



Featured Article

Greetings Friend!

August 2013

New CA Storm Water Regulations take effect

Stormwater- Weather we like it or not!

Living Roofs can absorb your Storm Water problems

Climate change has already shown its impressive ability to impact our towns, cities and environment. If the scientist's crystal ball is correct, we're going to see more frequent and intense storms impacting our communities.

Storm water is probably the most rapidly changing area in environmental regulation, aside from emerging green house gas regulation. A case in point is California's new statewide stormwater policy that went into effect on July 1st, 2013. The new permit process promises to bring in a new wave of changes for regulated entities (cities, towns) and developers on how and where stormwater management is implemented throughout California.

Of future concern is our current stormwater infrastructure systems that are based on an outdated methodology that uses historical weather data to predict extremes rainfall events.



Coping with 100-year storms every 20, 10 or perhaps five years will have profound consequences for human economic and social systems as well as damage to the surrounding eco-systems.



More intense storms will yield more rainwater runoff, erosion and flooding. Urbanization exacerbates the situation by being composed mostly of impervious surfaces that quickly shed and inundate the existing stormwater infrastructure beyond carry capacity.

The State Water Resources Control Board (SWRCB) enacted regulations on small entities (towns with more than 10,000 inhabitants) that own or operate their own storm drain system, known as, Municipal Separate Storm Sewer Systems (MS4s), also known as the "Phase II" MS4

A number of new strategies will need to be employed to deal with the predicted voraciousness of future weather events. Developments in 'Greening' our Infrastructure systems and promoting sustainable ecological based building systems can be extremely effective at managing stormwater conditions. Living roofs and walls coupled with ground-based low impact design strategies can be designed and implemented to meet the goal of net-zero runoff.

This issue will focus on how vegetative 'living' roof systems can be employed to help manage and control

permit. Municipalities must enact measures related to what is termed, "post construction storm-water management".

The stated permitting process prescribes various strategies that can be taken in Section E.12, entitled 'Site Design Measures'.

Projects must implement one or more of the listed measures to reduce the project's rainwater runoff (post-development period). Rainwater harvesting systems, green 'living' roofs, and porous pavement measures top the list as qualifying measures listed to reduce the runoff resulting from the development project.

SITE DESIGN MEASURES

1. Stream set backs & Buffers
2. Soil Quality Improvements
3. Tree Planting
4. Rerouting of rooftop stormwater from storm sewers
5. Rainwater harvesting & Cisterns
6. Green vegetative roofs
7. Vegetative ground-based swales
8. Porous pavement

All development projects, including single-family homes that displace or transform permeable soil in excess of 2,500 square feet will be required to comply with these requirements. That figure will include the building's footprint as well as other non-permeable surfaces such as driveway, walkways and other hardscapes.

Commercial, industrial and civic projects that displace or transform permeable soil in excess of 5,000 sq. ft. will also have to implement site design measures that effectively reduce source control, runoff reduction, stormwater

systems can be employed to help manage and control stormwater normally produced as a consequence of land development.

Sincerely,
Kevin & Kerrie Lee

"The only safe ship in a storm is leadership"

- Faye Wattleton -

General Industry News...

A 'living' partnership rallies around Urban Resiliency

On August 23rd, the City of San Francisco Planning Department and the San Francisco Public Utilities



Commission (SFPUC) joined industry association Green Roofs for Healthy Cities (GRHC) to announce their partnership in support of the **11th Annual CitiesAlive Green Roof and Wall Conference: 'Securing Urban Resiliency with Living Architecture: Food - Water - Energy in San Francisco on October 23-23**

[Article link](#)

EPA's Stormwater Calculator helps anyone manage runoff

As part of President Obama's Climate Action Plan, the U.S. Environmental Protection Agency (EPA) today released the National Stormwater Calculator, an innovative addition to the administration's virtual climate resilience toolkit. EPA's new calculator will help property owners, developers, landscapers, and urban planners make informed land-use decisions to protect local waterways from pollution caused by stormwater runoff. Preventing stormwater



treatment and baseline hydro-modification management.

[Click to see full storm water permit regulator order](#)

SYMBIOS Project News

Ellis Creek Water Recycling Facility Petaluma



Featured as **'Project of the Week'** on Greenroofs.com

Featured on the **CitiesAlive Green Roof & Wall Tour!**

La Haye Studio Project Sonoma



Rooftop garden
Rainwater harvesting system
Intensive system
1000 sq. ft.

Also featured on the **CitiesAlive Green Roof & Wall Tour!**

CITIESALIVE!

11th Annual Green
Roof & Wall Conference

runoff, which can impact drinking water resources and local ecosystems, protects people's health and the environment.

[Learn more](#)

Maryland's County passes sweeping Stormwater Bill

On August 9th, Prince George's County enacted legislation authorized by the County Council to help rid local waterways of stormwater runoff pollution. The Watershed Protection and Restoration Program (WPRP) will be an economic driver in improving the County's stormwater management practices with the creation of 5,000 new green jobs, local business development, Alternative Compliance Program for religious entities and nonprofit groups, unique public-private partnerships (P3) and property owners' fees. **Green roofs, rain gardens and bioswales are water infrastructure measures cited as means to reach these regulatory goals!**

Link to [Prince George County, Maryland](#)

Current Research

How vegetative roofs mitigate stormwater events

Our built environment, dominated by hard impermeable surfaces, has drastically altered the once inherent ability of the natural land to absorb, capture and release rainfall. Furthermore, in many cities, sewers carrying wastewater are combined with the storm water system. This can create overflow conditions during storm events (both moderate and super storms), releasing polluted water into local waterways. In the US alone, an estimated



850 billion gallons of water pollution is caused this way every year!
One solution for easing the

San Francisco:

October 23 - 26, 2013

Securing Urban Resiliency with Living Architecture: Food - Water - Energy

The topic is aimed at exploring the many links that exist when developing vegetative roofs and walls in our cities and the critical social, environmental and economic necessities of urban life that lead to urban resilience.



Academy of Sciences

The 2013 CitiesAlive conference is a unique opportunity for the green roof and wall industry to gain insight into the leading culture and philosophy of innovation in the San Francisco Bay Area. Delegates will be exposed to the Bay Area entrepreneurial mindset and discover new and enlightened ways of approaching their enterprise as well as professional and industry development.

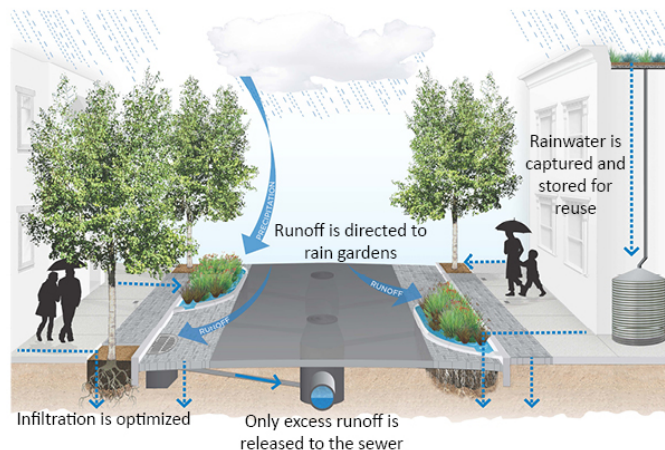
Conversely, the conference presents an opportunity for the leaders of the green roof and wall industry to ignite the San Francisco Bay Area to becoming a global leader in green roof and wall technology and development.

CITIESALIVE will be held in downtown San Francisco at the Marriott Marquis located next to the Moscone Center and Yerba Buena Gardens.

problem is to install more "green roofs" to help absorb the heavy rainfall and release it slowly into the drainage system.

Vegetative roofing systems are capable of doing this mitigation work primarily because they are composed of soft water absorbing materials. You might think of them as a large rain catcher sitting on top of a building just waiting for the next storm. The combination of plants, roots, soil, and underlying water retention systems of a living roof work together to capture, hold and detain the falling rain.

The soil medium is specifically designed with lightweight inorganic materials that by nature retain moisture. Root systems of plants run through the soil synergistically and bond-up even more water while geo-synthetic retention mats or small-encapsulated reservoir cups at the bottom of the roof profile hold onto even more water. The design of the green roof system will directly affect the performance of its stormwater holding potential. Many factors play a role: roof slope, depth & type of soil medium, vegetation type, and moisture retention components. All are important in defining the roof rainwater catchment capacity.



Research and studies have shown green roof stormwater mitigation efficiency ranging from 35% to as high as 80%. Therefore, if stormwater retention is a key goal of your green roof project, it will be necessary to identify early on in the pre-design phase what design criterion or regulator standards are to be achieved.

Wherever you live, incorporating green 'living' roof technology can substantially reduce the incidences of flooding and water pollution and thereby promote the development of sustainable and resilient drainage

Buena Gardens. The conference will offer eminent keynote speakers from the industry, lectures & educational workshops, social networking events, the largest trade show of green roof technology in the US, plus multiple tours of notable living roof & wall projects.

If you are interested in building integrated vegetation, place this event on your calendars now. Better yet- save some money and **register now** and receive 'earlybird' discounts.

development of sustainable and resilient drainage systems in your city or town.



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Sonoma County, California
707.824.0314

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