



The First Step in Silva Cell Projects

Setting Your Soil Volume Target

Soil volume is the foundation of every successful Silva Cell project. Before we can talk budget, layout, or cell count, we need a sense of your soil volume target — it's the number that shapes everything that follows.

Why Soil Volume Comes First

- It's the biggest factor influencing tree health, size, and lifespan
- It determines how many Silva Cells your project will need
- It sets expectations for canopy growth and long-term performance

Typical Soil Volume Goals

Approximately 1,000 cubic feet per tree is a widely used benchmark for healthy, mature canopy trees — but not every project can reach that. The principle is simple: More soil equals better tree performance. Our job is to help you make the most of what your project can accommodate.

Cities With Soil Volume Standards

Many municipalities now mandate 600-1,000 cubic feet per tree, recognizing soil as essential urban infrastructure.

What's Ahead

Over the next few pages, we'll walk you through:

1. Why we always begin with soil volume
2. How soil volume affects tree performance
3. What leading cities require for soil volume
4. How to set your own target — and how we can help you refine it





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Why Soil Volume Matters

When customers ask, “How much does a Silva Cell system cost?” our immediate follow-up question is: “Do you have a soil volume target?” Once we know your soil volume goals, we can begin to determine the scope of the project and help with number and depth of cells as well as a basic layout framework.

The soil volume target is your design anchor — it guides decisions and creates clarity from the start.

What Soil Volume Accomplishes

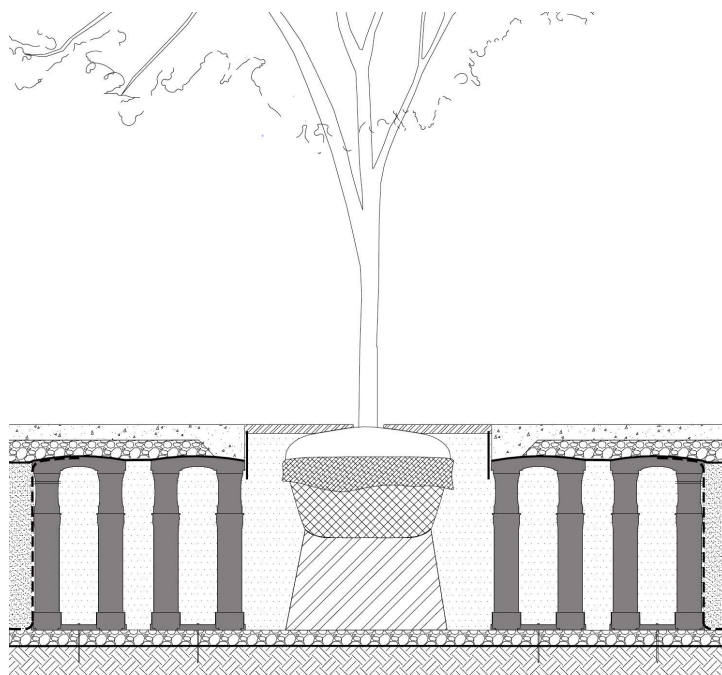
In cities, the biggest limiting factor for tree health is access to enough lightly compacted soil volume. Trees need adequate soil to grow roots and build stable, healthy structure.

More soil equals:

- Healthier, larger trees
- Bigger, fuller canopies
- Cooler streets and shaded buildings
- Longer lifespans and fewer tree replacements
- Higher return on investment

Silva Cells exist to create this soil volume where it otherwise can't exist — beneath sidewalks, plazas, courtyards, and other hardscapes. The system protects high-quality, lightly compacted soil, giving roots the room they need to grow naturally.

This is why everything starts here.





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How Much Soil Do You Need?

There is no one perfect number for every project — but research gives us a highly dependable range. A strong goal for large, healthy urban trees is around 1,000 cubic feet per tree. But we also know not every site can reach that. Space, geometry, and budgets vary. Ultimately, aim high and remember:

- Bigger volumes support stronger, larger trees
- There is no single number; every site is different
- Shared rooting space can reduce soil volume total
- Even incremental increases lead to better growth

What Leading Cities Already Require

Municipalities across North America are setting soil volume standards to ensure healthy street trees. These standards — some recommended, some required — vary, though most fall into the same 600-1,000 cubic foot range already mentioned.

Examples include:

City	Soil Volume Standard
Toronto	30 cubic meters ($\approx$ 1,060 cubic ft)
Minneapolis	800 cubic feet
Denver	750 to 1,000 cubic feet
Washington, D.C.	600 cubic feet

[Click here](#) for a more complete list of cities and their soil volume standards.

The industry is moving toward clear benchmarks. Your project can follow the same best practices.





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How to Set Your Goals

Now that you've seen the principles and the benchmarks, here's a helpful way to think about setting your own goals:

1. **Aim High** – Start with an ambitious goal — bigger soil volumes grow better trees.
2. **Refine Based on Realities** – Adjust for utilities, budget, and available space.
3. **Choose the Highest Feasible Volume** – Every additional cubic foot meaningfully improves long-term tree performance.
4. **Don't Get Discouraged; Every Gain Helps** – You don't need thousands of cubic feet to succeed. Prioritizing soil, and incorporating Silva Cells as a tree-growing solution, gives your trees a real advantage in challenging urban conditions.

You Don't Have to Get It Perfect — Just Get It Started

Setting a soil volume target is an inexact process. There's no single "right" answer. What matters is identifying a goal early so we can model options and help you get the most soil volume possible within your constraints.

We work with designers every day to:

- Settle on an achievable soil volume number
- Align budgets and site constraints with tree performance
- Maximize space and soil efficiency
- Navigate tight footprints and accommodate utilities

Bring us your project's basic plan — we'll help hone the details. With a clear soil volume target and a flexible design process, together we can grow healthier, longer-lived trees and more resilient urban places.





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Soil Volume at Work Around the World



Sugar Beach (Toronto, ON)



Wembley Stadium (London, UK)



Olympic Village (Vancouver, BC)



Alethia Tanner Park (Washington DC)