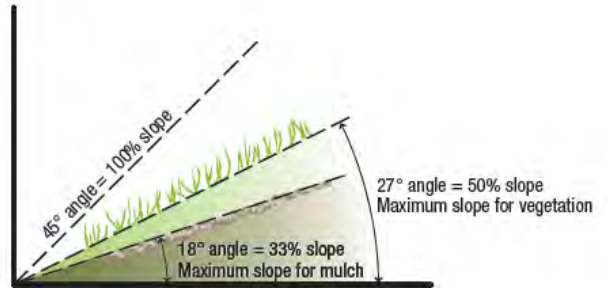

Limitations to Consider

During your property assessment, consider limitations that affect the types of green infrastructure you can install. These limitations include:

- 💧 **Space:** Consider to the space between the green infrastructure you want to install and physical features of your property, such as your house or your neighbor's property. It is a good idea to keep areas that collect and contain stormwater runoff away from both your house and your neighbor's property. Low areas that pond can increase the chance of flooding and, if the drainage is poor, may cause structural damage to your house.
- 💧 **Steep slopes:** The steeper the slope, the faster water travels. If slopes are too steep, the water will not have enough time to soak into the ground. Steep slopes may not be appropriate for some types of green infrastructure.
- 💧 **Existing structures:** Not all types of green infrastructure can easily be adapted to existing structures.
- 💧 **Poorly draining soil:** Poorly draining soils limit the amount of stormwater a site can handle, so certain types of green infrastructure may not be effective or appropriate. There are four major types of soils: gravel, sand, silt, and clay. Gravel and sand allow runoff to infiltrate quickly, as can be seen by how fast water drains at a beach. Alternatively, silt and clay drain much more slowly.



Exercise: See how fast your soil drains - dig a hole, pour water and watch it drain

This test, which is based on the City of Portland Environmental Services Site Assessment Guide, measures the soil infiltration rate at the location you plan to use for your rain garden or other green infrastructure. You will be digging a hole, filling it with water and finding out how long it takes for the water to soak into the ground.

You will need a shovel, water, a timer, and something to write with and write on.

Directions:

1. Dig a minimum 6-inch diameter hole at least 12-inches deep at your proposed location for the rain garden or green infrastructure that will need to have rainwater soak into the ground.
2. Fill the hole with water from a bucket or hose, record the time, and see how long it takes to drain completely.
3. Fill the hole with water again and start keeping time.
4. If the water on the second fill does not drop at least two inches in one hour, your soils may not drain well enough without modifying or replacing some soil.

