

Future Proofing the Urban Environment

The changing Role of trees in Climate-adaptive cities

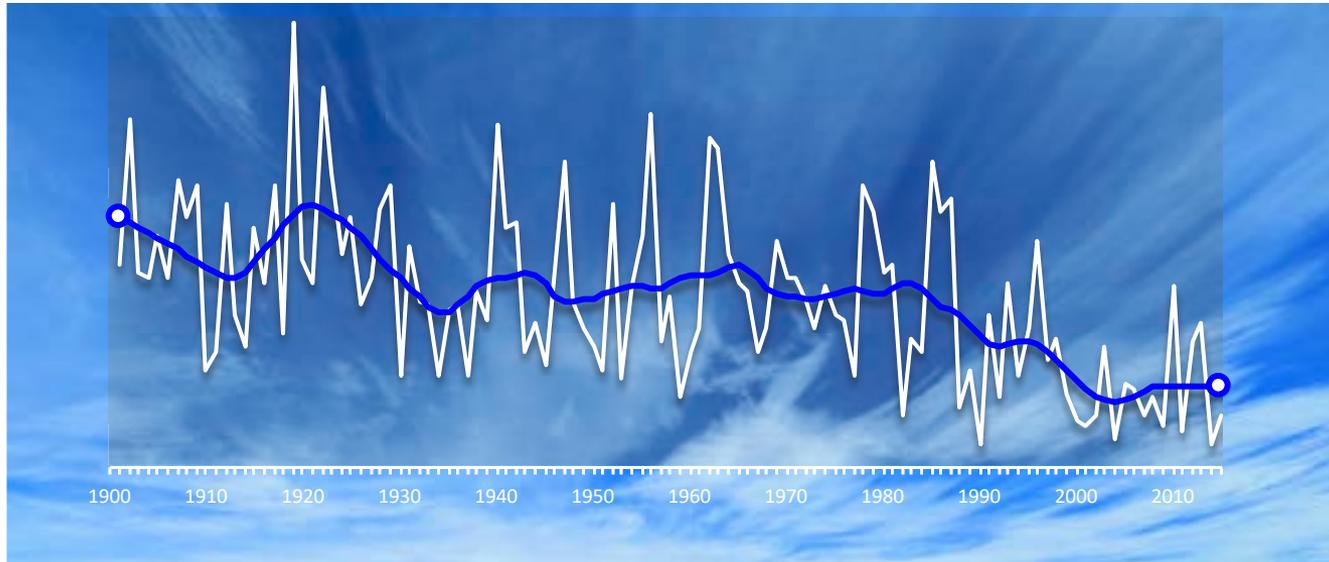
Joris Voeten - Urban Roofscapes



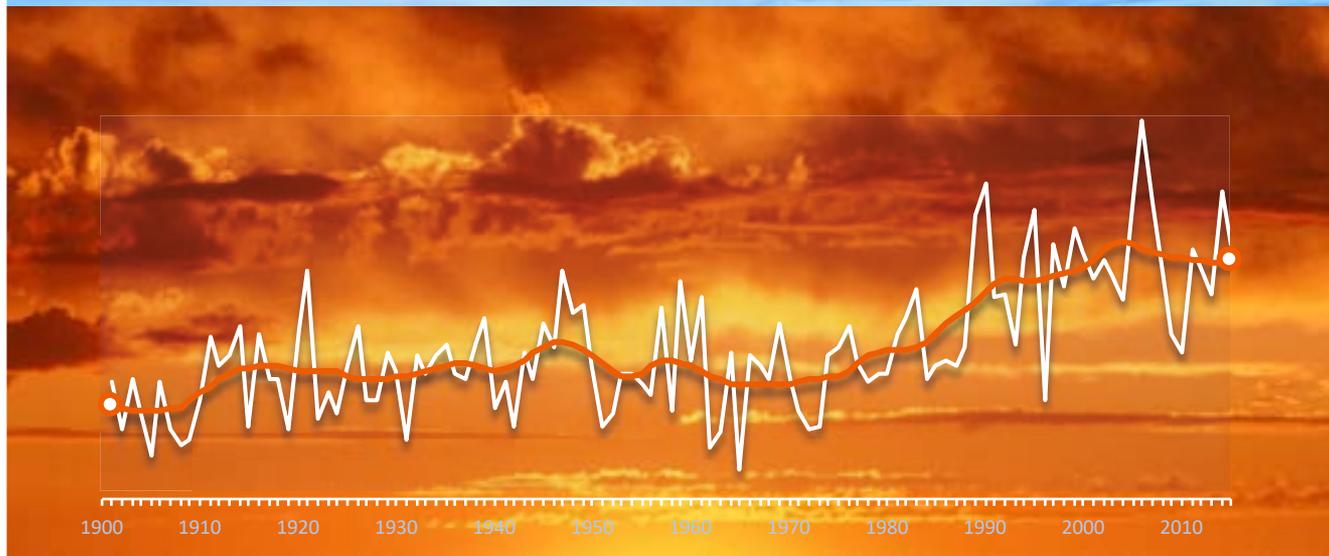
PLANES, TRAINS AND AUTOMOBILES







Extremely cold days



Extremely hot days

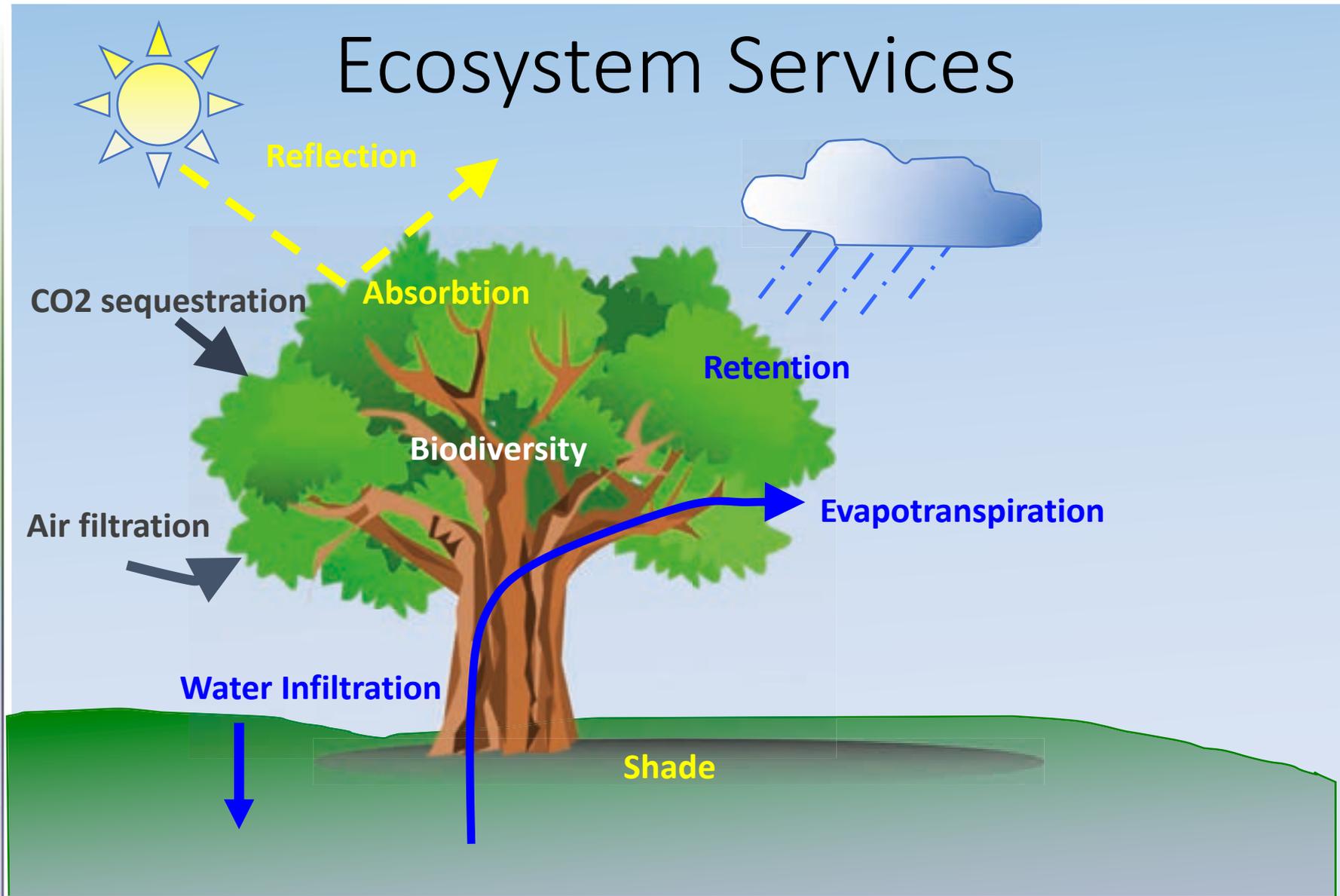






Part of the solution:
Nature's wonder, the tree

Ecosystem Services



How to include trees

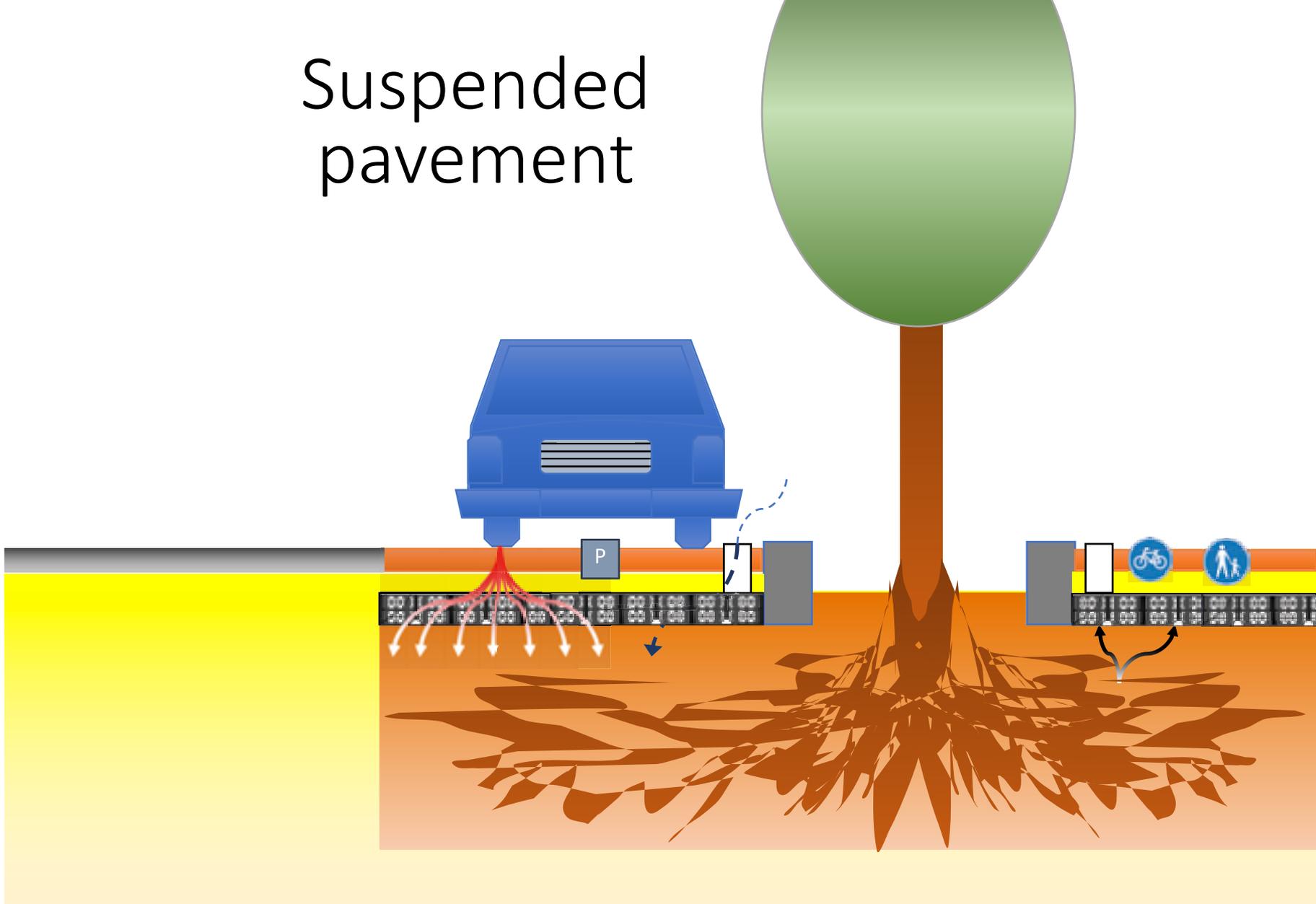
in a healthy city?

Start at the roots

Creation of rootable space

Suitable soils

Suspended pavement

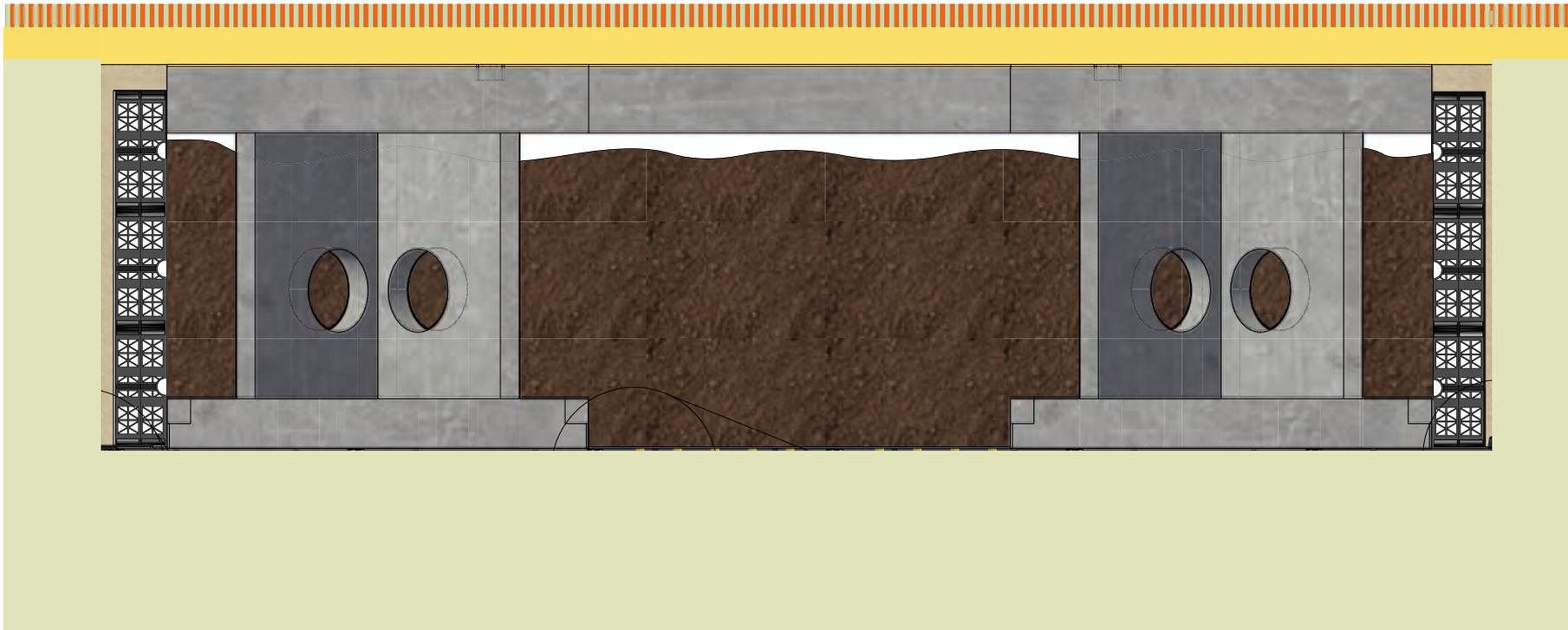


Permavoid ArborRaft





Treebox HP



Treebox HP



Amsterdam, Rijnstraat

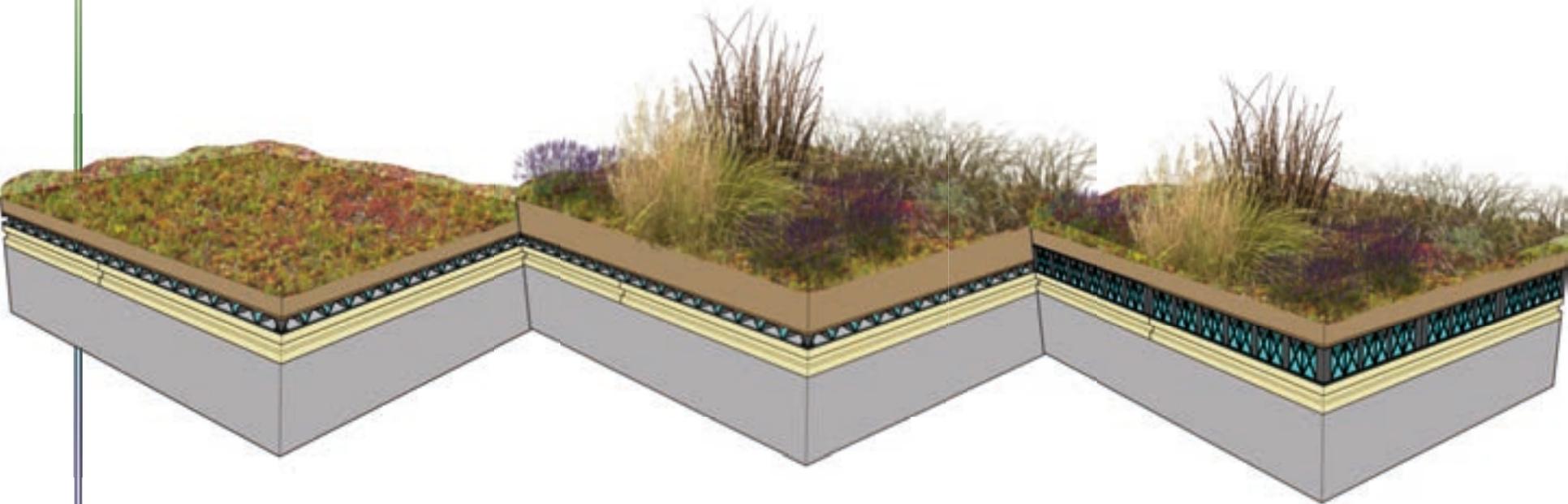


Water

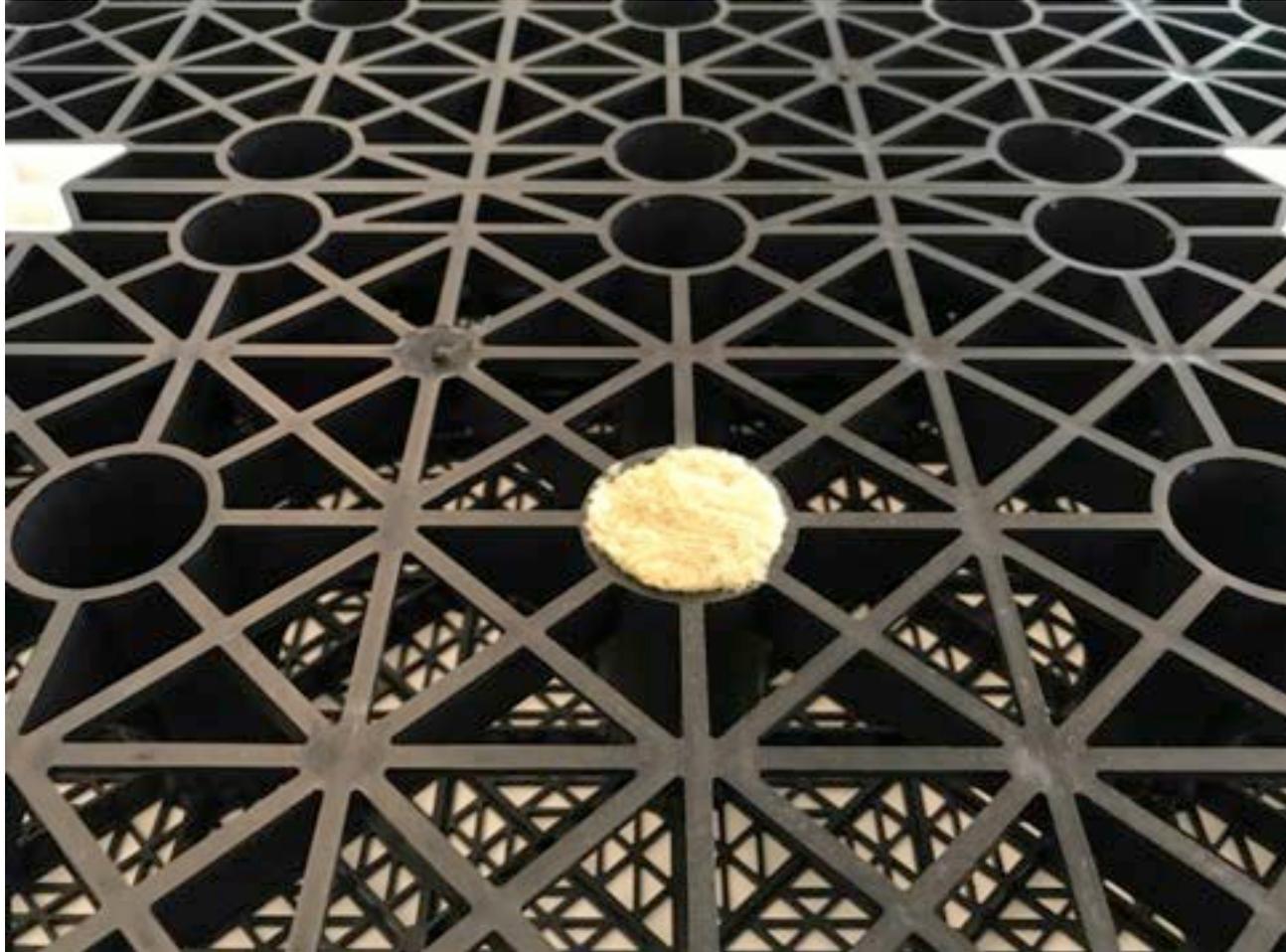


To the roof!

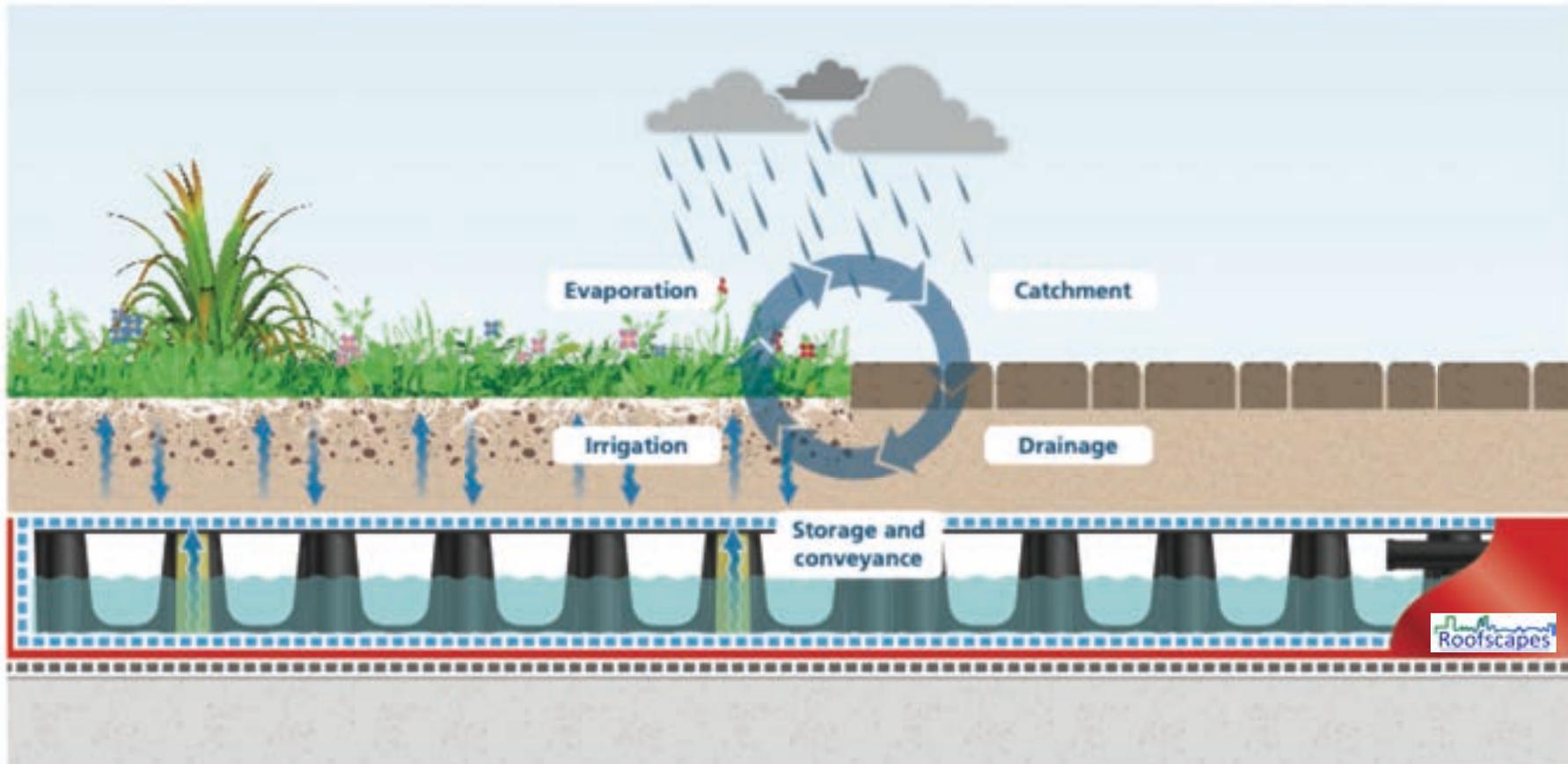
Evolution from Green to Blue-Green roofs



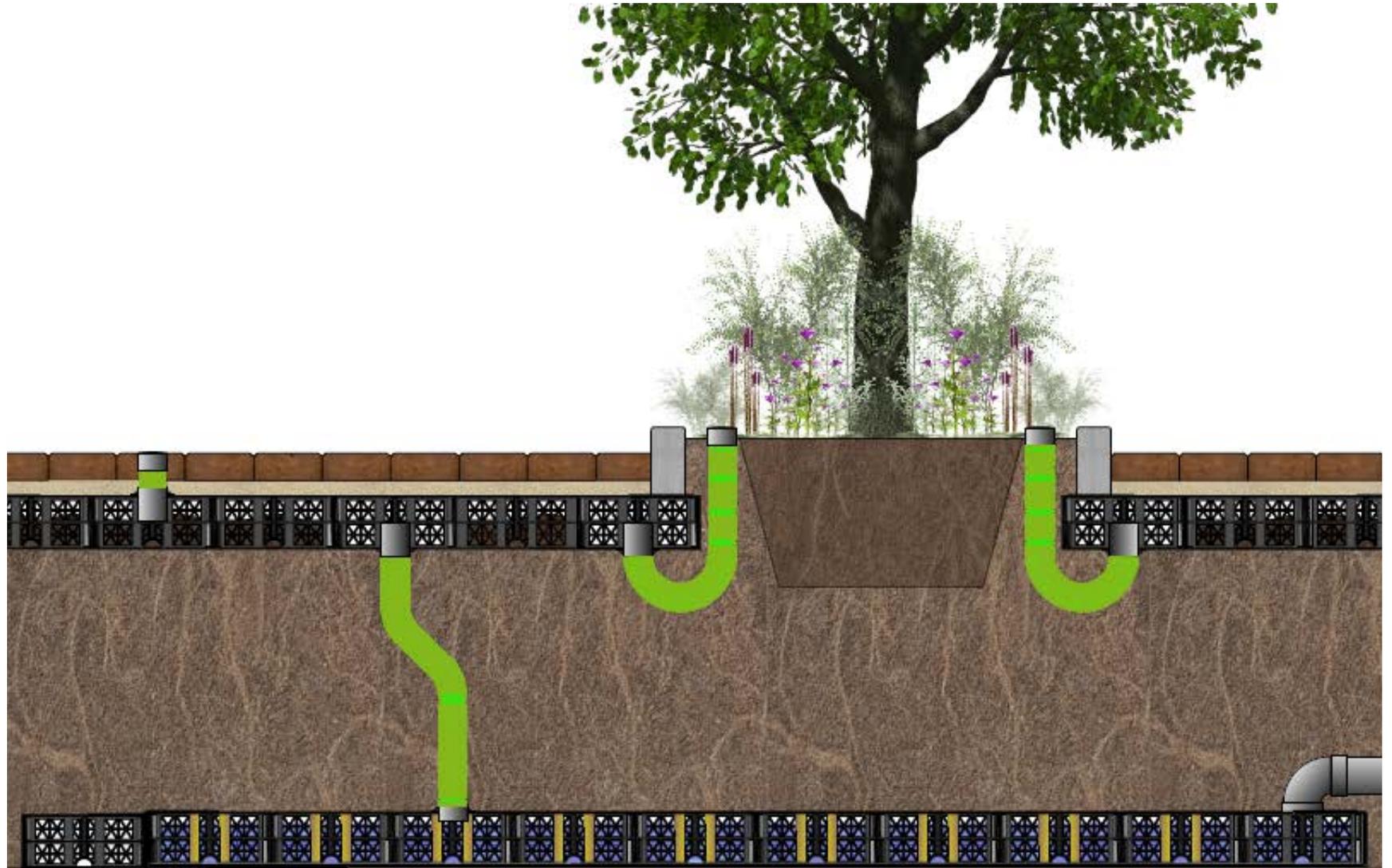
Capillary irrigation



On-site circular water management



Nature based solution







Tree Square IJburg, Amsterdam



Amsterdam IJburg, Tree Square



Treesquare IJburg, Amsterdam

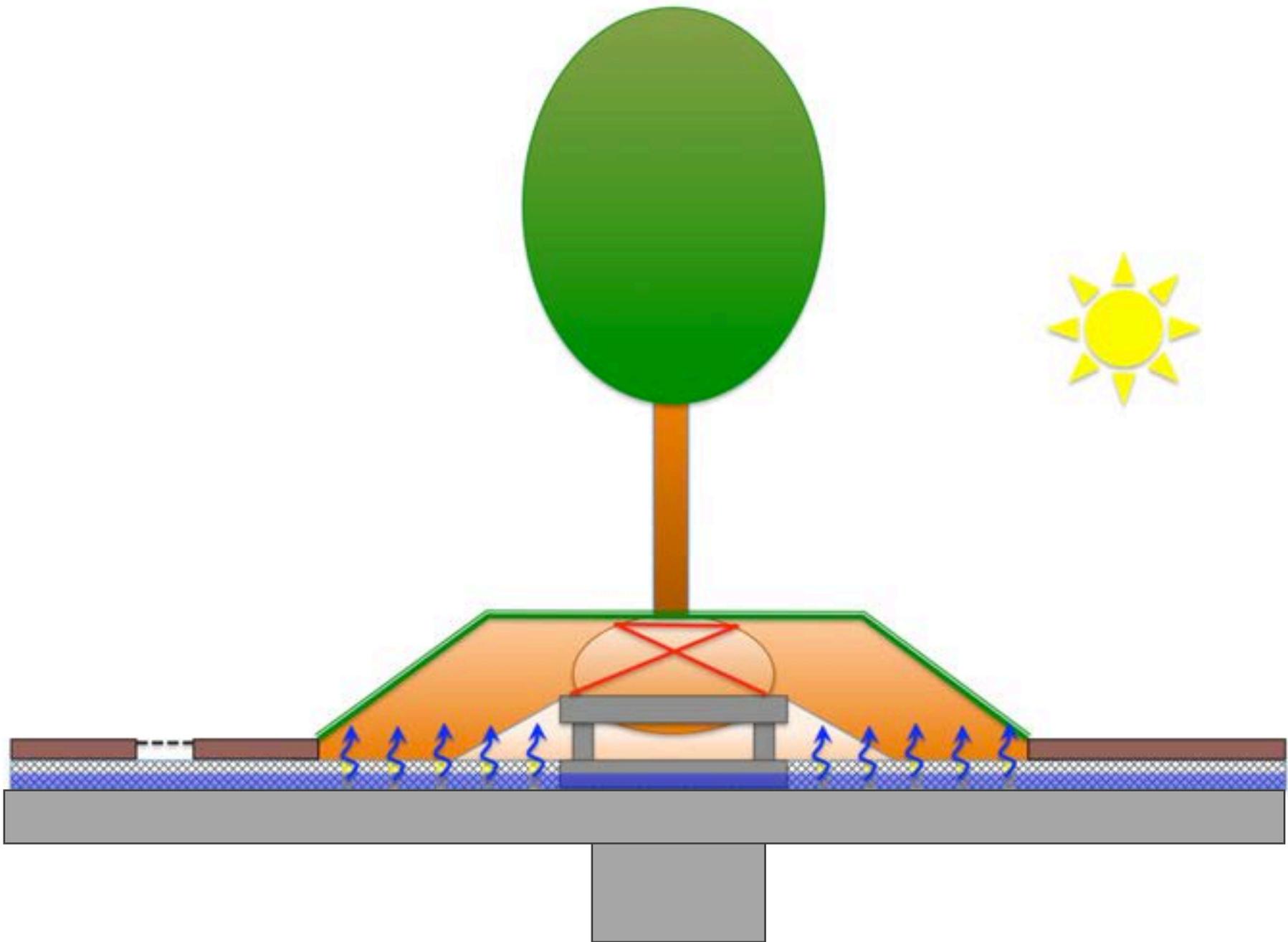


Figuur 4. Impressie



Heerlen, Moon-square





Maankwartier Heerlen



June 2017





A tree is never just a tree



But it's not always *about* the tree

To reinforce the tree's role in the urban environment:

- Not just nice -> Urban cooling, heat island mitigation, adiabatic cooling, BTU's
- Not just infiltration -> groundwater recharge capacity
- Not just evaporation -> pumping, sewer capacity reduction
- Not just SUDS -> rainwater *harvesting* for on-site re-use
- No longer *discharge* -> circular rainwater management
- Rain no longer a nuisance, but a resource
- Reinforcing the other *functional* resource, our urban forest!!

Transition in the role of urban trees: From '*nice*' to '**necessity**'

Transition in the role of the Arborist:

*'The urban-tree services supplier and
protector thereof'*

Cities that function like ecosystems





**THANK YOU
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