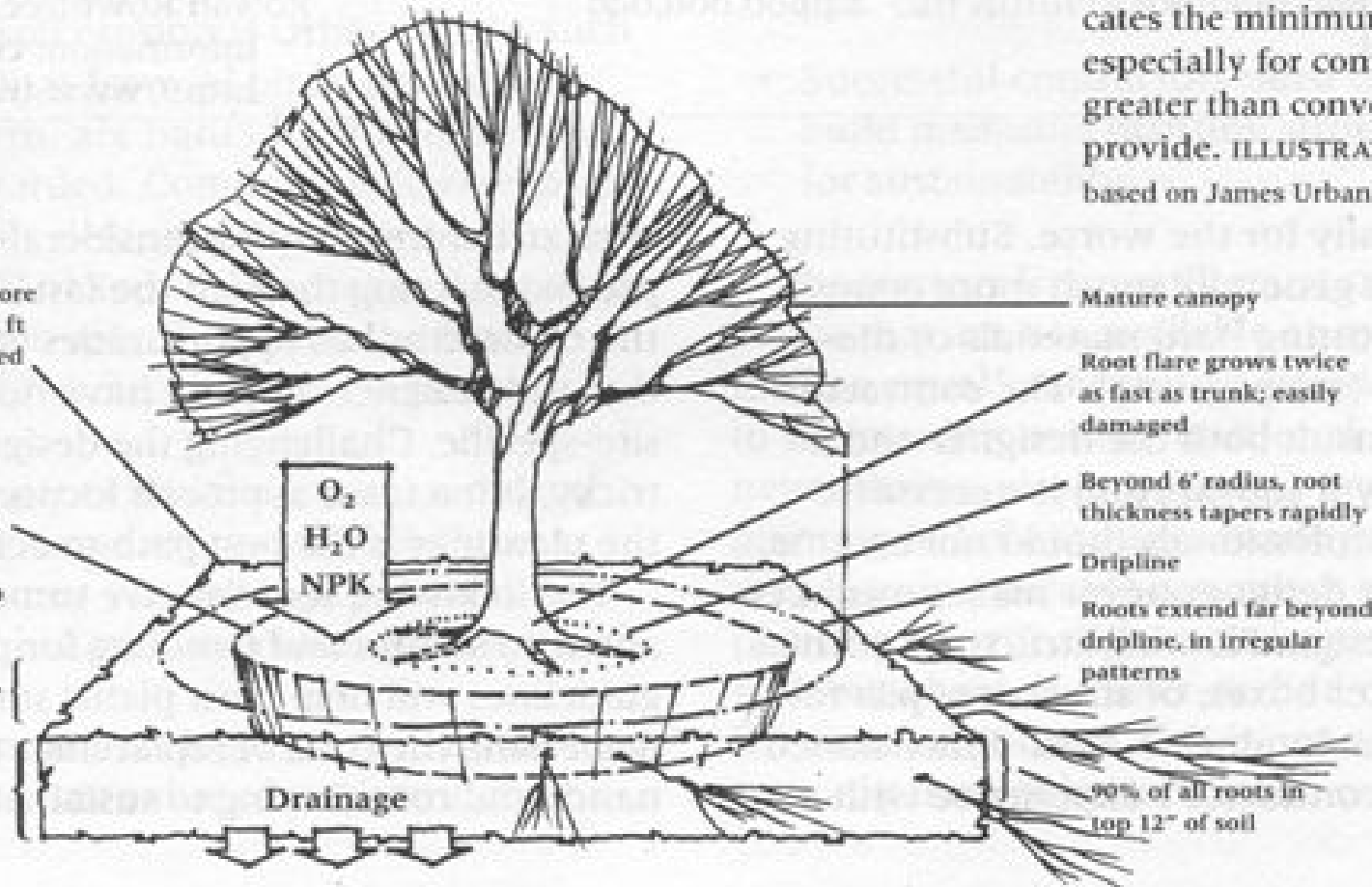


Figure 3.18. Root volume requirements for trees. Recent research indicates the minimum soil volume, especially for contained plantings, is greater than conventional standards provide. ILLUSTRATION: Craig Farnsworth, based on James Urban.



Minimum soil for street & container trees:

- width = dripline or more
- never less than 300 cu ft
- porous surface required

Prepared soil volume for uncontained plantings:

- min. 6' diameter
- up to 20' in poor soils

"Freeboard" (between top of planter wall and soil surface) to collect water: 1.5" deep

Depth 18 to 36"—any more is wasted on most trees

Mature canopy

Root flare grows twice as fast as trunk; easily damaged

Beyond 6' radius, root thickness tapers rapidly

Dripline

Roots extend far beyond dripline, in irregular patterns

90% of all roots in top 12" of soil

O₂
H₂O
NPK

Drainage