

Alchemy of Soil

Soil is an entanglement of natural and human histories, formed, layered, and compressed into strata of memory and matter. It is both archive and organism: a living fabric of decay and renewal that sustains the rich complexities of life.

Alchemy of Soil maps the hidden metabolisms of this living ground. Across the garden, soils are gathered and reimagined through a constellation of Winogradsky columns, small glass vessels where microbes grow, assemble, and transform. Over time, their shifting colour bands make visible the quiet alchemy through which microbial life builds and renews the earth. These living samples trace distinct ecological identities within the landscape of Jardins de Métis, mapping the subtle variations of soil, moisture, and life across place.

Around them, planting compositions ripple out echoing their origins. Legumes such as clovers and vetch, plants bound in symbiosis with nitrogen-fixing bacteria, enrich the soil through their transformations, supporting the growth of other native plant species.

A pathway patterned like a cross-section of earth weaves through the garden, its tactile surfaces shifting underfoot. Each step leaves an imprint, a gentle reminder of our entanglement with the living soil beneath our feet.

Proposed plant selection:

Urban habitat

Baptisia tinctoria
Robinia pseudoacacia (Tree sapling)
Melilotus albus
Oenothera biennis
Coreopsis tinctoria
Trifolium pratense

Woodland habitat

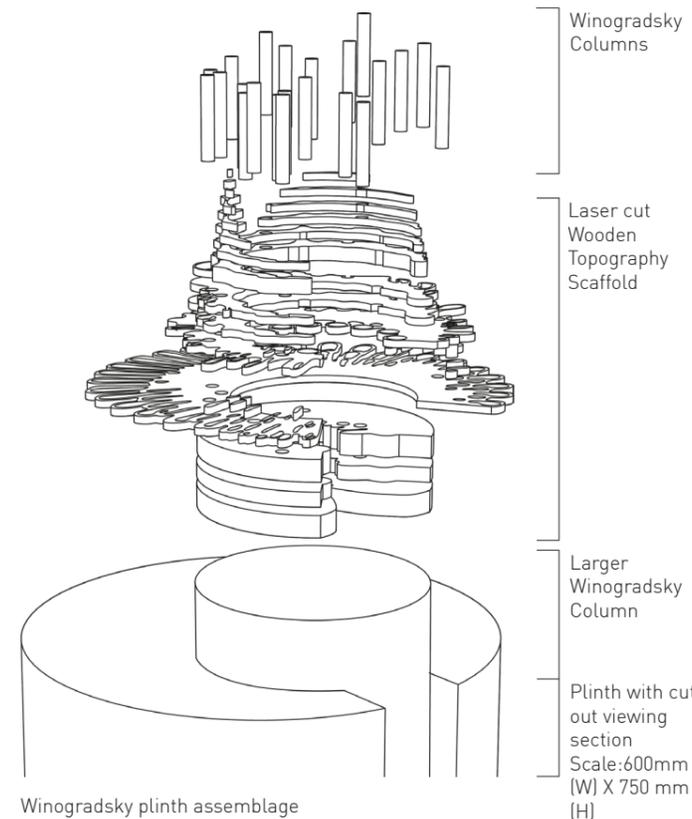
Astragalus canadensis
Amphicarpaea bracteata
Desmodium canadense
Baptisia alba
Betula alleghaniensis (Tree)
Trillium grandiflorum
Matteuccia struthiopteris
Rhododendron canadense
Baptisia alba
Ambrosia artemisiifolia

Riverbank habitat

Vicia americana
Lathyrus palustris
Astragalus canadensis
Asclepias syriaca
Iris versicolour
Sagittaria latifolia
Salix discolor



Perspective: Winogradsky plinth



Winogradsky plinth assemblage



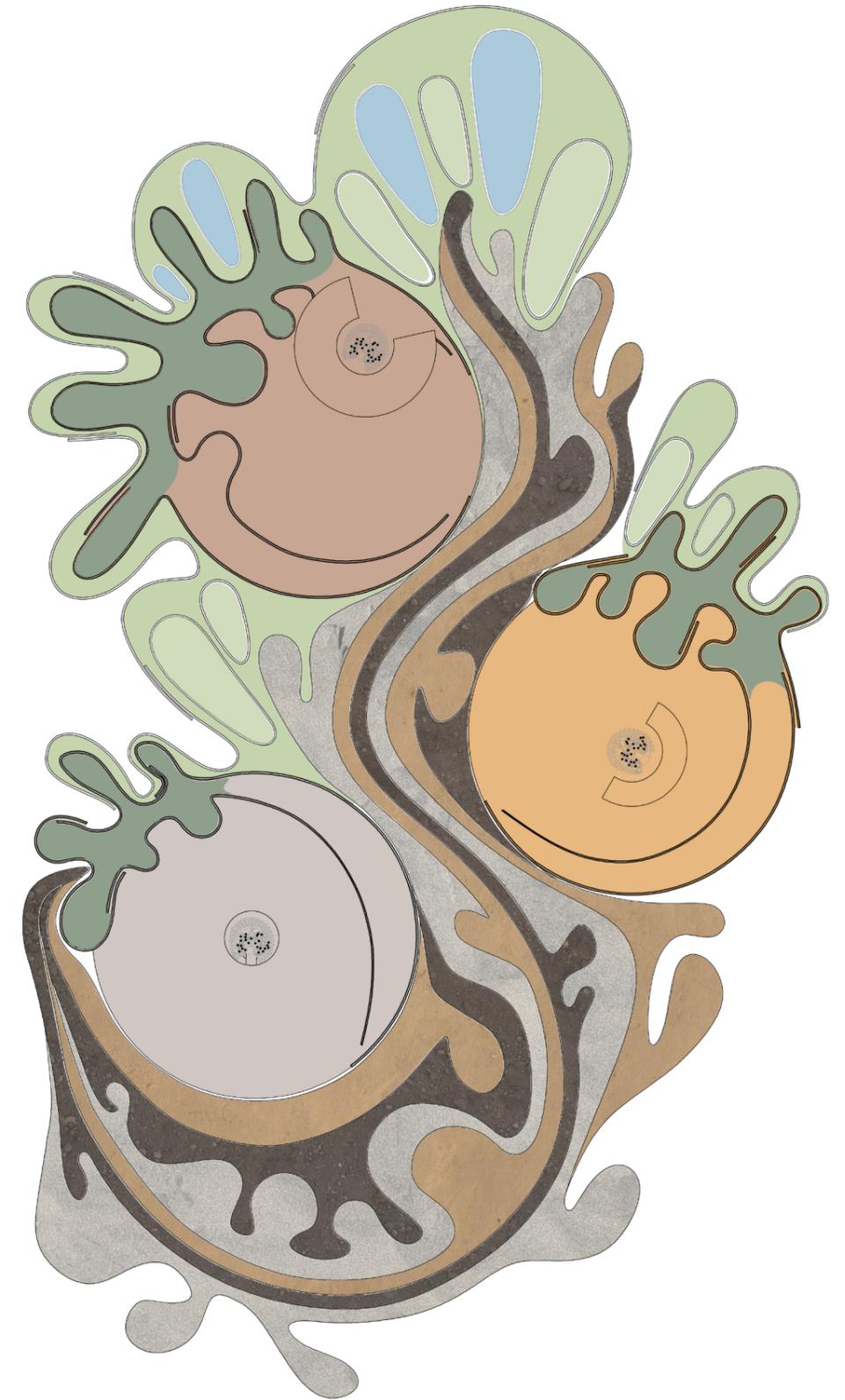
Zone 3: Riverbank



Zone 2: Woodland habitat

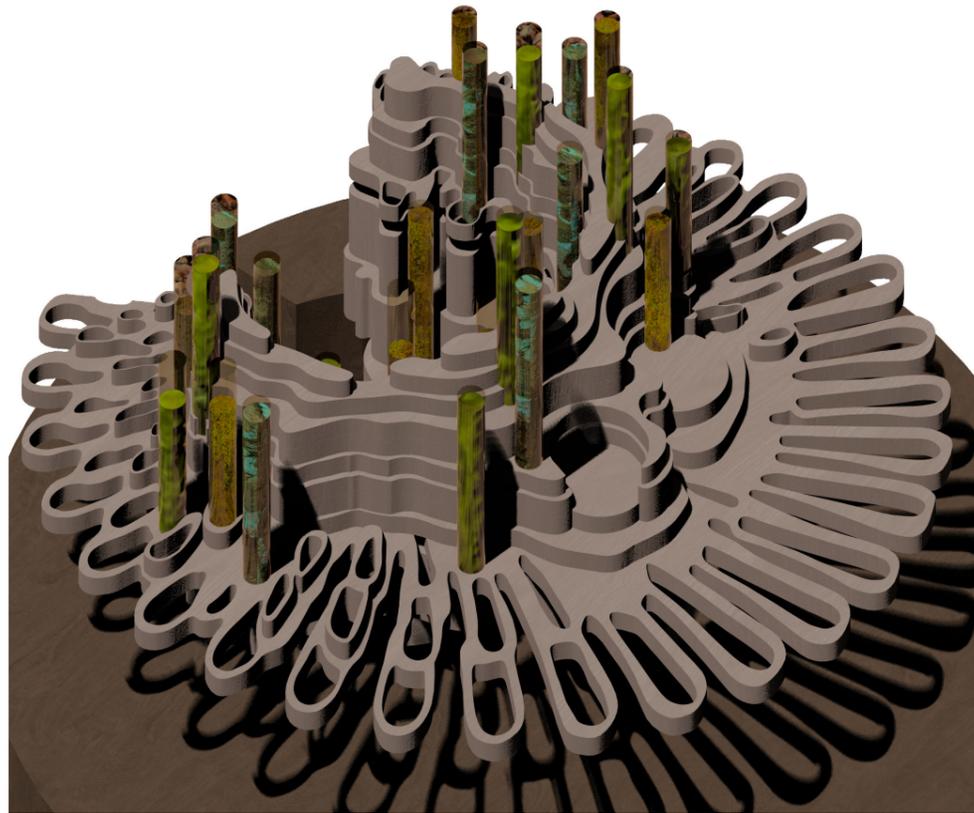


Zone 1: Urban habitat

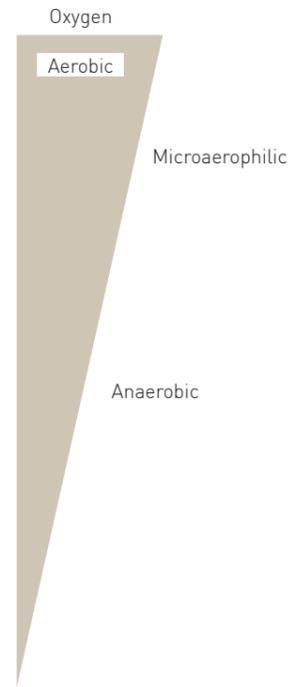


Site Plan
Scale 1:100





- Iron-oxidizing bacteria
- Cyanobacteria
Algae
- Purple and green nonsulfur bacteria
- Purple sulfur bacteria
- Green sulfur bacteria



A Winogradsky column is a simple scientific device used to study microbial life in soil. It consists of a clear sealed vessel filled with soil, water, and organic material. Over time, chemical gradients of oxygen, light, and sulphur form within the column, allowing different bacteria and algae to grow at varying depths, creating visible layers of colour and activity.

In *Alchemy of Soil*, the Winogradsky plinths hold samples of soil and water gathered from three sites across the Jardins de Métis. Over time, the columns transform as microbes grow and assemble, producing unique colourations and patterns that make visible the hidden processes of there location — inviting observation of what is normally invisible.



Close up of visitors interacting and observing winogradsky columns



Perspective garden view