FINAL PROPOSAL / ITERATION 5

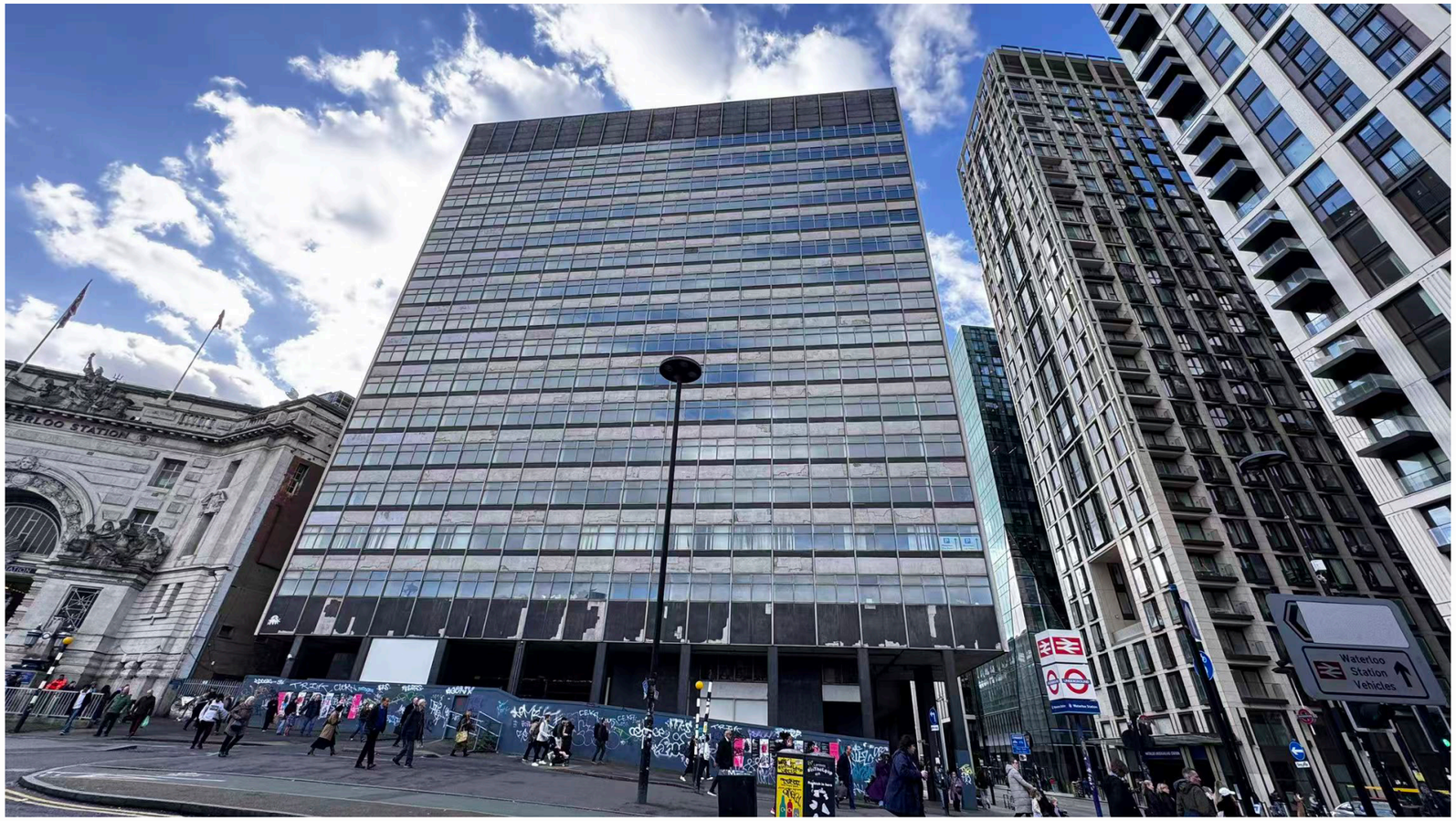
Hydrology-Driven Biological Facade

A multi-material retrofit proposal for Elizabeth House, Waterloo.

Final facade within the existing urban setting. Portfolio p.154.

Elizabeth House and Waterloo Station

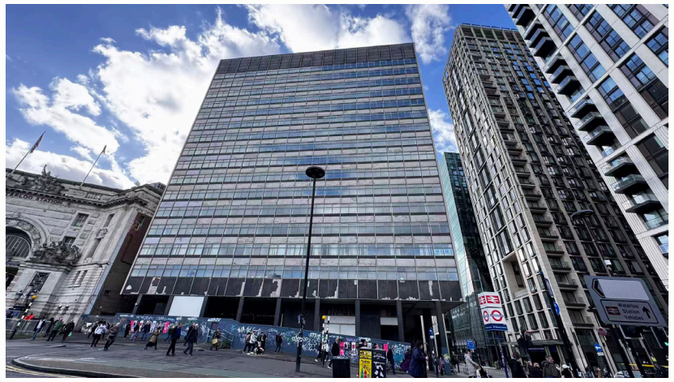
Existing site documentation establishes the context for the proposed retrofit.



The existing curtain wall

The architectural and structural context for the retrofit proposal.

Portfolio p.42 / Site documentation



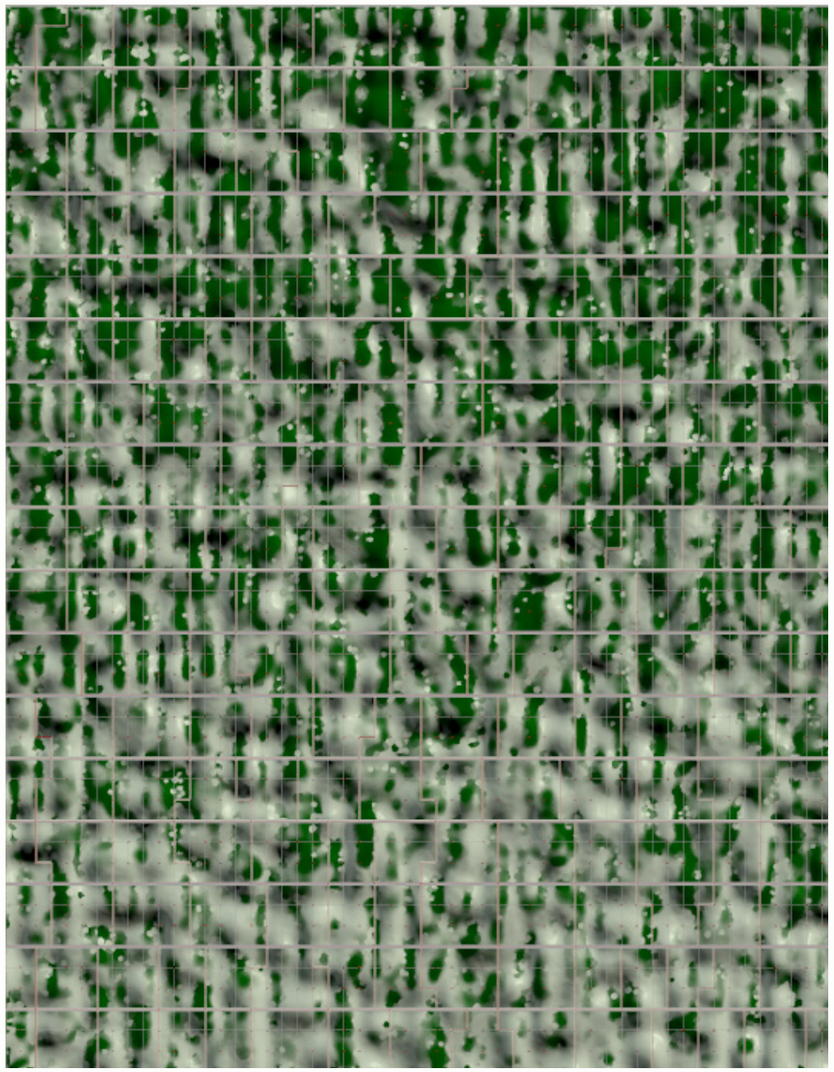
Reading the site in motion

40-second site film
Location, flood-risk readings and the original facade response.

Media/site-introduction-existing-40s.mp4
Based on portfolio pp.42-48.

One Integrated Facade System

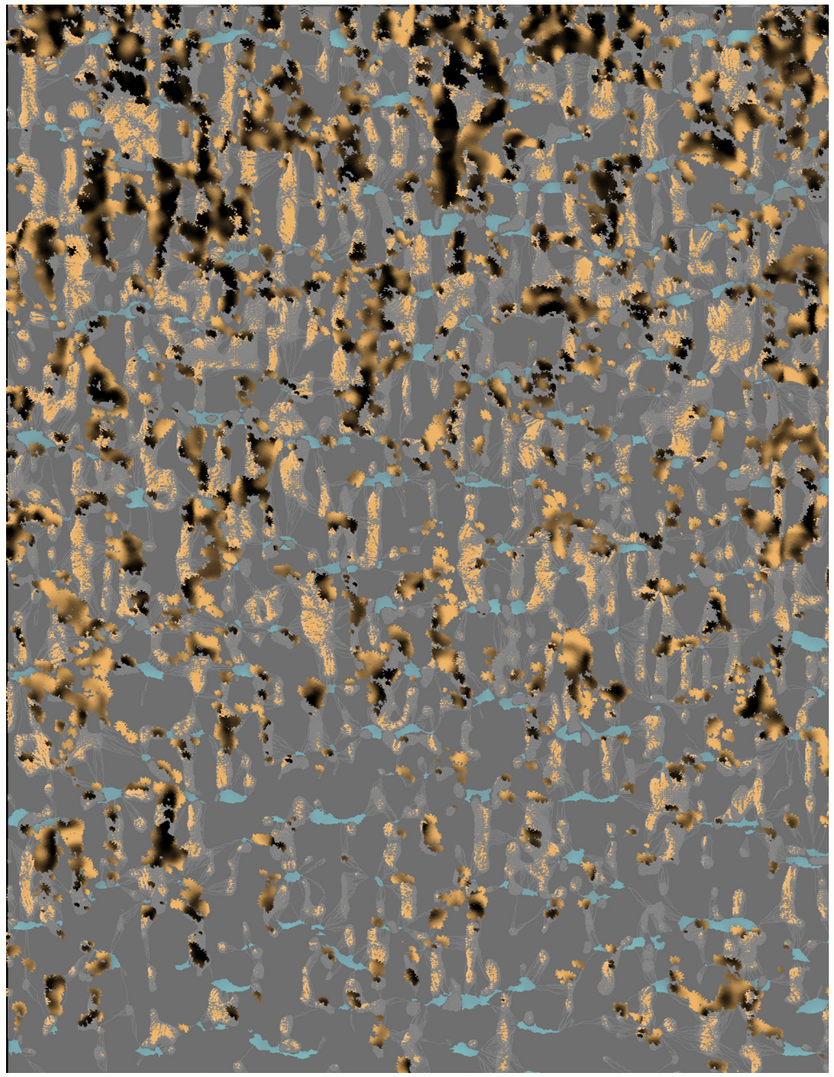
Matched views connect the supporting framework, drainage pipes and branching rainwater network.



Framework and drainage

Drainage routes follow the supporting grid and connection points.

Portfolio p.163 / Final scheme system diagram



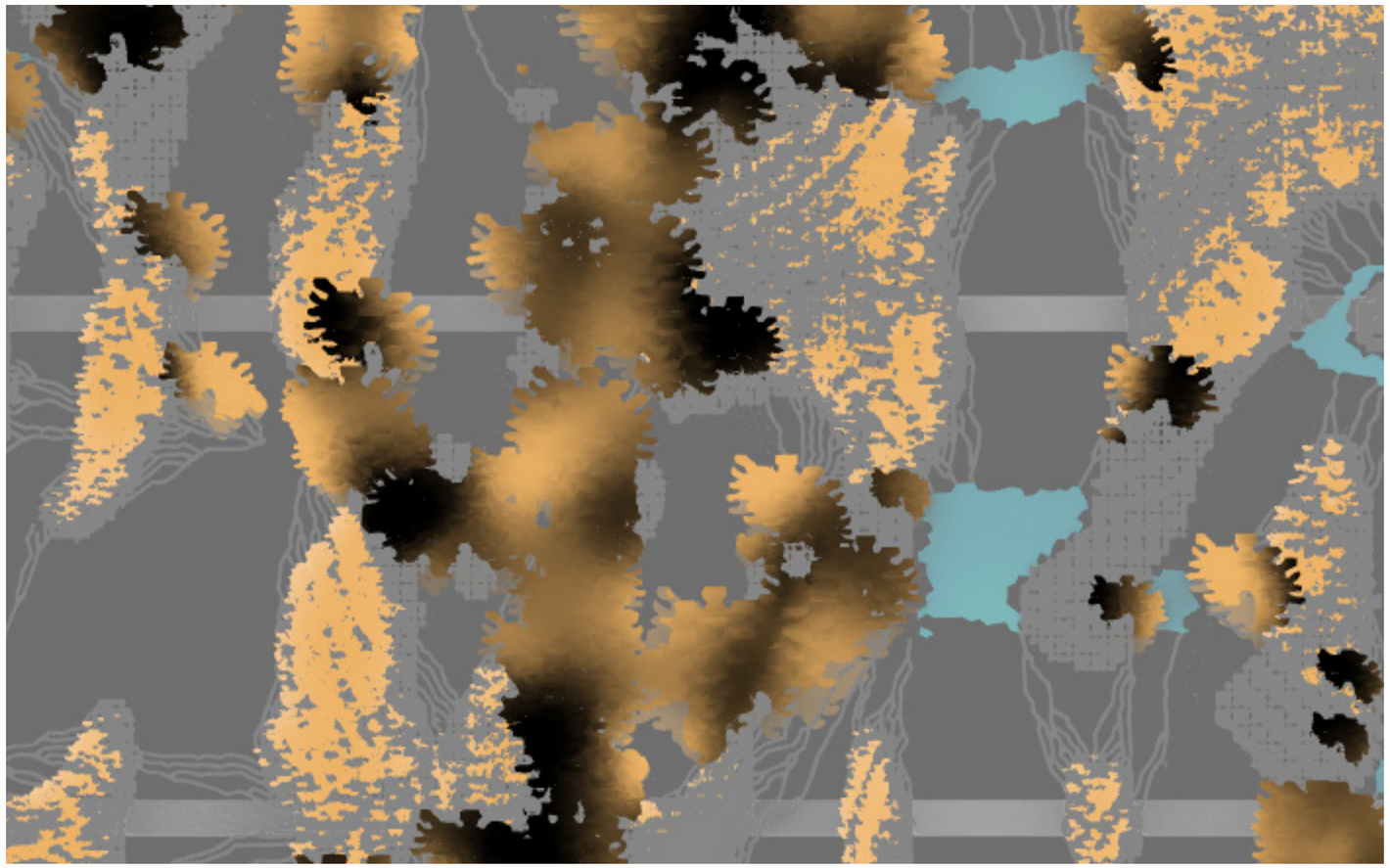
Integrated rainwater network

Blue is diagrammatic coding, not a material finish.

Portfolio p.177 / Final scheme system diagram

The Facade at the Floor Edge

Internal and sectional views relate the proposed facade, supporting grid and floor edges.



Inside the integrated system

Overall internal view and enlarged details. A design study, not a verified construction sequence.

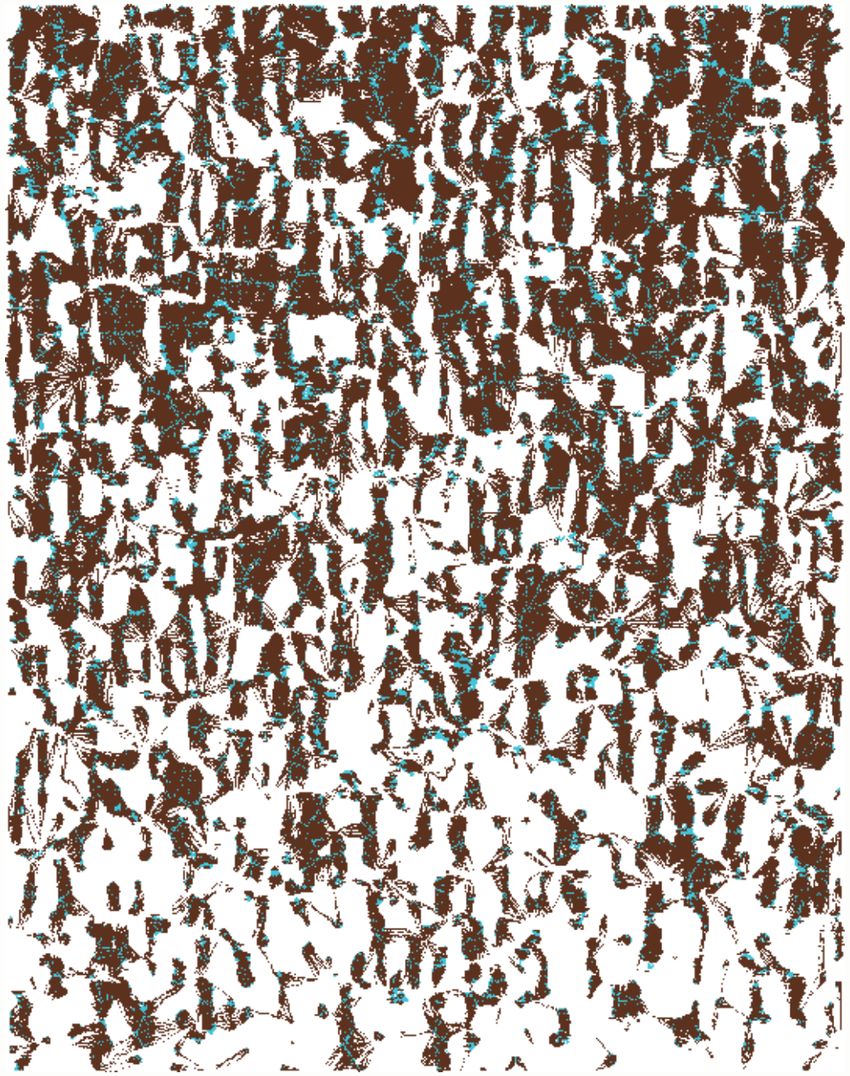
Portfolio p.178 / Iteration 5

Section through floors

Portfolio p.18 / Iteration 5 design section

Material Continuity and Printable Modules

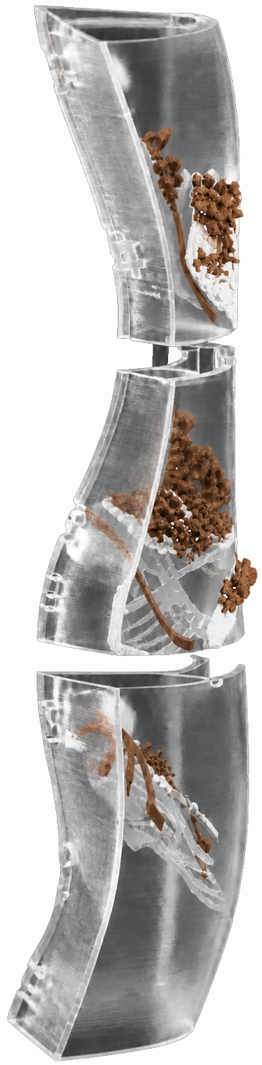
Material territories and selected STL modules describe the proposed subdivision and internal cavities.



The material map

Growlay / PLA Translucent / PLA Aero

Portfolio p.142 / Iteration 4



Selected printable modules

Original material boundaries and internal cavities are retained.

Portfolio p.145 / STL verification

The Complete Panel Arrangement

The continuous panel study shows the branching material field crossing module boundaries.

Final multi-material panel study. Portfolio p.148.

Material Transitions in Detail

Growlay, PLA Translucent and PLA Aero remain distinguishable through surface relief and printed texture.

Original material detail, with visible seams and layer lines. Portfolio p.149.

Interior Light and Space

Changing daylight is visualised through the translucent facade from inside the lounge and workspace.

20-second original film / Media/interior-light-and-space-20s.mp4

Growth as a Design Scenario

The supplied film illustrates establishment and seasonal coverage changes, not measured plant-growth time-lapse.

30-second original simulation / Media/growlay-vegetation-original-30s.mp4

Four Seasons, One Facade

Changing weather, coverage and viewpoints are explored in the existing film. AI-assisted finishing, not measured seasonal performance.

40-second visualisation / Media/facade-seasonal-cinematic-v37-40s.mp4

Planted Surface and Exposed Skin

Planted territories coexist with exposed material and water-guiding features in the proposed facade.

Final architectural visualisation. Portfolio p.153.

Facade within the City

The proposed surface is shown within the existing Waterloo skyline and neighbouring buildings.

Final architectural visualisation. Portfolio p.155.

PROJECT

Xingzeng Zheng, Bingyu Wu
Hydrology-Driven
Biological Facade

IMAGE SELECTION

Final proposal: Iteration 5.
Earlier design iterations are not included.

Existing films are retained as separate visual studies.

EDITORIAL REFERENCE

Vertical Pond
The Bartlett Autumn Show 2025

Layout reference only. No reference-project media reproduced.