Tips for Designing Green Infrastructure

Parking Lot Landscaping

Landscaping is a critical element to improve both the function and appearance of stormwater management practices. Integrated stormwater landscapes can provide many benefits such as construction cost savings, reduced maintenance, aesthetic enhancement, and improved long-term functionality. Well designed and established landscaping will prevent post-construction soil erosion. Additionally, landscaping mitigates urban heat island effects, improves air quality, and reduces atmospheric carbon levels.

Landscape islands are "minimedians" consisting of cutouts in the asphalt within a parking area. These cutouts will vary in length and can be at grade for water harvesting or raised with curbing.

Landscape islands, which are intended to be primarily spaces for landscape, serve the following important functions:

* Provide visual relief from large expanses of paving.
* Contribute to the "greening" of the corridor.
* Create a ribbon of continuity along the corridor.
* Help calm traffic by creating the appearance of a narrowing in the roadway.
* Contribute to the overall vibrancy, safety, and desirability of the area.

Ch. 410
Zoning

Stormwater management practices can be integrated within planned landscape areas, with minor modifications to conventional landscape design. Bioretention areas can effectively treat stormwater leaving a parking lot. Stormwater is directed into a shallow, landscaped area, where it is temporarily detained. The runoff then filters down through the bed of the facility, where it is either infiltrated into the subsurface or collected into an under-drain pipe for discharge into a stream or another stormwater facility.

Tree box filters and Stormwater planters

Tree box filters are 'boxed' bio-retention cells that are placed at the curb (typically where storm drain inlets are positioned). They receive the first flush of runoff along the curb and the storm water is filtered through layers of vegetation and soil before it enters a catch basin.

Ch. 227 Erosion Control and Stormwater Management

A **contained planter** is essentially a potted plant placed above an impervious surface. Stormwater infiltrates through the soil media within the container, and overflows when the void space or infiltration capacity of the container is exceeded.

Bioretention planters function similarly to a contained planter but are typically larger and excess water is generally discharged from them via an underdrain connected to a conveyance to another planter or other sytem such as a bioretention cell.

Infiltration planters are structures or containers with open bottoms to allow stormwater to infiltrate into the ground. They contain layer of gravel, bioretention soil, and vegetation.

Additional Resources

City of Binghamton Code & Legislation Chapter 227, Erosion Control and Stormwater Management and Chapter 410, Zoning.

www.cityofbinghamton.com/

www.streamteamok.net/Doc_link/Green%20Parking%20Lot%20Guide%20%28final%29.PDF

http://www.dec.ny.gov/docs/water_pdf/swdm2010chptr5.pdf

http://cfpub.epa.gov/npdes/home.cfm?program_id=298

http://water.epa.gov/polwaste/green/

http://cfpub.epa.gov/npdes/stormwater/menuofbmps/

http://cfpub.epa.gov/npdes/stormwater/swbasicinfo.cfm

http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=89

CITY OF BINGHAMTON
Department of Planning, Housing, and Community Development

38 Hawley Street, 4th Floor
Binghamton, NY 13901
Phone: (607) 772-7028
Fax: (607) 772-7063

Website:
www.cityofbinghamton.com/department.asp?zone=dept-planning