



Practical Tips: Harvesting Rainwater for Your Santa Fe Landscape



Successful gardeners in Santa Fe County apply various strategies for adapting to our low annual precipitation and intermittent drought. These strategies include:

- Choosing diverse native plants with low-water requirements,
- Nourishing the soil,
- Applying mulch to diminish evaporation,
- Ensuring that the precipitation that falls is “harvested” or moved to areas where it can be used.

Erosion control management

= Storm water management

= Rainwater harvesting

Mantra

Slow it down

Spread it out

Soak it in

Major principles

- Observe your site during and after rain events.
- Always start at top of slope and work your way down.
- Think like water!
- Keep the rainwater as close to where it falls as possible.
- Monitor and rework structures as needed.

Active rainwater harvesting

Gutters, downspouts, canales, rain barrels, cisterns (above ground or buried)

Passive rainwater harvesting¹

- Mulch (no bare soil!)
- Permeable hardscaping where possible
- Erosion control designs to divert precipitation to locations where it is needed:
 - Depressions around trees
 - Berms (hills) & swales (basins)
 - One rock dams
 - Rock mulch rundowns
 - Zuni bowls
 - Media lunas (tips down or tips up)
 - Rain gardens

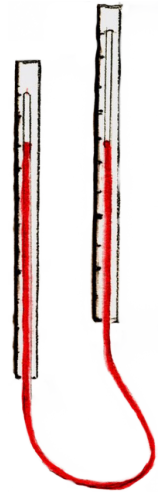
¹ Adapted from and inspired by the three books listed at the end of this document.



Tools to assist with finding contour line

1. A-frame level *A simple tool used to find contours on a hillside or slope. Can be constructed of scrap materials. Instructions at www.youtube.com/watch?v=c90LEjR4Y3E.*

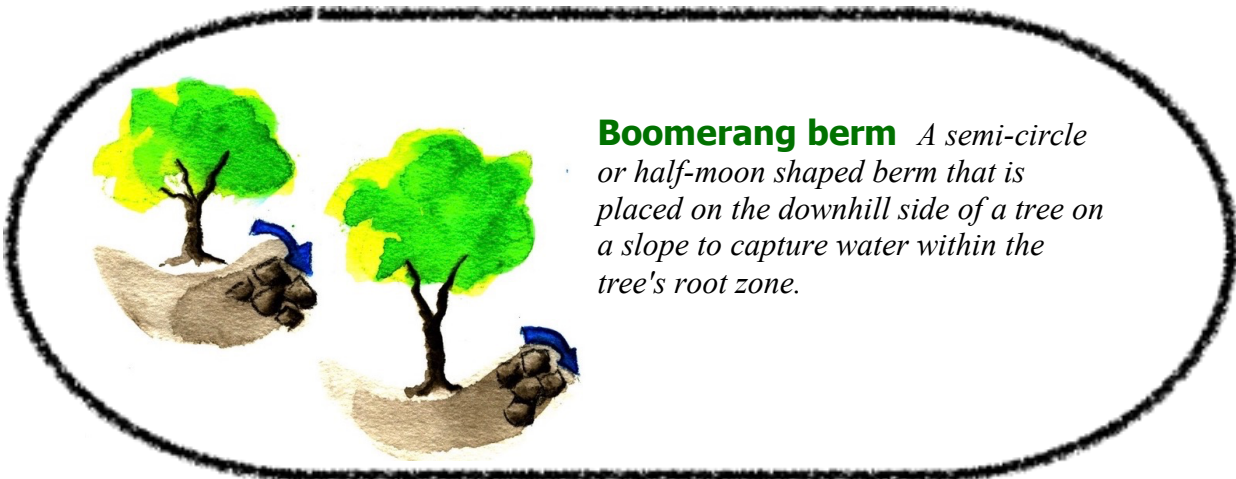
2. Water level *A simple device used to find the difference in elevation between two points. Easily constructed using clear tube and two stakes. For instructions, see <https://www.wikihow.com/Use-a-Water-Level>.*



Contour line *A line on the ground, all points of which are at the same elevation.*

To find a contour line:

1. Place a stake in the ground where you want to start.
2. Place one leg of the A-frame level so it touches the ground at the stake.
3. Pivot the A-frame until the string touches the level mark. Place second stake.
4. Pivot the A-frame to find the next point.
5. Repeat this until you are done making your contour line.

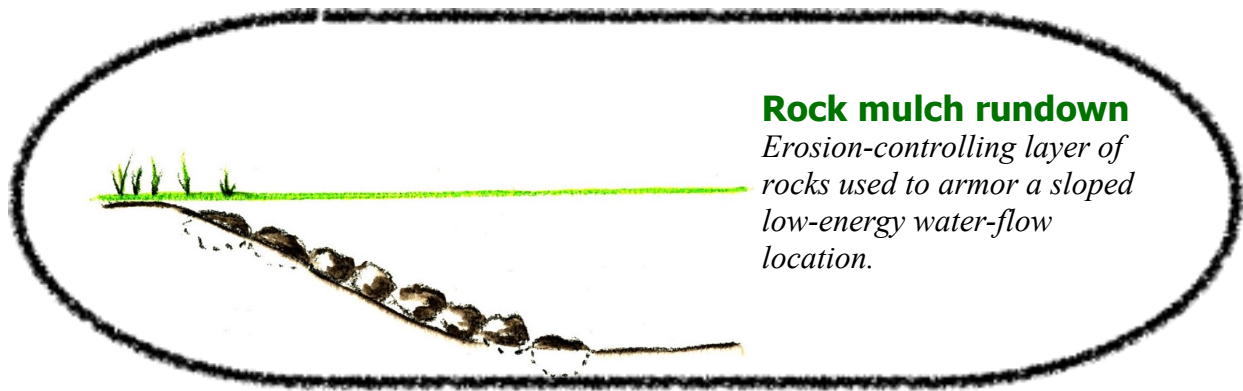


Boomerang berm *A semi-circle or half-moon shaped berm that is placed on the downhill side of a tree on a slope to capture water within the tree's root zone.*

Stone line *Low barrier of stones placed on contour on a slope, perpendicular to the flow of water on a slope. Stone lines decrease erosion by slowing water, allowing it to soak in. Steps:*

1. Use A-frame or water level to determine contour line.
2. Dig shallow trench along contour line.
3. Place larger stones on downslope side and smaller stones on upslope side.
4. Seed upslope side (can also spread seeds before placing stones).

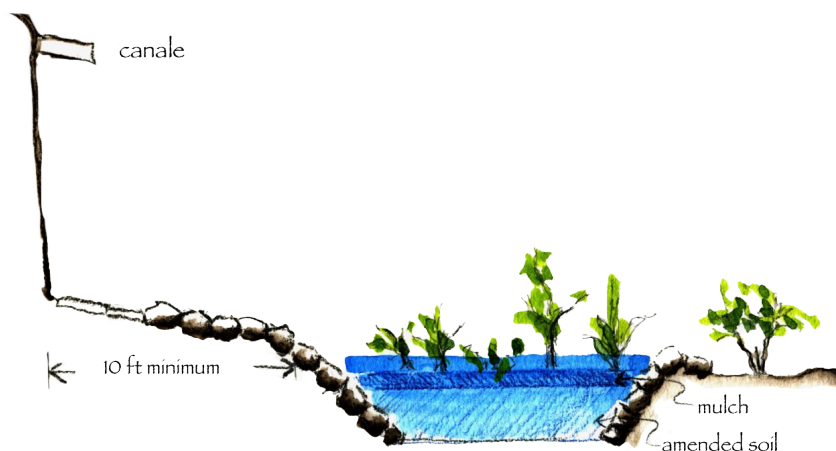




Rock mulch rundown

Erosion-controlling layer of rocks used to armor a sloped low-energy water-flow location.

Rain garden A depressed area in the landscape that collects rainwater from a roof, driveway, or slope and allows it to slowly soak into the ground. Can be planted with grasses, perennials, and shrubs to provide food and shelter for pollinators and wildlife. Sometimes called a **bioretention basin**.



Steps to create a rain garden²

1. **Find the right location.** Often this is near downspouts or canales or just downhill from the driveway.
2. **Test the permeability of the soil.** This will determine the ideal depth of the rain garden.
3. **Calculate the size and shape of your rain garden.** You may prefer to have two smaller rain gardens rather than one large one.
4. **Construct the rain garden.**
 - Dig out area to desired depth (often 6”-8”) making sure that the bottom is as flat as possible.
 - Slope the sides and level the top.
 - Build a berm on the downhill side and the two sides if desired.
 - Loosen at least 3” of soil in bottom of rain garden and mix in compost.
 - Direct rainwater runoff to rain garden — e.g., via a dry creek bed.

² Adapted from City of Austin, [Earth-Wise Guide to Rain Gardens](#)

5. Select and install plants.

- For the bottom of the rain garden choose plants that can tolerate wet as well as drought conditions — such as white yarrow or golden columbine. Trees and shrubs can be added as well. Apply mulch to bottom of rain garden.
- For the sides and/or berm of the garden, choose drought tolerant plants such as buckwheat, coneflowers, blanket flower.

6. Monitor and maintain your rain garden.

- Water regularly until plants are established.
- Observe the rain garden during and after rain. Adjust as needed.

Online resources

- Santa Fe Extension Master Gardeners — www.sfemg.org
- SNaPP Demonstration Gardens webpage — www.sfemg.org/snapp-native-plant-demonstration-garden
- Quivira Coalition's publication Erosion Control Field Guide — static1.squarespace.com/static/5d8a4b31cd3b7e67f9e15748/t/6222b4094999755208588ad7/1646441483562/Erosion+Control+Field+Guide_Quivira+Coalition.pdf
- City of Austin, Earth-Wise Guide to Rain Gardens — www.austintexas.gov/sites/default/files/files/Watershed/growgreen/factsheets/raingarden_factsheet.pdf
- Colorado State University, Building a Rain Garden in Colorado — stormwatercenter.colostate.edu/wp-content/uploads/2020/04/Colorado-Rain-Garden-Guide-2017-8-8.pdf

Books (available at Santa Fe Library)

- *Rainwater Harvesting for Drylands and Beyond, Volumes 1 & 2* — Brad Lancaster
- *Harvest the Rain* — Nate Downey
- *Let the Water Do the Work: Induced Meandering* — Bill Zeedyk & Van Clothier

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