

SUSTAINABLE LIVING & RAIN GUTTER DOWNSPOUT DISCONNECTS

One way to achieve “Sustainable Living” is to employ the concept of “Low Impact Development” (*LID*) at home. *LID* is an innovative storm water management approach with a basic principle that is modeled after nature: *manage rainfall and storm water runoff at the source and treat storm water as a resource, not a waste product to funnel away*. The goal is to mimic nature by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source. The simplest method to begin this process is, if feasible, to disconnect your rain gutter downspouts from underground drain pipes and redirect the water flow to a safe location to infiltrate into the soil.



RAIN, ROOFS AND RUNOFF

Fact: Each downspout on a house can drain up to 12 gallons of water per minute during a one-inch rainfall?

- If managed properly, the water that flows off rooftops can help keep lawns and gardens green while lowering utility bills during spring and summer months. Most downspouts funnel rain water away and send it down driveways, sidewalks or via underground pipes that lead to storm drains, creeks and the Bay. Along the way "storm water runoff" picks up pollutants such as: motor oil, lawn chemicals, and pet waste before entering creeks, lakes and the Bay — untreated. This untreated storm water has long lasting health, safety, environmental and economic impacts to the Bay communities. Fortunately, there are many things that property owners can do to put rainwater to good use while reducing the amount of storm water runoff and pollutants that end up in the Bay.

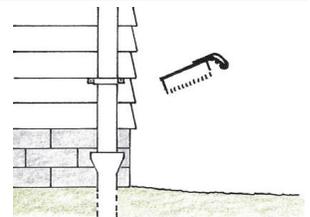
DISCONNECTING DOWNSPOUTS— SAFELY!

Why disconnect your downspouts from a traditional storm water conveyance system?

- The rain that falls on roofs, roads, and driveways (*called “storm water”*) is managed by a traditional storm water conveyance system. Drains in the street go to the *storm water conveyance system*, which carries rain water through pipes and ditches to the nearest creek, lake and eventually to Monterey Bay. Along the way, storm water picks up all of the pollutants left on the ground.
- **Disconnecting downspouts can help to reduce discharges and pollutant loads to the Bay.** But doing it improperly or without considering the questions herein can cause problems; such as, wet basements, foundation problems, flooding issues, erosion issues and even potential landslides.

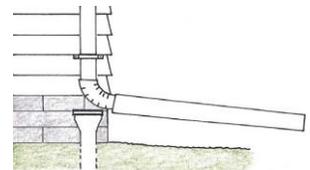
BEFORE DISCONNECTING A RAINGUTTER DOWNSPOUT ASK YOURSELF THESE QUESTIONS:

- **Does the water have an appropriate and safe place to go?** Direct runoff to a rain garden, cistern large lawn or landscape area.
- **Can it get there?** Provide adequate pipe, splash block, or swale to convey water away from the house, to the soil.
- **What happens once it gets there, in a big storm?** Make sure excess runoff can overflow safely without flooding property (*yours’ and abutting*). Direct excess runoff to an approved discharge location, such as an approved storm water catch basin in an alley or street (*call your local Public Works Department to determine the approved storm water point of discharge for your parcel*).
- **Will all water infiltrate within 72-hours?** Standing water after 72-hours can become a vector problem!

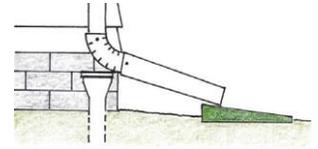


DO:

- **Hire professional assistance if needed**, to advise you or do the work.
- **Know where the water will flow.** Make sure the ground slopes away from your house and your neighbors. You may need to pipe or trench a flow path – *see “Discharge Distances” herein*.
- **Slow and spread the flow** with a splash block, rock-lined trench, swale, or perforated pipe to prevent erosion and spread water.
- **If possible, provide a place for the water to soak in:** a compost-amended landscape area, rain garden, or rock-filled trench. Cistern overflow pipes should also be directed into a landscape area.
- **Make sure that excess flow from big storms will run to street drains** rather than your neighbors’ property. Install an overflow device to manage peak storm flows.



- **Inspect your downspout system regularly.**
- **Routinely clean out debris in your rain gutters.**
- **Routinely remove sediment and debris build-up at the discharge outlet point.**



DON'T:

- **Don't flood abutting properties or public right-of-ways (i.e. sidewalks).**
- **Don't disconnect if within 100 feet of steep slopes or landslide-prone areas.** Check your address, with the map layers for known landslide areas, steep slopes and liquefaction zones by contacting your local Public Works Department.
- It is recommended that any single discharge point should not receive run-off from more than 1,000 square feet of roof surface area.
- Downspout extension must be at least 6 feet long.
- If you have a Basement it is recommended that the downspout extension should be at least 10 feet long.
- **Don't direct flow onto lawns or beds that are sloped more than 15% (1 foot drop in 7 feet),** because you may cause erosion.
- **Don't disconnect if water sits at the surface of your yard in the winter (squishy lawns, springs, puddles)** – that means that the ground water level is too high or that infiltration rates are inadequate to support additional infiltration.

HOW TO DISCONNECT YOUR DOWNSPOUT

- **Tools needed:** Hacksaw, drill, needle-nose pliers, screwdriver, tape measure, shovel, marker and etcetera.
- **Safety Apparel:** Gloves and eye protection at a minimum.
- **Materials:** Sheet metal screws, standpipe expansion plug or cap, downspout elbow and extension, splash block and/or rocks (see below).
- **Step 1 Cut downspout pipe:** Use a hacksaw to cut off the downspout at the elbow connecting it to underground piping (adjust the cut height to fit your new elbow). Remove the remaining short section of downspout from the end of the underground pipe and cap it with a drain pipe cap.
- **Step 2 Safely plug old underground storm drain piping:** Use an expansion plug or cap (measure the pipe and ask at hardware store for the right size) to plug the open underground storm drain pipe. Never plug the pipe with rags or concrete – they could slip and clog causing flooding. And you may want to be able to reverse this job if your yard can't handle all the flow.
- **Step 3 Attach new elbow and pipe to carry downspout flow away from house:** Use similar downspout material, or use adapters to change to plastic pipe. If necessary use needle-nose pliers to crimp the old downspout pipe, so it slides into the new elbow. Drill a hole on either side of each fitting, and screw in a sheet metal screw to secure the fitting. Add a new hanger bracket around the downspout above the cut, if needed to support the downspout and the new elbow and pipe you are adding.
- **Minimum Discharge Distances:** The point of discharge for your new downspout must be a minimum (more is better) of: 6 feet from your home, if you have a crawlspace 10 feet from your home, if you have a basement (add 2 ft. for each foot the basement extends deeper than 5 feet), 6 feet from a property line, 10 feet from neighboring buildings and the ground must slope away from buildings and nearby property lines. To check the slope on nearly level sites: use a level on a long board, or lay a hose on the ground and start it running to see which way the water flows.
- **Step 4 Add splash block, rock, or perforated pipe to slow the flow and spread runoff** into lawns, beds, a rain garden, or a rock-filled infiltration trench. In tight locations, you may need to run water through a 3 or 6 inch pipe or a rock-filled trench around a corner, to direct it into a lawn or bed area that slopes away from the house and has adequate size for infiltration. Use a 3-6 inch pipe to convey water under walkways. Don't flood sidewalks, basements, or your neighbors' property!
- **Learn more:** For a Materials and Suppliers list, fact sheets on Rain Gardens, Cisterns, Rock-filled Infiltration Trenches, Permeable Paving, Improving Your Soil, and other RainWise ideas, see the Monterey Regional Stormwater Management Program Website at: <http://www.montereysea.org>.



Disclaimer: This informational sheet contains general concepts only, which may not be appropriate or safe for every property or project. Always use good common sense. You assume the risk and are responsible for all consequences of your modifications to drainage flow on your property, for legal compliance, and for necessary permits and authorizations. The MRSWMP Entities are not responsible for modifications and disclaims liability for your actions.