



# landscape architecture

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**New York's New Edges**  
Nancy Owens at Fort Totten

MVVA by the Hudson  
Rockwell Group's Crazy Playground  
New Life for Mafia Blocks



## LOADS OF GREEN

Some spots atop a Manhattan roof support plantings—and others don't. **By Linda McIntyre**

**By concentrating planting and access on limited areas of the roof, the designers were able to provide residents with a large, lush roof garden.**

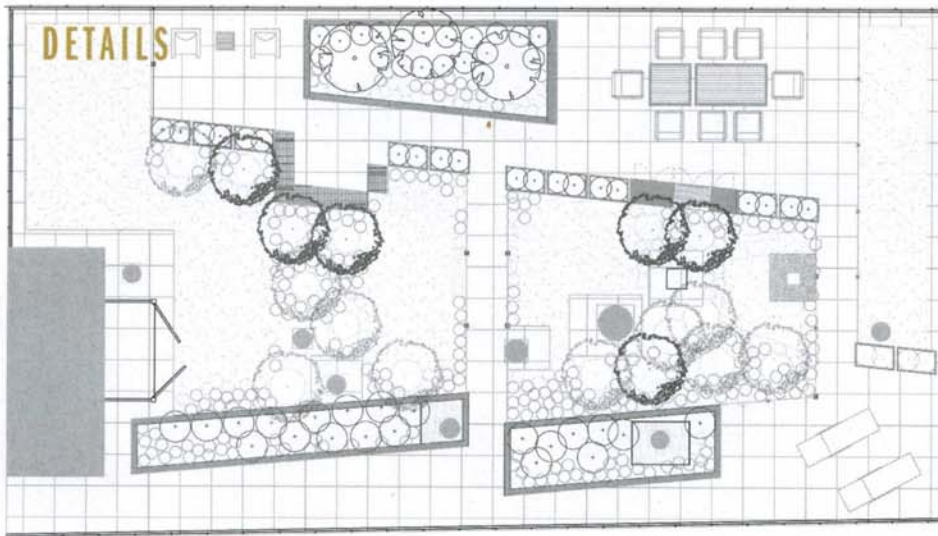
**L**OADING IS LITERALLY a make-or-break issue on a roof garden or green roof project: If a building can't support the required components, there goes the project. The issue is relatively easy to address on new construction, but on a retrofit, a thorough and accurate assessment of the roof's load-bearing capacity is the first step in the design process.

Paul Harness and Rachel Williams of Plant Specialists, a New York City design/build firm, confronted an unusual situation somewhere in between—a developer bought an old commercial building in Manhattan's Chelsea neighborhood, added two floors, and converted it to condominiums. Harness and Williams were hired by the condo board to design and install a traditional roof garden for the building's new

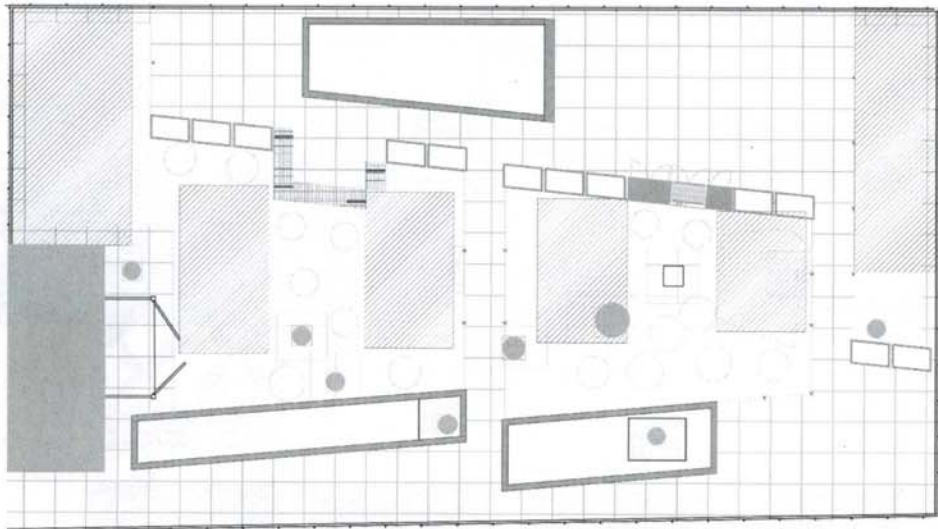
residents. They were prepared to tweak the design to accommodate any structural concerns, but the building's engineer rejected their first two attempts, out of hand, as too heavy.

To break through the impasse, the designers approached the issue in a different way. Are there discrete places on the roof, they asked, that will support plants and soil? Indeed, there were plenty. When the engineer sketched out a weight plan, it was clear that much of the roof could support soil-filled planters and places for the condo dwellers to relax. It's just that those areas of extra loading were not continuous—they were interspersed with areas that could support at most only 30 pounds per square foot.

The two-foot-square, two-inch-thick concrete pavers that were already in place across the entire roof area came close to that load limit. They were left in place where the loading allowed and removed in other spots. Because these areas would not support the weight of the roof garden as originally envisioned, the designers decided to make use of lightweight extensive green roof technology to provide texture and color while



① BASE PLAN



② WEIGHT PLAN

30 pounds per square foot allowable weight and must be cordoned from foot traffic

110 pounds per square foot allowable weight and must be accessible for foot traffic

Ventilation pipes and any roof edge must be vegetation free up to 16" clearance

discouraging foot traffic. The system was also a cost-effective way to include as much greenery as possible without exceeding the project's budget. The original waterproofing membrane was only a couple of years old, so rather than replace it the project team cleaned it and applied a sealant along its seams to make sure it could accommodate the green roof system.

The planters—arranged to direct circulation to appropriate parts of the roof garden—sport shrubs and flowering perennials, but the only plants able to survive in about three inches of lightweight engineered soil are hardy succulents such as *Sedum* species. The contrasting plant palettes are colorful and attractive, making for a pleasant spot for residents to escape the bustling streetscape below.

*Linda McIntyre is editor of Riprap and a regular contributor to Landscape Architecture. Her book, The Green Roof Manual: A Professional Guide to Design, Installation, and Maintenance, written with Ed Snodgrass, was published in August by Timber Press.*

**Using a weight key, left, provided by the building's structural engineer, the designers mapped out the garden's features, top. The finished garden, below, offers respite from the busy shopping district at street level.**

