

- Maximize the area of level bottom of the infiltration area by using steep (up to 50%) side slopes armored with rock.
- Locate trees and shrubs that do not tolerate inundation on raised surfaces or planting shelves.

Materials

- In areas of higher flow (concentrated flow with depths > 1-2") spread 4"-8" rock over the soil surface to prevent erosion. Areas which experience lower flows can use 1"-3" rock.
- Place larger boulders within the feature to increase visibility and prevent vehicle entry.
- Place 6" ceramic disks along the top of header curb to discourage entry by automobiles. Place flashing solar lights on the asphalt to warn oncoming traffic of obstruction.

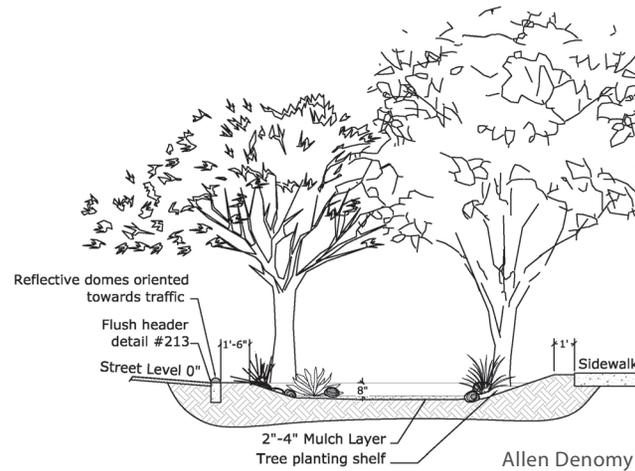
Maintenance

- It is the adjacent property owner's responsibility and liability to maintain the right-of-way.
- Check slopes, edges, etc. for signs of erosion and repair/reinforce as needed (before each rainy season).
- Observe bioretention feature during rain events to evaluate function and make necessary adjustments.
- Prune vegetation to preserve visibility and prevent obstruction of travel lanes.
- Remove undesirable and invasive plants (weeds) on a regular basis.
- Remove accumulated sediment from bottom of basin to retain designed depth.

Adapting the practice to your site

- In lengthy street width reductions, parking spaces can be incorporated by cutting them in (by retaining existing asphalt) to the bio-retention area at intervals along the street.

- In areas with higher sediment flows, consider using sediment traps or filter strips (see hand-out GI-2) to facilitate maintenance.



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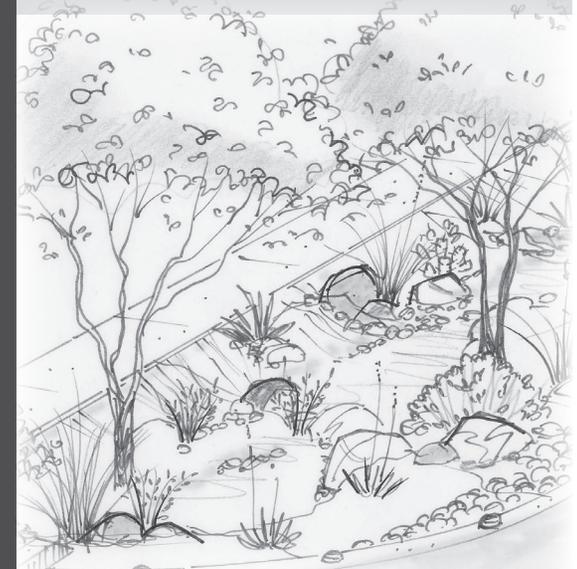
A green infrastructure practice developed by Watershed Management Group in coordination with City of Tucson Department of Transportation.

Green Infrastructure for Public Right-of-ways

An in-street practice:

Street Width Reduction with Bioretention Basins

Purpose: To reduce impervious area, calm traffic, collect and infiltrate stormwater, and increase vegetation and tree canopy cover. It may also provide a new area for pedestrian paths.



Street Width Reduction, an in-street practice

All in-street practices need to have designs approved by a Dept. of Transportation Engineer.

Site Selection

- Street width reductions function best to collect stormwater on streets that are convex, or lowest at the street edge, and that carry stormwater along the curb. The design shown is for a reduction of a concave street.
- A street width reduction generally requires a minimum of 8' of available (surplus) street width. See page 25 for details on preserving appropriate street width.
- Take on-street parking needs into consideration. Street width reductions will usually displace existing on-street parking.

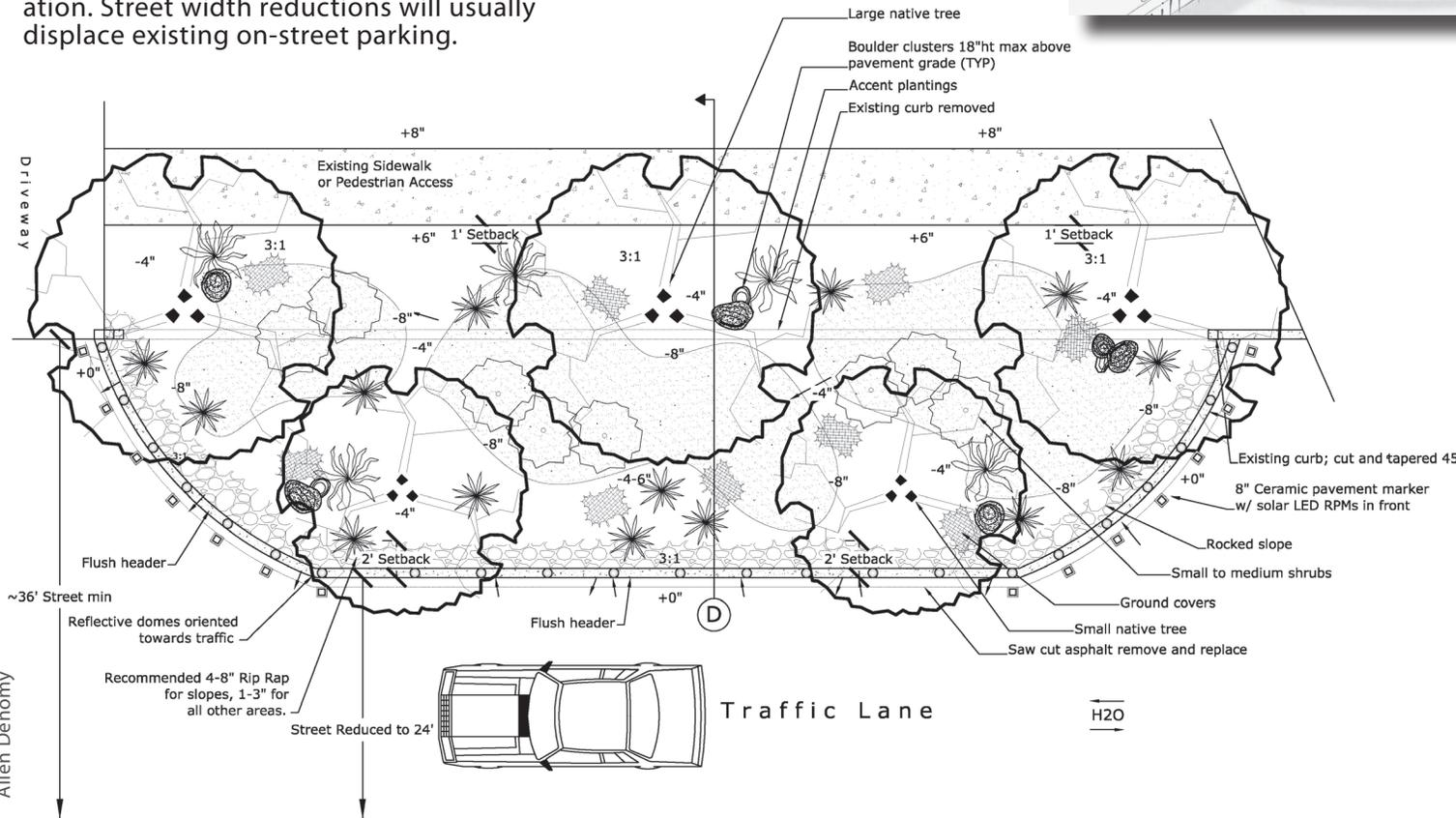
- On steeper sloped roads (> 2%) berms or terraces may need to be used to slow stormwater flowing through the infiltration features.
- Ensure the boundaries of the in-street bioretention area (vegetated basin) are well marked and visible to traffic, bicyclists, and pedestrians.

Design and Construction

- In-street bioretention areas should be sized as large as possible to increase storm-



Dean Alexander, Blue Agave Designs



water mitigation and traffic calming effects. Generally, the encroachment width into the street is 8' and the length extends from driveway to driveway or the entire length of the street in the absence of driveways.

- Excavate the bioretention area to a final depth 8" below the street surface (if covering soil with 4"-8" rock, excavate 4"-8" deeper to have a final depth of 8").
- Where possible, extend vegetated and depressed bioretention areas into the adjacent ROW. This may be achieved by laying ROW slopes back, or by pouring a new curb deeper into the ROW.
- Use flush header curbs 18" deep to protect the adjacent asphalt surface from standing water.

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