

BEST PRACTICES



Living Walls

Is a wall that literally gives you a “breath of fresh air” the wall of the future? Even though trellising plants to a wall is an ancient practice, a purposeful level has been achieved in the last twenty years in living wall architecture which embodies sustainability, art and gardening. Living walls tie into low impact development because, if engineered to do so, they incorporate the use of cisterns, rain barrels and bioretention facilities.

Living walls don’t capture rain water or stormwater, per se, but the more complex ones do manage it with a recirculation system. Roof runoff from the building is collected in a cistern or rain barrel and pumped via an irrigation system to the living wall. The excess water is then drained to a stormwater planter or rain garden, both examples of bioretention facilities. Bioretention methods are important contributors to clean water because they trap contaminants and sedimentation from polluted runoff and filter them through different layers of organic material before they are returned to groundwater.

If designed well, a living wall can be an added step in the treatment of stormwater, at the same time providing the additional benefits of sequestering carbon, providing oxygen, absorbing sound, conserving energy through heat absorption and beautifying the space.

There are different ways to construct a living wall. All living walls consist of plants suspended vertically via a variety of methods and surfaces. The surfaces, which are separate from the building, range from wooden pallets to metal frames mounted vertically. The methods often include hydroponic systems with plants rooted in plastic modules in water-holding felt pockets. The more complex installations include irrigation and drainage systems that are integrated into the design. Simpler designs can be watered by hand. Plants, including ferns, grasses and herbaceous species, can be arranged in a pattern or randomly. They can be used as art, food, purveyors of a healthier environment, or all of the above.

Eleven to twelve pounds per square foot is a typical weight for these structures, so it is important to know that your wall will hold the weight. Ongoing maintenance is necessary. Just as caring for any other landscape, the



What you need for a living wall:

- A vertical surface
- Access to water
- Access to light (natural or artificial)
- Open space
- Plants chosen for texture and hardiness
- Easy access for maintenance
- Guidance from a structural engineer
- A rain barrel or cistern for watering
- A rain garden for drainage (optimal!)

installation must be monitored for weeds and insects, pruned and trimmed of dead foliage and fertilized on a regular schedule. Easy access is crucial to making the job easier.

When adding a living wall to the interior or exterior of a building, the expertise of a professional is highly recommended to ensure the structure can be safely added to an existing wall. And, to benefit our streams, consider including a rain barrel and/or a rain garden in your design! Contact your local public stormwater utility to see what incentives they offer for rain gardens!

Resources/References:

<http://www.goodearthplants.com/living-walls/>

<http://agreenroof.com/green-walls/#>

Source: Stream Team News, Spring 2015