

Tree growth system

Wavin TreeTank

Installation Manual



How Urban Climate Resilience looks like

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- 7 Infiltration pipes
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- 9 Greenification solutions: TreeTank
- 10 Infiltration tanks



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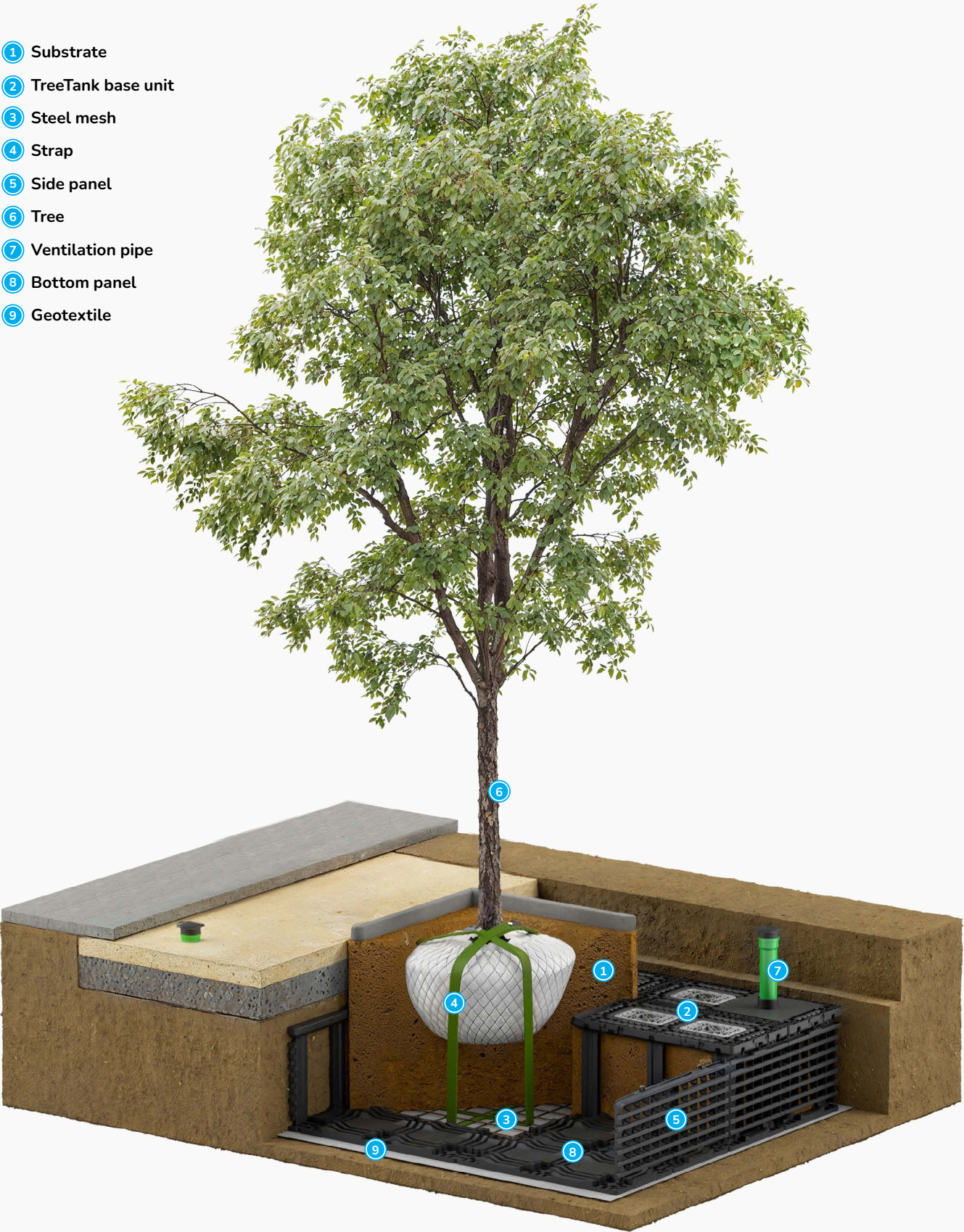
Wavin TreeTank

Installation Manual

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1. System

TreeTank installed

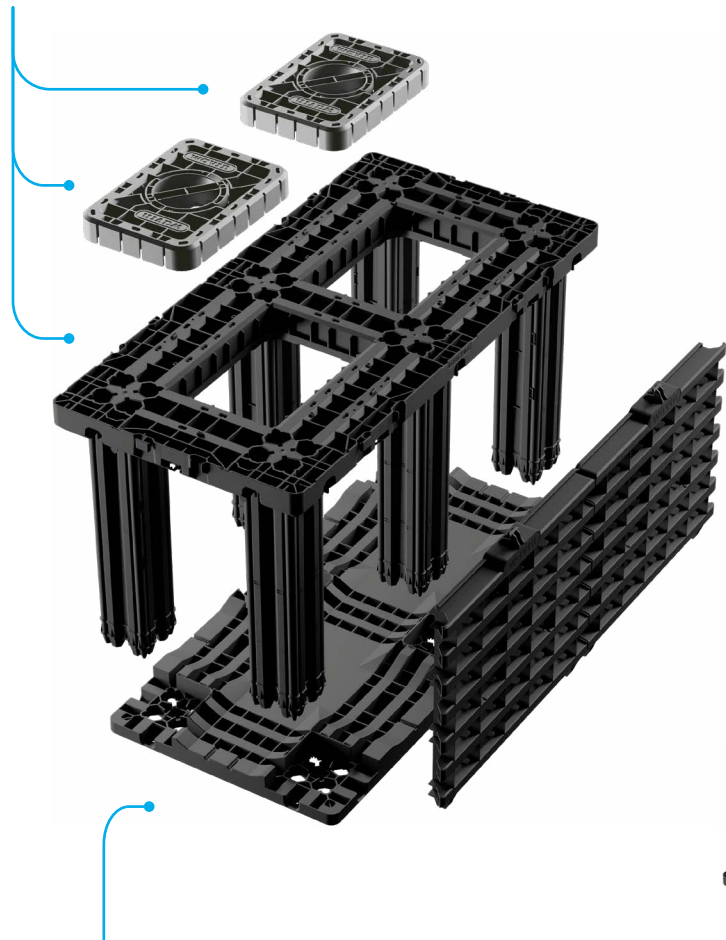


1. System Components

TreeTank Components

TreeTank Base Unit (incl. 2 Lids)

- › Dimension: 47.2 x 23.6 x 23.6 in
- › Weight: 30.9 lbs

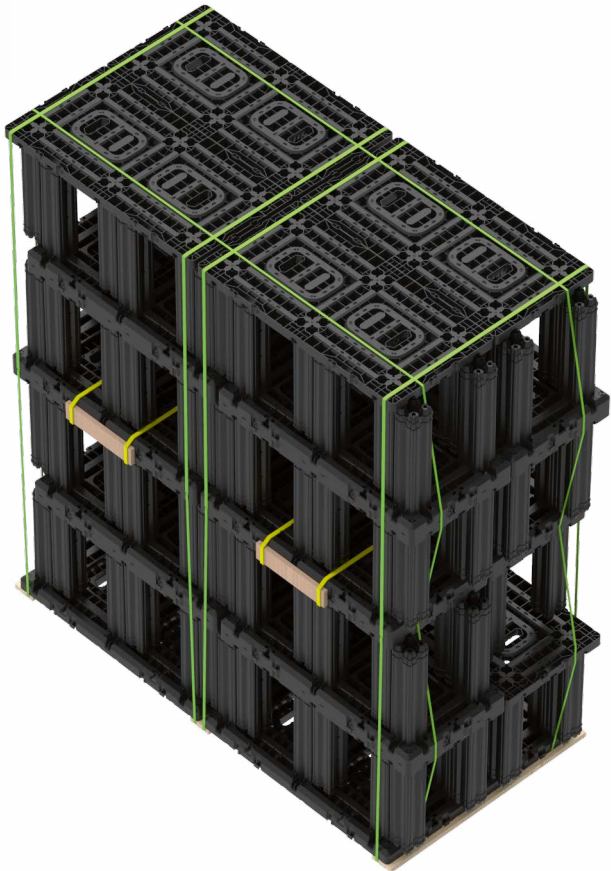


TreeTank Side Plate

- › Dimension: 46.6 x 21.4 x 2.0 in
- › Weight: 6.2 lbs

TreeTank Base Plate

- › Dimension: 47.2 x 23.6 x 2.8 in
- › Weight: 10.4 lbs



TreeTank Package

- › Dimension: 47.2 x 23.6 x 23.6 inches
- › ~ 459 ft³

Accessories – Available from Wavin

Ventilation

- › Connector
- › Shaft Ø4.3 x 39.4 in
- › Cover



Substrate funnel

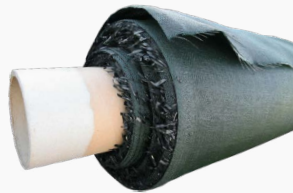
- › Dimension: 47.2 x 23.6 x 18.7 in



Accessories – Third party sourced

Geotextile

- › Infiltration woven



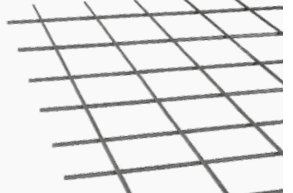
Geotextile

- › Root Resistant
- › Optional



Metal grating

- › Optional



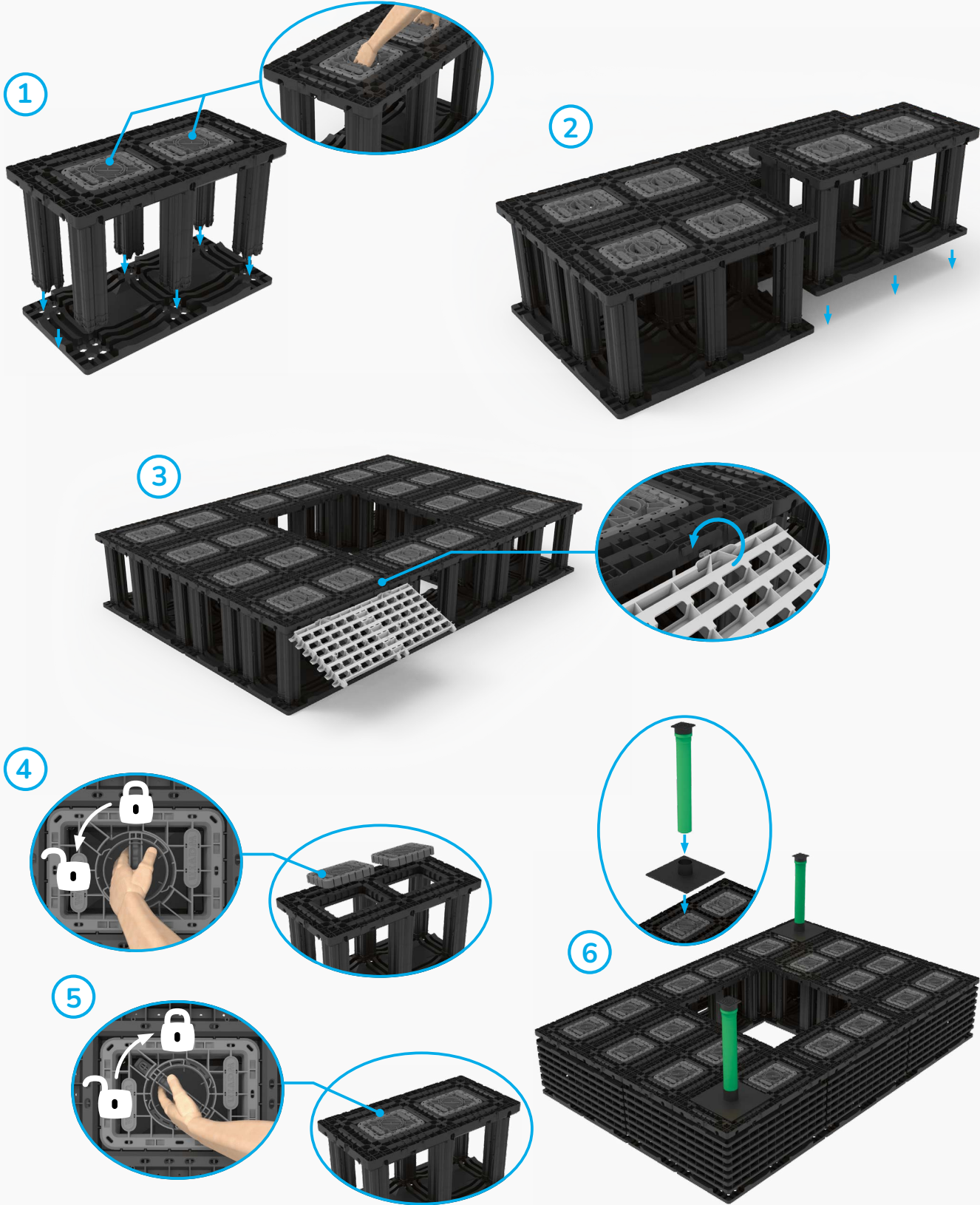
Straps / belts

- › Optional

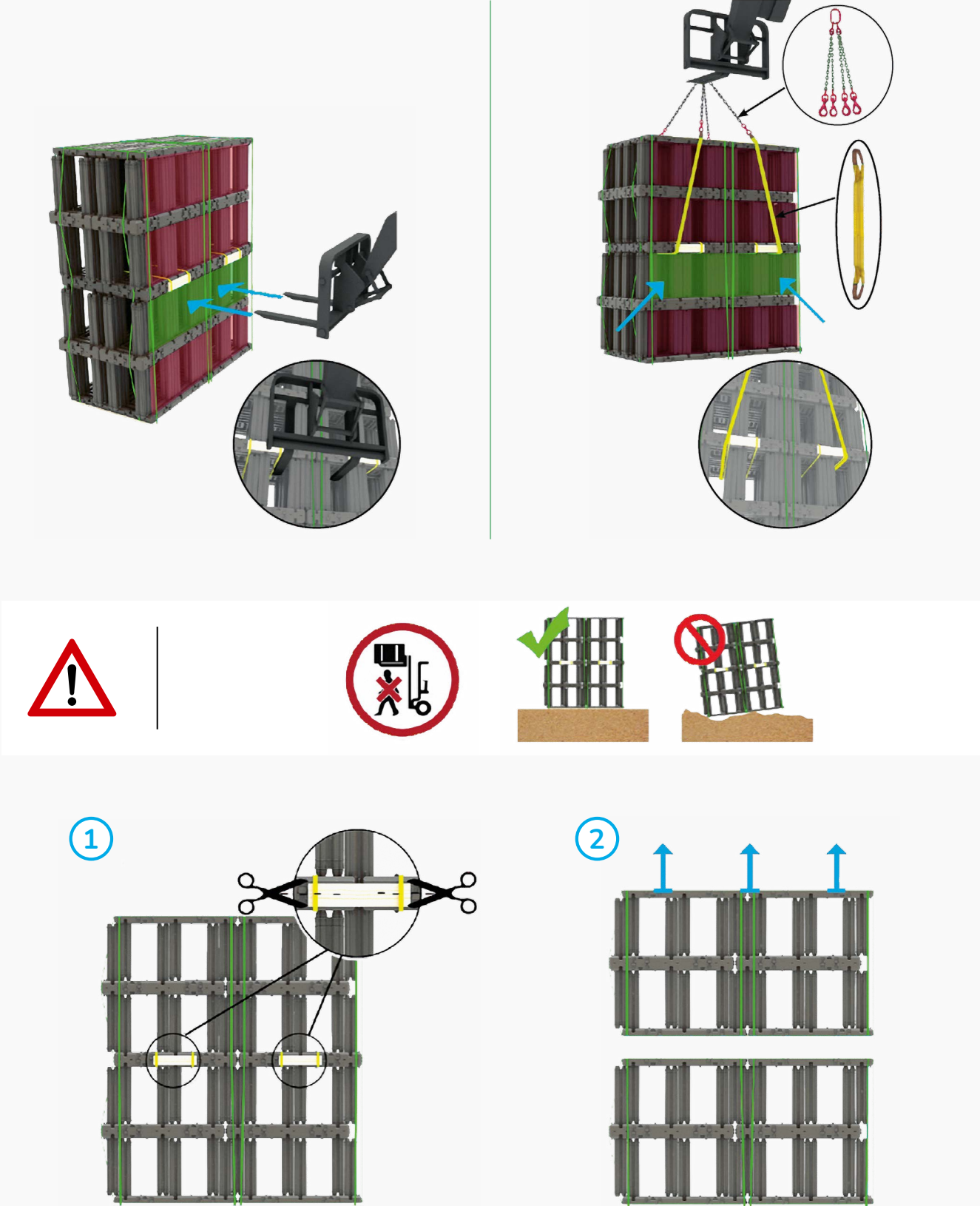


2. Quick Reference Installation

Installation guide



Handling instructions



3. Installation

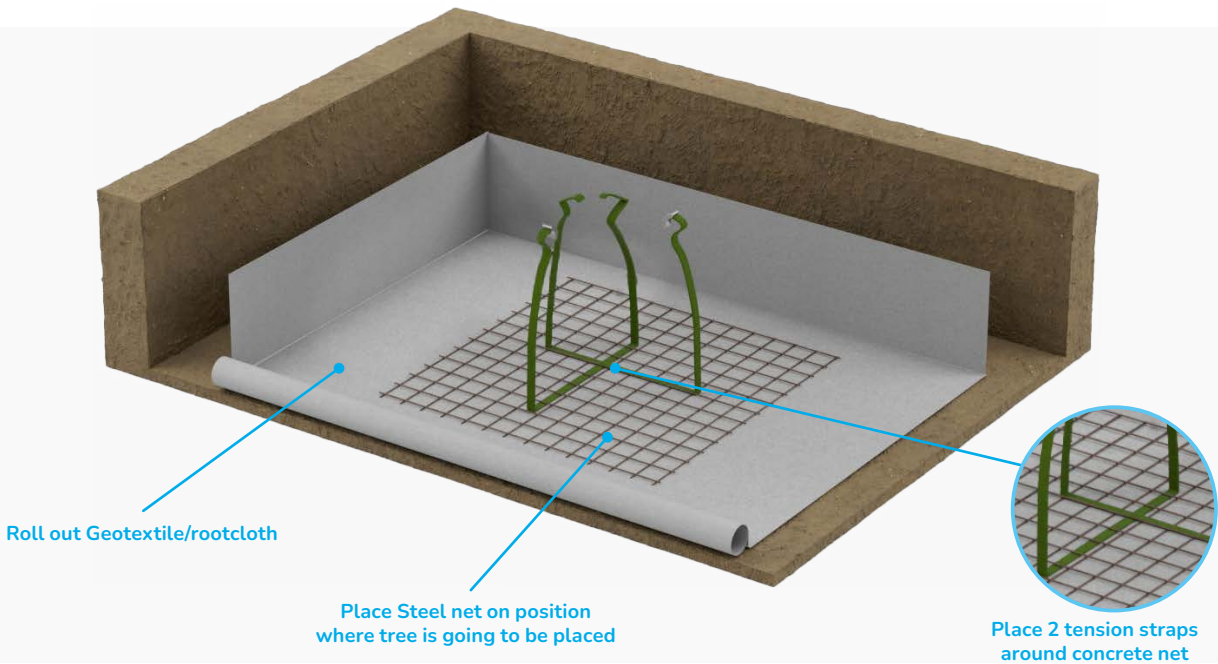
3.1 Site preparation: Digging & preparing the trench

- 3.1.1 Excavate the trench to the required depth specified in the engineering details ensuring that the plan area is 20 in wider on each side than the footprint of the tree tank.
- 3.1.2 Lay 4 in bed of coarse sand (i.e., ≤ 0.16 in) or non-angular granular material, level and compact.



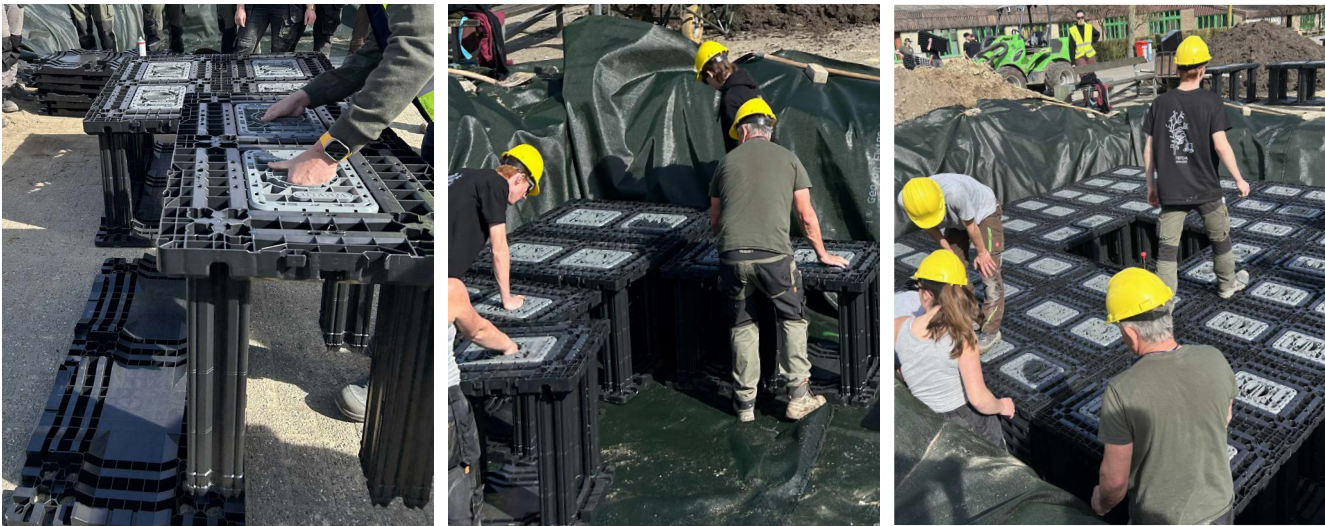
3.2 Geotextile, metal grid & straps

- 3.2.1 Lay the geotextile over the base and up the sides of the trench. An additional 20 in should be left in order wrap over the TreeTank system.
- 3.2.2 Mark the tree planting location in the pit (according to the design details).
- 3.2.3 If specified, lay the anchor grate or steel reinforcement mesh on the geotextile where the tree is to be planted. This should be sized so that it is a least 12 in wider on all sides than the open area of the tree pit.
- 3.2.4 If straps are being used to secure the tree, feed them under the mesh. at the specified position. They should be secured so they can be accessed and positioned later in the installation process.



3.3 Unit installation

- 3.3.1 Pre-assemble bottom plate to the base unit.
- 3.3.2 Start at one corner of the TreeTank system, according to the design detail.
- 3.3.3 Ensure the first unit positioned is squared in the excavation and then position the remaining units ensuring the integrated connectors are engaged with each adjacent unit and remembering to leave the specified open area clear. This should align with the planting position of the tree.
- 3.3.4 Once installation of the units is complete fit the side plates around the perimeter of the installation. If required side plates can be cut in half to cover half a unit. If using a half panel, ensure that the cut edge is not positioned on a corner.



3. Installation

3.4 Backfill and compaction – single layer units

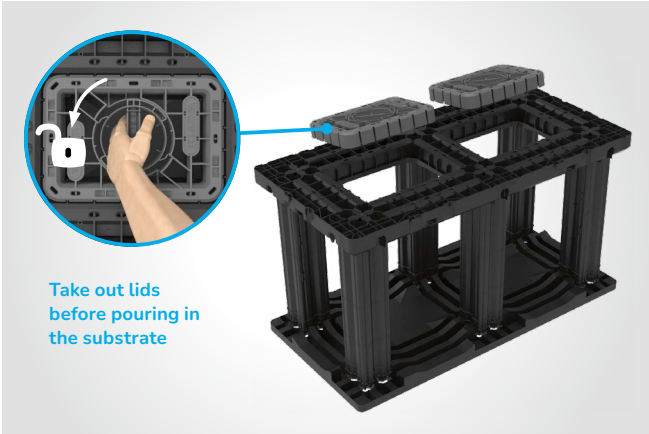
Note: For double layer units go to double layer chapter.

- 3.4.1 Fold the geotextile neatly up the side and on to the top of the installed TreeTank units. If necessary, it can be held in place with sandbags or other ballast.
- 3.4.2 Backfill and compact around the TreeTank system according to engineers' specification.
- 3.4.3 Once backfilling is complete the geotextile should be folded back so that the top of the TreeTank top now is fully accessible.
- 3.4.4 Fill the tree pit with substrate until the level of the top of the units, do not compact the soil.
- 3.4.5 Where straps are being used to secure the root ball of the tree ensure they remain accessible
- 3.4.6 For safety reasons consideration should be given to covering the open area during whilst the remaining works continue.



3.5 Filling of TreeTank units with growing substrate

- 3.5.1 Starting with the units immediately next to the tree opening. Remove the two opening covers by twisting the handles (anti-clockwise) and lifting them out.
- 3.5.2 Position the TreeTank fill funnel into the openings and fill the units via the funnel. Ensure the substrate has reached as far into the box as possible. You can use a spade for this purpose. The substrate should form a cone.
- 3.5.3 Remove the lids of the next unit to fill with substrate
- 3.5.4 Remove the funnel and reposition it over the new opened unit
- 3.5.5 Cover the already filled unit with 2 lids . Place back the lids into the unit and (important for safety!) rotate the handle clockwise until it clicks to ensure it is locked in place. This ensures there is no trip risk from unlocked lids nor fall risks into open areas without lids.
- 3.5.6 Repeat the filling process on the remaining units working from the tree opening outwards.



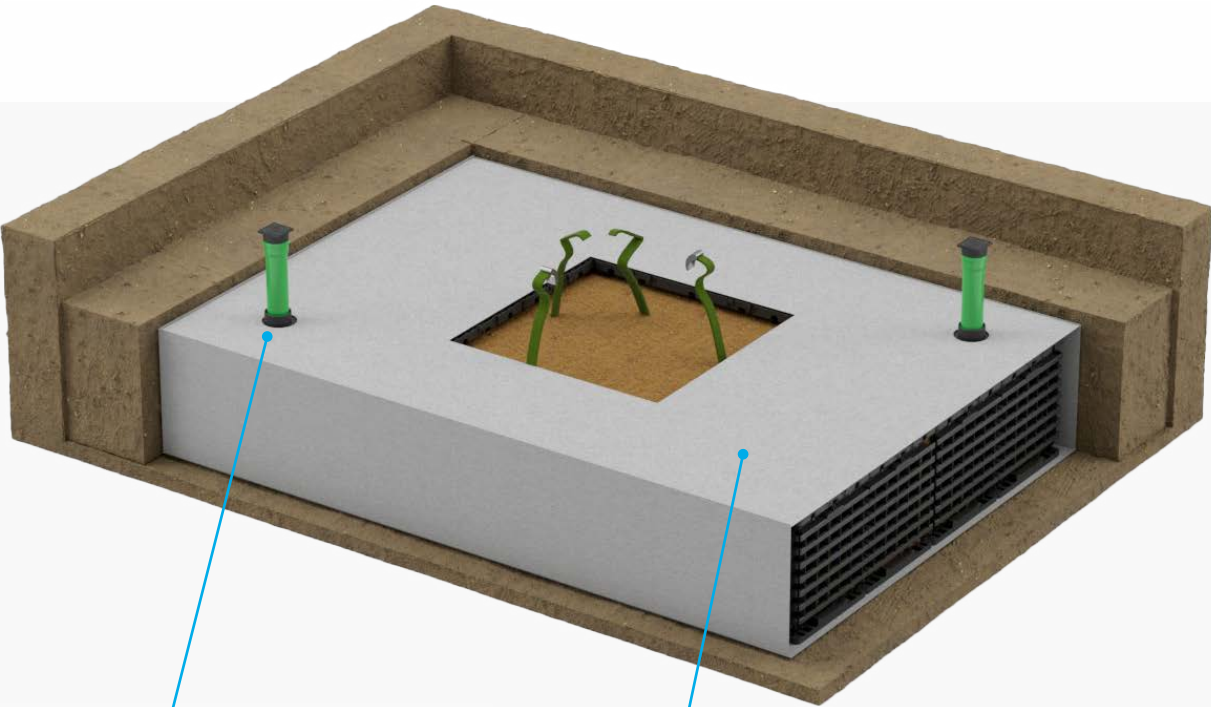
3. Installation

3.6 Geotextile wrapping

- 3.6.1 Fold the geotextile over the filled TreeTank system ensuring all the covers are replaced. Ensure there is sufficient overlap on top of the TreeTank to completely cover the system.

3.7 Ventilation shaft installation

- 3.7.1 Mark the position of the vent on the geotextile – cut a cross in the geotextile to allow access.
- 3.7.2 Open the geotextile and place the ventilation connector plate on top of the TreeTank and beneath the geotextile. Reposition the geotextile ensuring that it is overlapping sufficiently.
- 3.7.3 Install the ventilation shafts & covers as the part of the backfilling operation.



Install ventilation shafts in opposite of each other

Fill tank with substrate

3.8 Backfilling over TreeTank

- 3.8.1 Place the backfill over the top of the tree tank, level, compact, and finish the top layer of according to the finishing surface guidelines in the design details.
- 3.8.2 Care should be taken that the TreeTank should not be trafficked with machinery until the backfill is in place.



3.9 Two-layer systems

Preparation and excavation remain as for a single layer installation. The excavation will be deeper so may require additional safety works.

Installation remains the same as single layer installation up to point 3.4.2.

To install the second layer:

- 3.9.1 Starting with the units nearest the tree opening remove the covers from layer one and position the layer two unit directly over the layer unit. No base plates are required in layer two.
- 3.9.2 For safety reasons work from the inside to the outside removing the covers from layer one and placing the second layer units. Continue until the second layer is complete.
- 3.9.3 Install side plates around the outside perimeter of the second layer.
- 3.9.4 Fold the geotextile Fold the geotextile neatly up the side and on to the top of the installed tree tank units. If necessary, it can be held in place with sandbags or other ballast.
- 3.9.5 Backfill and compact around the second layer of the TreeTank system according to engineers' specification.
- 3.9.6 Once complete begin the substrate backfilling following the instructions from step 3.4.4.



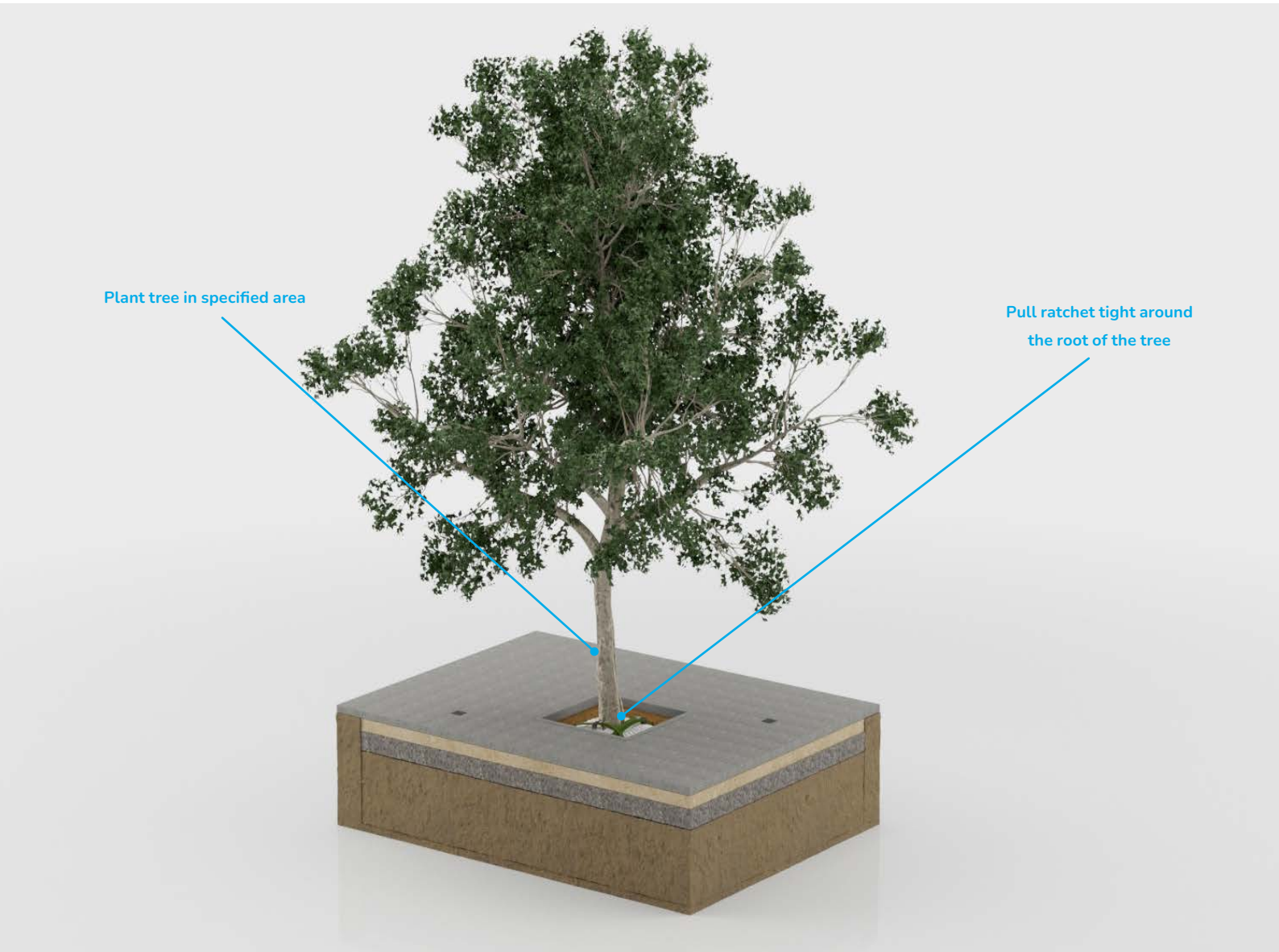
3. Installation

3.10 Tree Placement

- 3.10.1 Excavate a hole large enough to accommodate the root ball of the tree in the open section of the TreeTank.
- 3.10.2 Place the tree in the excavated hole and anchor it securely (if applicable, using the straps already installed).
- 3.10.3 Backfill the tree pit with substrate to ensure proper growth conditions.
- 3.10.4 Finish the surface in accordance with the project design.

3.11 Regulatory Compliance

- 3.11.1 All work must adhere to relevant health and safety standards and applicable local construction regulations.



4. Storage & handling

General transport instructions

To ensure the integrity and support the functionality of Wavin TreeTank, care must be taken to ensure proper transport and storage. Transport should generally only be carried out using suitable vehicles. All components must be adequately secured against displacement during transport and protected against damage and impact stresses. When bracing components, deformation of all elements must be ruled out.

Crowbars and bars for moving individual pallets as well as chains and ropes for transport are generally not permitted. Furthermore, the loading and unloading process may only be carried out using suitable means of transport, machines and lifting equipment (forklift trucks with wide fork supports or special crane vehicles) and under expert supervision. To avoid external damage, the hollow infiltration bodies should carefully be picked up with the forks of a forklift truck. For the loading and unloading of individual components, we recommend textile lifting straps or, if necessary, unloading by hand. Unprotected unloading is not permitted in any case.

Moulded parts and accessories, provided they are delivered on pallets or in pallet cages, can also be labelled with a special label. be unloaded onto a designated vehicle (e.g. forklift truck). If they are delivered individually, they should also be protected or unloaded by hand.



Caution: Avoid dropping, dropping and hitting the hollow infiltration elements hard against each other!

Storage of Wavin TreeTank hollow core drainage elements and accessories

Wavin TreeTank hollow infiltration units can generally be stored outdoors. However, the outdoor storage period should not exceed one year and should be carried out in accordance with the following instructions. Proper storage is essential to prevent damage to and contamination of the Wavin Q-Bic Plus LC infiltration tile and its accessories. As during transport, elements must also be secured against shifting during storage and protected against damage and impact stresses. For this purpose, the elements should be stored on a level, solid surface and never near trenches or slopes. In this way, additional one-sided loads can be excluded and the risk of a pallet tipping over can be avoided.

Palletised elements can be stored stacked. Over-Moderate stacking heights should be avoided. In general, the stacking height for palletised elements should not exceed the delivery height of 111.4 in (± 9.3 ft). If there is a risk of storms, the packages should be secured and, if possible, not stacked!

Individual elements must be stored on a safe base (without sharp-edged objects) and secured against bending and tipping over.

To ensure the functionality of elements and accessories, they should not be exposed to direct sunlight (heat on one side) or stored unprotected at sub-zero temperatures. In this way, thermoplastic deformation and freezing to the floor can be avoided.

If seals are included in the scope of delivery and delivered wrapped in film, the packaging must only be removed immediately before use in order to provide the seals with additional protection against mechanical and chemical influences.

Incoming and final material inspection

Hollow infiltration bodies and accessories included in the scope of delivery such as manhole components, pipes, pipework components, moulded parts, etc. must be checked for damage and completeness upon delivery. Subsequent claims cannot be asserted. All components must be carefully checked both on delivery and immediately before installation to ensure that they are not damaged.



Attention: Damaged elements or components must be replaced; contaminated elements or components must be cleaned before reuse. The relevant safety regulations for the construction industry apply.

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