

6 Orsman Road, London: Zero-Waste, Demountable Construction

Andrew Waugh

Director, Waugh Thistleton Architects

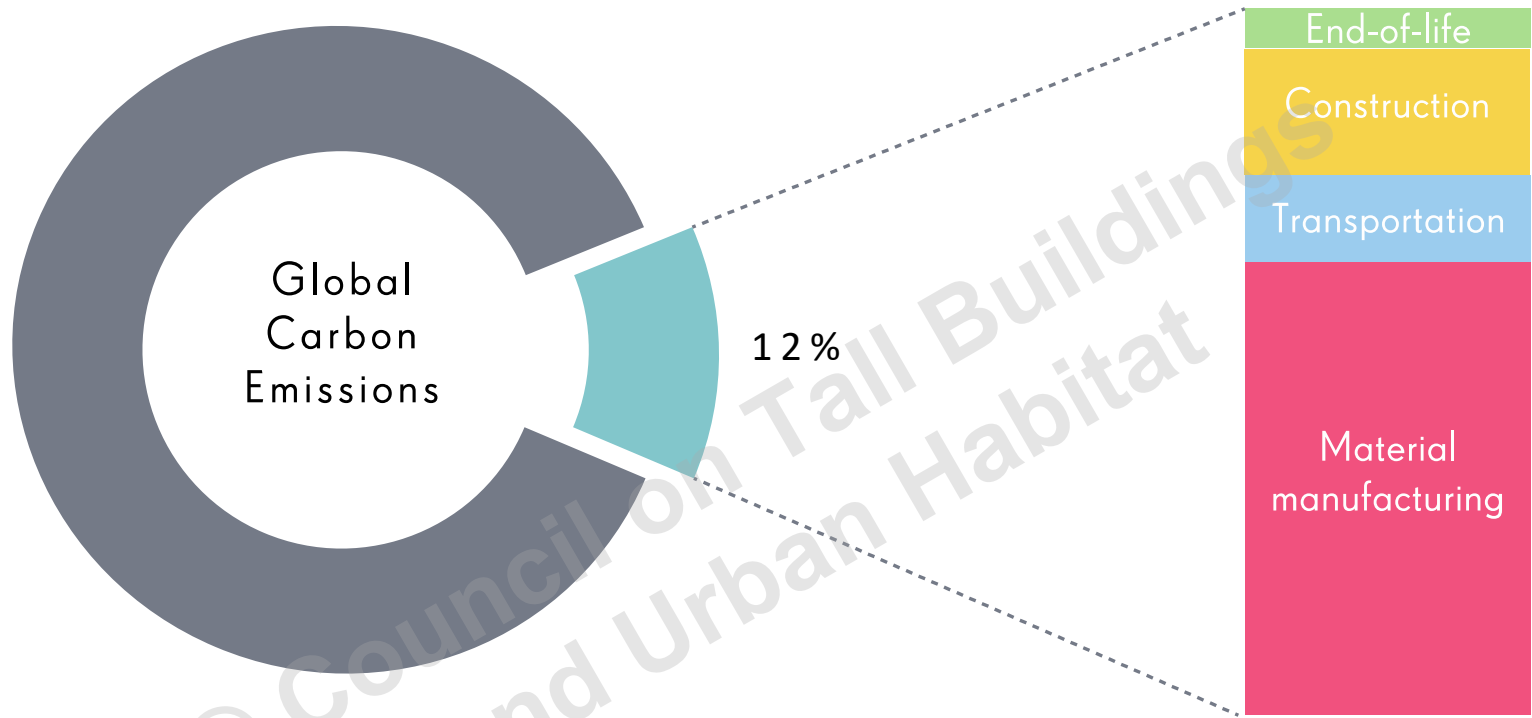


**CTBUH 2022
Steel-Timber Conference**

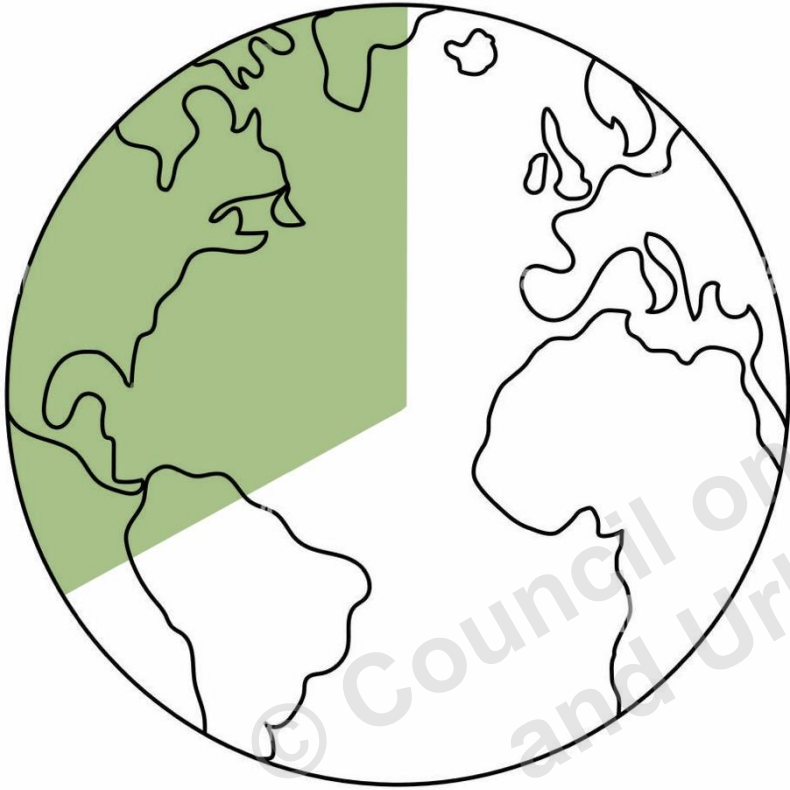


WAUGH THISTLETON ARCHITECTS





CONSTRUCTION'S CARBON



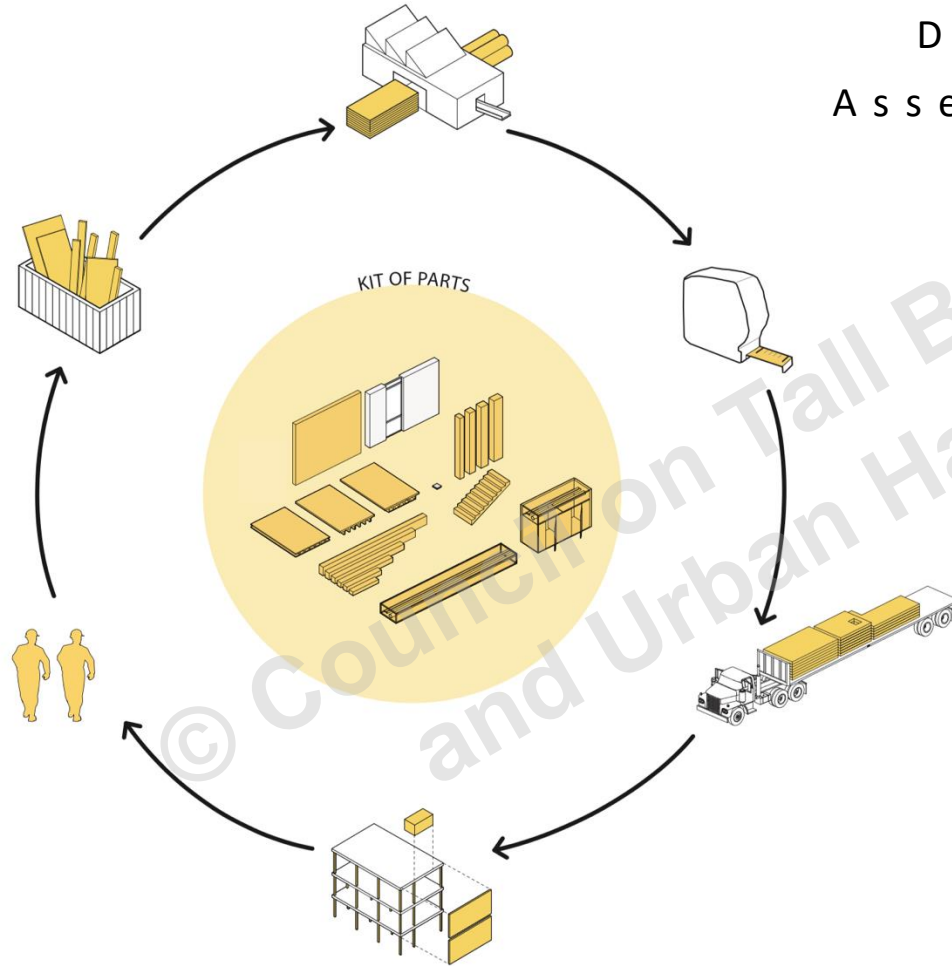
ENVIRONMENTAL SOCIAL GOVERNANCE

Mandatory ESG Reporting 2022



ZERO CARBON
Dieselgate 2015

Design for Manufacture Assembly and Disassembly

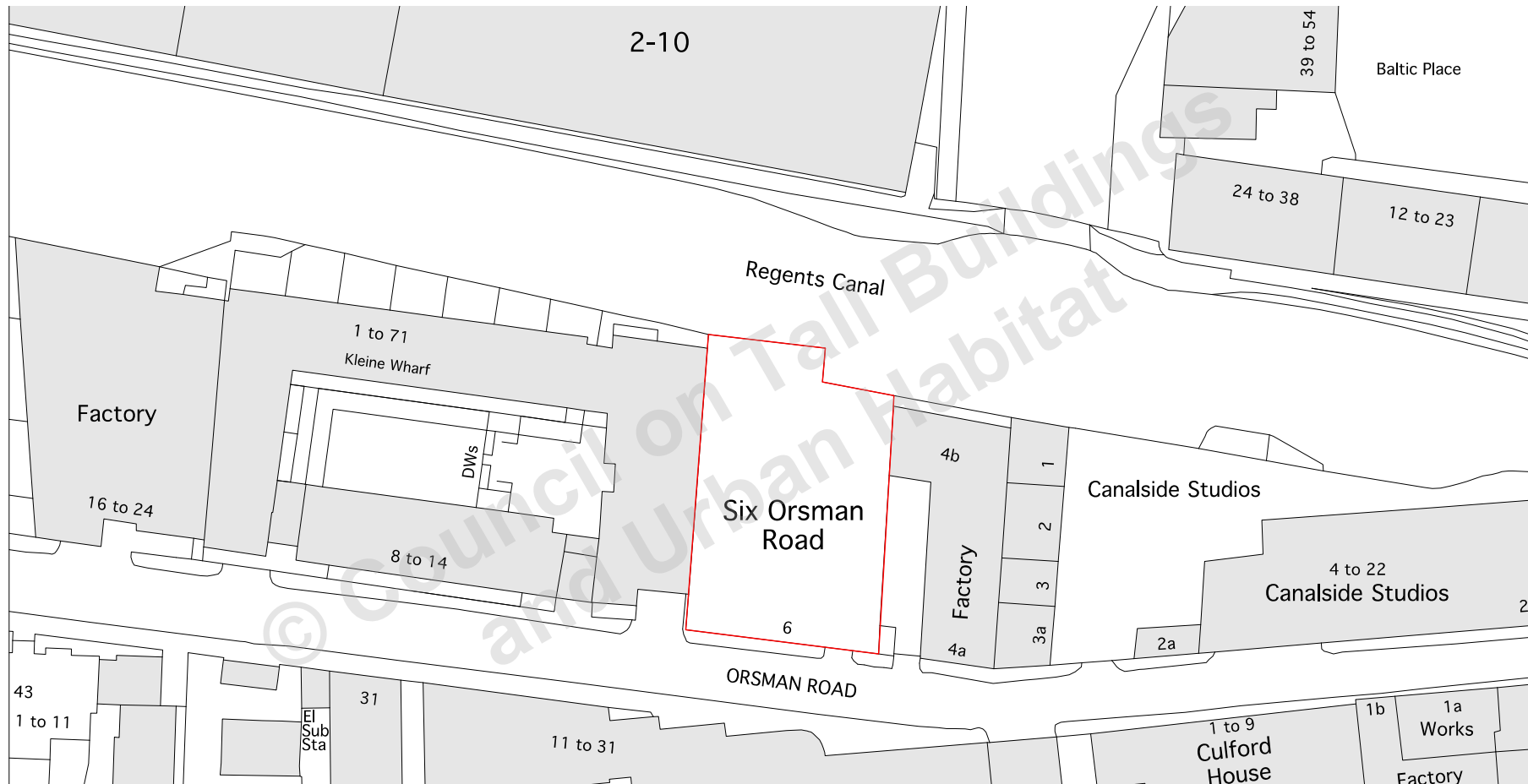


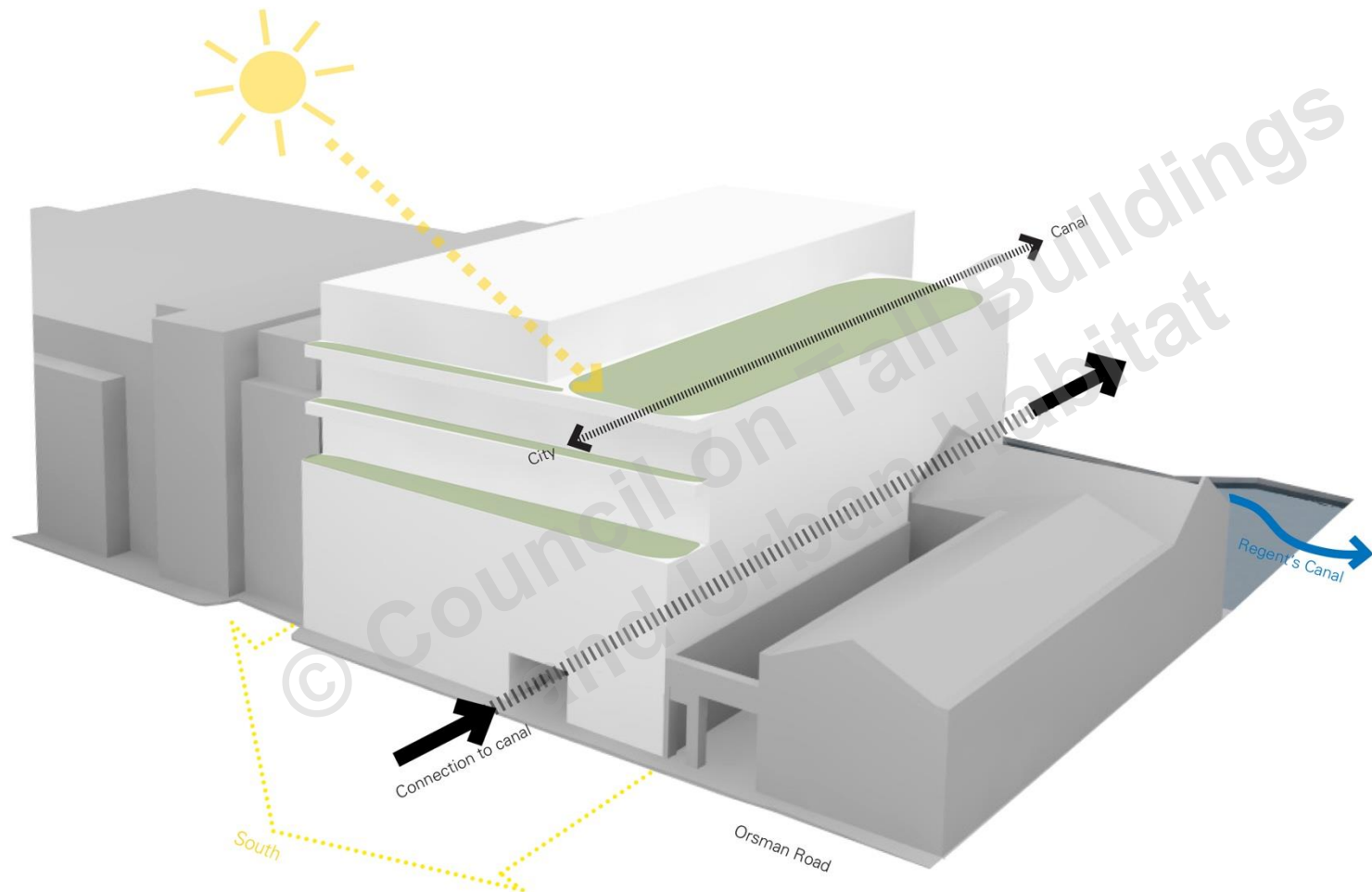
KIT OF PARTS
DFMAD

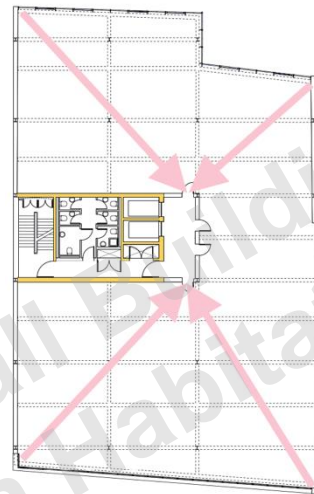
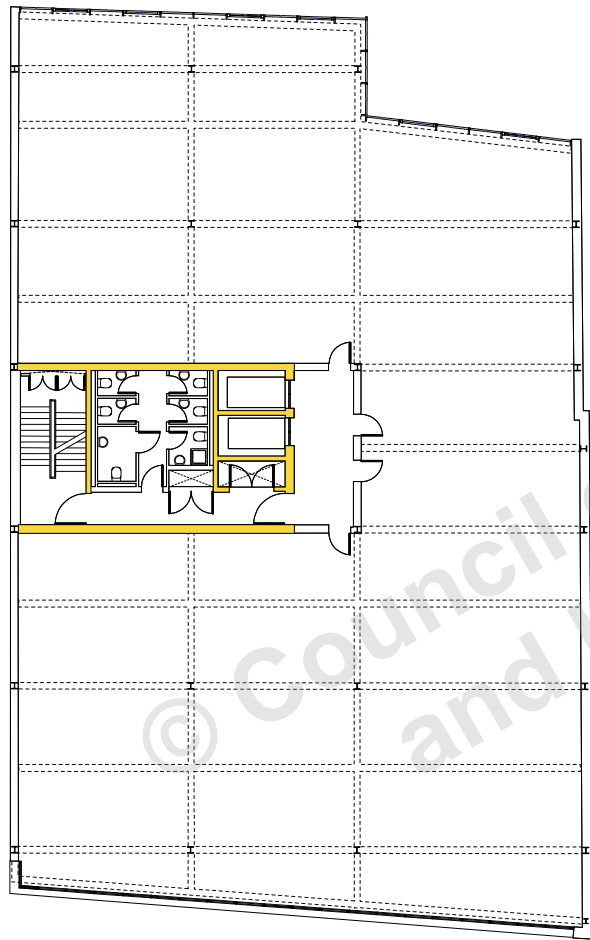


6 ORSMAN ROAD

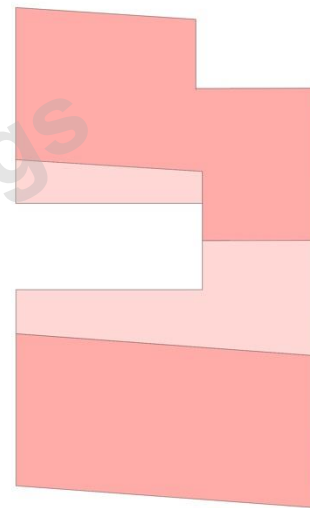








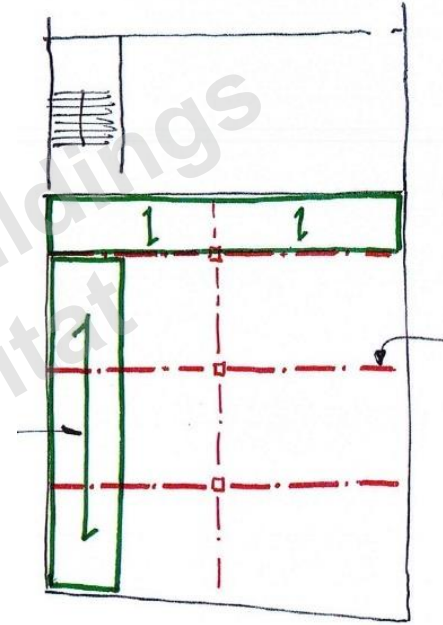
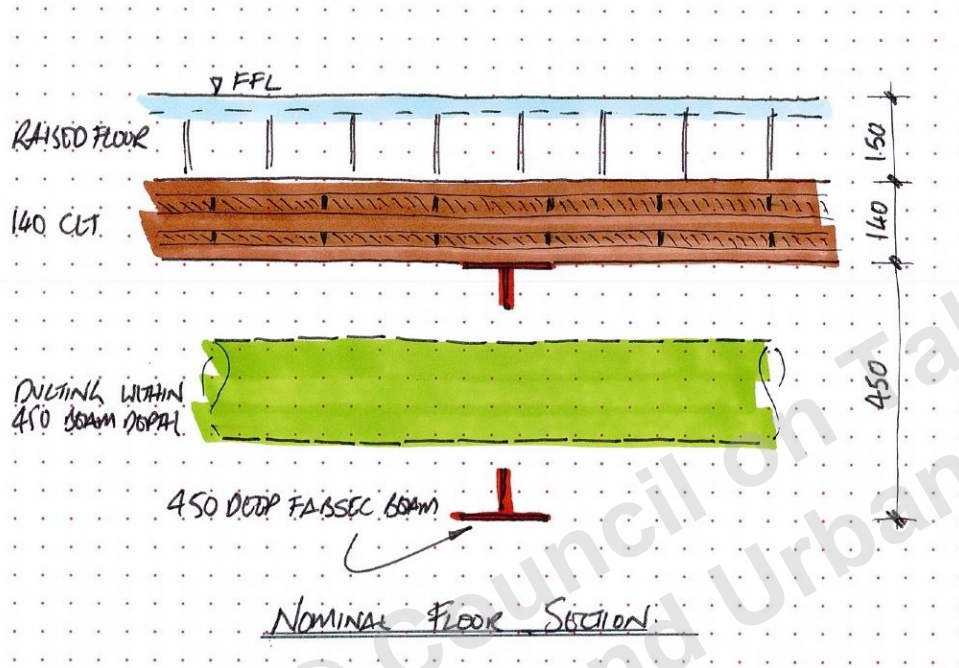
Fire



Daylight

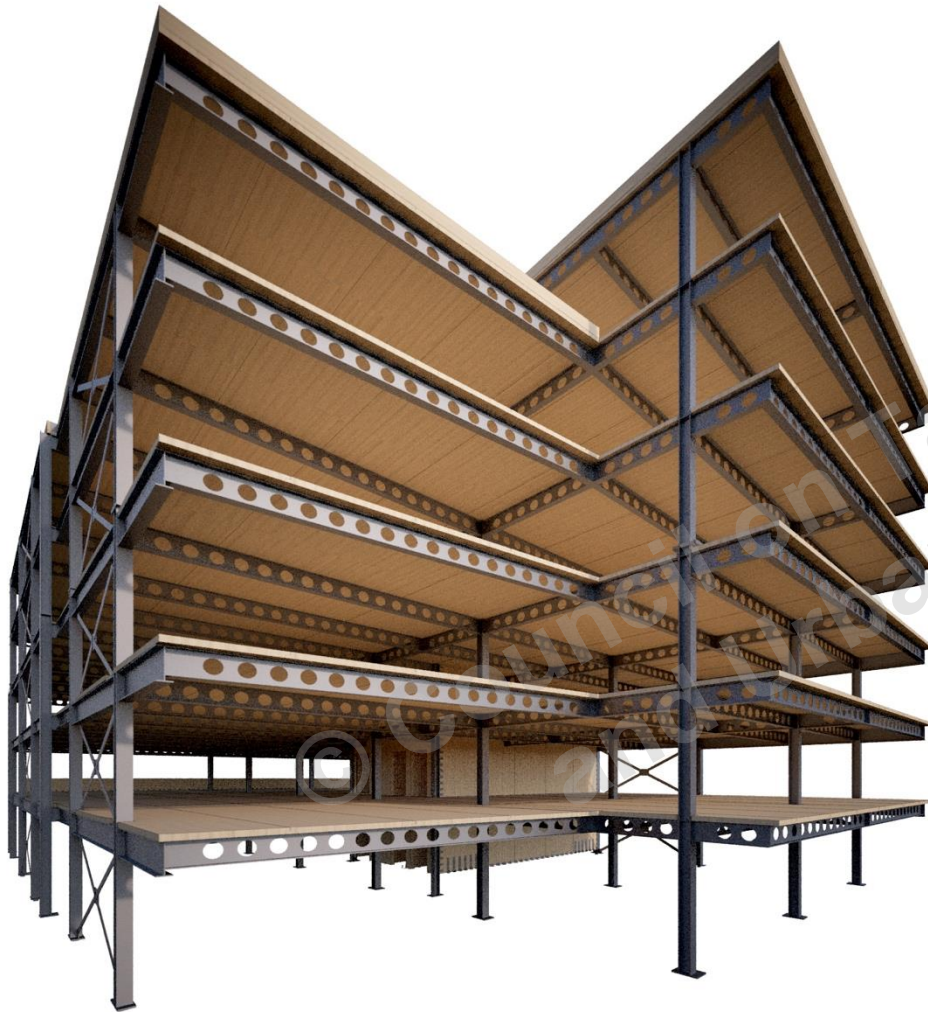
PLAN LAYOUT

87 % Efficiency



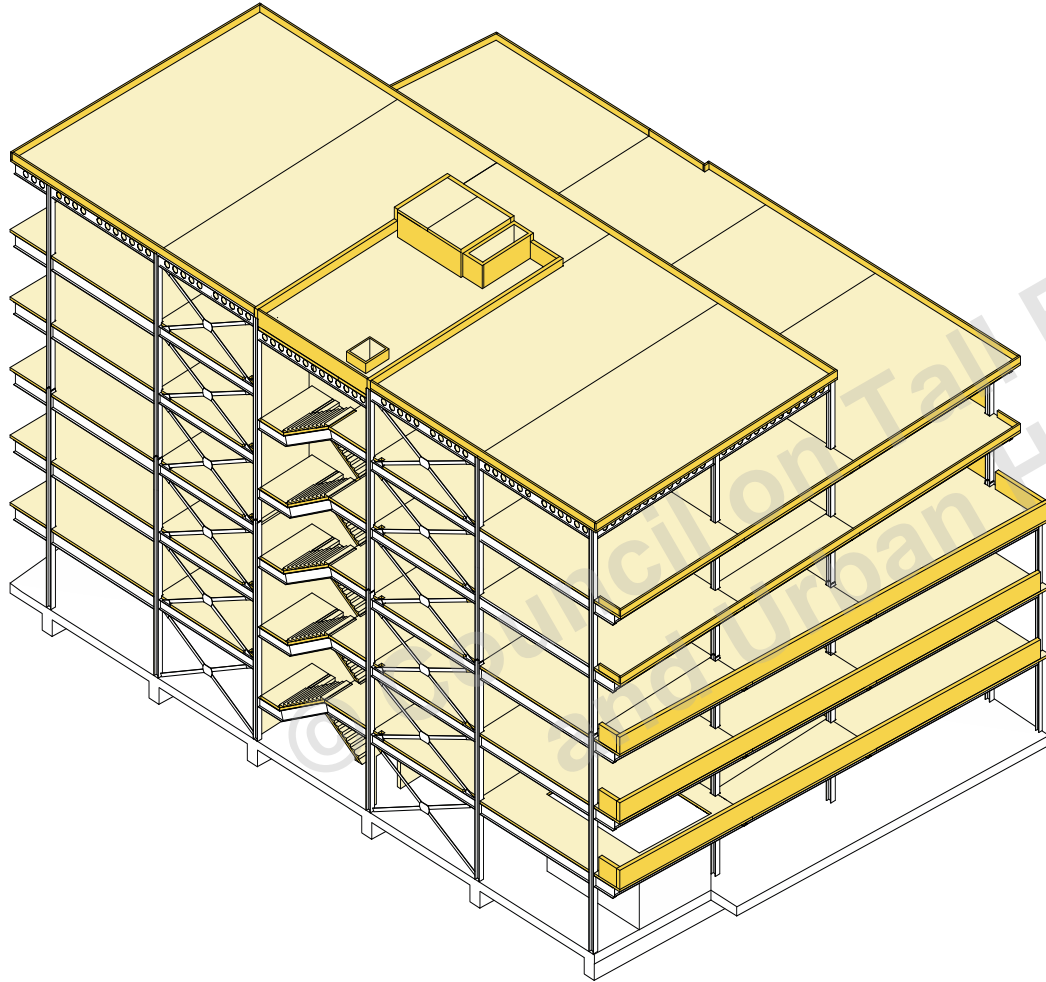
STRUCTURAL DIAGRAM

Overall, Height Reduced By 2m



491 PIECES OF STEEL
14,452 Screws And Bolts

483 PIECES OF CLT
1107 Trees



CLT FLOORS

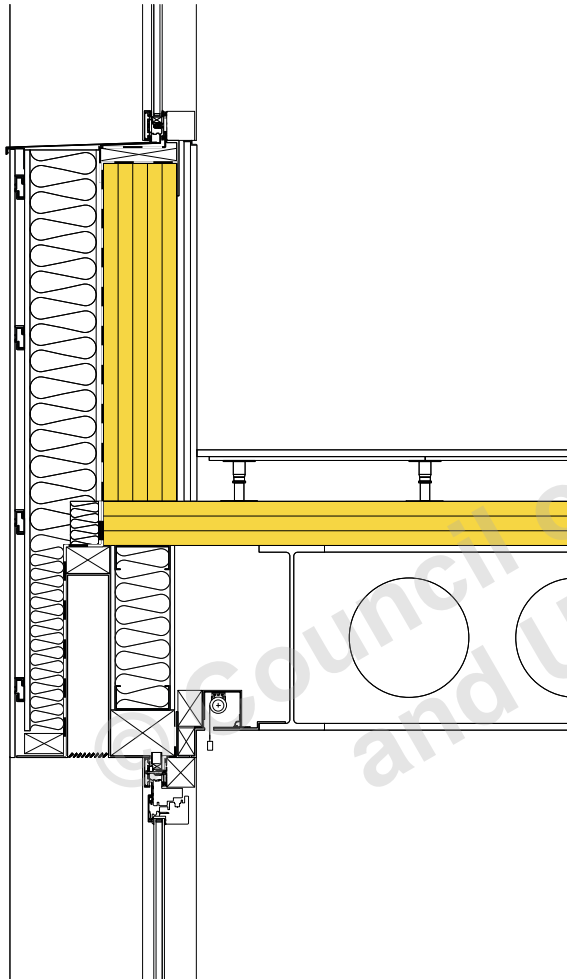
Diaphragm Action

CLT CORES

Shear Forces

STEEL FRAME

Gravitational Load



3 PLY CLT SLABS

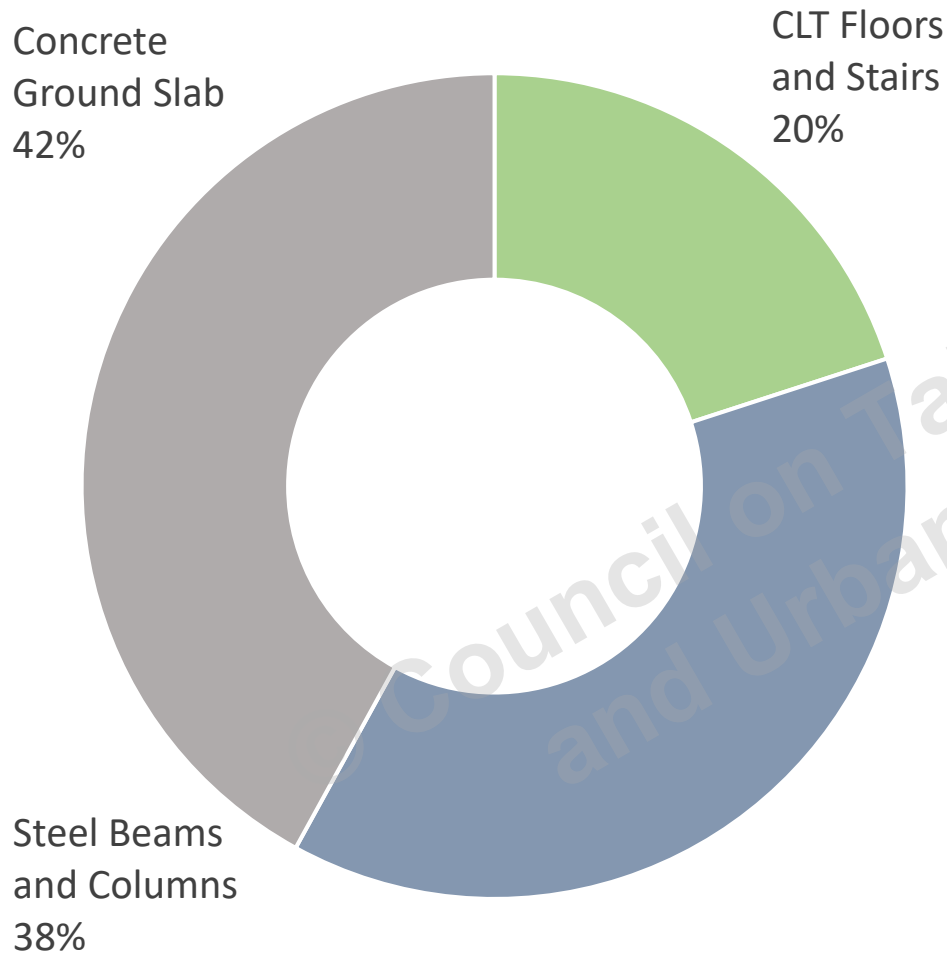
6m Spans

CASTELLATED BEAMS

To Allow Services

STANDARD STEEL COLUMNS

20ft x 24ft Grid



238 kgCO₂e/m² (A1-A5)

With Sequestration:

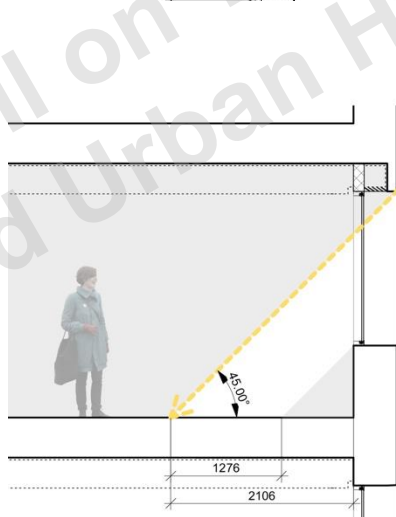
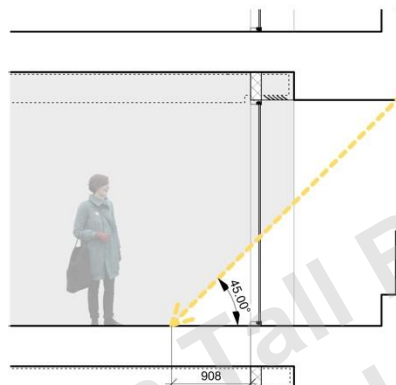
93kgCO₂e/m²

Concrete in place of CLT:

349kgCO₂e/m²

73% REDUCTION IN CARBON

GIA:50,000ft²



SUNLIGHT
Passive Controls



PLANNING CONSENT

2016



FIRST PANEL

2018



STRUCTURE COMPLETE

22 Weeks, 6 People







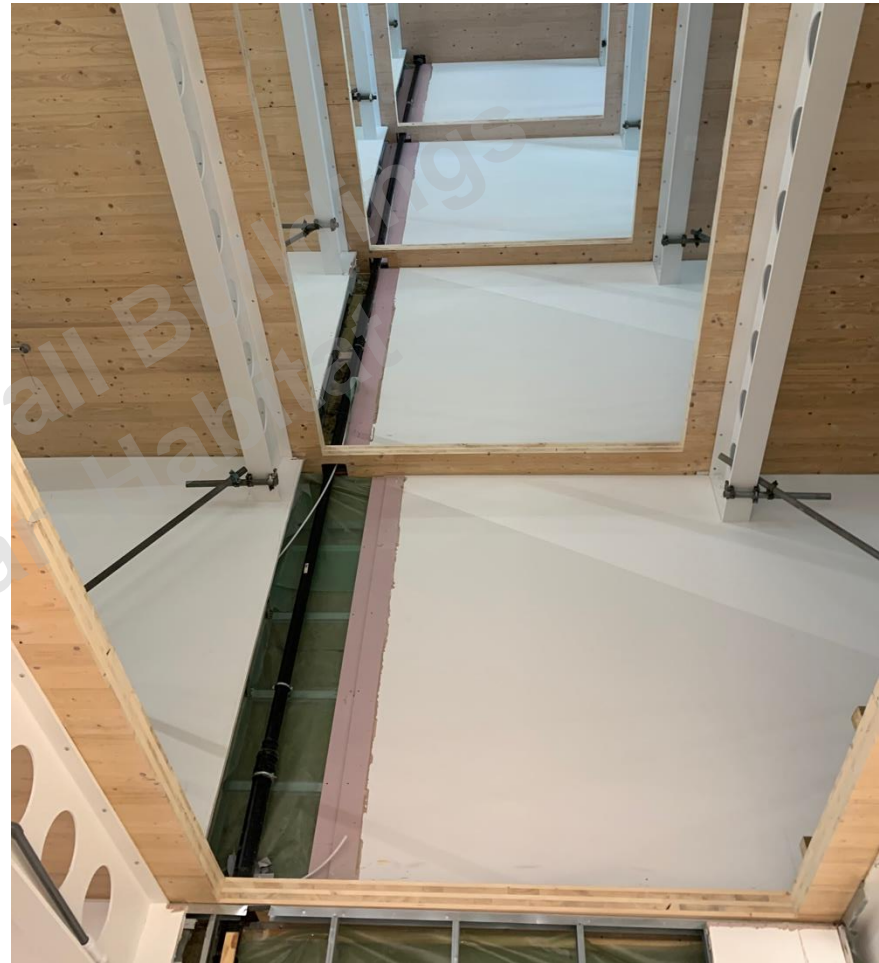
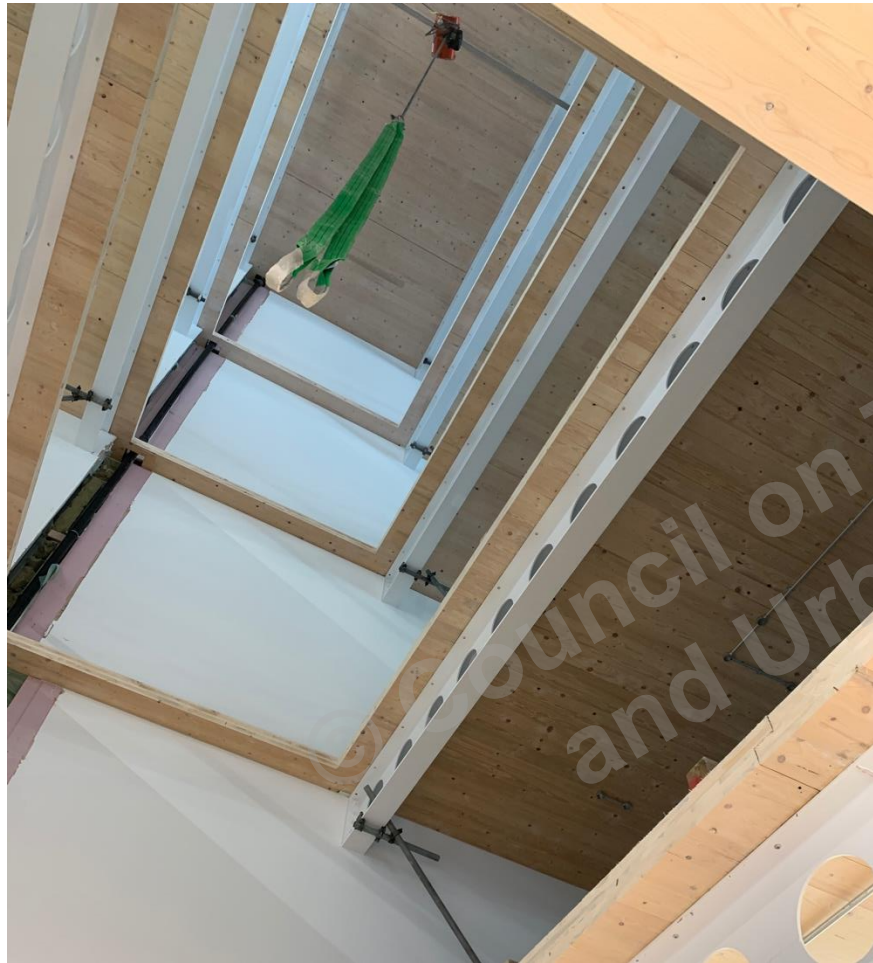
B O L T E D C O N N E C T I O N S

D . F . M . A . D











NEW STAIR
Post Completion





CONTINUOS
PROJECT
ALTERED
DAILY





6 ORSMAN RD
COMPLETED 2020

