

City of Santa Monica Urban Watershed Management Program

Low Impact Development Strategies:

502 Colorado Avenue



← [Invisible Structures GravelPave²]



← [Infiltrators® or StormTech® Chambers]

[Overflow Pipe] →



[Porous Concrete] →



502 Colorado Avenue is a city-owned multi-family housing project that incorporates Low Impact Development strategies with Best Management Practices (BMPs) to harvest urban runoff either for treatment via infiltration (soil ecology does a wonderful job in neutralizing low-level or background concentrations of pollutants) or for reuse in landscape irrigation or indoor flushing.

Completed in 2000, the development incorporates many energy efficient systems including photo-voltaics. Most of the parcel is hardscaped – impermeable roof and patios with small patches of drought-tolerant landscaping. Because the project takes up most of the parcel, little open space was available for placing an infiltration zone or **Bay Box** (i.e., Santa Monica’s term for a filtering or infiltration device that protects water quality of the Santa Monica Bay). Thus, the city installed the BMP in the adjacent alley. All runoff flows into a storage chamber, which is composed of five rows of plastic devices, and extends the entire width and length of the alley adjacent to the building.

Instead of using rock as infill for the underground storage area for runoff, plastic chambers (PHOTO top right), called **Infiltrators® or StormTech® chambers**, line the percolation zone. The estimated capacity is 500 cubic feet. An **overflow pipe** (PHOTO bottom left) from the chambers spills when full onto the alley surface, which is composed of two permeable paving BMPs – **porous concrete** (PHOTO bottom right) and **Invisible Structures GravelPave²** (PHOTO top left). The overflow runoff can infiltrate through these BMPs. Runoff from areas upstream of this site sheetflows to this permeable surface and infiltrates into the ground. Excess runoff flows to a catch basin.



Planning for a Cleaner Bay

Urban runoff flowing through storm drains is the single greatest source of pollution to the beaches and near shore waters of the Santa Monica Bay. Unlike sewage and discharges from industrial sources, urban runoff is not generally adequately treated before it reaches the bay and our beaches.

The City of Santa Monica passed an ordinance that is designed to reduce the amount of urban runoff pollution that reaches our storm drain system and the Santa Monica Bay. The ordinance requires a reduction in urban runoff flowing off of all impermeable surfaces from newly developed or retrofitted parcels within the city.

Reducing the amounts of urban runoff and of pollutants contained in the runoff is essential for the health and safety of our community. A cleaner bay means a healthier marine ecosystem and improved quality of life for residents, and increases Santa Monica's appeal to visitors and businesses.

By implementing post-construction Best Management Practices (BMPs) and making these strategies part of our daily lives, we can make a genuine difference - and clean the bay!



Putting the LID on Urban Runoff, the Santa Monica Way

In the city's efforts to reduce runoff pollution through the use of BMPs, we can manage, use and redevelop our lands in a more sustainable manner through the use of Low Impact Development (LID) and smart growth design strategies, and BMPs. LID is an economically and environmentally responsible strategy to site development which still allows land development, but in a long-term cost-saving manner that also mitigates potential environmental impacts. Whether employed at a single-family home or large commercial or public project, LID integrates land planning, and site design practices and techniques to mitigate development impacts to land, water and air, to conserve and protect natural resources and ecosystems, and to reduce infrastructure costs, e.g., storm drain systems.

This strategy views each development project as a small micro-watershed, part of the greater watershed or drainage basin of a particular area. The strategy promotes the concept of "start at the source," that is, to keep as much precipitation on each parcel to minimize the amount of runoff or waste water leaving a site. In the end, watershed management must include the individual and each parcel, and LID approaches should be used in planning and designing phases. The results of these strategies will be to maximize onsite rainwater and runoff harvesting, retention and use, and to minimize runoff pollution in reaching the bay.

For more information contact **310-458-8223** or visit **sustainable-sm.org**



Urban Runoff & Watershed Management Program

City of Santa Monica Office of Sustainability and the Environment
200 Santa Monica Pier, Santa Monica, California 90401

Printed on recycled paper with vegetable based inks.

