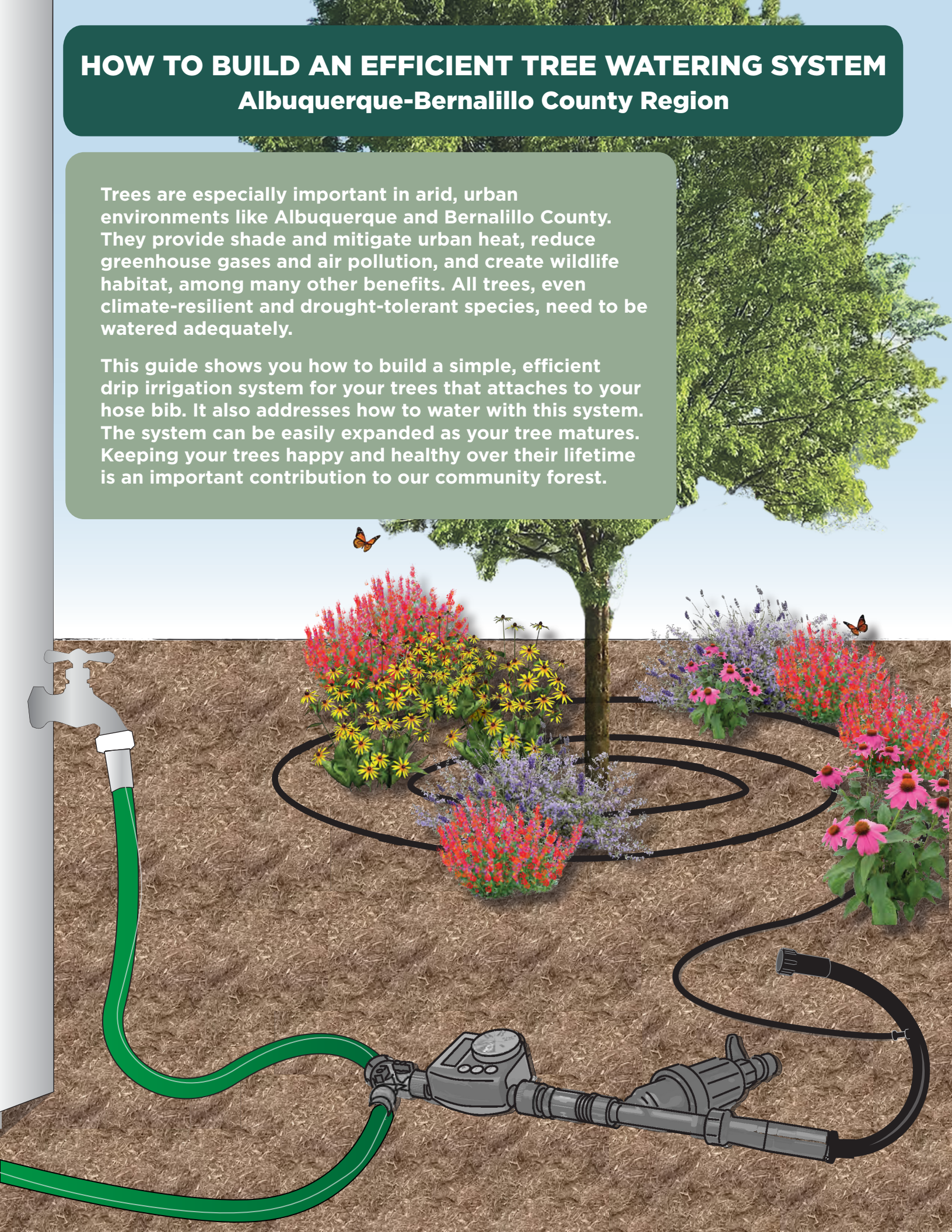
HOW TO BUILD AN EFFICIENT TREE WATERING SYSTEM

Albuquerque-Bernalillo County Region

Trees are especially important in arid, urban environments like Albuquerque and Bernalillo County. They provide shade and mitigate urban heat, reduce greenhouse gases and air pollution, and create wildlife habitat, among many other benefits. All trees, even climate-resilient and drought-tolerant species, need to be watered adequately.

This guide shows you how to build a simple, efficient drip irrigation system for your trees that attaches to your hose bib. It also addresses how to water with this system. The system can be easily expanded as your tree matures. Keeping your trees happy and healthy over their lifetime is an important contribution to our community forest.



PARTS LIST

Parts can be Purchased at Irrigation suPPly stores or hardware stores.

1. Short RV / Camper Hose (optional but recommended)
2. Brass 'Y' Splitter (optional but recommended)
3. Timer
4. Backflow Preventer
5. Hose Fitting to Thread Adapter (if necessary)
6. Pressure Regulator (30 psi)
7. Inline 'Y' Filter/Drip Irrigation Filter
8. Swivel Adapter to Poly Line
9. 1/2" or 3/4" Poly Tubing with End Cap/Flush Cap
10. Plain 1/4" Poly Line & Accessories (use as needed)
11. 1/4" Emitted Poly Line with 1 gal/hr emitters and 12" spacing
12. Landscape Staples (not shown)
13. Teflon Tape (not shown)

TOOL LIST

- Trenching Shovel (optional)
- Poly Tubing Cutter/PVC Cutter
- Poly Tubing Punch
- Small Sledge Hammer or Claw Hammer

PARTS DIAGRAM

SMALL TREE

up to 8' across

MEDIUM TREE

12-18' across

LARGE TREE

24' + across

TUBING LENGTH REQUIRED FOR DESIRED RUN TIME

	TUBING TYPE	45 MIN.	90 MIN.	120 MIN.
SMALL TREE	1/4" LINE	30 FEET	NOT APPLICABLE	NOT APPLICABLE
MEDIUM TREE	1/4" LINE	150 FEET	75 FEET	56 FEET
	NETAFIM	165 FEET	82 FEET	62 FEET
LARGE TREE	NETAFIM	NOT APPLICABLE	159 FEET	119 FEET

1/4" emitted poly line is best for small and medium trees because it is flexible and easy to install in small areas. Length is determined by using 1/4" line that has 1 gal/hr emitters every 12". Netafim, a name-brand used to describe 1/2" or 3/4" emitted poly tubing, is appropriate for medium and large trees because it is rigid and easier to install in longer runs. Netafim length is determined using .9 gal/hr emitters every 12". Count the number of emitters to determine the length of tubing. Example: 70 emitters equals 70 feet.

INSTALLATION INSTRUCTIONS

1. Call 811 before you dig to make sure you don't have utilities where you want to install the system.
2. Wrap Teflon tape on all male threaded parts. Check for rubber washers in all female parts.
3. Connect the system components as shown in the Parts Diagram.
4. Install the 1/2" or 3/4" poly tubing in trenches (4" minimum depth). UV rays will diminish the life span of your pipe.
5. Install the 1/4" emitted poly line or Netafim in a spiral starting slightly outside the dripline (outer edge of the canopy) and working your way in toward the trunk. The majority of the tubing should be in the outer 3/4 of the canopy. DO NOT place tubing next to the trunk of the tree.
6. Use landscape staples to hold the irrigation lines in place.
7. Fill the trenches and cover the area under the tree canopy with organic mulch.

INSTALLATION TIPS

- Keep timer near hose bib for easy access.
- Use compression or "shark tooth" fittings to create a good seal between system components and minimize leaks. Shark tooth fittings are easier to install and can be purchased from an irrigation supplier.
- The maximum distance to run 1/2" poly tubing is 200'. Longer distances produce inconsistent flow rates.
- 1/4" emitted poly line has maximum run distances. Each manufacturer is different. Check the packaging. 1/4" line can be looped back into the 1/2" or 3/4" poly tubing to help maintain pressure on longer runs.
- Netafim kinks easily, particularly when it is cold. To reduce the risk of pipe failure, try not to kink Netafim line.

MAINTENANCE TIPS

- At the beginning of the irrigation season, remove the end cap on the polytubing and flush the system to remove sediment. Clean the filter.
- During the irrigation season, regularly check for leaks.
- In winter, disconnect and drain your tree watering kit and hand water your tree.

WATERING FREQUENCY PER SEASON

	SPRING	SUMMER	AUTUMN	WINTER
MATURE TREES (6+ YRS.)	2 x month	8 x month	2 x month	1 x month
NEW TREES (1-5 YRS.)	4 x month	8 x month	4 x month	2 x month

AVERAGE WATER NEEDS AND COSTS

MAKE SURE TO MONITOR YOUR TREE, ESPECIALLY IN SUMMER!

IT'S BEST TO OBSERVE YOUR TREE FOR WATER STRESS IN THE MORNING.

YOU MAY NEED TO ADD IRRIGATION CYCLES IN PERIODS OF HIGH HEAT, HIGH WIND & DROUGHT.

YOU CAN SKIP AN IRRIGATION CYCLE IF WE RECEIVE 0.5" OF RAIN OR 6" OF SNOW.

SMALL TREE

SIZE: 50 SQUARE FOOT CANOPY

TOTAL ANNUAL WATER NEED: 855 GALLON

TOTAL ANNUAL WATER COST: $2.45

MEDIUM TREE

SIZE: 250 SQUARE FOOT CANOPY

TOTAL ANNUAL WATER NEED: 4,323 GALLON

TOTAL ANNUAL WATER COST: $12.40

LARGE TREE

SIZE: 500 SQUARE FOOT CANOPY

TOTAL ANNUAL WATER NEED: 8,337 GALLON

TOTAL ANNUAL WATER COST: $23.90

The total annual water cost is calculated at the ABCWUA's $2.119 commodity rate per unit (748 gallons) with the added NM Water Conservation fee of $0.024 per unit. The price does not include additional conservation surcharges for exceeding 200% or more of the property's Winter Average (December - March).

New Mexico Tree Alliance

BERN CO Bernalillo County

Tree New Mexico

ONE ALBUQUERQUE parks & recreation

arid LID

anthropopulus

LET'S PLANT ALBUQUERQUE

CIUDAD SOIL & WATER CONSERVATION DISTRICT

ABQ Backyard Refuge Program

WATER AUTHORITY

NEW MEXICO FORESTRY DIVISION

For more detailed inFormation on irrigation systems and watering, download the aBCwUa irrigation eFFiCienCy gUide. https://Bit.ly/aBCwUa_irr_gUide

also visit www.505Outside.Com For more inFormation on landsCaping in the greater aIBUqUerqUe metro area.