



Material

- Suitable for the heaviest traffic loads
- Applicable for both new and existing trees
- Large soil volume, smallest opening > 900 cm², suitable for thick tree roots
- Made from recycled material and fully recyclable
- Can be installed either connected or as standalone units
- Can be installed parallel to curves up to a 5 m radius without additional measures
- Easy integration of cables and pipelines
- Low installation costs, user-friendly system and quick assembly
- Easy to fill with any soil type
- System height is variable between 40 and 150 cm
- Long lifespan (minimum 100 years)
- Ideal for capturing rainwater within the system, with up to 25% of the volume available for water infiltration

Soil Cell System

TreeParker®

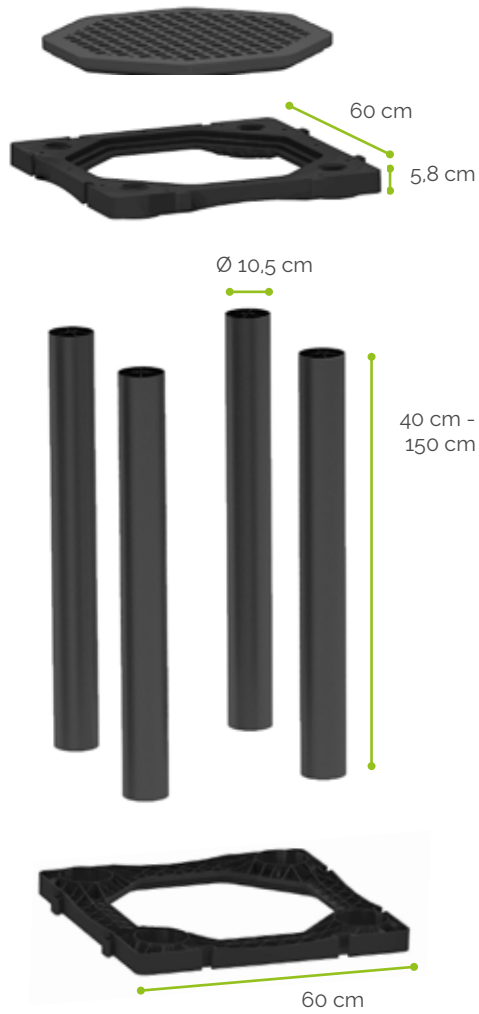
The TreeParker® system is an innovative solution for creating the optimal underground tree pit for both new and existing trees in paved areas. The system is highly versatile and easy to expand, allowing secondary functions such as water storage to be integrated.

TreeParker® has been developed based on experience from trials, projects and consultations with various stakeholders. The system fulfils essential primary functions, such as supporting the heaviest loads and providing space for healthy root growth. In addition, the system features a modular design, is quick to install, circular, and offers an exceptionally long lifespan. Cables and pipelines can also be easily integrated. Furthermore, TreeParker® provides variable installation depths and a high soil volume percentage within the system.

The strongest and most flexible system on the market



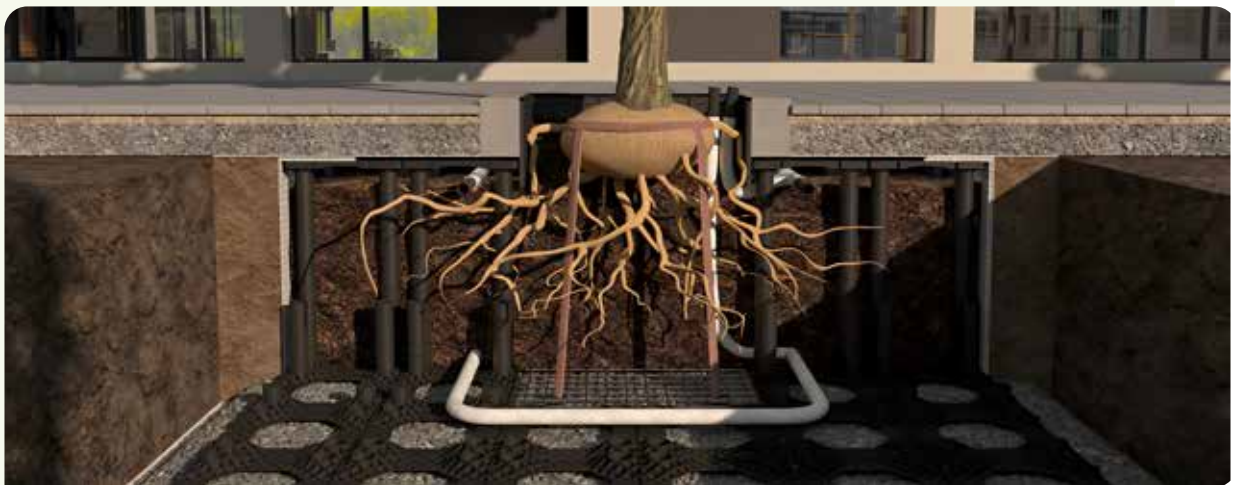
**TreeParker® unit:
Exploded View**



Dimensions

TreeParker® unit: (H) variable x (B) 60 x (L) 60 cm

System height variable between 40-150 cm
Available from stock: 40, 50, 80, 100 and 120 cm
Custom dimensions available on request



TreeParker[®] installation



1 Position the bottom frames around the tree pit



2 Install the vertical posts and top frames



3 Fill the system with substrate according to the prescribed composition



4 Backfill and compact the space around the tree pit structure



5 Install the aeration and irrigation system



6 Close the system with the cover



7 Apply geotextile and backfill with mixed aggregate



8 Compact and lay the desired paving around the planting area



The Eiffel Tower: the icon of Paris

With nearly seven million visitors per year, the Eiffel Tower is one of the most visited attractions in the world. The trees suffered greatly from the ever-increasing number of visitors and residents. Due to the annually growing gravel layer, the soil became so compacted that tree growth came to a standstill. The need to fence off the area for safety reasons and relocate access points provided an opportunity to improve the tree pits of these trees.

GreenMax, together with Vogt Landscape Architects, redesigned the two avenues along the Eiffel Tower to revitalise the existing trees. The TreeParker® system was chosen because it gives the existing trees around this breathtaking World Heritage site extra growth capacity. Years after the application of TreeParker®, the trees along the Eiffel Tower are once again in full bloom!

The TreeParker® system is easy to install around new and existing underground infrastructure. For more information on this topic, see the handbook: "Cables and Pipelines – TreeParker® in the City."



Did You Know?

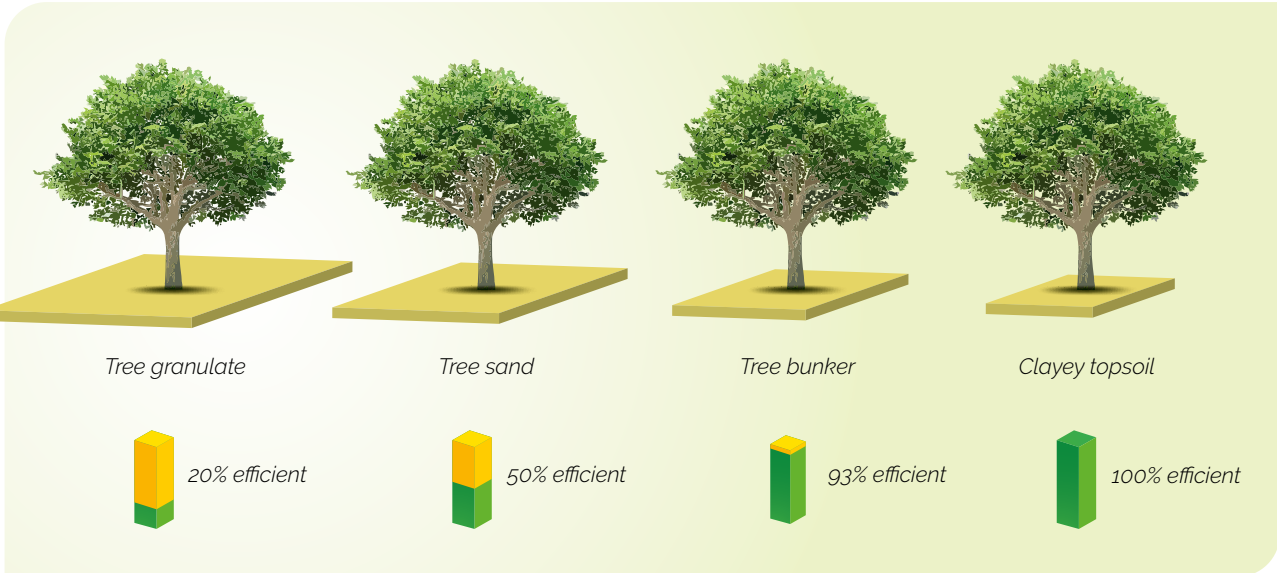
An oak tree can absorb more than 190,000 litres of water per year. This helps a mature tree relieve pressure on the sewer system and prevent flooding

One large, functional mature tree provides more value than 400 small trees

A mature tree can absorb 150 kg of CO₂ per year

Good tree pit conditions are essential for newly planted urban trees to grow into functional trees

By strategically placing urban trees, city temperatures can be reduced by 2 to 8 degrees, significantly helping to mitigate the urban heat island effect



After installing various tree pit solutions in random order, six Liriodendrons were planted per solution. Preliminary results show that trees in the most efficient solution perform best. It can be concluded that soil volume calculations should always be based on soil efficiency (net available soil) rather than just surface area or product quantity.

Research: Comparative study of tree pit solutions for trees in paved areas
Bartlett Tree Laboratories, Dr Tom Smiley, 2015



Comparison of tree pits

In 2018, trees were planted along a canal in Nieuwestad, Leeuwarden. *Tilia × europaea* trees were planted using the TreeParker® system and in structural soil. Five years later, a clear difference has been measured and observed between the trees in the two different tree pits. The trees in the TreeParker® system not only have the largest trunk circumference but are also taller than the trees at the other location. The trees in Nieuwestad were planted with a trunk circumference of 30–35 cm and have grown in the TreeParker® system to 37–42 cm. The average difference in trunk circumference between TreeParker® and structural soil is 8.3 cm.



A) TreeParker®



B) Structural Soil

Type of Tree Pit	Rootable volume m ³	Number (N)	Average ± SD trunk circumference (cm)	Average ± SD tree height (m)
A	19	7	71.9 ± 3.4	8.8 ± 0.6
B	30	7	63.6 ± 2.7	8.5 ± 0.9

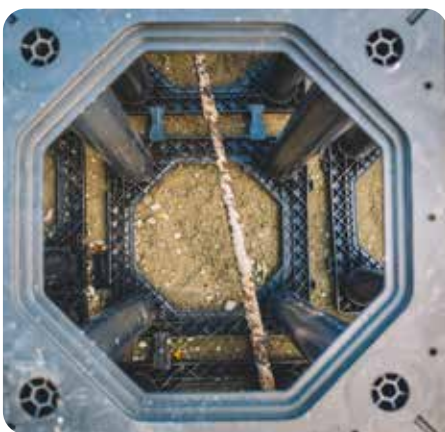
The following data were collected and measured 21 times: diameter at 1 metre height, crown width north-south and east-west, bottom of the crown, tree height, crown condition, percentage of missing crown, light penetration and type of land use. In addition, GPS locations of all trees, identification numbers and whether they are street trees were recorded.

Case Study: revitalisation of a 450-year-old linden tree

In the village square of Massemen (municipality of Wetteren) in Belgium stands an ancient linden tree, also known as the "village linden". The tree's age is estimated at 450 years. In 2016, this unique tree was crowned "Tree of the Year". An ancient tree is unique and irreplaceable and has therefore received extra care and attention ever since. The tree not only adds aesthetic value to the square but also promotes social cohesion and, compared to young saplings, offers significantly greater climate benefits.

Creating growth space for an ancient linden tree

During the underground investigation, it became clear that the tree pit and root development were a major constraint on the health of this veteran linden tree. The tree had barely 40 m³ of highly compacted, poor and nutrient-deficient soil available, while it needed at least 100 m³ of rootable space. The TreeParker[®] system was applied to provide this historic tree with the necessary growth space. Five years later, we revisited the project. On that day, a sports event was taking place, with the linden tree serving as the central meeting point for visitors. The tree looks healthy and ready to thrive for many more years!

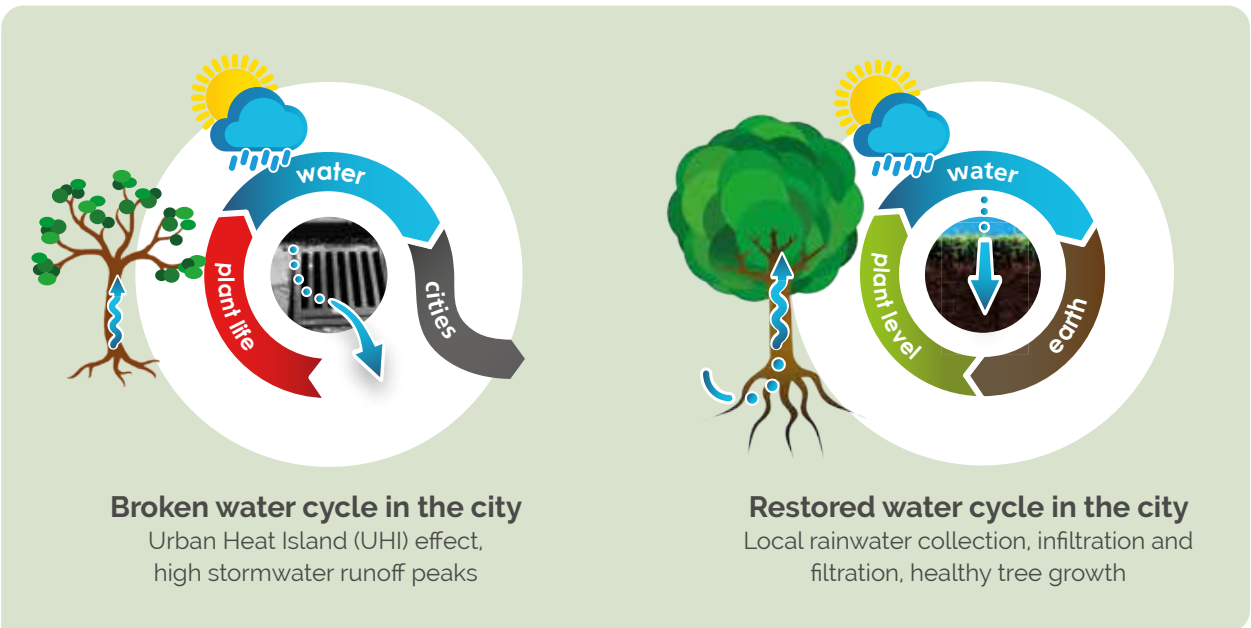
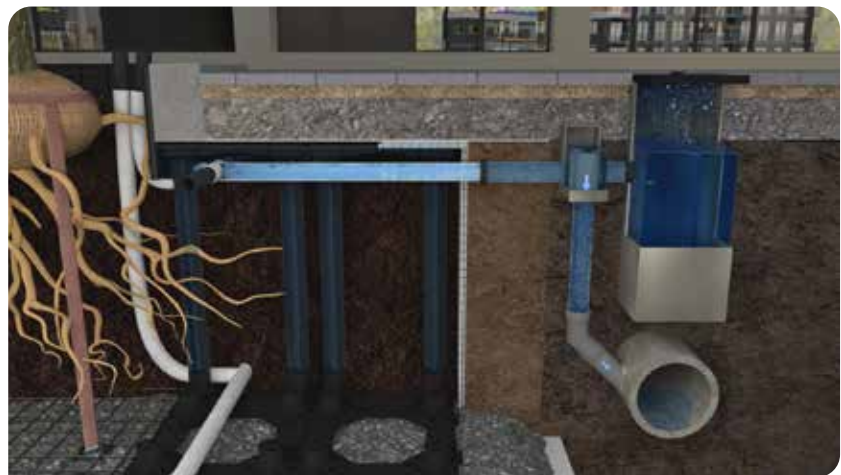


5 years later

TreeParker® as a bioretention system

In the past, trees located close to rainwater collection areas were seen as a problem. The TreeParker® system demonstrates that this is actually an opportunity: it combines optimal growth conditions for trees with an intelligent system for capturing, filtering and controlled infiltration of rainwater into underlying soil layers.

The bioretention system supports a healthy water cycle in the city. Rainwater is first directed to the tree pit, where micro-organisms in the substrate purify the water. Afterwards, the clean water can infiltrate into the soil.



For more information on bioretention possibilities, see the catalogue:
"TreeParker® Bioretention and Soil Cell System."