Green Roof Maintenance

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We have three basic categories of green roofs:

1) **Extensive** - Light weight soil matrix < 6” deep  
   10-35 lbs / sq ft

2) **Semi - Intensive** - Moderate weight soil  5” to 8”  
   35 - 50 lbs / sq ft

3) **Intensive** - Any weight soil 6” deep or greater  
   50-300+ lbs / sq ft

We also are seeing **ultra light weight** green roof systems being developed with synthetic substrates and non conventional vegetation.
Extensive green roofs are typically planted with a mix of low growing sedums and other drought tolerant plants.
**Extensive** green roofs can also be installed as tray systems. Trays come anywhere from pre-vegetated to non planted.
Semi intensive greens roof evolved as the aesthetic benefits of green roofs became more apparent and more flexibility of plant pallet is desired.
Intensive green roofs are generally elaborately planted and commonly used as habitable spaces.
Roof top meadows
Even Lawns
• As you can see, there is no single type of green roof. Each roof is different; all green roofs have several factors in common:

1. Green roofs are installed over the waterproofing membrane of a manmade structure.

2. All green roofs utilize living plants from moss to shade trees to perform important but varied functions.

3. Green roofs rely on a growing medium installed over a protection layer and drainage matrix to keep the plants healthy and the waterproofing system intact.
Good maintenance practices are critical with green roofs for several reasons.
Drains and vegetative free gravel zones must be kept free of debris and checked annually at the very least. Drainage failures can lead to over accumulation of water and over load the weight of the roof leading to building collapse.
This vegetative free zone is getting overrun with sedum. This will slow down water getting off of the roof in a severe storm and possibly cause weight problems.
Vegetative free zones can be a large areas on some projects.
Accumulation of dead and dry vegetation needs to be kept in check for fire prevention, especially on publicly accessed roofs.
Soil fertility needs to be checked annually.Engineered soils used in green roof construction are very free draining and water soluble nutrients get flushed out of the soil quickly.
Weeding is critical and the most common maintenance issue on green roofs.
Clovers and other nitrogen fixators are indicative of low soil nutrition.
No soil nutrient issues on this roof, in fact the plants are doing almost too well. Time to turn back the irrigation.
Gone wild. Sedum roofs that are left for several years without proper maintenance revert back to the wild. This green roof was left for 6 years with no maintenance.
Mulches are not commonly recommended on green roofs. They can blow away under the right conditions. Mulch also burns.
Irrigation is not necessary on extensive roofs but increases in importance as the plant community becomes more varied or for ultra light weight systems.
Drip systems work well on extensive green roof when laid under the sedum sod. The good news is there are no rabbits to chew up the drip tubes!
This project had both a wild flower meadow and an extensive sedum planting on the same roof. The counter intuitive issue arose that the sedum invaded the wild flowers not vice versa.
Its important to get this right the first time!

Everyone is watching!