

City of San Diego

Urban Forestry Tree Watering Analysis

August 12, 2026



Tree Watering Research – Item 1

Item 1: Cost Analysis - Current vs. Proposed Watering Schedule

- Analysis of the cost difference between their existing watering schedule and the proposed schedule of 10 gallons 1x/week for 3 years.
- The proposed schedule requires 156 waterings per tree, a 73% increase over the current watering schedule.
- The tables below show per-tree costs for each contractor.

Average cost/tree watering: \$12.70

Schedule (waterings / yr)	3-Year Total / Tree	Year 1	Year 2	Year 3
Current (52 / 26 / 12x)	\$1,143.00	\$660.40	\$330.20	\$152.40
Proposed (52 / 52 / 52x)	\$1,981.20	\$660.40	\$660.40	\$660.40
Difference	+\$838.20	\$0.00	+\$330.20	+\$508.00

Tree Watering Research – Item 2

Item 2: Cost Analysis - Cost and Resources – Proposed Pilot Program (400-Tree Sample)

- Analyze the cost/resources needed for pilot program to do a statistically significant sampling of a new watering schedule.
- A statistically significant sample of 400 trees. Estimated total cost for **156 waterings (3 years at 1x/week)** across the City's primary vendors.

Hypothetical Pilot Program	3-Year Total
400 Tree Sample Cost	\$792,480

California Tree Planting Organizations and Researchers

Urban Forestry inquired with tree-planting organizations and researchers to gather insight on their watering standards and practices, specifically frequency, volume, and duration, for 24-inch box and 15-gallon trees in Mediterranean climates. Below are their best management practices:

Organization	Year 1	Year 2	Year 3	Notes
Our City Forest (San Jose)	10-15 gals of water once/week	10-15 gals/week during dry season, late spring through early winter	Deep watering every other week; remove soil berm	Reports strong success rate. Plants only 15-gal stock. Emphasizes root ball slightly above grade, well-integrated backfill, soil berm, and mulch.
Sacramento Tree Foundation	5 gals of water, 2-3x/week	5 gals of water, 1x/week	5 gals of water, every other week	Works mostly with 5 gal trees. Uses mulch to reduce water need.
Urban Forest Ecosystems Institute, Cal Poly SLO	~5 gals per inch trunk diameter, 2-3x/week (5-15 gals per watering for a 15-gal tree)	Volume increases, frequency decreases. Weekly watering during dry months	Approx. twice per month during dry months	Watering area should expand outward as the tree grows. After year 3, needs depend on species, location, and climate. Frequent watering in year 1 is most important.
City of Sacramento	10 gals/week per inch trunk diameter (per ISA Best Management Practices)	Same rate maintained until tree is established	Same rate maintained until tree is established	Waters once/week for first 3 years. Local soil holds moisture ~3 days before drying; weekly saturation works. Decreases watering for clay soil and increase watering for sandy soil.

Tree Watering Research – Item 3

Item 3: Consider adopting a new standard for future grant applications that include the watering schedule of 10 gallons 1x/week for 3 years.

- City recommends to maintain current schedule as we continue to collect survivability rates/data.
- Final tree survivability data from ongoing planting programs have yet to be concluded.
 - Current tree survivability rates for Ready, Set, Grow San Diego and Trees for Communities planting programs are above 90%.

Other variables impacting tree survivability include:

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|-----------------------|-------------------|-----------------------------|
| • Tree species | • Soil conditions | • Vandalism |
| • Nursery stock | • Microclimates | • Best management practices |
| • Irrigation reliance | • Growing space | |