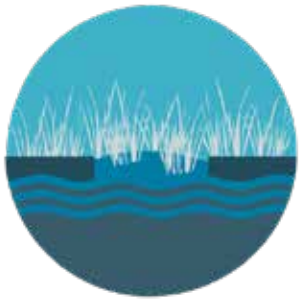


RIGHT-OF-WAY CURB CUTS

www.watershedprogressive.com

www.watertoolkit.org

Right-of-Way Curb Cut Design and Installation Checklist

Curb cuts are breaks in curbs that allow stormwater to flow into a depressed landscape bioretention basin, thus helping slow and filter stormwater through soil, gravel, and plants. Stormwater that infiltrates into the soil through these bioretention basins recharges underground aquifers and slows storm surges through waterways, allowing a more constant in-stream flow for fish habitat.

1. Feasibility

- **Is your curb adjacent to a low-speed roadway or parking area?** Curb cuts are not suitable in high traffic and high speed roadways.
  a. Is the slope of your street 5% or less?
  b. Is the landscape area behind the curb a minimum of both 5-feet wide and long?
  c. Is the area clear of utilities, driveways, intersections, and streetlights?
- **Does the area have good drainage and permeability?** Infiltration basins should be sited in permeable soil areas.

2. Design

- **Observe the flow during a storm:** Note direction, speed, volume, and subwatershed size.
- **Select locations to build a large Curb Cut basin:** Allow for the maximum available landscape area with a minimum 5' x 5'.
- **Consider overflow and multiple Curb Cuts:** Have a plan of where overflow stormwater will travel. This could be a secondary adjacent curb cut to allow for better flow in and out.
- **Prevent erosion:** The bioretention basin behind a curb cut should have a maximum slope 3:1. If mulched, use a rock lining for steeper slopes, or have a retaining wall to maximize depth.
- **Maintain pedestrian access:** Sidewalks require a minimum 4-foot wide flat pathway (5-foot minimum if ADA accessible) over basin areas.

3. Build & Maintain It!

- **Vegetate with climate appropriate plants:** basins should use plants that do not require irrigation after establishment. Native plants adapted to intermittently dry creek channels and riparian areas are ideal. Tree and other plant species which are sensitive to standing water may be planted in the higher elevation portion or edge of the bioretention basin.
- **Apply for a permit from the local street governing body:** mark infiltration basin for permitter taking into account setbacks.
- **Dig infiltration basin:** Keep an 18" minimum platform on the curb-side of the median.
- **Mark/measure before cutting:** cuts should angle 45-degrees on either side and slope down 2% into basins. Place one cut per basin to form an eddy system that will safely overflow once filled with stormwater.
- **Make the cut:** use a 14" diamond blade concrete saw and grinder for smoothing; or call a concrete cutting contractor.
- **Install planting, rock work, and mulch.**
- **Check your levels:** the bottom of the infiltration basin must be deeper than the level of the street to harvest water. The level of the non-curb side of the basin must be level or higher than the curb to prevent flooding off-street.

Why Curb Cuts?

In most urban roadways and parking lots, stormwater flows off roads, into curb and gutter systems to storm drains, which flow to storm sewer pipes.

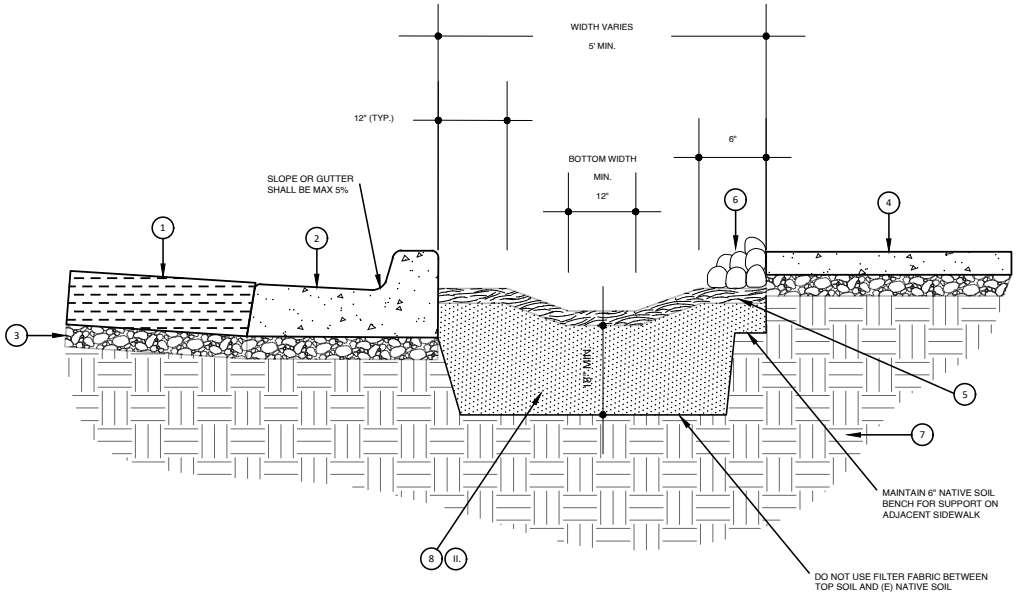
The stormwater entering these systems carries oil, sediments, and other pollutants with it. This pollution combined with accumulated velocity and quantity then enters local waterways causing damage to creeks and their ecosystems.

"For every inch of rainfall...a 10-foot wide paved street will drain 27,800 gallons of rainfall per mile. [We should be] treating stormwater as a resource instead of a nuisance."

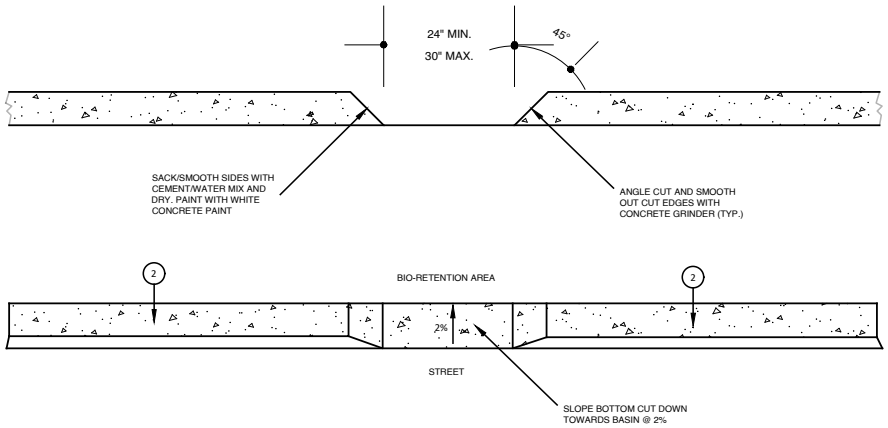
Source: Sweetwater Collaborative

This image shows the infiltration affect on a Curb Cut basin. Basins should be planted with native plants that are adapted to intermittently dry creek channels and riparian areas.
Source: Watershed Progressive

Right-of-Way Curb Cut Details



TYPICAL PARKWAY CROSS SECTION



CURB CUT DETAIL

DETAIL NOTES:

1. (E) STREET
2. (E) CURB AND GUTTER
3. (E) BASE
4. (E) SIDEWALK
5. MULCH LAYER / GROUND COVER
6. ROCK BARRIER
7. (E) NATIVE SOIL
8. PLANTING SOIL / TOP SOIL

GENERAL NOTES:

A. NO CURB CUTS WILL BE ALLOWED ON PRIMARY/ARTERIAL OR COMMERCIAL COLLECTOR STREETS.
B. PARKWAYS WITH LARGE MATURE STREET TREE(S), SHALL NOT HAVE CURB CUTS ON EITHER SIDE OF A TREE. CURB CUTS AND BIO-RETENTION AREAS MAY BE ALLOWED TO THE SIDE OF TREE(S), SPACE DEPENDENT. STREET TREE(S) MUST BE PROTECTED IN PLACE.
C. PROTECT IN PLACE, ALL EXISTING UTILITIES WITHIN THE PARKWAY. NO CURB CUTS WILL BE ALLOWED NEAR UTILITY BOXES, HAND HOLES, OR VAULTS.
D. TWO CURB CUTS ARE ALLOWED PER PARKWAY; BOTH MUST START WITHIN 3 FEET OF EACH END. ONE END WILL TYPICALLY ACT AS AN INLET AND ONE WILL BE AN OUTLET FOR THE FLOW OF WATER.
E. CURB CUTS ARE FOR CITY STREETS THAT HAVE LESS THAN 5% GRADE OR SLOPE. CURB CUTS WILL NOT BE PERMITTED ON STREETS THAT HAVE A GRADE OF SLOPE GREATER THAN 5%.
F. ALL PLANTS WITHIN THE PARKWAY MUST BE MAINTAINED AND PRUNED WITH THE EXCEPTION OF CITY TREES. PLANTS SHALL NOT LAY OVER INTO THE STREET OR THE SIDEWALK.
G. PLANTINGS: WITH THE EXCEPTION OF TREES, ALL PLANTS WITHIN THE PARKWAY SHALL HAVE A MAXIMUM HEIGHT OF 36 INCHES AT MATURITY. PLANTS MUST NOT FORM A CONTINUOUS HEDGE OR SCREEN AT FULL MATURITY. AN OPEN LINE OF SIGHT BETWEEN THE STREET AND THE ABUTTING PROPERTY MUST BE MAINTAINED. PREFERRED PARKWAY PLANTING, IS A DROUGHT TOLERANT TURF SUBSTITUTE GROUND COVER AND/OR LOW GROWING PLANTS WITH A WUCOLS PLANT FACTOR OF 0.3 OR LESS.
H. ALL PLANTS SHALL BE LESS THAN 24 INCHES IN HEIGHT WITHIN 40 FEET OF A STREET CORNER.
I. ALL TREE PLANTINGS WITHIN RIGHT-OF-WAY SHALL BE MAINTAINED AT A MINIMUM OF 8' VERTICAL CLEARANCE FROM SIDEWALKS AND 14' VERTICAL CLEARANCE FROM ROADWAYS. AVOID PLANTING TREES UNDER POWER LINES WITH A MATURE HEIGHT HIGHER THAN POWER LINE ELEVATION.
J. PLANTS MUST NOT BE POISONOUS, NOXIOUS, INVASIVE. PLANTS SHALL NOT HAVE EXPOSED RIGID SPINES OR HAVE THORNS.

CONSTUCTION NOTES:

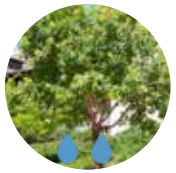
I. SCARIFY (E) NATIVE SOIL SUB-GRADE BEFORE INSTALLING PLANTING SOIL/TOP SOIL.
II. COMPACT PLANTING SOIL/TOP SOIL IN 6" LIFTS WITH LANDSCAPE ROLLER OR BY LIGHTLY WETTING. IF WETTING, ALLOW TO DRY OVERNIGHT BEFORE PLANTING.
III. DO NOT WORK WITHIN BIO-RETENTION AREA DURING RAIN OR UNDER WET CONDITIONS.
IV. KEEP HEAVY MACHINERY OUTSIDE OF BIO-RETENTION AREA LIMITS.

Source: City of Ventura's Standard Detail Number 413

Right-of-Way Curb Cut Plant Palette for Tuolumne County

Criteria: Max. height of 24-36" or tree with vertical clearance below 8' (and above 25' when under power lines).
(Water Use: 💧💧💧 = High, 💧💧 = Medium, 💧 = Low; 🌼 = Native, 🦋 = Edible)

Trees



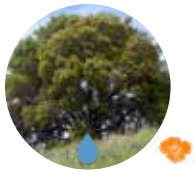
Arbutus 'Marina'
Strawberry Tree

Cercis occidentalis
Western Redbud

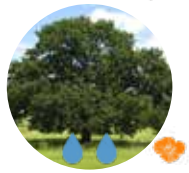
Chilopsis linearis
Desert Willow

Lagerstroemia indica
Crape Myrtle

Platanus racemosa
Sycamore



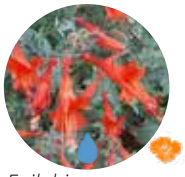
Quercus agrifolia
Coast Live Oak



Quercus lobata
Valley Oak

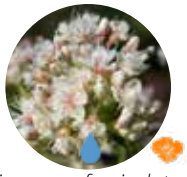
Shrubs

Diplacus/Mimulus longiflorus
Sticky Monkeyflower



Epilobium canum
California Fuschia

Erigonum crocatum
Saffron Buckwheat



Eriogonum fasciculatum
California Buckwheat

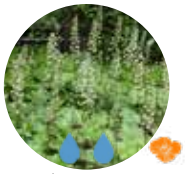
Salvia clevelandii
Cleveland Sage

Symphoricarpos mollis
Creeping Snowberry

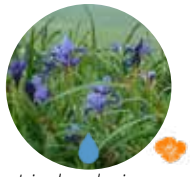
Trichostema parishii
Mountain Bluecurls

Perennials

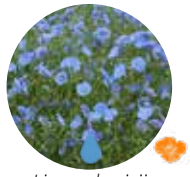
Achillea millefolium
Yarrow



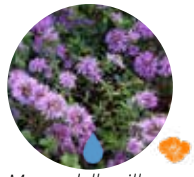
Heuchera maxima
Coral Bells



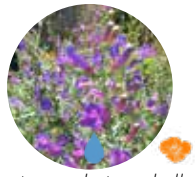
Iris douglasiana
Douglas Iris



Linum lewisii
Wild Blue Flax



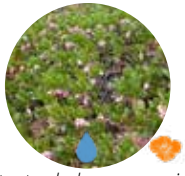
Monardella villosa
Coyote Mint



Penstemon heterophyllus
Foothill Penstemon

Salvia spathacea
Hummingbird Sage

Groundcovers, Wildflowers

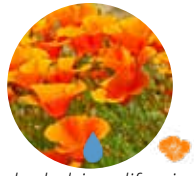


Arctostaphylus uva-ursi
Bearberry

Ceanothus griseus horizontalis
Carmel Creeper

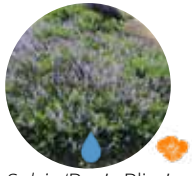
Corethrogyne filaginifolia
'Silver Carpet' *California Aster*

Encilia californica
Bush Sunflower



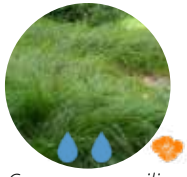
Eschscholzia californica
California Poppy

Nemophila menziesii
Baby Blue Eyes



Salvia 'Bee's Bliss'
Creeping Sage

Grasses, Sedges, Rushes

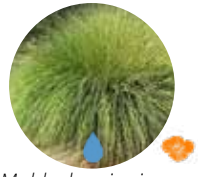


Carex praegracilis
California Field Sedge

Festuca californica
California Fescue

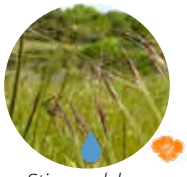
Leymus condensatus
Canyon Prince Wild Rye

Juncus patens
California Gray Rush



Muhlenbergia rigens
Deergrass

Sisyrinchium bellum
Blue Eyed Grass



Stipa pulchra
Purple Needle Grass