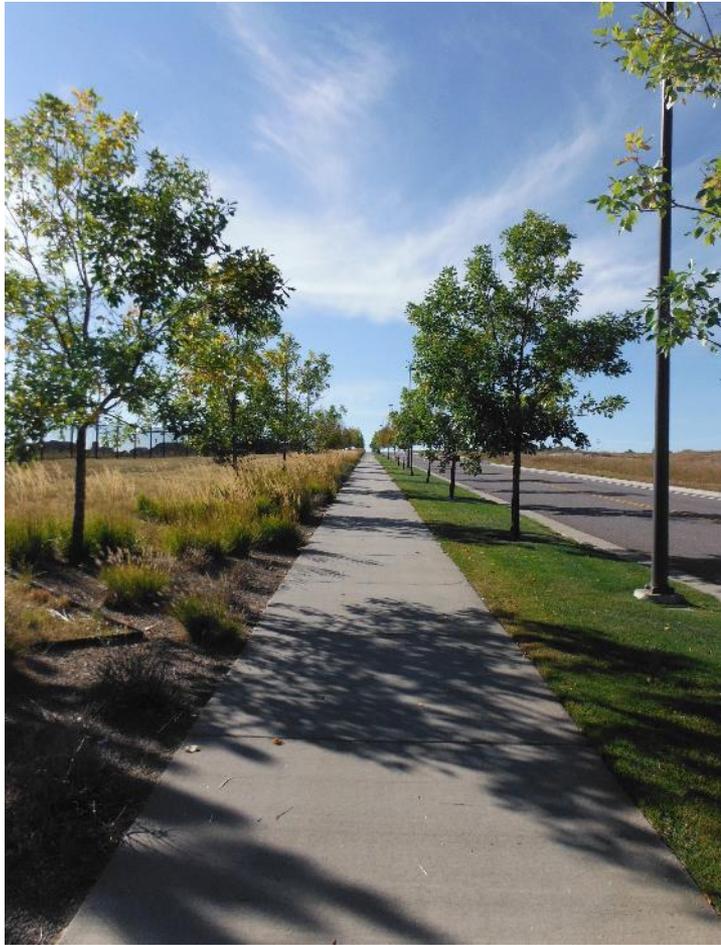


Standard Lot – New Turf Requirements



Away from...





And towards...

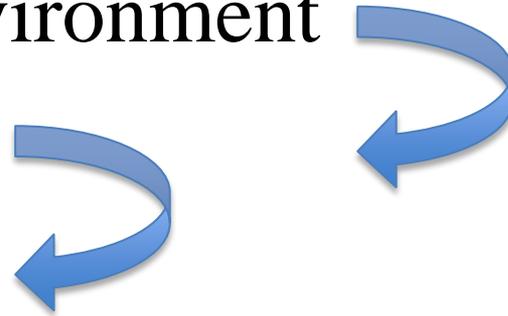






Realized Benefits

- Water consumption reduction
- Open collaborative environment
- Streamlined processes
- Easier for developers
 - Pre-application option
 - Fewer misinformed approvals
 - Incentives to reduce costs
 - Promotes smart, more sustainable development



Questions?

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