

1 Tree Planting Strategy on Campus

Using the information in the Annexe, define a strategy to plant new trees on the Place Cosanday (EPFL):

Step 1 – Planting Objectives

- Chêne chevelu (f) Austrian oak (en)
Plant between 3 and 5 individual trees to enhance tree silhouette and the canopy cover on site.
- Erable de Montpellier (f) Montpellier maple (en)
Plant between 5 and 10 Alley trees in a row to provide shade on the amenities and walkways.
- Cornouiller mâle (f) European cornel (en)
Plant between 10 and 15 trees to complete canopy cover near buildings or along footpaths.

Step 2 – Site Assessment

For each type of tree, define a planting strategy as a means to achieve the planting objectives. Discuss in particular the following questions:

- a) How would you assess the current state and development potential of the trees and canopy on Place Cosanday?
- b) Which potential planting areas are most suitable for mitigating the urban heat island and/or enhancing ecological connectivity?
- c) Regarding the identified planting zones, what are the main construction challenges you will encounter?
- d) How do you plan to manage watering and irrigation in the development zones you've identified in the Place Cosanday?
- e) Regarding the identified development areas, what are the main opportunities and limitations of your strategy in terms of social uses for Place Cosanday?

Step 3 – Planting Strategy

Map your planting strategy on the plantation map [2025.04.04_ENV-462_Tree&City_Exercise_Map]



2 Annexes

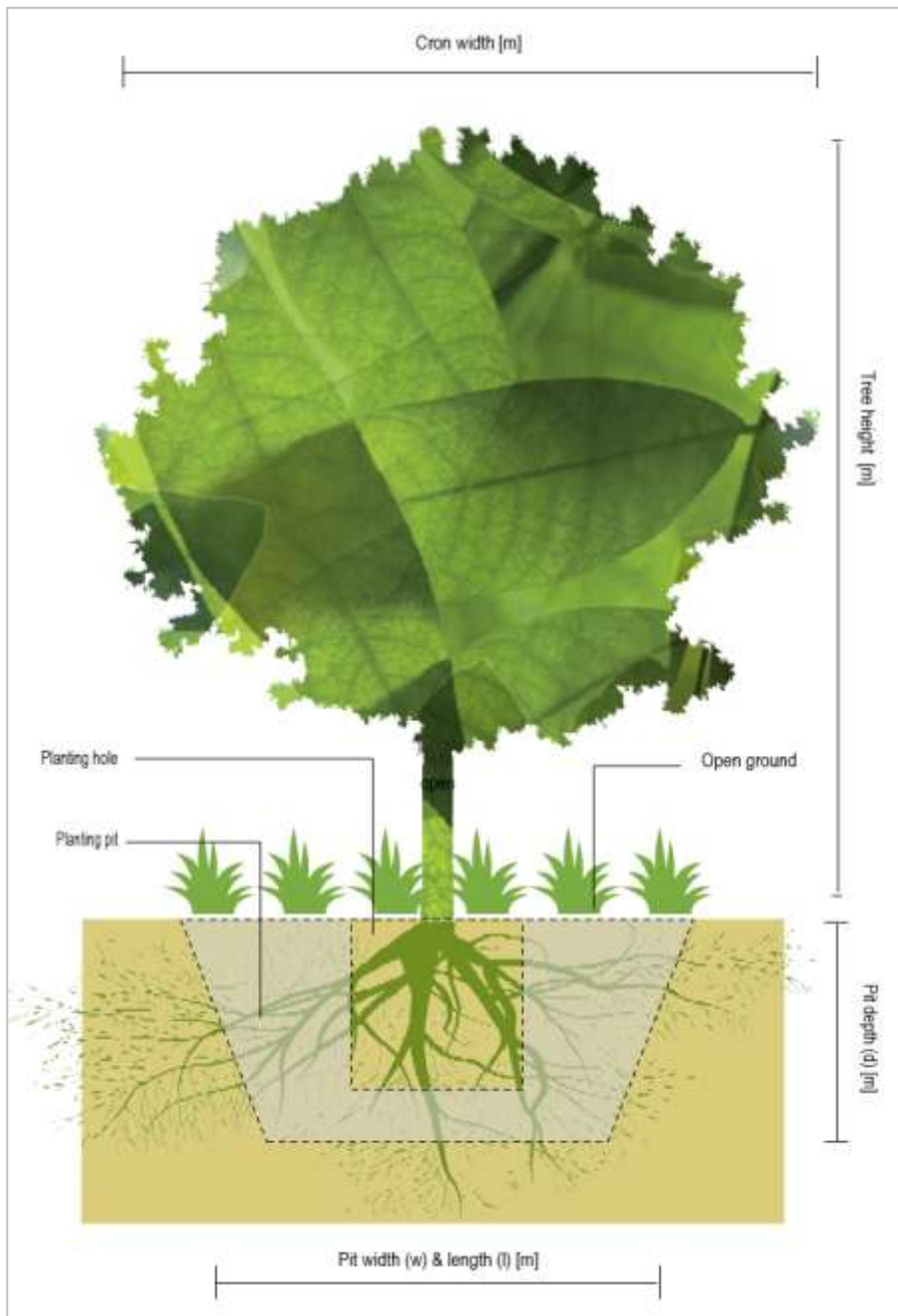
2.1 Tree Description

Tree description	Plantation aim and metrics
<u>Quercus cerris</u> Chêne chevelu (f) Austrian oak (en) (https://en.wikipedia.org/wiki/Quercus_cerris) 	<i>Aim</i> - A significant species to be planted individually in an open area to enhance tree silhouette and canopy cover. <i>Metrics</i> - Tree height: 20-25 meters (65-82 feet) - Crown diameter: 15-20 meters (49-65 feet) - Planting pit (see Figure 1): - width (w) x length (l): 4m x 4m (13x13 feet) - depth (d): 1.5 meters (3.2 feet)
<u>Acer monspessulanum</u> Erable de Montpellier (f) Montpellier maple (en) (https://en.wikipedia.org/wiki/Acer_monspessulanum) 	<i>Aim</i> - Alley trees are planted in rows to provide shade on walkways and complete the canopy cover. <i>Metrics</i> - Tree height: 10-15 meters (32-49 feet) - Crown diameter: 8-12 meters (26-39 feet) - Planting pit (see figure 1): - width (w) x length (l): 3m x 3m (10x10 feet) - depth (d): 1.3 m (3.2 feet)
<u>Cornus mas</u> Cornouiller mâle (f) European cornel (en) (https://en.wikipedia.org/wiki/Cornus_mas) 	<i>Aim</i> - Linking trees to complete canopy cover near buildings or along footpaths. <i>Metrics</i> - Tree height: 5-10 meters (16-32 feet) - Crown diameter: 6-8 meters (19-26 feet) - Planting pit (see figure 1): - width (w) x length (l): 2m x 2m (6.5 x 6.5 feet) - depth (d): 1.0 m (3.2 feet)

2.2 Plantation Sizing and Metrics

- Key parameters for this exercise are the “tree height” and the “crown width”.
- The planting pit metrics are informative but not essential for the exercise.

Figure 1 – Plantation sizing and metrics (adapted from *Les arbres à Lausanne*, 2015, p. 23)¹



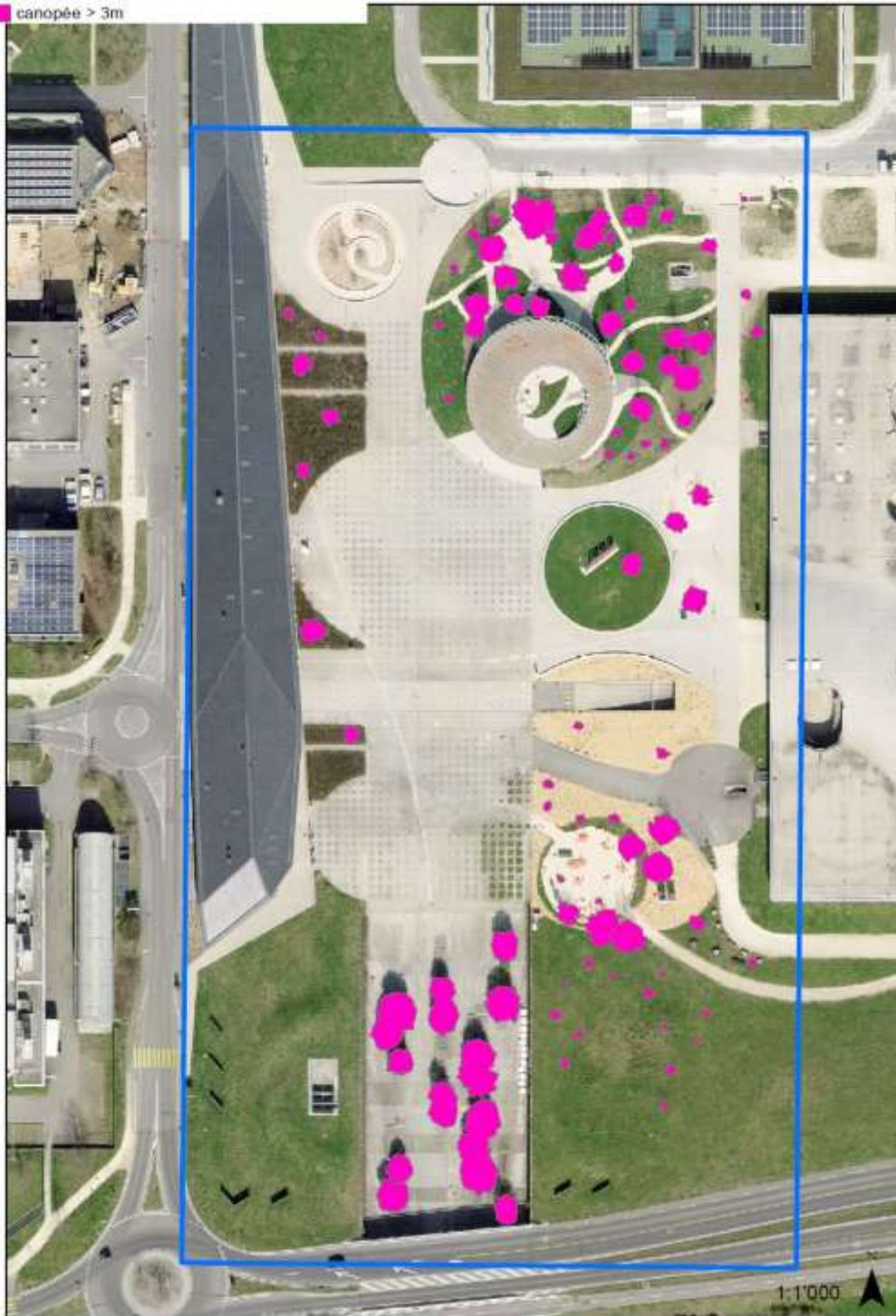
¹ <https://www.lausanne.ch/.binaryData/website/path/lausanne/official/administration/logement-environnement-et-architecture/parcs-et-domaines/publications/les-arbres-a-lausanne/contentAutogenerated/autogeneratedContainer/col1/00/linkList/0/websitedownload/Brochure-LesArbresLausanne.2019-08-20-16-00-03.pdf>

2.3 Canopy Cover

- Project Perimeter (m²) : 30'181 m²
- Canopy cover (m²) : 1'385 m²
- Canopy cover (%) : 4.6%

MNC_TEPF_25cm_MN95_ENV-462_Canopee

canopée > 3m



2.4 Grey-2-Green Strategy: Cost-Effectiveness

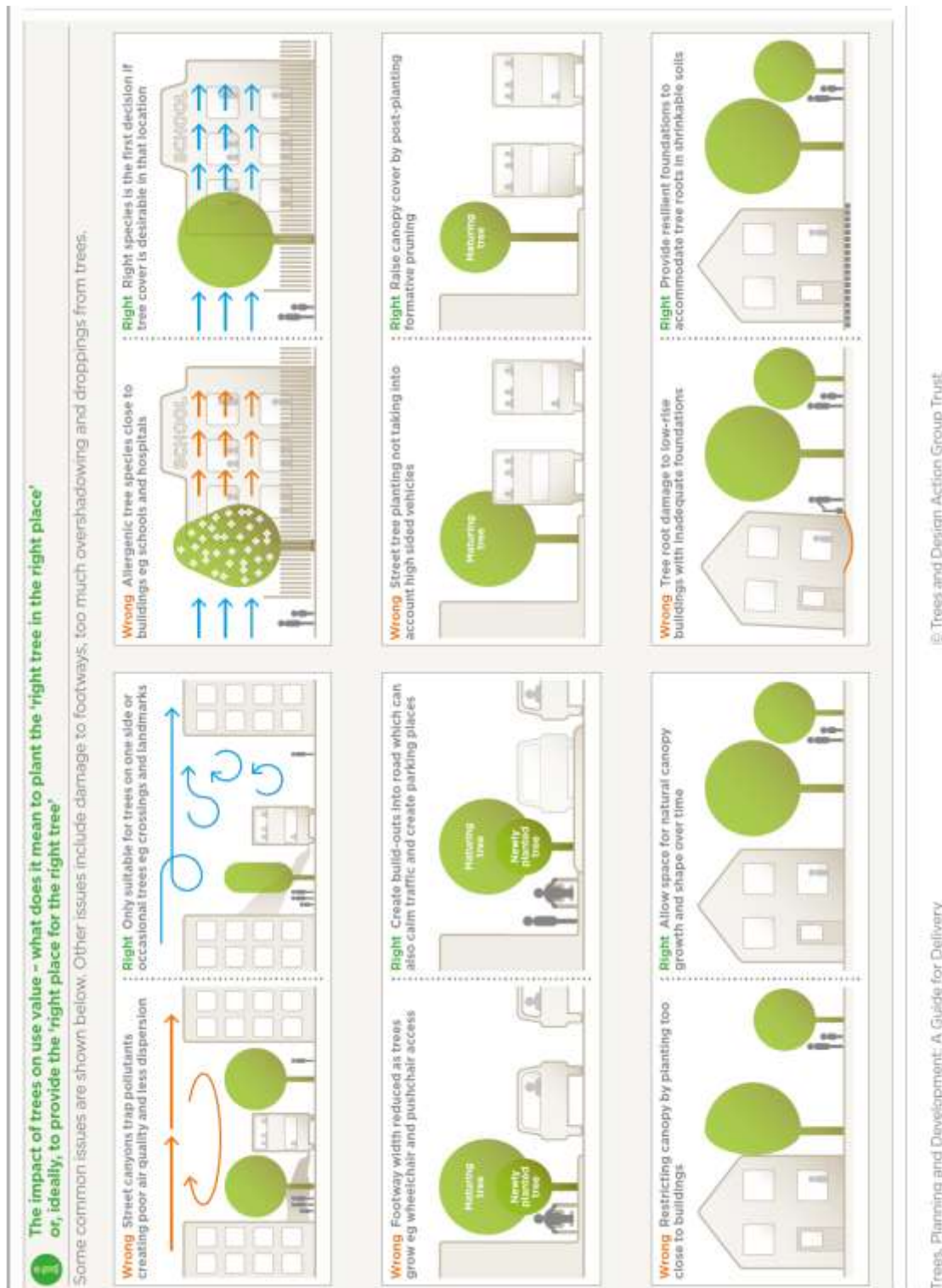
Cost-effectiveness	Surface (m2)	Surface (%)
(1) easy	9'147	31.6
(2) +/- easy	3'423	11.8
(3) difficult	10'747	37.1
(4) impossible	5'641	19.5
Total	28'959	100

ENV-462_Grey2Green Strategy



2.5 The Right Tree in the Right Place

Figure 3 - Plant the 'right tree in the right place' or, ideally, provide the 'right place for the right tree' (TDAG 2023, p.29)²



² TDAG, 2023: *Trees, Planning and Development. Section One: Creating financial, environmental and social value into the future*. Trees and Design Action Group (TDAG), United Kingdom. Online : <https://www.tdag.org.uk/trees-planning-and-development.html>