SILVA CELLS

AN INTEGRATED GREEN SOLUTION: TREES, SOIL, AND STORMWATER

HOW IT WORKS

Silva Cells are a modular suspended-pavement system that holds vast quantities of lightly compacted soil while supporting traffic loads beneath paving. That soil serves two important functions: growing large trees and treating stormwater on-site.

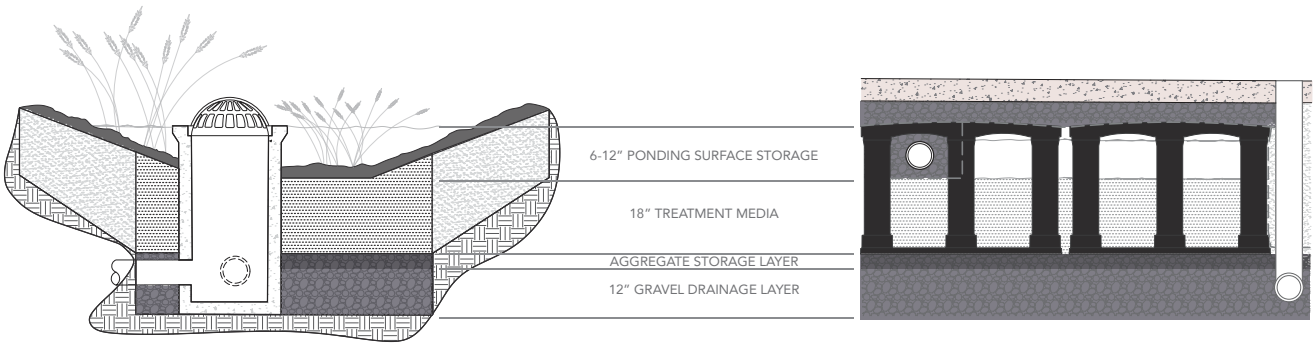
TREES AND SOIL

The Silva Cell system has revolutionized how trees are planted in our urban environment. Cities around the world are recognizing the crucial importance of soil volume in growing big, mature trees – which help mitigate the effects of climate change while increasing shade and beauty. Many cities have instituted soil-volume minimums for new street trees and are utilizing Silva Cells to meet these requirements and ensure the trees' ongoing health and vitality.



STORMWATER

Silva Cells serve as a low-impact development (LID) solution for green, at-source stormwater control. The Silva Cells suspend the pavement, creating a void beneath the surface to allow for bioretention, slowing and treating stormwater on-location without utilizing buildable urban real estate. Silva Cells use the natural environment for absorption, evapotranspiration, and interception.



TYPICAL BIORETENTION

SILVA CELL BIORETENTION

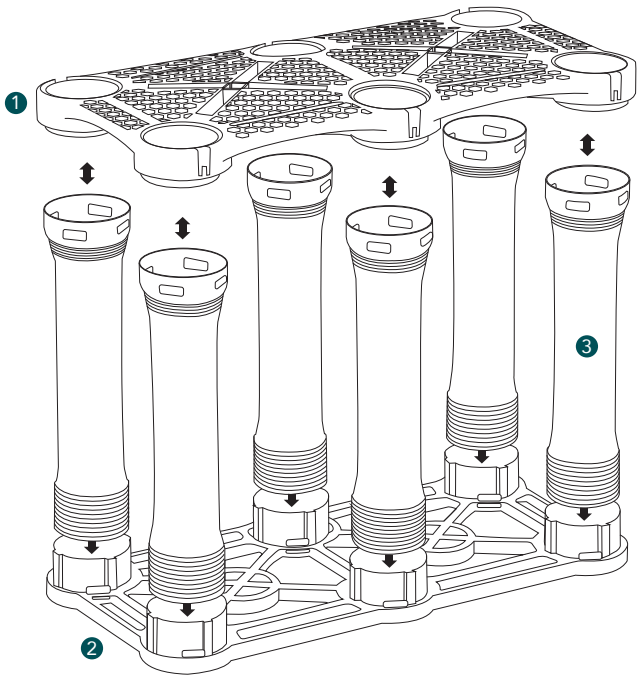
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Updated: November 2026

Patent Protected
The Silva Cell is covered by one or more of the following patents:
United States: 7,080,480 | 8,065,831 | 9,085,886 | 9,085,887 | 9,775,303 | 10,285,339 | 11,369,065 | 11,761,152 | 12,402,576
(Other patents pending)

deeproot®

SILVA CELLS: HIGH-PERFORMANCE GREEN INFRASTRUCTURE



SILVA CELL COMPONENTS

1. Deck
2. Base
3. Posts

THE DIFFERENCE IS DESIGN

-Structural Independence: No lateral connections

-Flexibility: Utility accommodation

-Modularity: Easy scalability

-Meets Vehicular Loading: Minimal cover required

-Large Openings: Simple soil deposits and walk-through compaction

PROJECT APPLICATIONS

Silva Cells have been installed in 3,500+ projects in over 20 countries around the world. The system's versatility allows for numerous applications, including:

-Streetscapes

-Plazas

-Courtyards

-Parking Lots

-Parks

-Green Roofs/On-Structure

-"Break Out" Zones

LOCAL MANUFACTURING

DeepRoot is committed to reducing our carbon footprint and supporting manufacturing in our communities – this is why our Silva Cells are built locally in the regions in which we operate. By embracing a domestic manufacturing and shipping strategy, we are able to provide our customers with quality products and shorter fulfillment times.

SILVA CELL TECHNICAL DETAILS

Utilities: Easily accommodates new or existing utilities with 14" apertures.

Spacing: Up to 6" spacing between units delivers soil as efficiently as possible.

Structural independence: Each stack stands alone; affected area of system easily isolated if utility or service repairs are necessary.

Materials: Deck: fiberglass reinforced polypropylene. Post and base: polypropylene.

Loading: Silva Cells support vehicle loading, including those used for emergency, delivery, and maintenance. Generally meets AASHTO HS-20 (USA), CSA-S6, B7.5, and OBC 54KN (Canada) when used with standard paving profiles (see table below).

MINIMUM PAVEMENT PROFILE OPTIONS TO MEET H-20 LOADING

PAVEMENT	+AGGREGATE BASE COURSE
4" Concrete	+4" Aggregate
3" Paver	+12" Aggregate
4" Asphalt	+12" Aggregate
2.6" Paver	+5" Concrete

BASE DIMENSIONS

	in
Length	47.25
Width	23.6

DECK DIMENSIONS

	in
Length	47.25
Width	23.6

SYSTEM HEIGHTS

size	in
.5x	12.9
1x	16.7
1.5x	21.0
2x	30.9
2.5x	35.1
3x	43.0
3.5x	47.3
4x	57.2

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