



L to R are examples of green infrastructure

ASK-A-PRO SERIES: GREEN INFRASTRUCTURE AND GROUNDWATER

Q: *Doesn't the high water table in Southeast Louisiana prevent water absorption?*

A: **No. But it does help determine what type of green infrastructure to use at a particular site.**

The water table is high in some areas, particularly when the river level is high, and often lower close to pumps and canals. Everywhere, the water table fluctuates by season due to varying amounts of rainfall. The underlying soil type may also be a factor.

Our region's approach to stormwater has been to drain it away into canals and pump it into Lake Pontchartrain. Canal water levels are kept low. As a result, our clay soils shrink and our organic soils decompose, causing subsidence. The clearest evidence that our water table is not as high as we often think, or perhaps as it once was, is where subsidence has occurred.

Subsidence and runoff keep water from entering the ground. Green infrastructure acts as a counterbalance and contributes to the enrichment of depleted water tables.

The many green infrastructure installations now found around metro New Orleans are among the best evidence that systems designed to detain and absorb rainwater can work here to reduce flooding and manage stormwater.

Soil borings and infiltration tests are performed before designing or implementing green infrastructure. These are required by the City of New Orleans Comprehensive Zoning Ordinance and are considered industry best practices. After these tests have established the depth of the water table and soil type, green infrastructure can be designed accordingly. A high water table doesn't mean green infrastructure isn't an option, but it does help determine the best installation for a particular site.

The beauty of green infrastructure is that it's not just one thing or one solution. It can be an urban forest or constructed wetlands to provide wildlife habitat. It can also be a streetside rain garden planted with attractive native plants that help filter and absorb the captured rain water. Because New Orleans only receives rain approximately 54 times a year, rain gardens will be dry the majority of the year. In an area of New Orleans, where the water table is high, this would be a benefit for the plants in the rain gardens allowing their root systems to continually drink up.

Further reading:

"Gutter to Gulf: Subsurface Patterns and Surface Conditions"

<http://www.guttertogulf.com/589362/Block-patterns>

"Greater New Orleans Urban Water Plan"

http://livingwithwater.com/blog/urban_water_plan/problems/subsidence/