A HUMANIST-METABOLIC CONFIGURATION OF THE RESIDENTIAL HIGH-RISE: ENRICHING URBAN LIVING THROUGH SELECTABILITY AND CUSTOMIZABILITY IN URBAN DWELLING TYPOLOGIES

The residential condominium typology is not only a typology of a building but a typology of urban living. However, residential condominiums as we know them now are detrimental in two key aspects: their social impacts on the city (social exclusion, deepening spatial inequalities) and their myriad impacts on the individual, definitive to what is referred to as the condominium lifestyle.

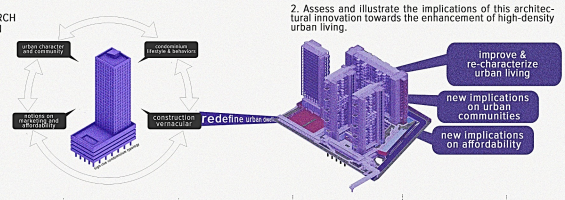
This project seeks to redefine the typology of urban living, by re-examining the typology of the urban dwelling: the ubiquitous, problematic, and currently increasing paradigm that is the high-rise residential. New Living models, Alternative Construction Methods, Re-imagined Communities, and New Notions of Affordability are the main toolkits in designing this project.

The ideals of Metabolist architecture (Kisho Kurokawa) and humanist architecture (WOHA Architects) are integrated in this design project. It is proposed that customizability and selectability in modular pre-fabrication (Kurokawa, 1982), safe concurrent assembly, climate response, building indigeneity, and the scale of human desires and functions are keys toward reshaping urban dwelling to its next frontier, therefore redefining urban living — one that nourishes the individual, the community, and the city — in the midst of urban density.

RESEARCH PROBLEM

In what ways can the existing typology of the high-rise condominium be redesigned towards a holistic improvement of urban dwelling, and consequentially, urban living?

RESEARCH DESIGN



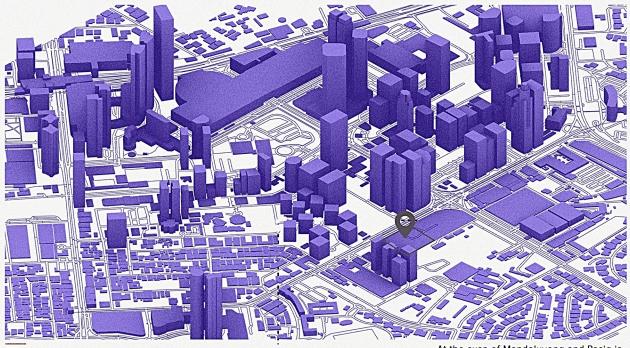
OBJECTIVES

1. Through a design proposal, conceptualize and integrate the ideals of Humanist (WOHA), Indigenous (Wood), and Metabolic (Kurokawa) architecture in redefining the prevalent modernist construction vernacular of the high-rise residential.

2. Assess and illustrate the implications of this architectural innovation towards the enhancement of high-density urban living.

THEORY & LITERATURE

- Vertical Urbanity in the age of Programmatic Promiscuity — *Panacci, 2011*
- Exploring Innovation in Housing Typologies — *Bowees, Desai, Prabhu, Gao, Rahman, & McCullegh, 2015*
- Tall Buildings in Southeast Asia, a Humanist Approach to the Tropical High Rise — *WOHA, 2009*
- Metabolism in Architecture — *Kisho Kurokawa, 1977*
- Rethinking the Skyscraper in the Ecological Age: Design Principles for a New High-Rise Vernacular — *Wood, 2015*



SITE DESCRIPTION

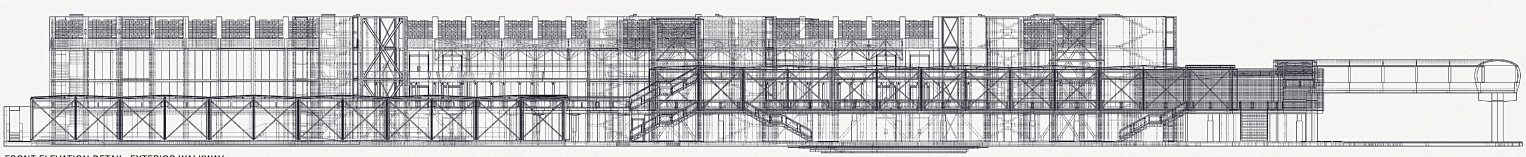
Floor Area: 12,731 sq.m
Land-use: Residential 3
Occupancy Category:
Group B (High-rise Residential)

At the cusp of Mandaluyong and Pasig is the Ortigas CBD, whose development is prompted by mall development concurrent on its eastern side. In this CBD, many local corporate institutions made headquarters, and as anticipated, condominium development followed suit.

CROSS SECTION

EXTERIOR WALKWAY AND PEDESTRIANIZED FRONTAGE

AERIAL PERSPECTIVE OF BUILDING A FACADE



FRONT ELEVATION DETAIL: EXTERIOR WALKWAY

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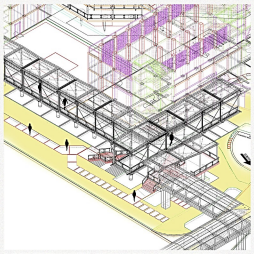
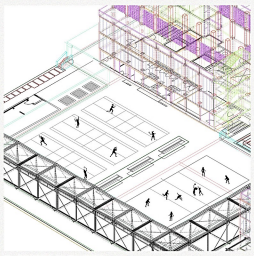
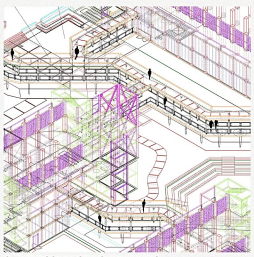


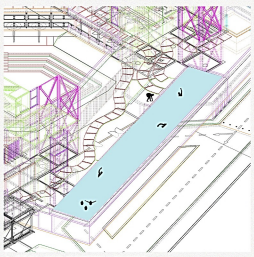
1. PEDESTRIANIZED FRONTAGE WITH WALKWAY LEVELS



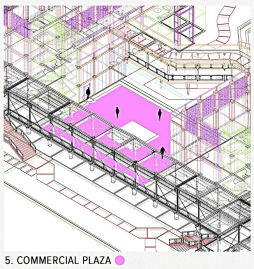
2. SPORTS FACILITIES



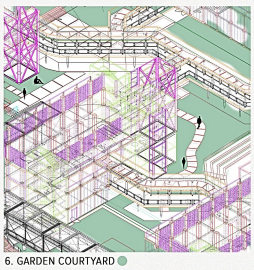
3. INTERCONNECTING WALKWAYS



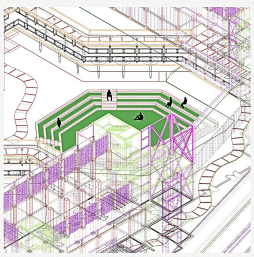
4. POOL AND GARDEN LOUNGE



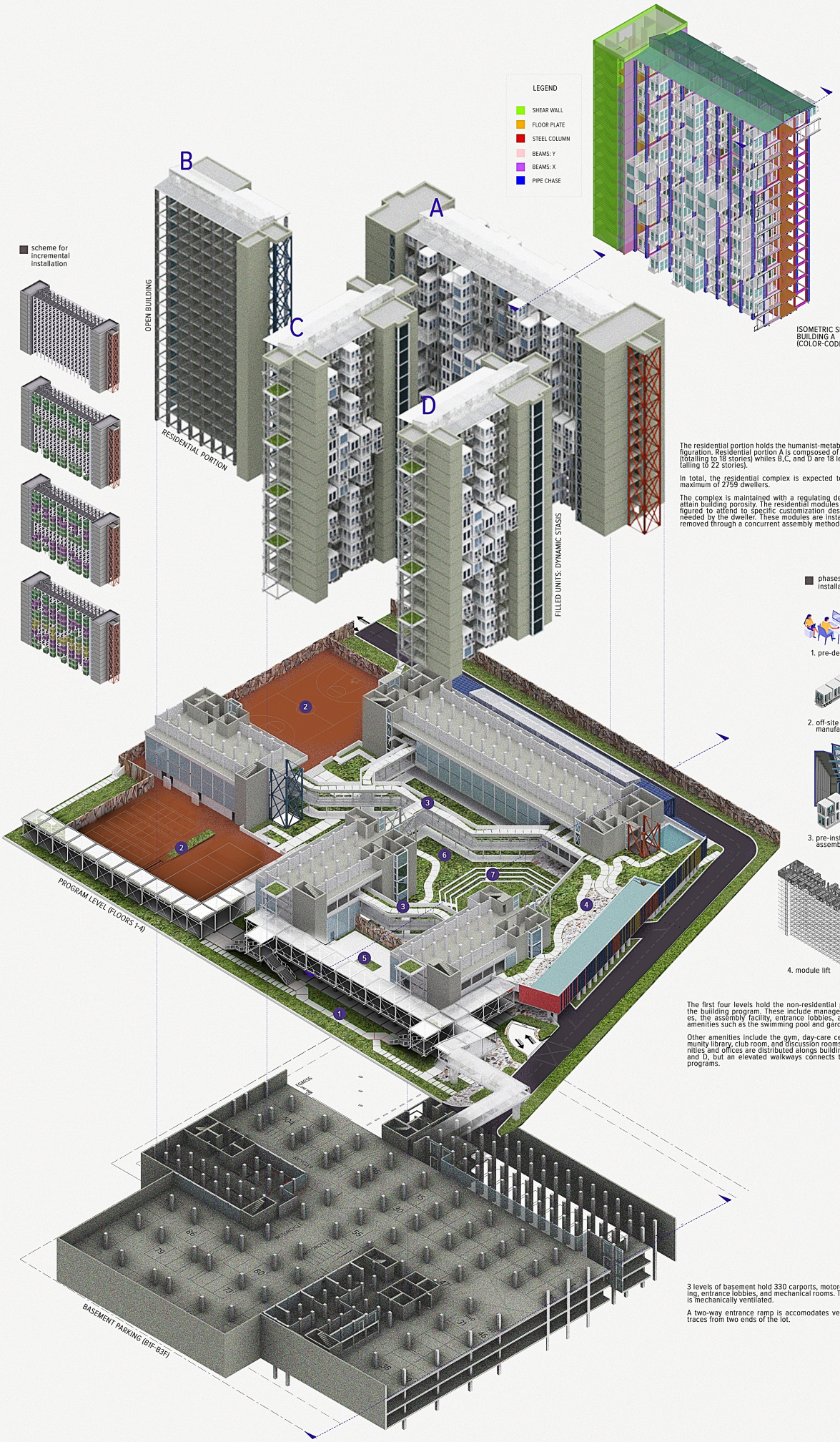
5. COMMERCIAL PLAZA



6. GARDEN COURTYARD



7. SMALL AMPITHEATER



The residential portion holds the humanist-metabolic configuration. Residential portion A is composed of 14 levels (totalling to 18 stories) whiles B,C, and D are 18 levels (totalling to 22 stories).

In total, the residential complex is expected to hold a maximum of 2759 dwellers.

The complex is maintained with a regulating density, to attain building porosity. The residential modules are configured to attend to specific customization desired and needed by the dweller. These modules are installed and removed through a concurrent assembly methodology.

The first four levels hold the non-residential portions of the building program. These include management offices, the assembly facility, entrance lobbies, and shared amenities such as the swimming pool and garden lounge.

Other amenities include the gym, day-care center, community library, club room, and discussion rooms. The amenities and offices are distributed alongs buildings A, B, C, and D, but an elevated walkways connects the related programs.

3 levels of basement hold 330 carports, motorcycle parking, entrance lobbies, and mechanical rooms. This portion is mechanically ventilated.

A two-way entrance ramp is accomodates vehicular entraces from two ends of the lot.

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NOVEL APPROACHES IN URBAN DWELLING: AS GATHERED FROM PRECEDENT STUDIES

metabolic architecture | capsule | open building | recontextualized balconies | operable louvers | vegetation as building material | cellular interior framework | flexible interior paritions | opportunity for extension | micro-living | smart units | demand-based programming | passive air entries | expression of individuality | pre-fabrication | modular assembly

INTEGRATING CONCEPTS IN *A HUMANIST APPROACH TO THE TROPICAL HIGH-RISE (WOHA, 2009)* AND *METABOLISM IN ARCHITECTURE (1977)*

climate response | incorpotation of nature | building indiginelty | designing for the scale of human desires & functions | celebrating the individual | selection and customization | modular assembly | temporal and spatial flexibilities

GATHERING OF SPECIFIC DESIGN OBJECTIVES FROM A CRITICAL REVIEW OF NAKAGIN CAPSULE TOWER (LIN, 2011) (KUROKAWA, 1977)

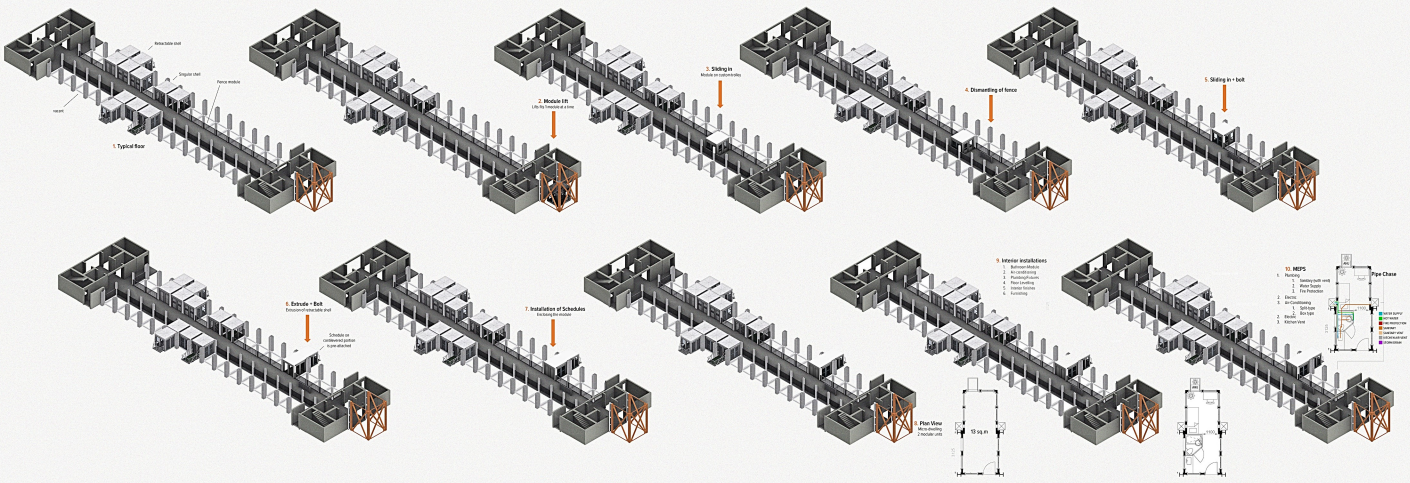
1. No selectability and customizability in capsular living
2. Capsule design is not humanized: too small, too mechanical, no operable window, overall restrictive
3. Relies on construction phase and crane installation

1. No selectability and customizability in capsular living
2. integrate humanist principles (climate response, designing for the scale of human functions and desires, building indigeneity) in metabolic configurations
3. allow for safe concurrent assembly

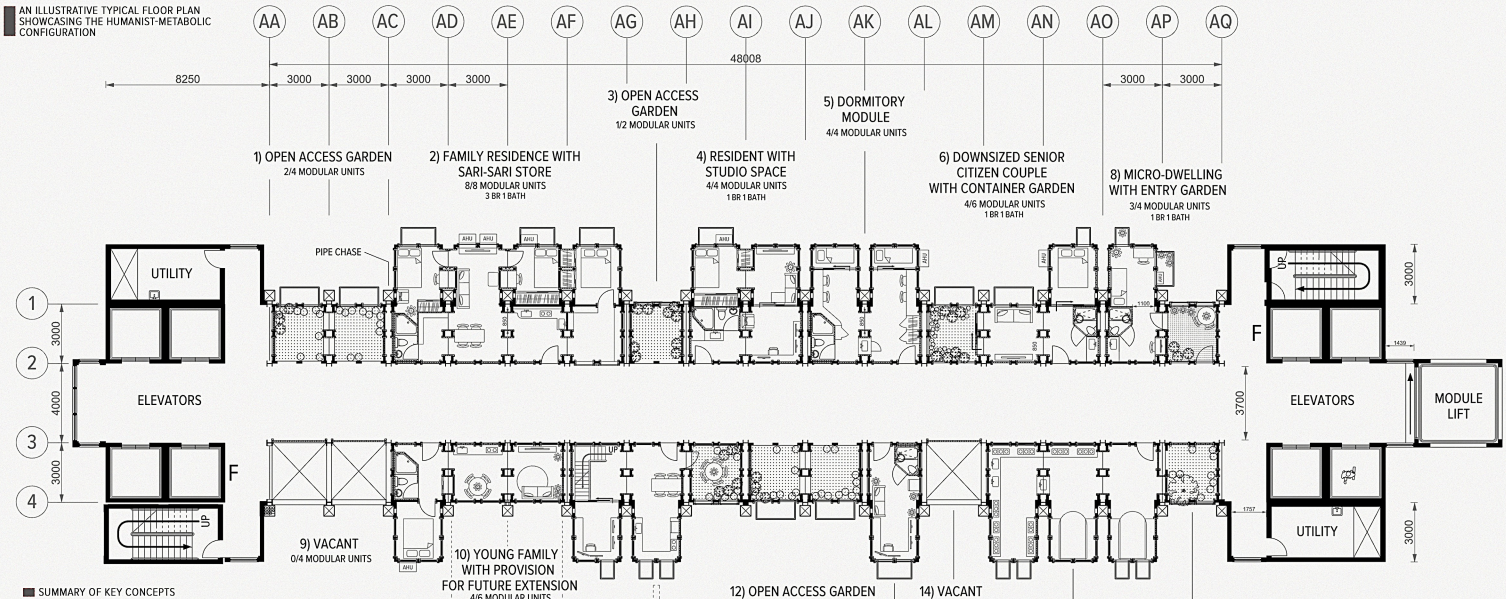
development of concurrent assembly procedure

development of the humanist-metabolic configuraiton

CONCURRENT ASSEMBLY STEPS



AN ILLUSTRATIVE TYPICAL FLOOR PLAN SHOWCASING THE HUMANIST-METABOLIC CONFIGURATION



SUMMARY OF KEY CONCEPTS

1 DYNAMIC ARCHITECTURE FOR DYNAMIC PEOPLE AND DYNAMIC CITIES

2 HUMANIZING SMALL LIVING SPACES

3 NEW MODES OF OWNERSHIP

4 RE-IMAGINED FILIPINO VERTICAL NEIGHBORHOODS

5 SHARED SPACES & COOPERATIVE URBAN LIVING

6 SPATIAL DIVERSTIY = ENRICHED HIGH-RISE CONTEXTS

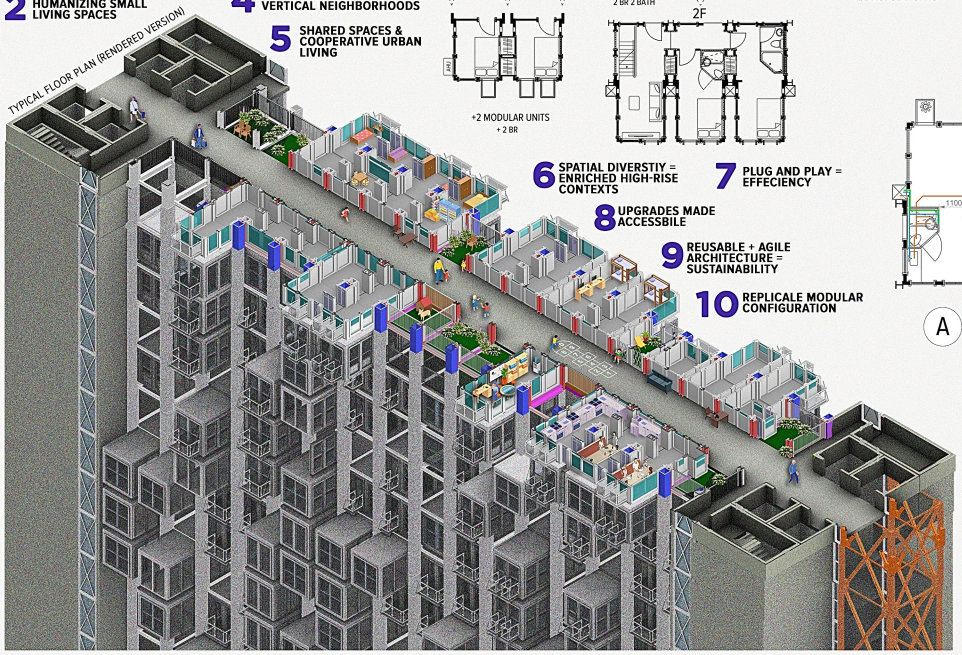
7 PLUG AND PLAY = EFFECIENCY

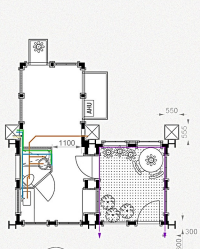
8 UPGRADES MADE ACCESSBILE

9 REUSABLE + AGILE ARCHITECTURE = SUSTAINABILITY

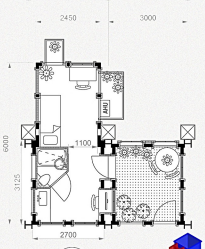
10 REPLICALE MODULAR CONFIGURATION

TYPICAL FLOOR PLAN (RENDERED VERSION)

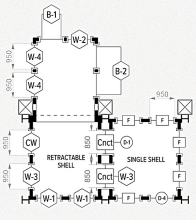




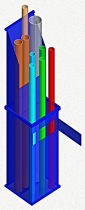
A MEPS LINEWORK



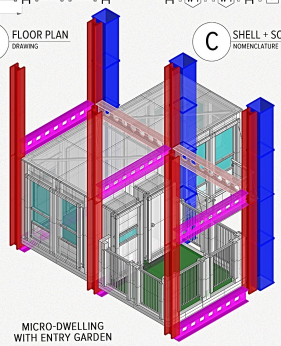
B FLOOR PLAN DRAWING



C SHELL + SCHEDULE NOMENCLATURE



PIPE CHASE ISOMETRIC SECTION



MICRO-DWELLING WITH ENTRY GARDEN