ARCOSA LIGHTWEIGHT



**CASE STUDY:**

# WATERLOO PARK, AUSTIN

**Austin's Waterloo Park is an urban development project that provides green space, handles stormwater runoff and beautifies the city with natural plants and water elements. Arcosa Lightweight's expanded shale was used to solve the project's issues related to weight, compaction and drainage.**

Arcosa Lightweight's Eric Nelson, a licensed landscape architect and specialist in horticulture and storm water applications, calls the Texas project "ambitious".

***"This park is a superb example of how development of cities and promotion of natural systems can successfully co-exist," he says.***

"Designers had to strategically balance stormwater needs, the ecosystem and the visitor experience in a downtown oasis lush with trees, water, and landscape plantings."

## Project Overview

The 11-acre Waterloo Park is phase one in a series of green spaces and amenities tied to a 1.5 mile stormwater improvement plan between 15th street and Lady Bird Lake.

Waterloo Park was many years in the making and included a multi-disciplinary design team. Major players included Michael Van Valkenburg & Associates (landscape architecture), Thomas Pfifer & Partners (architecture), Limnotech (hydrology), HNTB (structural engineering), Applied Ecological Services (ecology), among others.

## Base Soil Specifications

Olsson Associates, a nationally recognized, employee-owned engineering and design firm, led the way in preparing the soil specifications.

A "stabilized horticultural subsoil" was specified using 2 parts sandy loam, 3 parts expanded shale and 1 part compost; they were placed beneath the planting soils at various depths. This method was

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*Above: filtered stormwater discharge also serves as a beautiful water feature.*

used for the soils over structure, street trees and the performance lawn. “Many different soils were developed to meet the agronomic conditions for the performance lawn, landscape beds, street trees, wetland plantings, general turf areas and plantings on structure,” says Nelson.

Expanded shale also provided added structure and drainage to the performance lawn as needed for the additional foot traffic and use of chairs during concert venues. “One additional benefit of the stabilized horticulture subsoil is moisture retention,” notes Nelson. “It’s a known fact that plant roots seek water, so having moisture available at deeper depths encourages larger root systems that aid in plant growth and survival.”

## Handling Stormwater

Stormwater issues were solved by a massive underground tunnel 20.5’ in diameter at the 15th street inlet and 26.5’ where it discharges into Lady Bird Lake.

The tunnel also carries all of Waller Creek’s flow during storm events and protects over 30 acres of downtown Austin from a 100 year flood.  During dry weather, the tunnel pumps clean, oxygen-rich water to lower Waller Creek which creates a healthier ecosystem for aquatic plants, fish and wildlife.

## Park Amenities

Located just two blocks from the Texas State capitol, visitors can experience many things at Waterloo Park. A 1.5 mile hike and bike trail winds above and through the park in a landscape reminiscent of central Texas set among native plants and mature oak trees.

There are expansive lawns for fitness and leisure, a 5,000 person amphitheater for events, a children’s play area, quiet spaces for reading and reflection, a raised skywalk, raised decks and terraces, a pavilion, not to mention wetlands and waterfalls.

There is a gradual elevation change from east to west and from 12th street to 15th street. While you feel secluded and immersed in the park, one can see the dome of the state capital building from most anywhere.

## About Arcosa Lightweight

***Arcosa Lightweight provides lightweight aggregates across the nation for projects featuring green roofs, bioretention, infiltration media, structural soils, soil amendments and deck parks. Learn more at ArcosaLightweight.com***

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