

# Water Efficient Landscape Ordinance Amendment

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**San Jose City Council**

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**Agenda Item 6.1**



*Environmental Services*

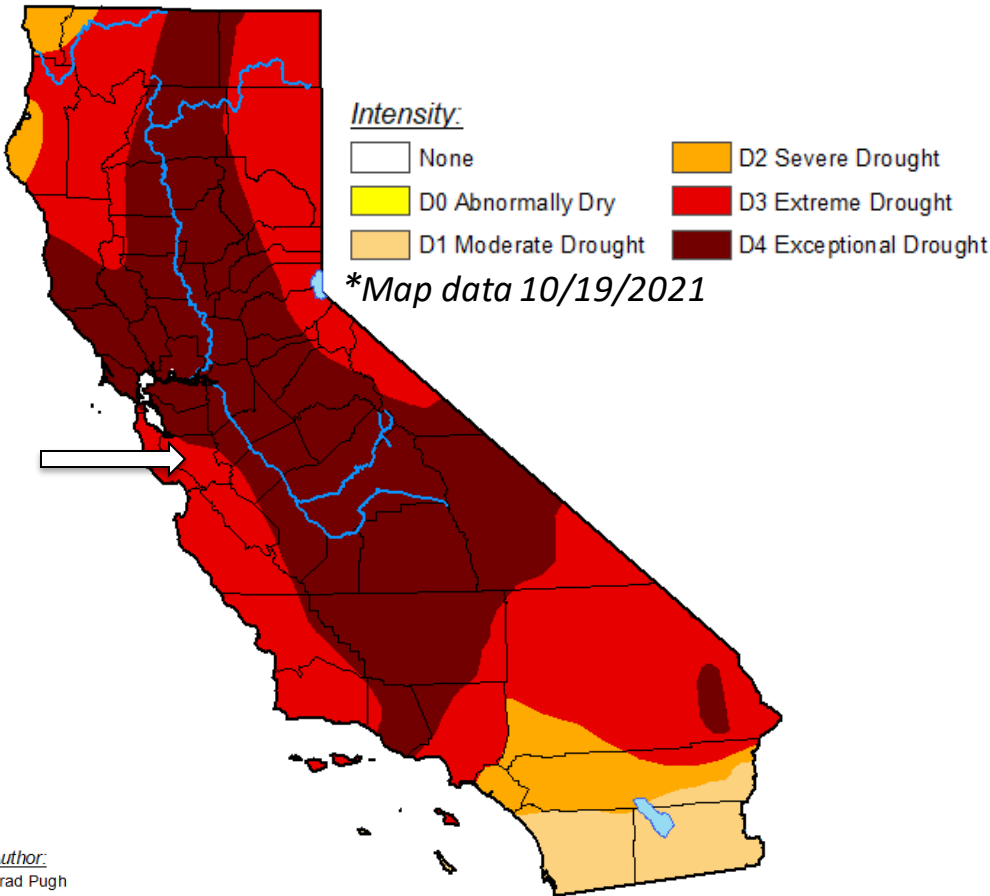


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# Water Efficient Landscape Ordinance

- Half of CA water used for landscape irrigation
- Model Water Efficient Landscape Ordinance
  - Enacted 1993
  - Amended 2010, 2015
- City of San Jose Water Efficient Landscape Ordinance
  - Adopted 1994
  - Amended 2013, 2016

# Motivations



## 10/13/2021 Rules & Open Government Committee 21-778

- Water Shortage Declaration
- Directed staff to revise WELO to “require only planting **drought-tolerant landscapes** in new developments”

Author:  
Brad Pugh  
CPC/NOAA



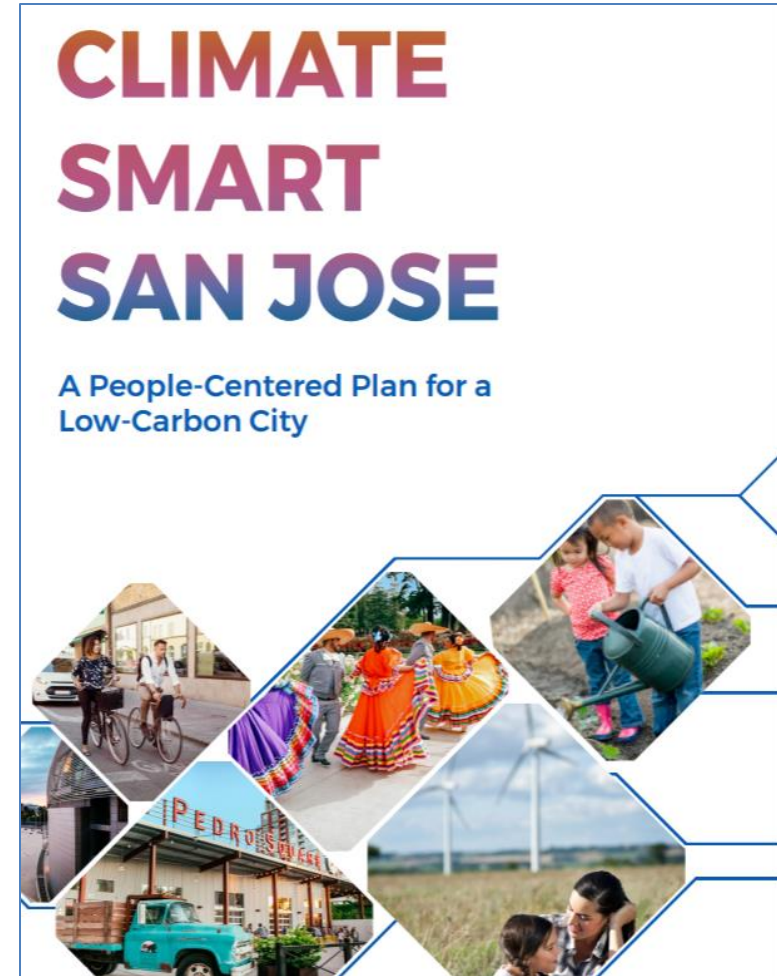
[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)



# Motivations (cont'd)

Supports Climate Smart San José goals to:

- Reduce total citywide, and specifically residential, water consumption
  - Amendment will help lower water use for irrigation for both residents and businesses
- Reduce household energy use
  - Amendment can help to reduce urban heat island effects by limiting hardscape and thereby reducing building cooling needs.



# Benefits to Residents and Community

- Drought resilience through water-efficient design
- Carbon sequestration in urban landscapes
- Reduced urban heat island effects
- Cost Savings



BEFORE







AFTER

<https://www.ccwater.com/160/Lawn-to-Garden-Rebate>

# Plant Selection

\*WUCOLS

Plant Type	Plant Common Name		Watering Needs (as %ET <sub>0</sub> )	Native to California?
Turfgrass (cool season)	Kentucky bluegrass		80 High	Not native, invasive
Turfgrass (warm season)	Common bermudagrass		60 Moderate	Not native, invasive
Tree	California buckeye		<10 Very low	Yes
Groundcover /shrub	Prostrate acacia		<10 Very low	Yes



# Plant Selection – Water Savings

## Valley Water Sustainable Landscape Guidelines

Landscape SF = 875 Annual ET Inches = 49" Irrigation Efficiency % = 70%  
Landscape SF x ET Inches x Plant Factor % ÷ Irrigation Efficiency % x 0.62 = Landscape Water Need in Gallons

Grass  
Water Need:  
**HIGH**

**HIGH Water Need**  
Plant Factor = 100% = 1.0

$875 \text{ SF} \times 49" \times 1.0 \div 0.70 \times 0.62 =$   
**37,975 Gallons Annually**

New Front Yard  
Water Need:  
**MODERATE**

**MODERATE Water Need**  
Plant Factor = 50% = 0.50

$875 \text{ SF} \times 49" \times 0.50 \div 0.70 \times 0.62 =$   
**18,988 Gallons Annually**



**LOW Water Need Plant Factor = 20% = 0.20**

$875 \text{ SF} \times 49" \times 0.20 \div 0.70 \times 0.62 =$   
**7,595 Gallons Annually**



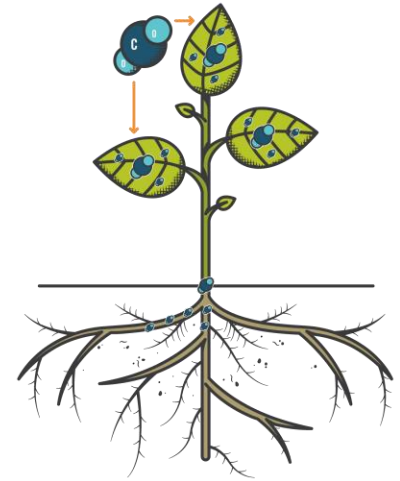
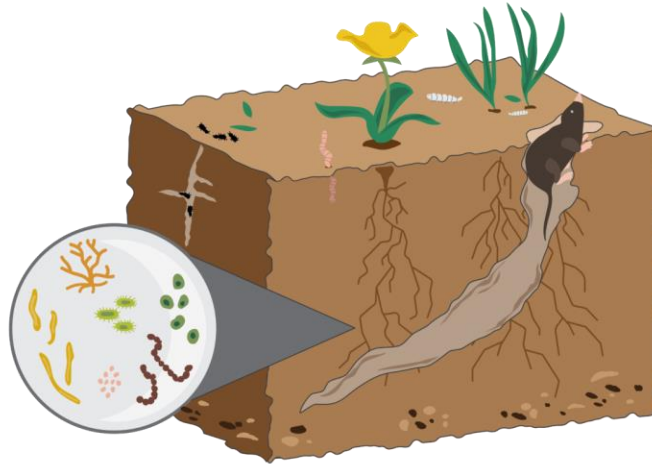
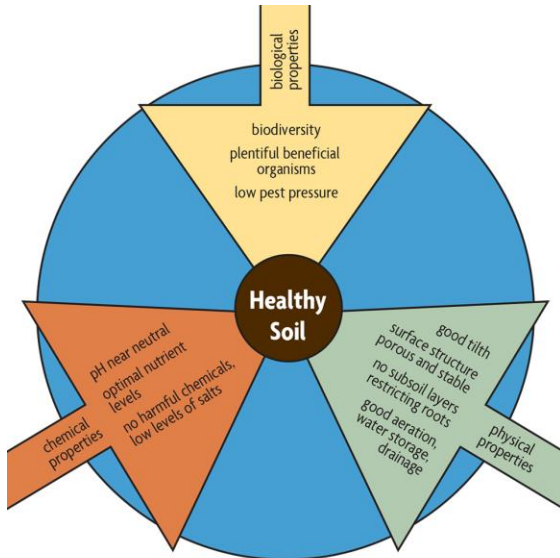
**VERY LOW Water Need Plant Factor = 10% = 0.10**

$875 \text{ SF} \times 49" \times 0.10 \div 0.70 \times 0.62 =$   
**3,798 Gallons Annually**

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# Native Plants

**USDA:** “A plant that is a part of the balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem.”



<https://www.sare.org/publications/building-soils-for-better-crops/soil-health-plant-health-and-pests/>

<https://rodaleinstitute.org/why-organic/organic-farming-practices/soil-health/>

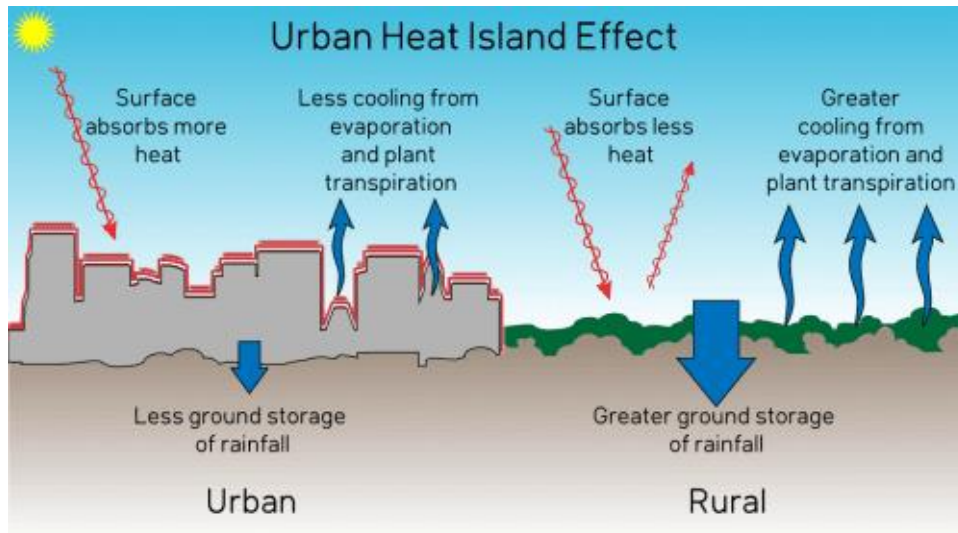
<https://rodaleinstitute.org/why-organic/issues-and-priorities/carbon-sequestration/>

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# Urban Heat Island Effect



<https://dozr.com/blog/urban-heat-island>

How to combat?

- Reduce hardscape
  - Both pervious & impervious increase heat island effect
- Plant selection
  - Native trees and groundcover provide shade & increase urban tree canopy

# Irrigation Design

## Valley Water Sustainable Landscape Guidelines

Go with the **Low Flow**: Spray or Drip?



Image courtesy of Rain Bird Corporation

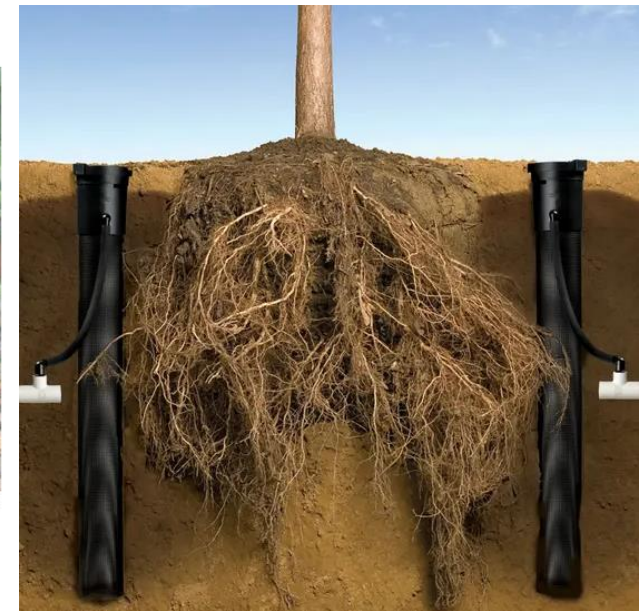
**Spray Irrigation** Emits Water in an Overlapping (Head-To-Head) Pattern.



Image courtesy of Rain Bird Corporation

**Drip Irrigation** Delivers Water Directly to Roots.

## Bubbler Irrigation



<https://golfstore.rainbird.com/rwsbc1404-rain-bird-rws-root-watering-system-36-in-tube-1-0-gpm-bubbler-4-in-grate.html>

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Category	Current Ordinance	Proposed Amendment
<b>Applicability</b>	New construction requiring building/development permit(s) with landscape area of 500+ square feet	New construction requiring building/development permit(s) with any landscape area <i>Exemption: SFR backyard projects</i>
<b>Compliance options</b>	Three compliance pathways: <ul style="list-style-type: none"> <li>Plant-type restriction</li> <li>Water budget</li> <li>Recycled water</li> </ul>	All applicable projects must comply with all design requirements
<b>Allowable plant types</b>	High-water use plants permitted in up to 25% of landscape area	<ul style="list-style-type: none"> <li>High-water use plants prohibited</li> <li>Native, non-invasive, or very low to moderate water needing plants only</li> </ul>
<b>Turf restrictions</b>	Turf permitted in up to 25% of landscape area	Turf prohibited <i>Exemptions: -Areas for active play, recreation or public assembly for MFR &amp; commercial projects</i> <i>-Backyard SFR projects</i>
<b>Hardscape limitation</b>	No hardscape limitation <i>*Existing blight &amp; paved surface limitations</i>	No more than 50% of the area available for landscaping may be hardscape <i>Exemptions: -Areas required by law</i> <i>-Areas for tax credits for affordable housing - Residential backyard projects</i>
<b>Irrigation system design</b>	Spray & overhead spray sprinkler systems permitted	Must use drip/bubbler <i>Exemption: Areas where turf is permitted</i>



# Stakeholder Engagement & Conclusion

- Building Industry Association
- Developers Roundtable (333 contacts)
- Commercial Real Estate Development Association (NAIOP)
- Office of Economic Development
- Charities Housing
- Department of Planning, Building, and Code Enforcement
- Chamber of Commerce Water and Energy Policy Committee
- Climate Smart external stakeholders
- Waterfluence
- Gachina Landscape Management
- Sierra Club Loma Prieta Chapter
- San Francisco Baykeeper
- Sustainable Silicon Valley



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