Re-Domesticating Mass Housing:

An Investigation in Re-Domesticating Modernist Housing Estates in New Belgrade

Ana-Maria Vasilache

5152445

A

Prologue// Conceptual Analysis

Re-Domesticating the Socialist-Modernist Housing Estate in Block 23, New Belgrade

“Lost in the solitude of his immense power, he began to lose direction.”

— Gabriel García Márquez, One Hundred Years of Solitude

I

Prologue// The Joys and Plight of Yugoslav Modernism

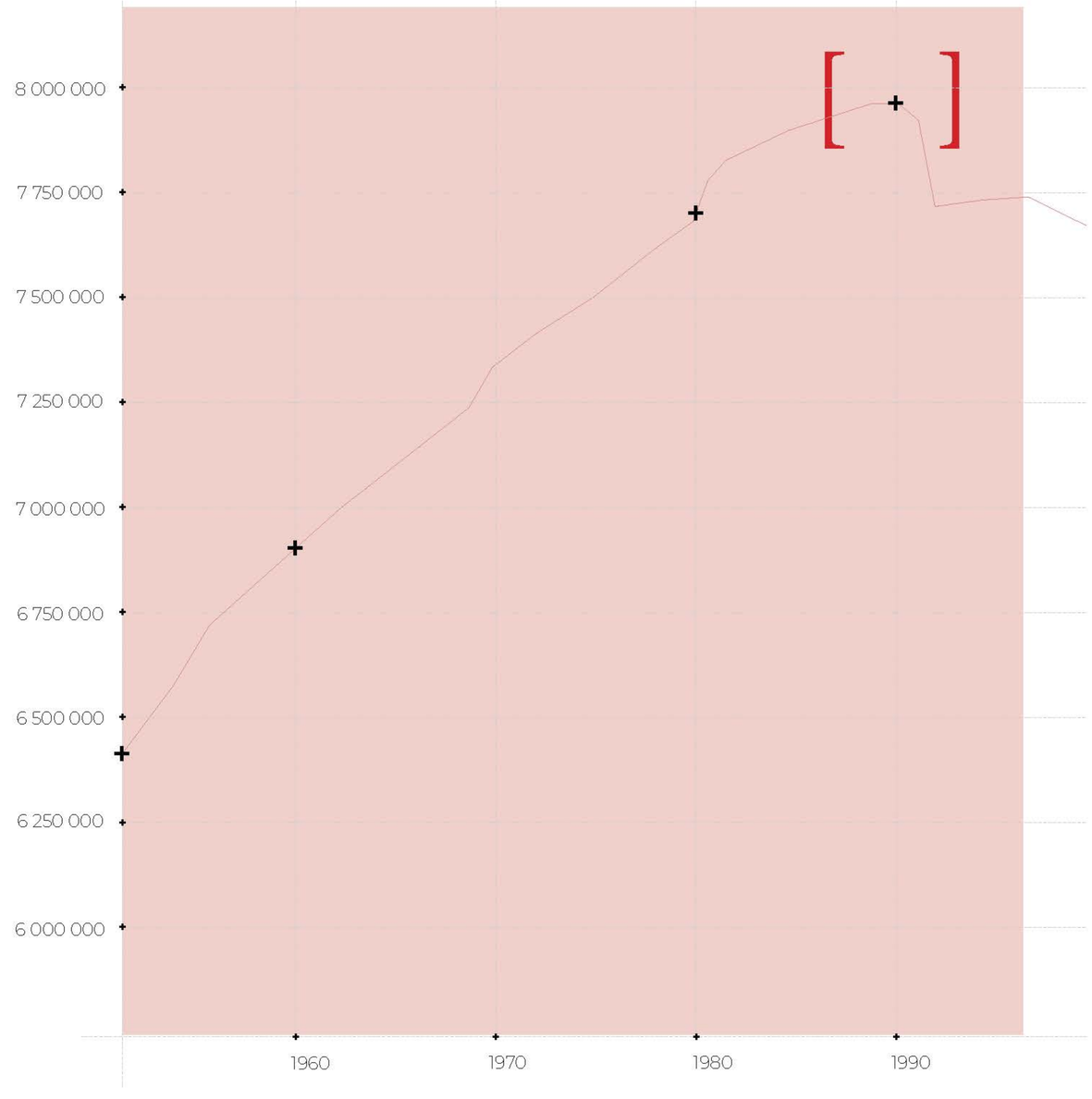


Fig. 1. (Left) Mass-Housing Construction in New Belgrade .
Fig. 2. (Up) The Urgent Need for Housing Following WWII .

Prologue// The Joys and Plight of Yugoslav Modernism

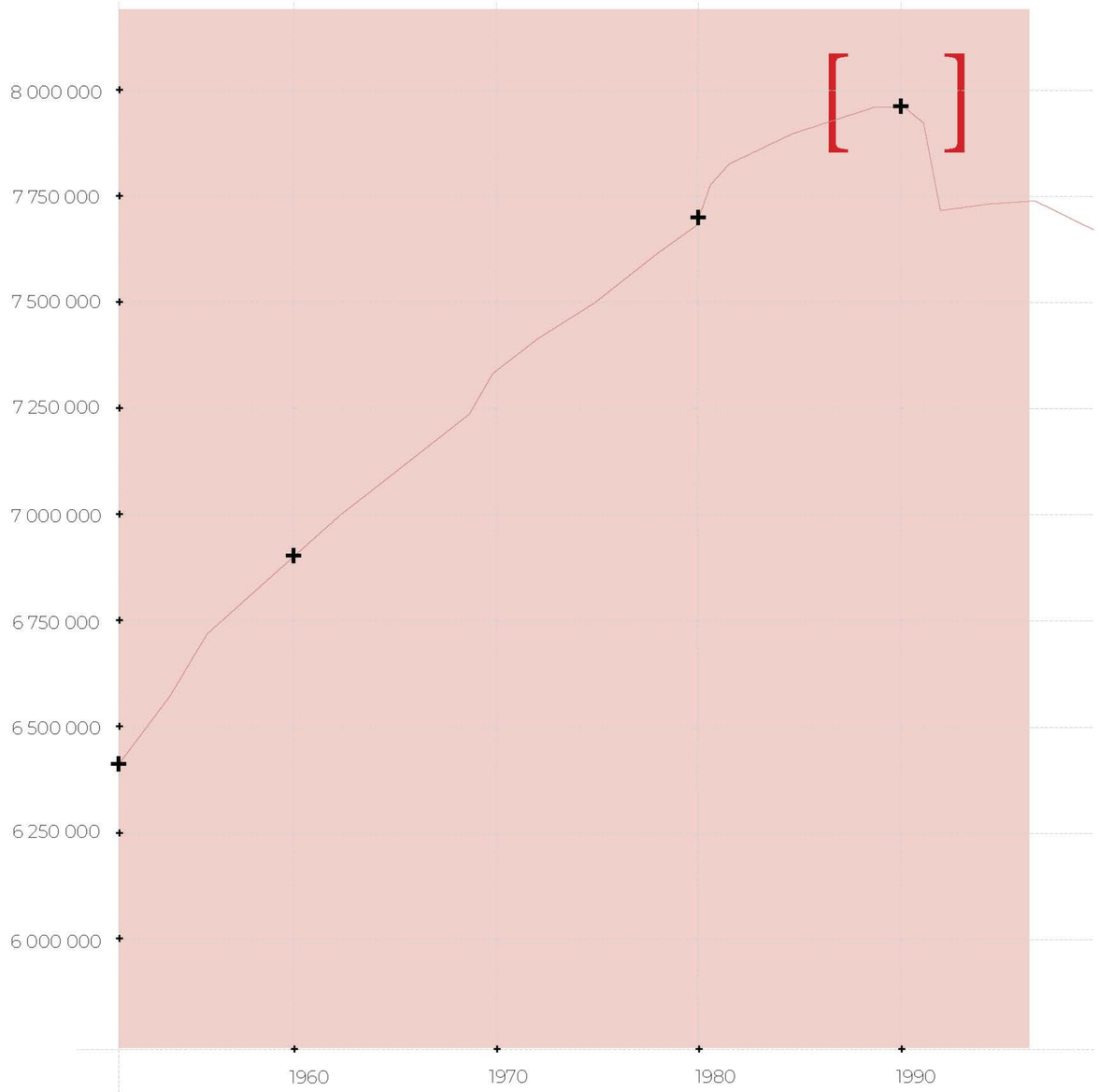


Fig. 3. (Left) Minimal and Maximal Spatial Requirements.

Fig. 4. (Up) The Urgent Need for Housing Following WWII .

Prologue// Demographic Developments

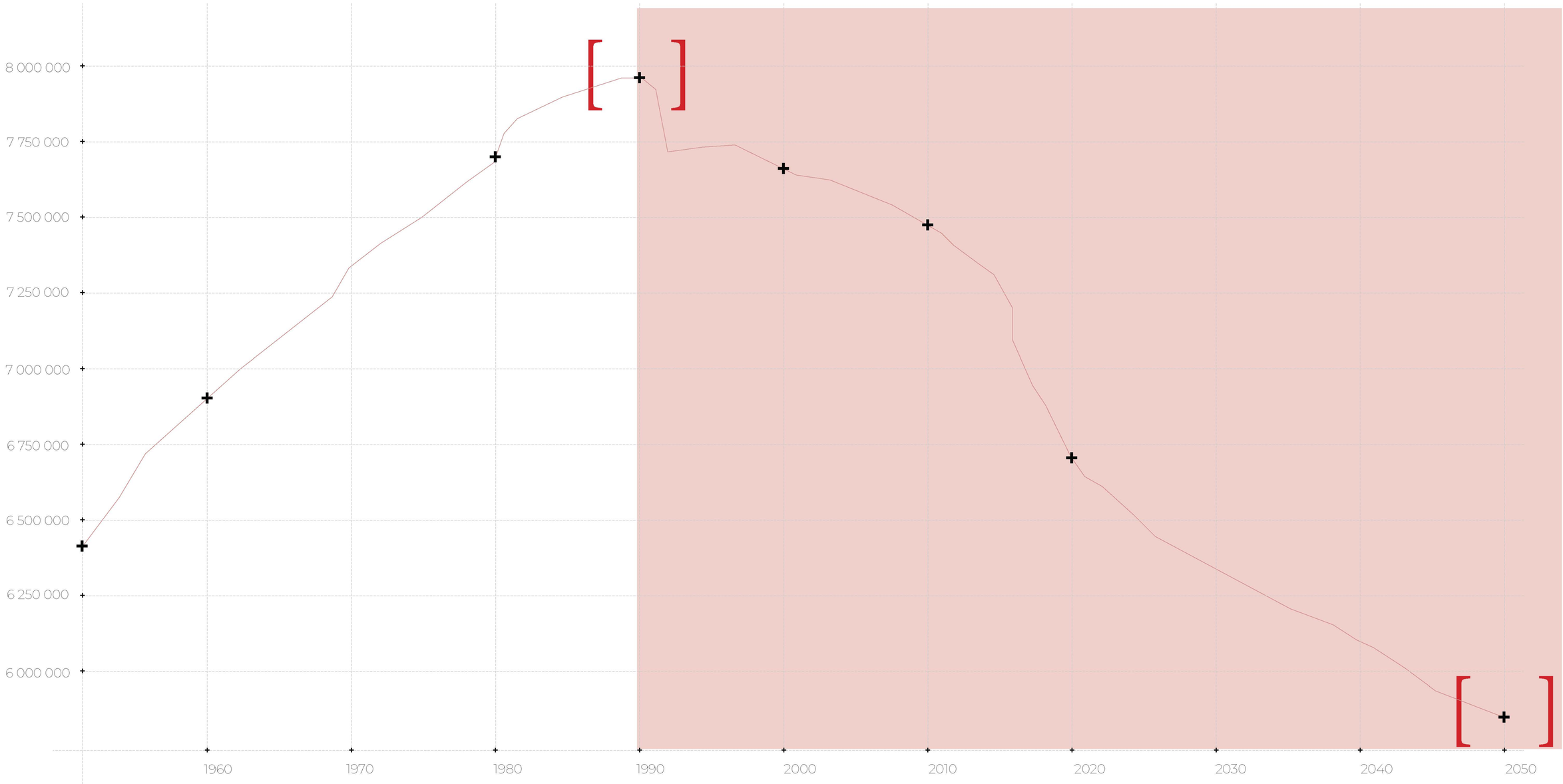


Fig. 5. Projected Drop in the Population of Serbia.

Prologue// The Home beyond Objectification

HOUSE/ DWELLING = *OBJECT*

HOME = *NARRATIVE*

HOME IS "DASEIN"

Martin Heidegger

HOME IS "LIVED BODY"

Maurice Merleau-Ponty

HOME IS A RETREAT

Gaston Bachelard

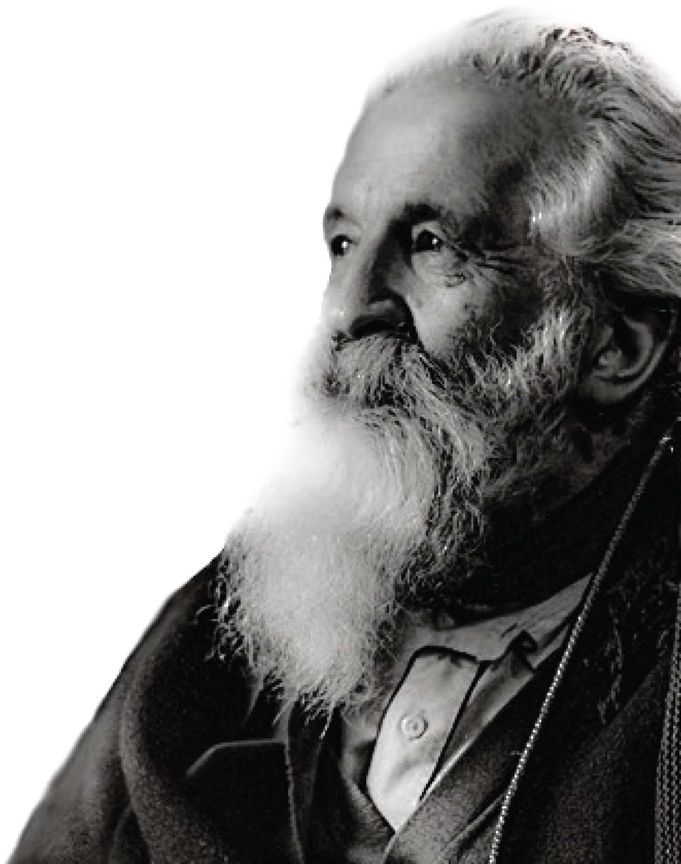


Fig. 6. Meaning of Home.

Prologue// Research Question

How can Functionalist Modes of Residential Architectural Production be Shifted to Harness the Idea of "Home"rather than that of merely "Dwelling"?

B

Block 23// Scope

“You see we can feed the stomach with concentrates. We can supply microfilm for reading, recreation, even movies of a sort. We can pump oxygen in and waste material out, but there’s one thing we can’t simulate. That’s a very basic need. Man’s hunger for companionship. The barrier of loneliness. That’s one thing we haven’t licked yet.”

— The Twilight Zone (Serling & Stevens, 1959)

I

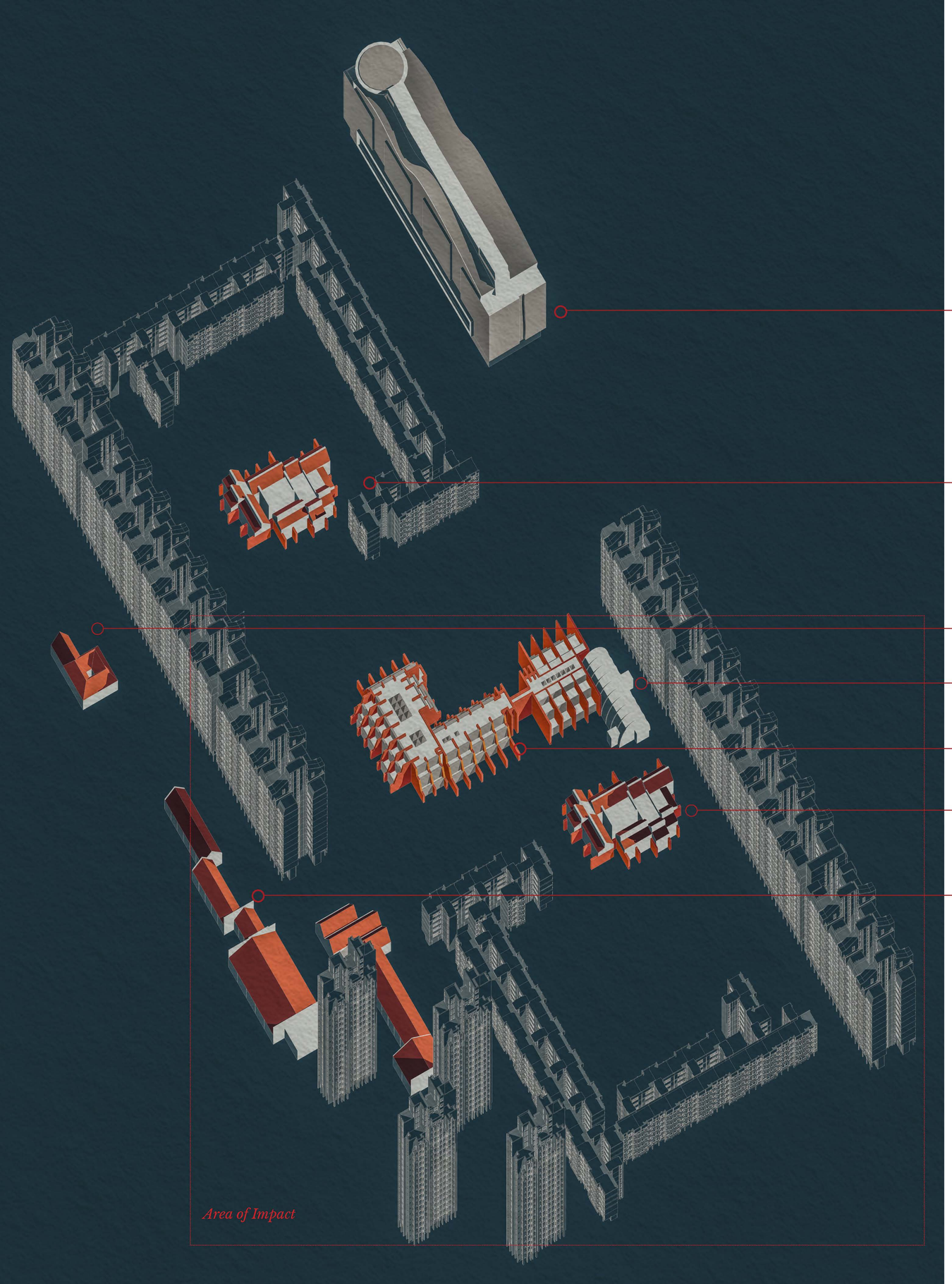
Block 23// Location - Overview

Fig. 1. (Up) Photographs of Block 23.

Fig. 2. (Left) Position of Block 23 within New Belgrade.

Block 23// Slab Type Residential Building

Fig. 3. Existing Slab Elevation and Plan.



III

Block 23// Public Functions

Offices

Under Construction
Area Privatised after 1990

Nursery

1968 - 1974
Currently Owned by the Local Government

Shops, Restaurants

Contemporary, Cannot Be Dated
Area Privatised after 1990

Cafe

Contemporary, Cannot be Dated
Area Privatised after 1990

Elementary School

1968 - 1974
Currently Owned by the Local Government

Nursery

1968 - 1974
CurrentlyOwnedbytheLocalGovernment

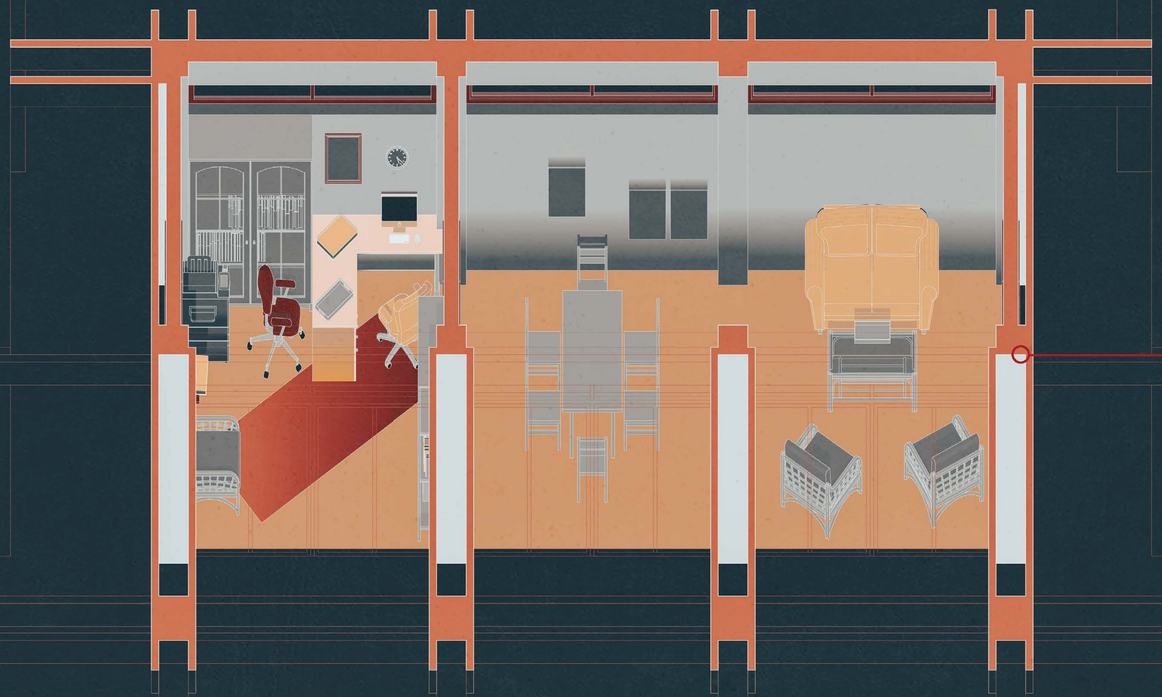
Shops, Restaurants, Clinics

1970 - 1974
Facilities Privatised after 1990

Fig. 4. Public Functions within the Grounds of Block 23 and Their Privatisation.

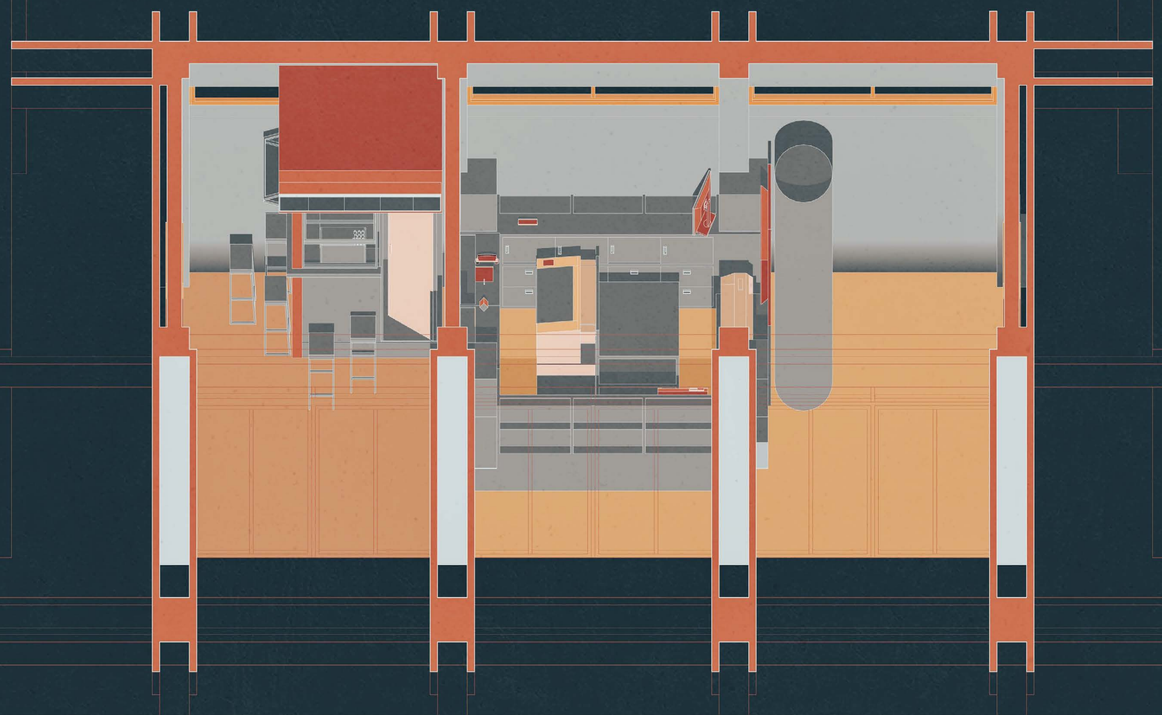
1965

Initial Design



2021

Post-privatisation



IV

Block 23// Ground Floor Local Council Chambers (Mesna Zajednica)

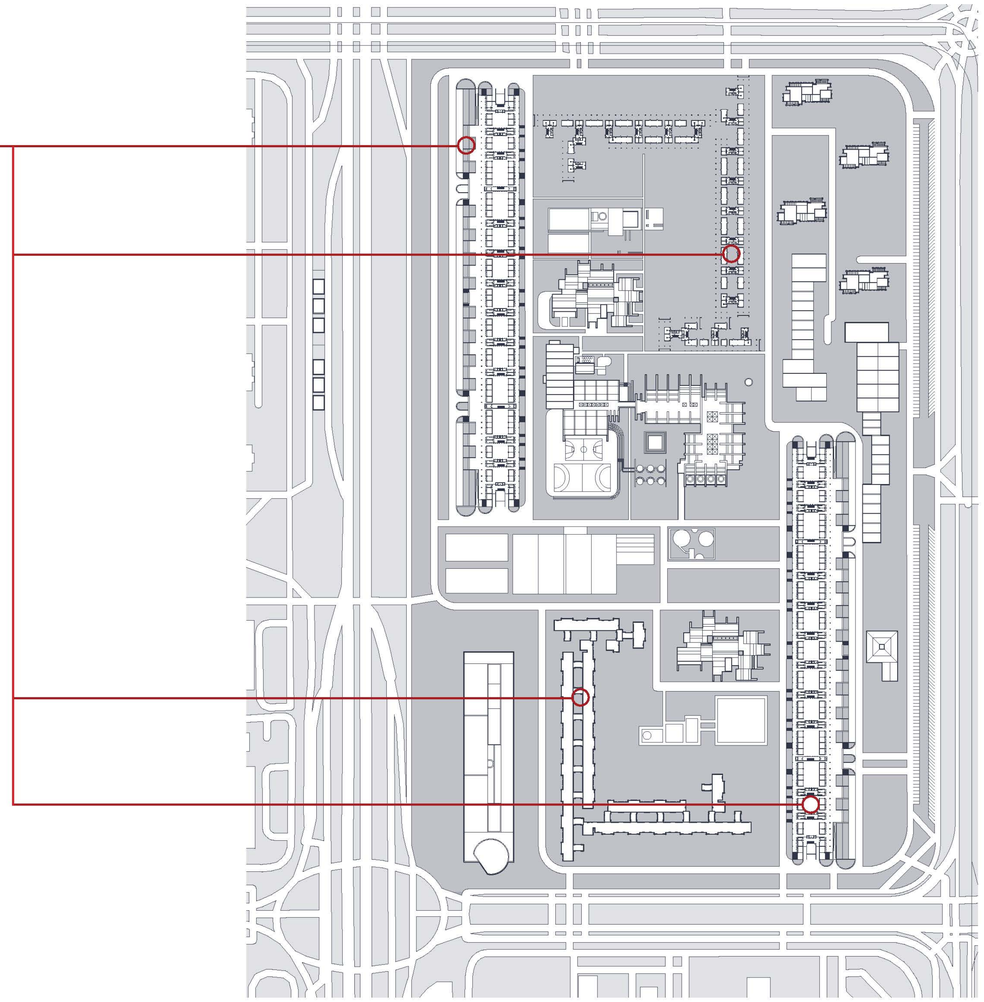


Fig. 5. (Up) Position of Ground Floor Local Council Chambers (Mesna Zajednica) in Block 23.
Fig. 6. (Left) Block 23 Mesna Zajednice Spaces within the Residential Buildings.

Block 23// Beyond Functionalism

Sleep

Store (Preserves)

Clean

Eat/ Cook

Store (Objects)

Socialise

Fig. 7. Functional Distribution of the Residential Units in the Block 23 Slabs.

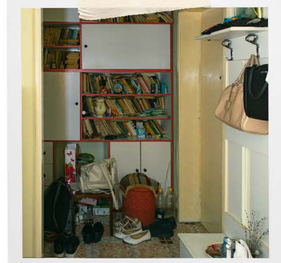
Block 23// Beyond Functionalism

Quiet

Stark

Smooth

Fragrant

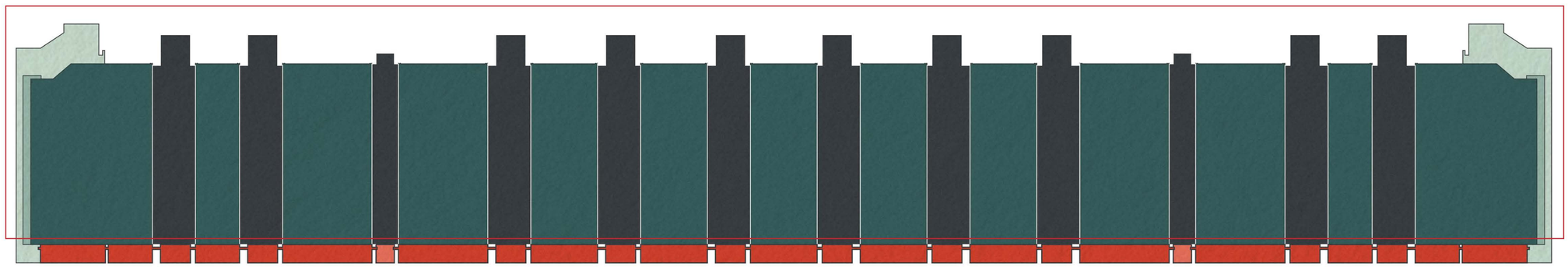


Full

Soft

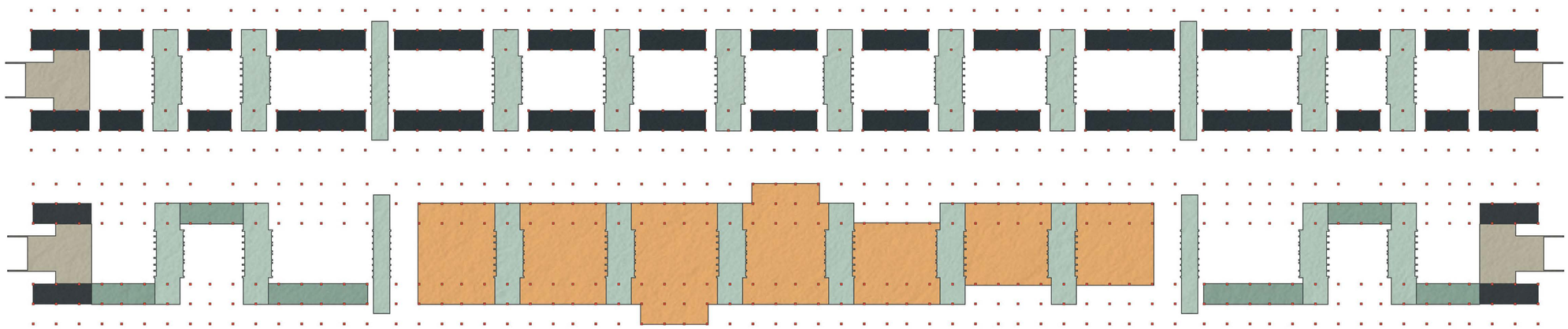
Fig. 8. Atmospheric Attributes of the Residential Units in the Block 23 Slabs .

Block 23// Staged Design



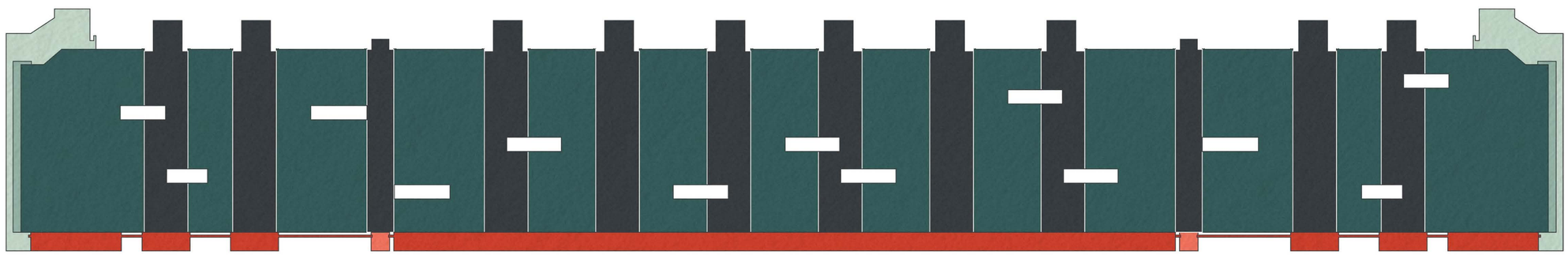
Stage I:

Restore External Envelope to Optimal Condition and Modify Circulation Routes to the Flats



Stage II:

Redevelop Existing Courtyard Structure to Create More Variety (Developed in Parallel with Stage I)



Stage III:

Reclaim Disused Flats for Communal Use

Fig. 9. Development Stages and Strategies.

C

Design Proposal// Stage I

I

Design Proposal - Stage I// Types of Damage to Existing Facade

Damage to Free Surface of Element

Damage to Free Edge of Element

Damage to Horizontal Joint

Damage to Window Lintels

Damage to Window Sills

Fig. 1. Types of Damage to Exposed Concrete Facade Elements.

II

Design Proposal - Stage I// Inconsistent Modifications to Existing Facade

Replacement of Original Glazing Units with PVC Framed Double Glazing of Inconsistent Proportions

Introduction of Thermal Insulation on the Original Exposed Concrete Facade Modifying the Original Design Concept

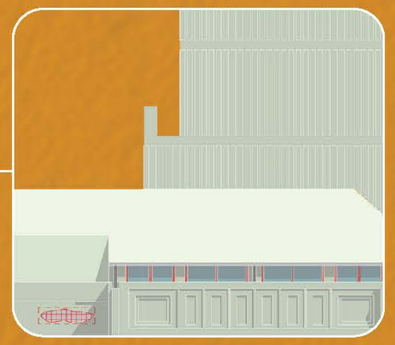
Inconsistent Re-Colouring of the Facade

Fig. 2. Types of User-Led Modifications to Original Facade Design.

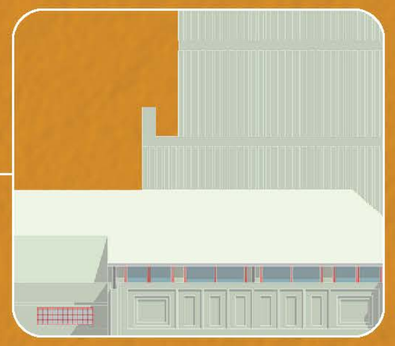
III

Design Proposal - Stage I// Types of Damage to Existing Facade

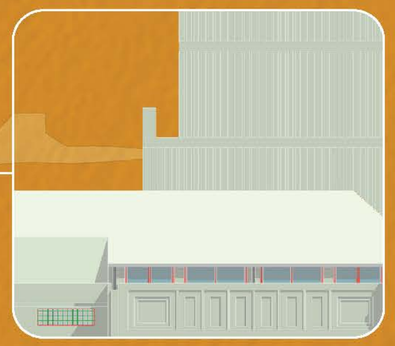
1. Highlighting Damaged Area.



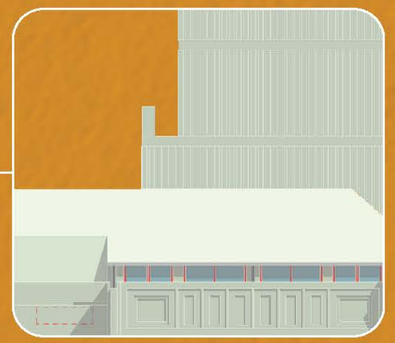
2. Creating an Orthogonal Perimeter.



3. Removing Rebar if Visible and More than 25% Corroded.



4. Reintroducing Concrete of Similar Composition to Existing.



4. Coating Exposed Concrete Surfaces to Reduce Future Damage.

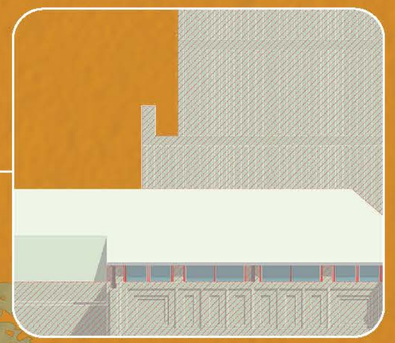
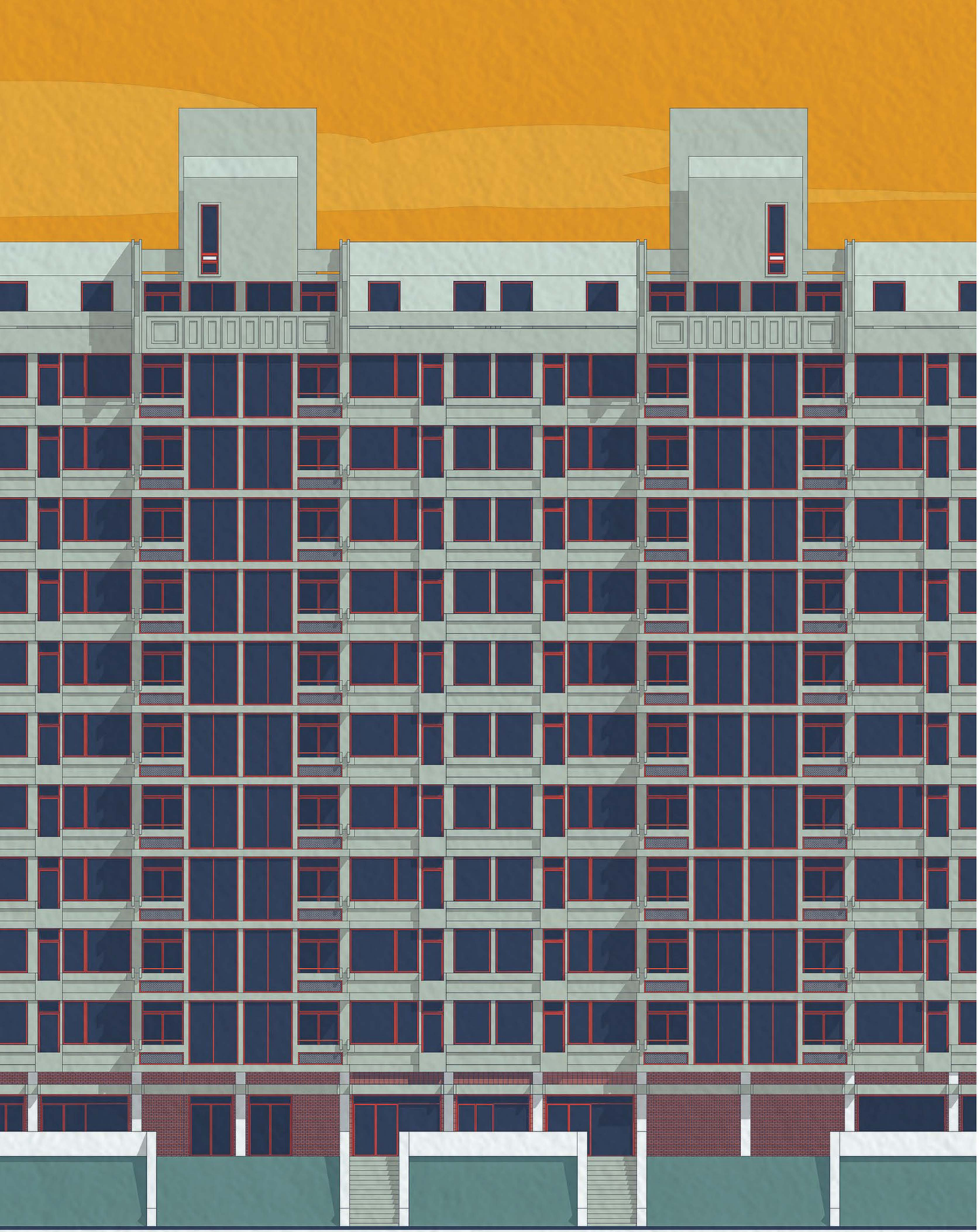


Fig. 3. Maintenance Work to Existing Facade Elements.



IV

Design Proposal - Stage I// Improving the Thermal Properties of the Facade

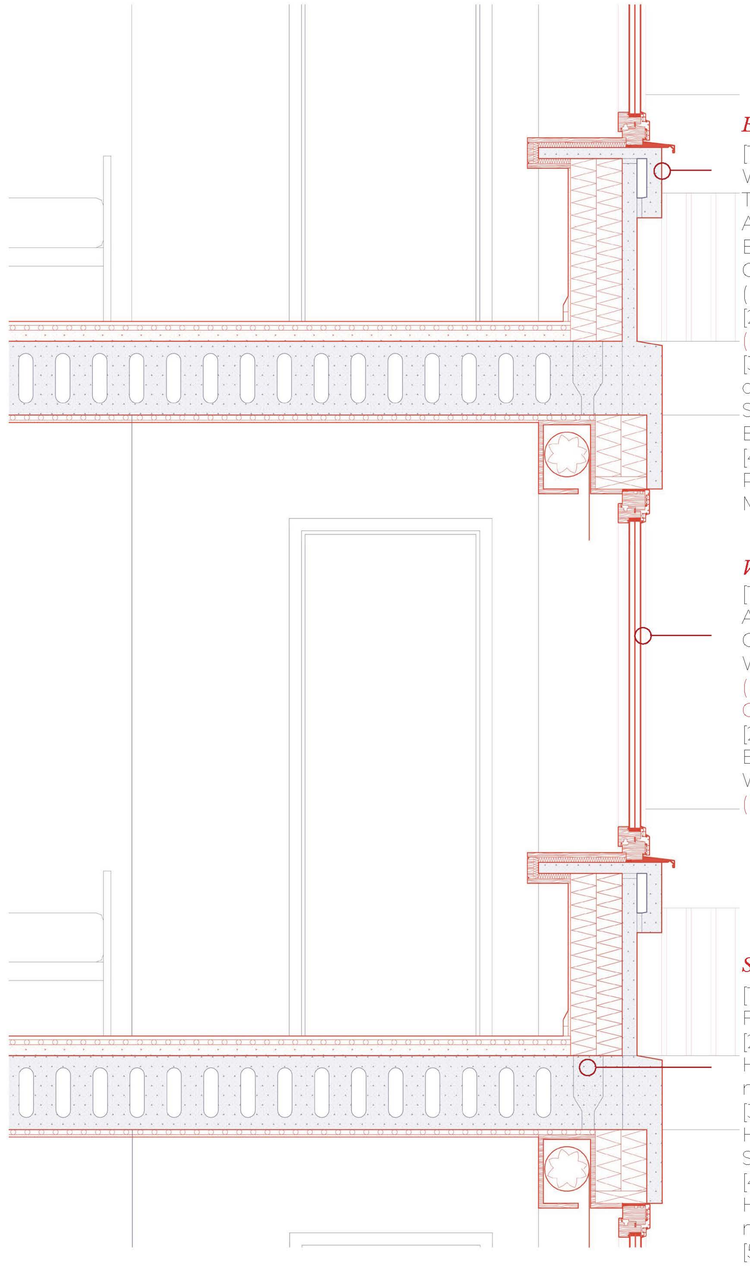
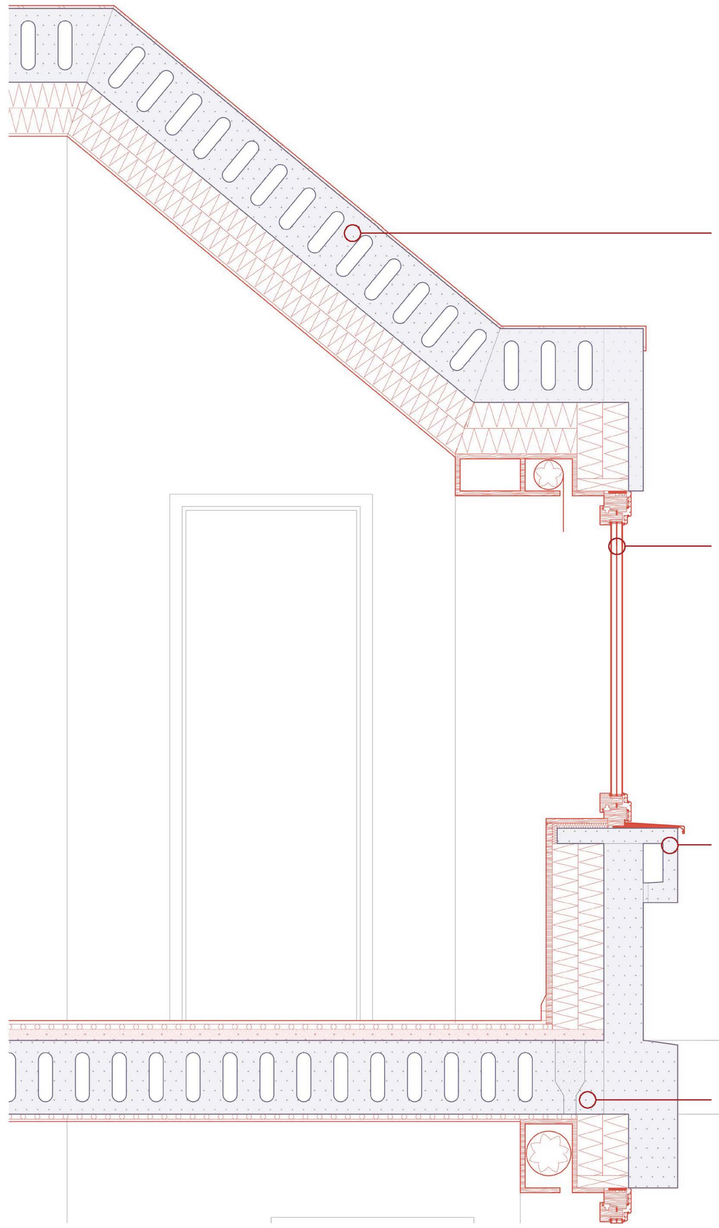


Fig. 4. (Up) Insulating Existing Facades.
Fig. 5. (Left) Proposed Modifications to Existing Facade.

Design Proposal - Stage I// Improving Thermal Properties of the Roof



Roof

[1] 1 mm Zinc Roofing (Replacing Existing)
[2] 300 mm Hollow-core Concrete Slab
[3] PE Membrane (New)
[4] 2 104 mm Panels of Cellulose Insulation Separated by Vapour Barrier (New)
[5] Painted Plasterboard Attached Mechanically (New)

Windows

[1] Wood Frame Aluminium Clad Triple Glazed Casement Windows (Replacing Existing)
[2] 500 x 170 mm Wood Box Encased Interior Window Blinds (Replacing Existing)

External Wall

[1] Silane Waterproofing Treatment (New) Applied to 160 mm Exposed Precast Concrete Panels (Existing)
[2] PE Membrane (New)
[3] 2 104 mm Panels of Cellulose Insulation Separated by Vapour Barrier (New)
[4] Painted Plasterboard (New)

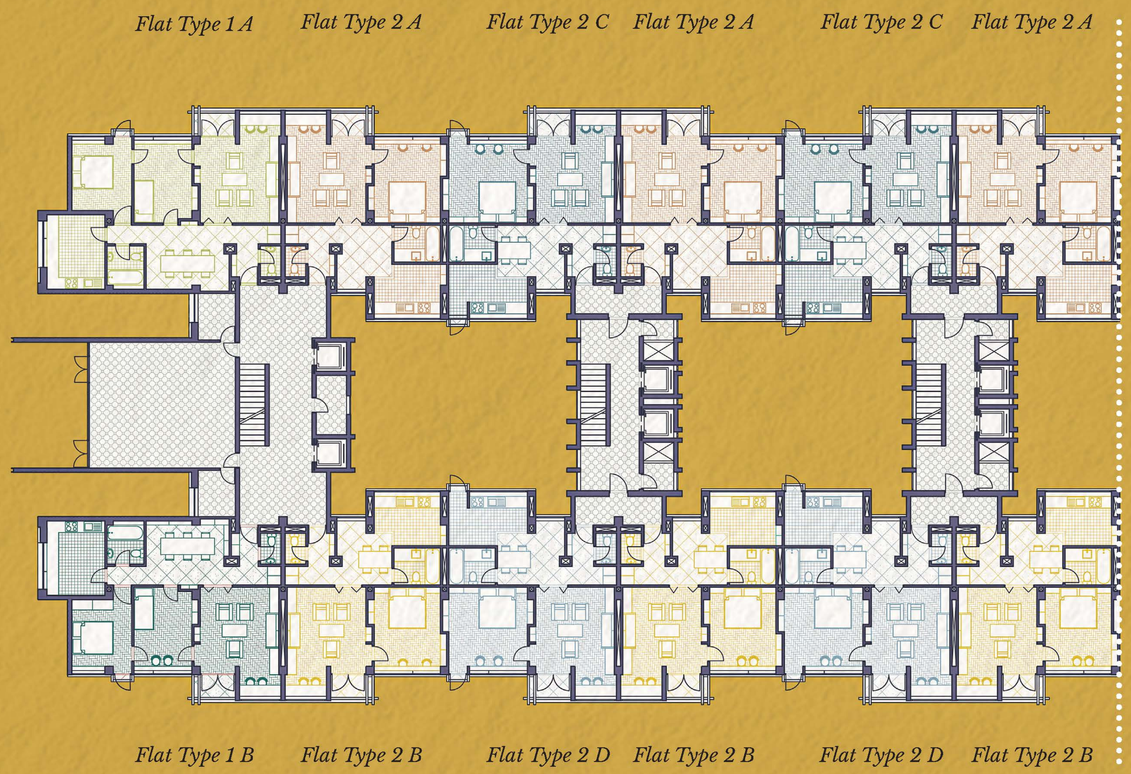
Slab

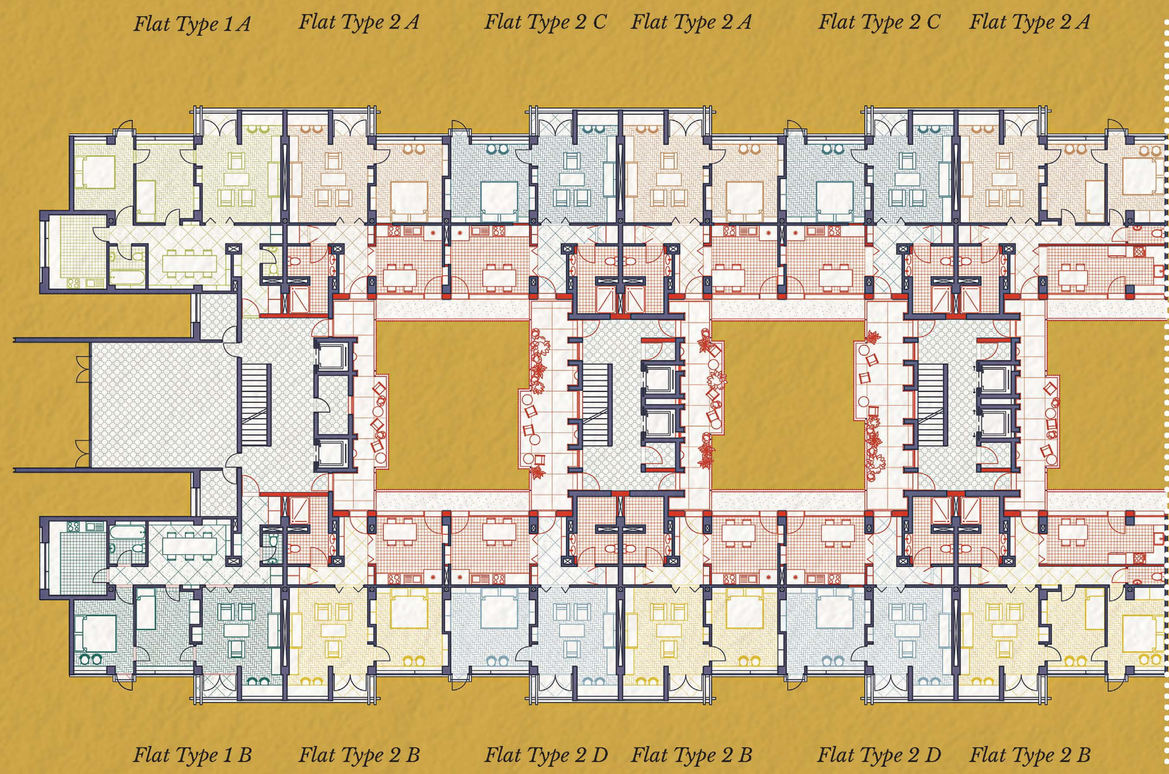
[1] 14 mm Solid Wood Flooring (New)
[2] Electric Underfloor Heating Installed in 20 mm Screed (New)
[3] 300 mm Hollow-core Concrete Slab (Existing)
[4] Electric Underfloor Heating Installed in 20 mm Screed (New)
[5] Painted Plasterboard Attached Mechanically (New)

Existing Elements *Proposed Elements*

Fig. 6. (Up) Insulating Existing Roof.
Fig. 7. (Left) Proposed Modifications to Existing Facade.

Design Proposal - Stage I// Flat Types 1 and 2



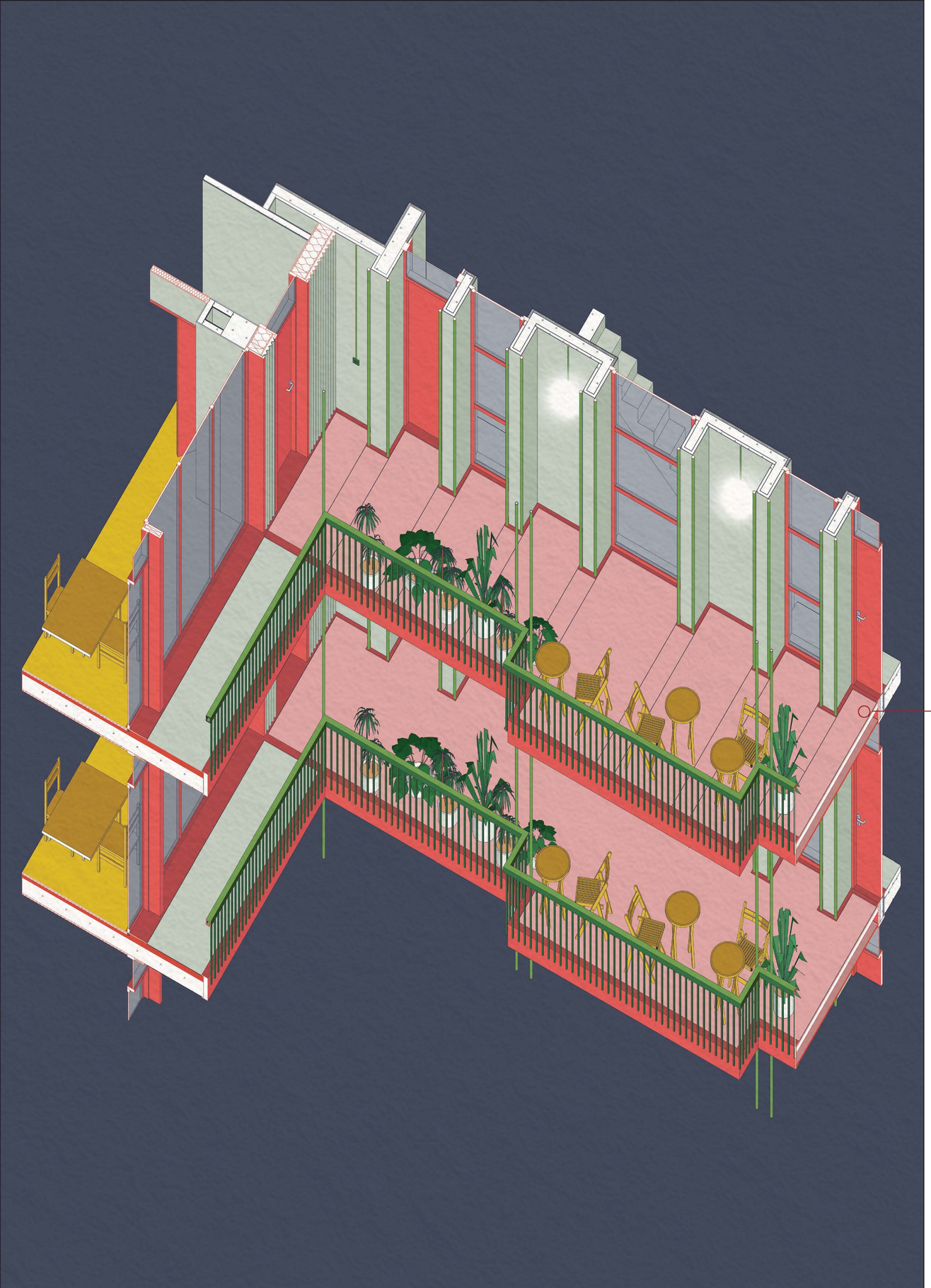


Existing Elements
Proposed Elements
Flat Type 1 A
Flat Type 1 B
Flat Type 2 A
Flat Type 2 B
Flat Type 2 C
Flat Type 2 D

Fig. 8. (Left) Existing Flat Types 1 and 2.

Fig. 9. (Right) Proposed Flat Types 1 and 2 at Stage I.

Design Proposal - Stage I// Construction of External Balconies



Courtyard Walkways

[1] Pink Sandstone Slabs (New)
[2] PE Membrane (New)
[3] 15 mm OSB board (New)
[4] PE Membrane (New)
[5] Duct Space (New)
[6] External Acoustic Insulation (New)
[7] 44 mm Acacia Wood Plancs Tinted in Coral (New)

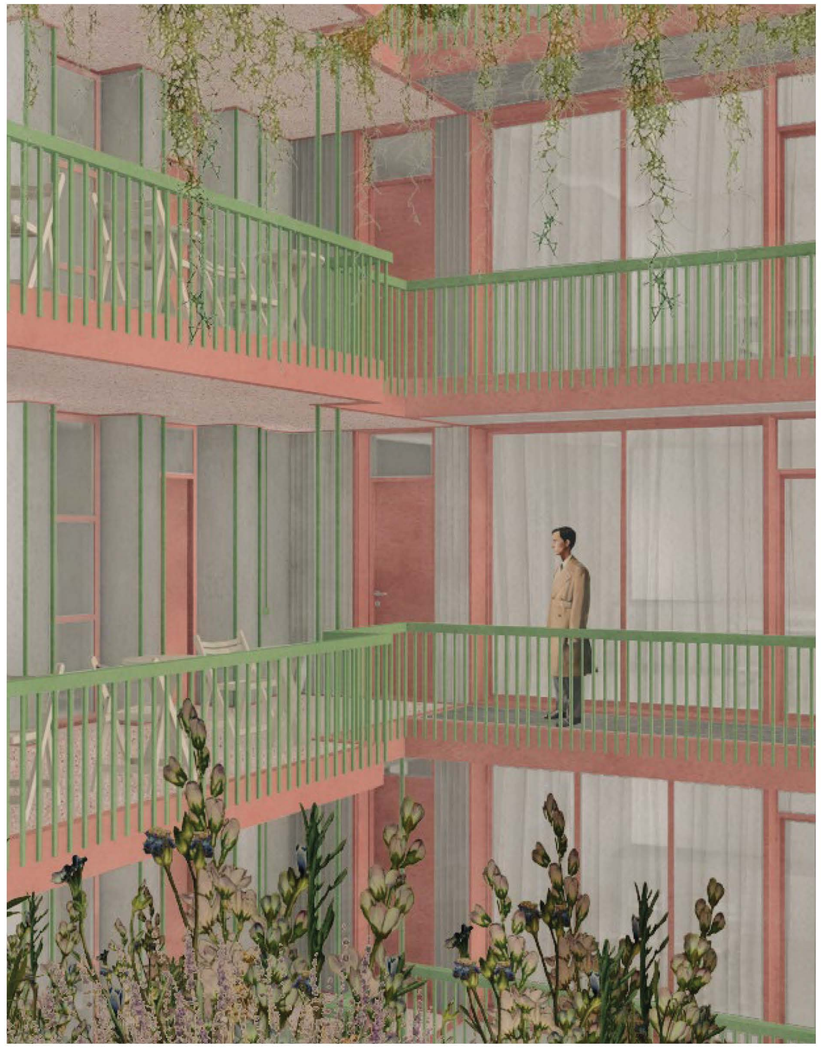


Fig. 10. (Up) View of Redesigned Courtyards.
Fig. 11. (Left) Proposed Construction of Walkways.

D

Design Proposal// Stage II

I

Design Proposal - Stage II//
Existing Site Plan

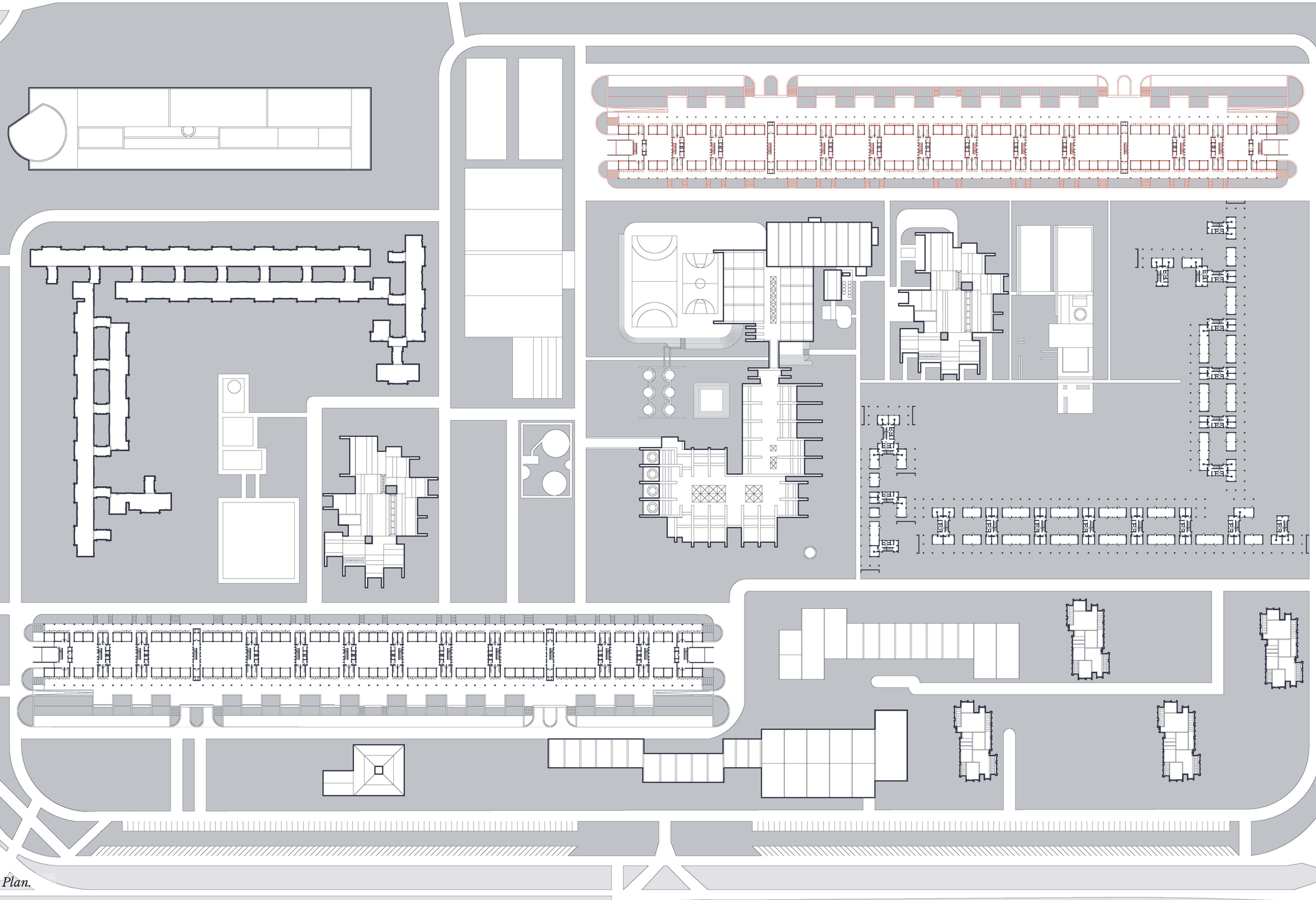


Fig.1. Existing Site Plan.

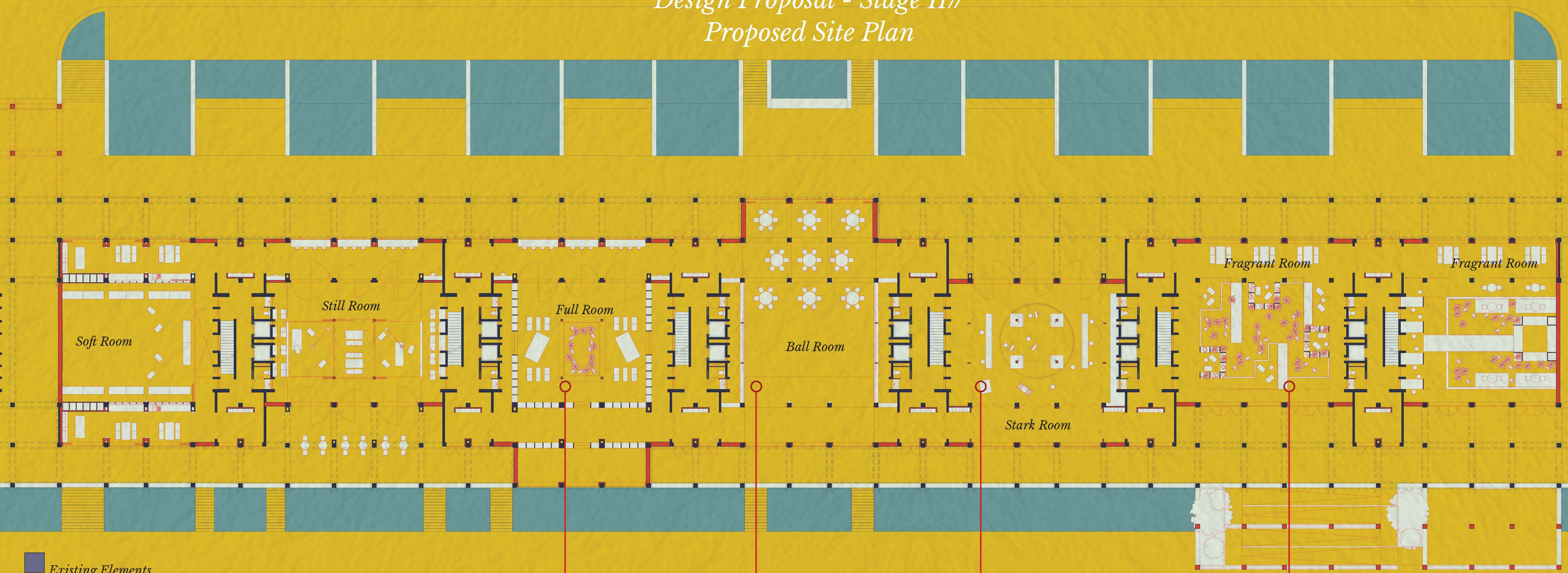
Design Proposal - Stage II// Proposed Site Plan

Existing Elements

Proposed Elements

Fig. 1. (Up) Proposed Ground Floor Plan and South Elevation.

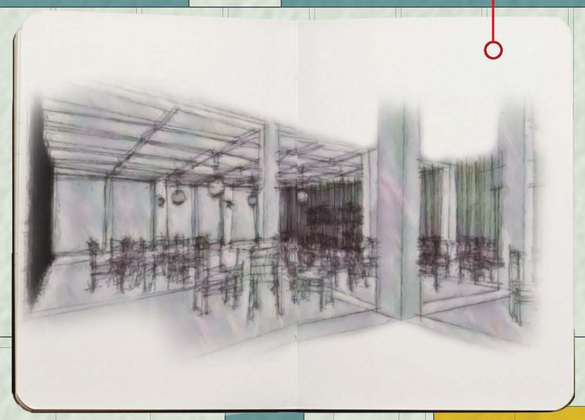
Design Proposal - Stage II//
Proposed Site Plan

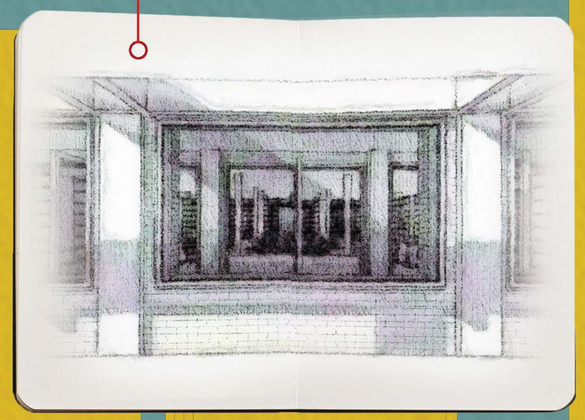


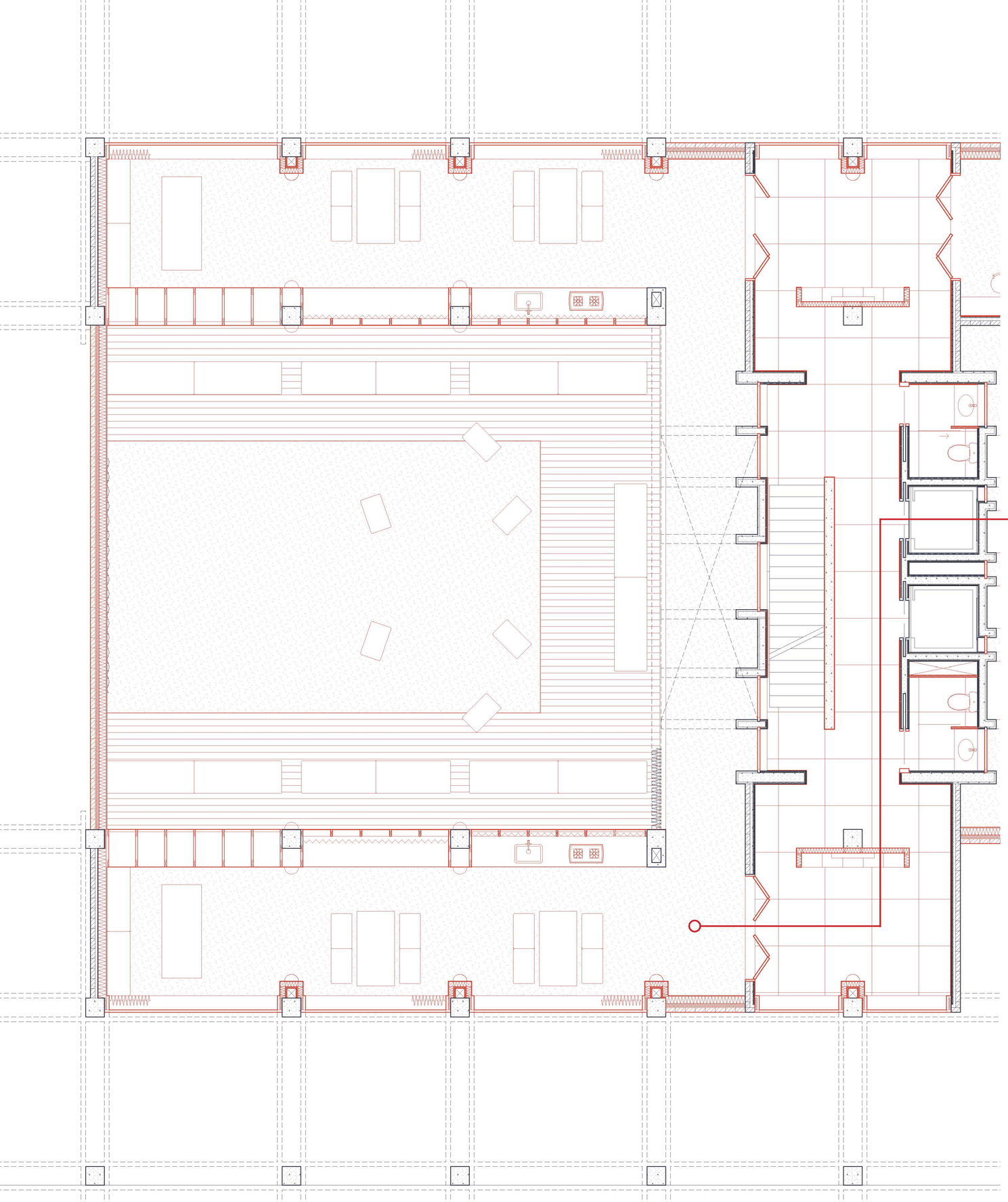
Existing Elements

Proposed Elements

Fig. 2. (Up) Proposed Ground Floor Plan and South Elevation.2

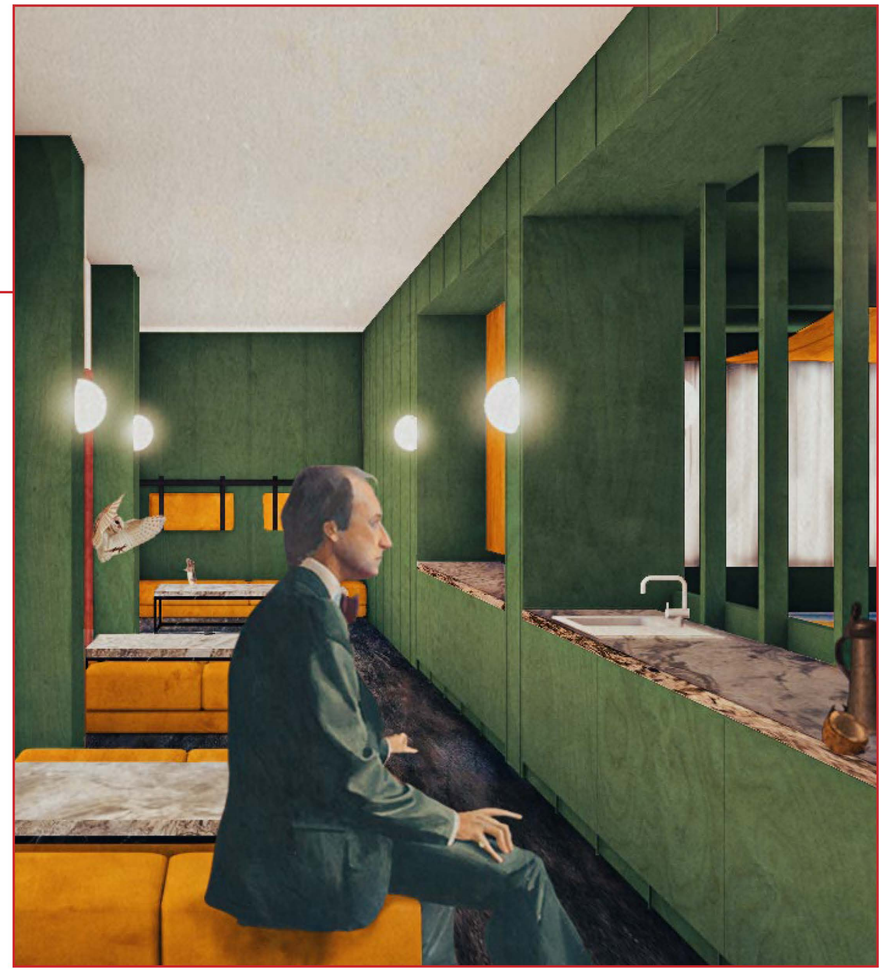






IV

Design Proposal - Stage II// Soft Room



Existing Elements

Proposed Elements

Fig. 4. (Left) Proposed Soft Room Plan.

Fig. 5. (Up) View of Soft Room.

Existing Elements

Proposed Elements

Fig. 6. Proposed Soft Room Section.

V

Design Proposal - Stage II// Spatial Relation Between Ground Floor and Upper Floors

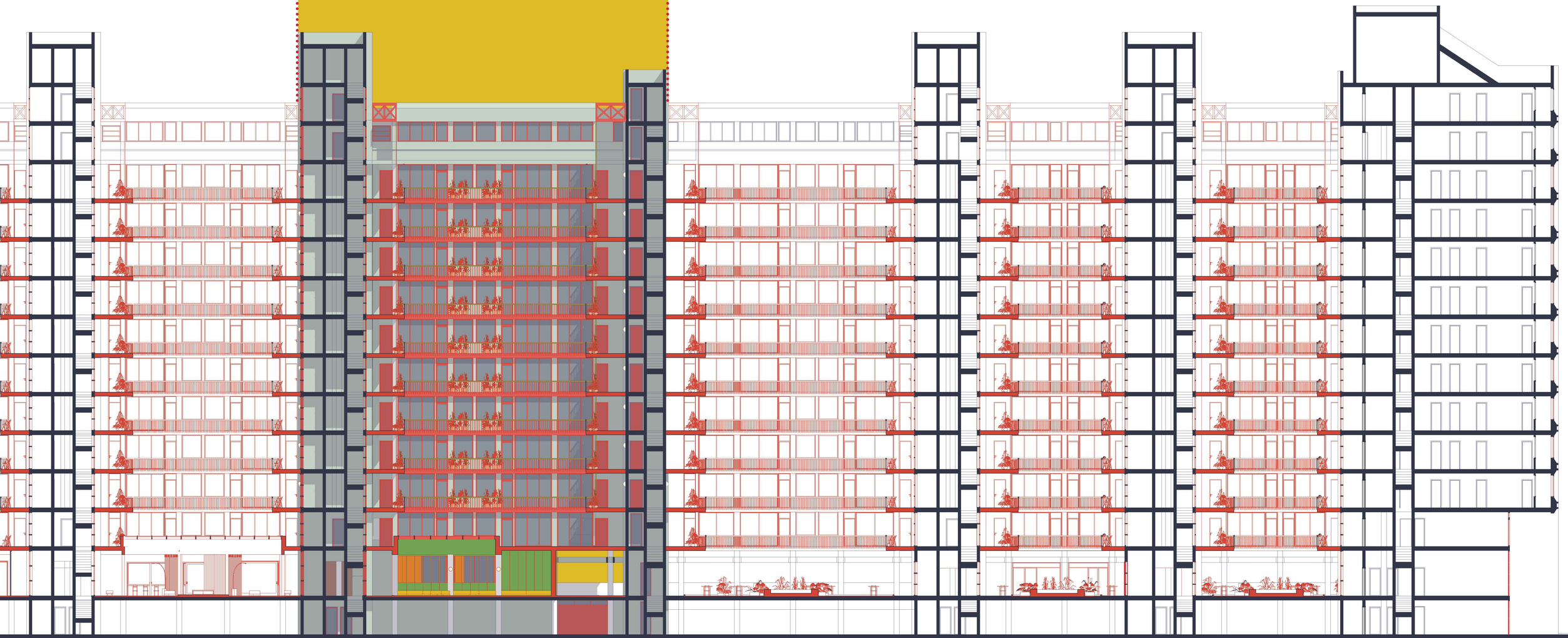
Existing Elements

Proposed Elements

Fig. 7. (Left) Detail Section at Scale 1:20.

Fig. 8. (Up) View of Quiet Room.

Design Proposal - Stage II// Longitudinal Section



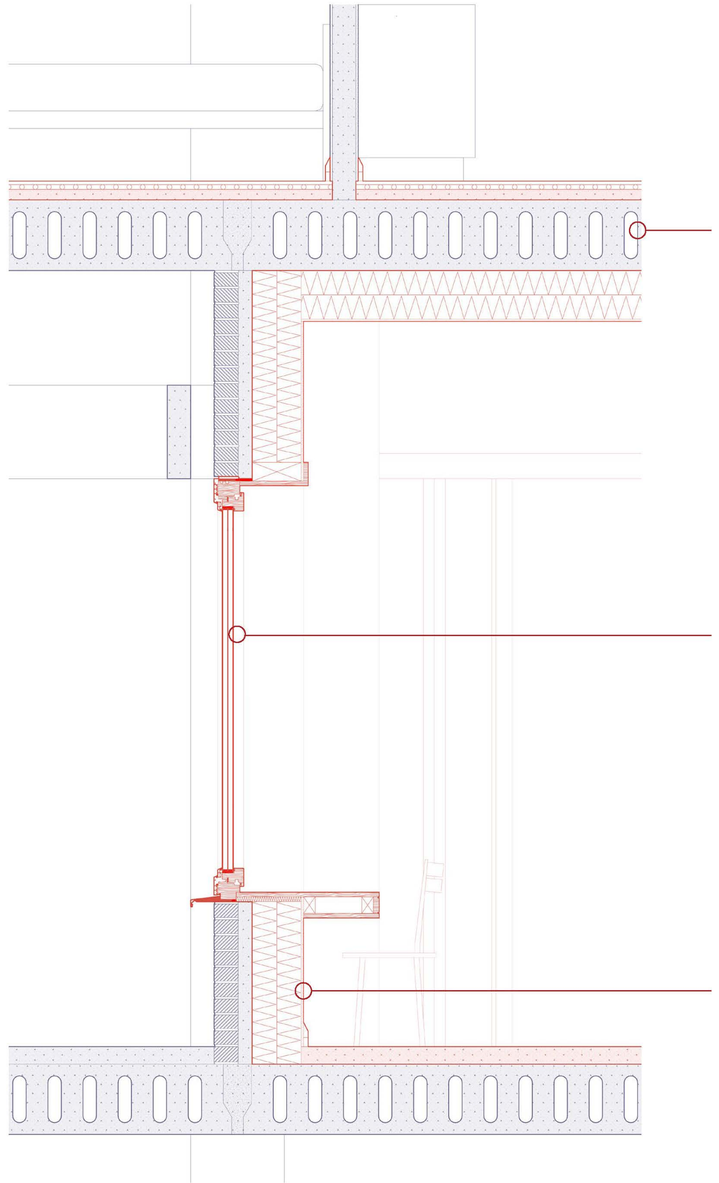
Proposed Elements *Existing Elements*

Fig. 9. (Up) Proposed Longitudinal Section.

Fig. 10. (Down) Proposed Longitudinal Section (Zoom).

VII

Design Proposal - Stage II// Improving Thermal Properties of the Facade



Slab

[1] 14 mm Solid Wood Flooring (New)
[2] Electric Underfloor Heating Installed in 20 mm Screed (New)
[3] 300 mm Hollow-core Concrete Slab (Existing)
[4] 2 104 mm Panels of Cellulose Insulation Separated by Vapour Barrier (New)
[5] Painted Plasterboard Attached Mechanically (New)

Windows

[1] Wood Frame Aluminium Clad Triple Glazed Casement Windows (Replacing Existing in Existing Opening)

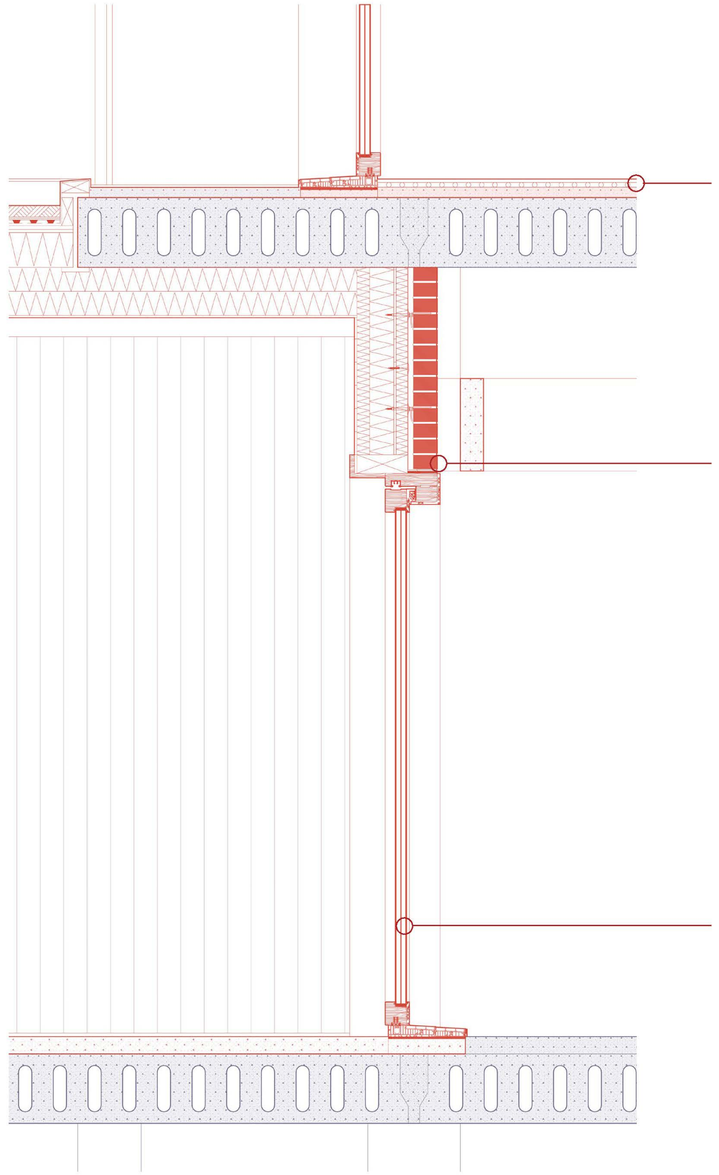
External Wall

[1] Brick Layer in Soldier Bond (New)
[2] Air Cavity (New)
[3] PE Membrane (New)
[4] 2 104 mm Panels of Cellulose Insulation Separated by Vapour Barrier (New)
[5] Painted Plasterboard Attached Mechanically (New)

Fig. 11. (Up) Insulating Existing Ground Floor Spaces.
Fig. 12. (Left) Proposed Modifications to Existing Facade.

VIII

Design Proposal - Stage II// Additions to the Facade



Slab

[1] 14 mm Solid Wood Flooring (New)
[2] Electric Underfloor Heating Installed in 20 mm Screed (New)
[3] 300 mm Hollow-core Concrete Slab (Existing)
[4] 2 104 mm Panels of Cellulose Insulation Separated by Vapour Barrier (New)
[5] Painted Plasterboard Attached Mechanically (New)

External Wall

[1] Brick Layer in Soldier Bond (New)
[2] Air Cavity (New)
[3] PE Membrane (New)
[4] 2 104 mm Panels of Cellulose Insulation Separated by Vapour Barrier (New)
[5] Painted Plasterboard Attached Mechanically (New)

Sliding Door

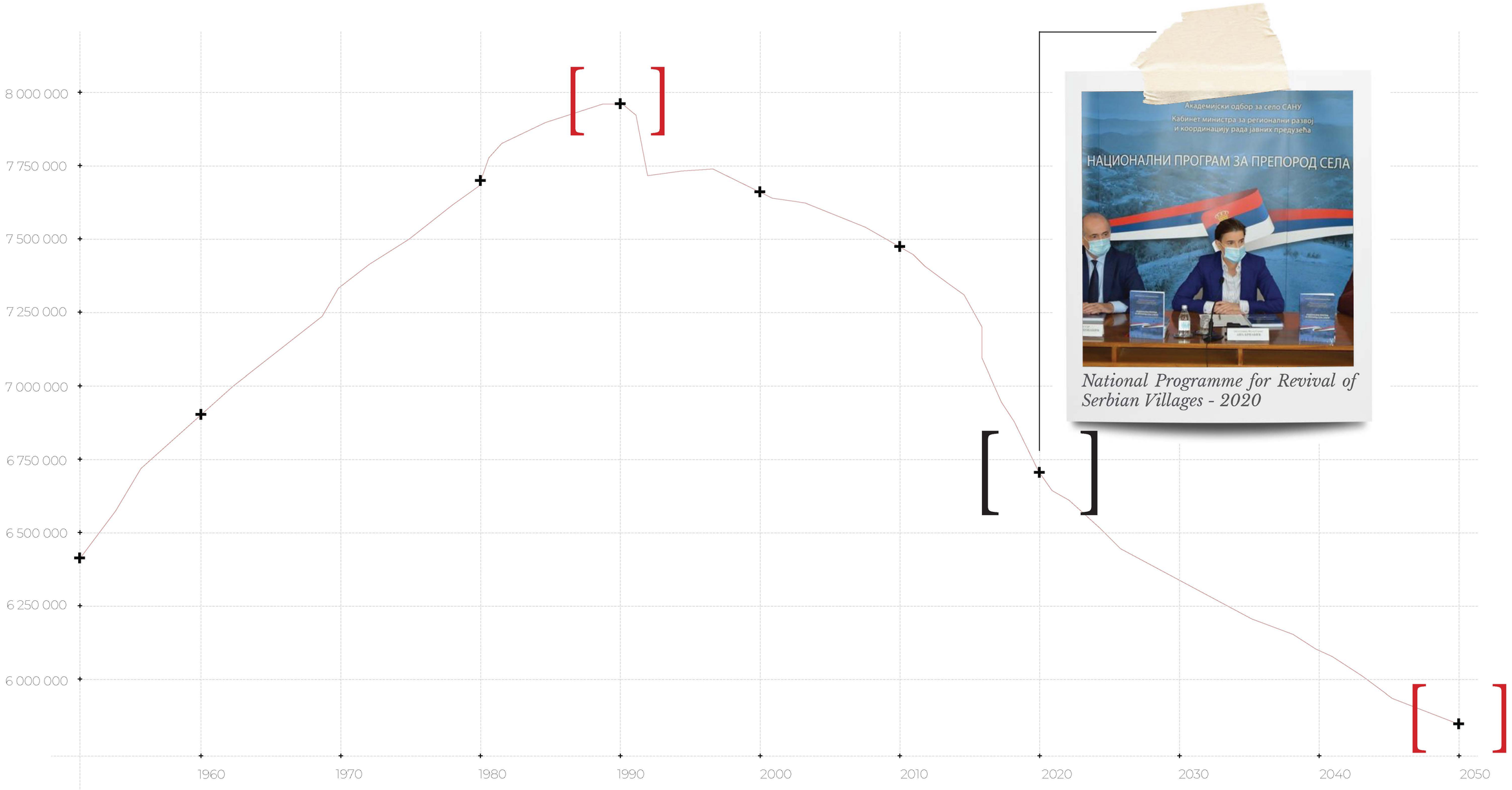
[1] Wood Frame Aluminium Clad Triple Glazed Sliding Door (Replacing Existing in Existing Opening)

Fig. 13. (Up) New Ground Floor Walls.
Fig. 14. (Left) Proposed Modifications to Existing Facade.

E

Design Proposal// Stage III

Design Proposal - Stage III// Projected Population Loss



National Programme for Revival of Serbian Villages - 2020

Fig. 1. Projected Drop in the Population of Serbia and the National Programme for Revival of Serbian Villages.

Design Proposal - Stage III// Flat Types 1 and 2

Existing Elements
Proposed Elements
Flat Type 1 A
Flat Type 1 B
Flat Type 2 A
Flat Type 2 B
Flat Type 2 C
Flat Type 2 D

Fig. 2. (Left) Flat Types 1 and 2 after Stage I.

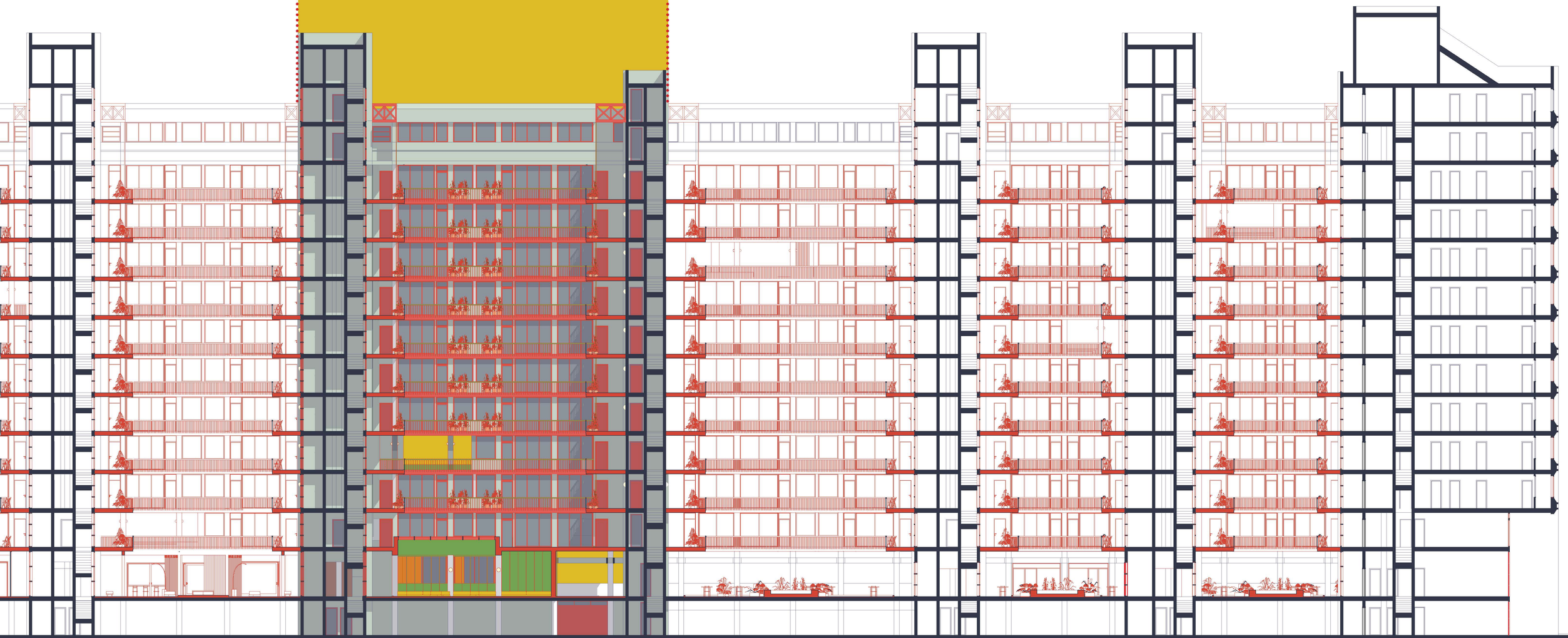
Fig. 3. (Right) Proposed Flat Type 2 at Stage III.

Design Proposal - Stage III// Facade South

Fig. 4. (Up) Proposed South Facade at Stage III.

Fig. 5. (Down) Proposed South Facade at Stage III (Zoom).

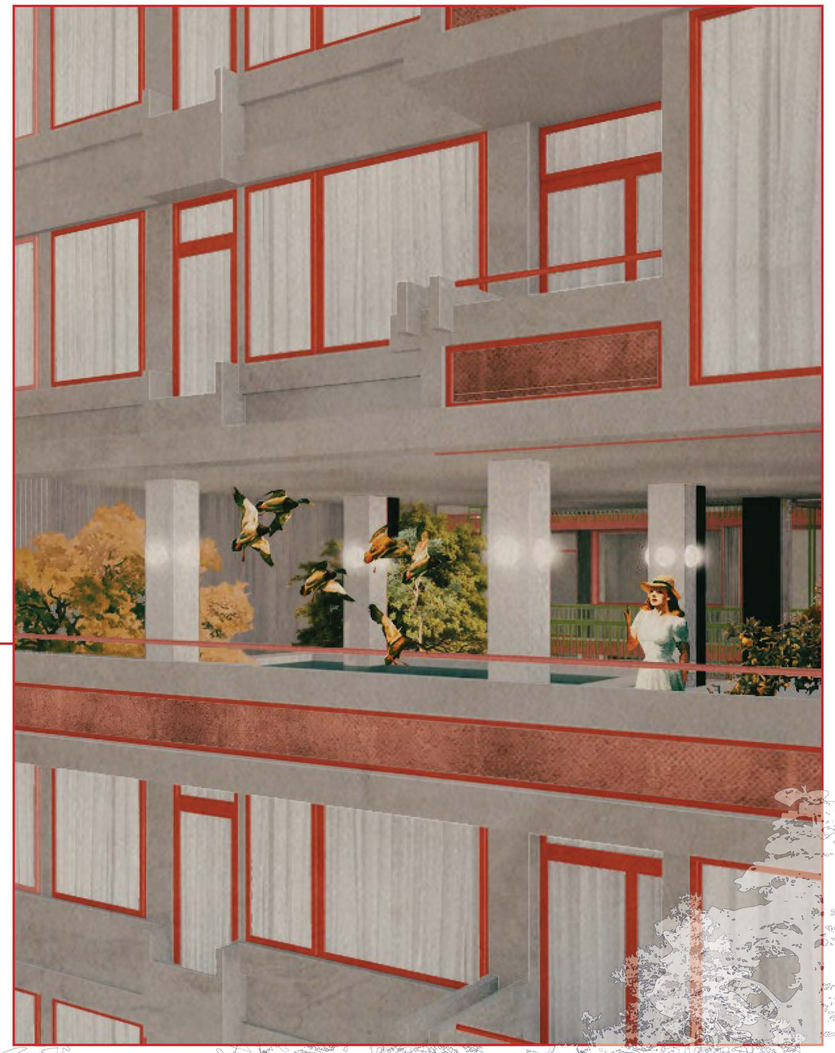
Design Proposal - Stage III// Longitudinal Section



Proposed Elements *Existing Elements*

Fig. 6. (Up) Proposed Longitudinal Section.

Design Proposal - Stage III// Short Section



Existing Elements

Proposed Elements

Fig. 7. (Left) Short Section at Stage III.

Fig. 8. (Up) View of Facade Substraction.

F

Reflection// Being Home

How the a Certain Longing for “Home” has shaped my Personal Practice

“And after we are in the new house , when memories

of other places we have lived in come back to us, we travel

to the land of Motionless Childhood, motionless in the way

all Immemorial things”

— Gaston Bachelard, The Poetics of Space

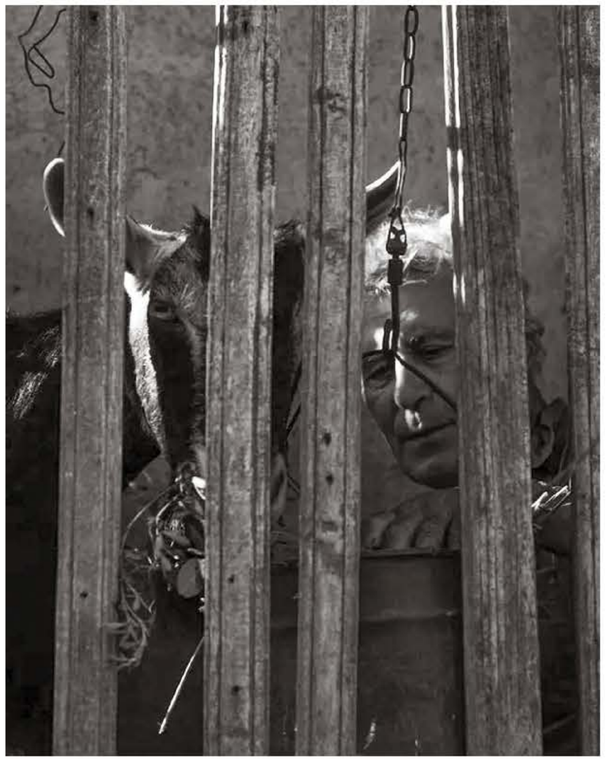
I

Reflection// Three Wildly Different Countries

Bucharest - Romania

Sheffield - U.K.

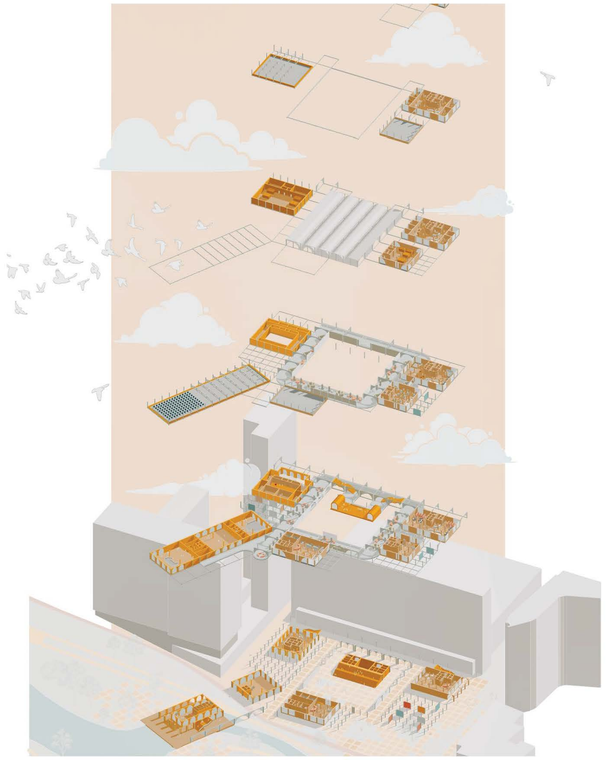
Delft - The Netherlands

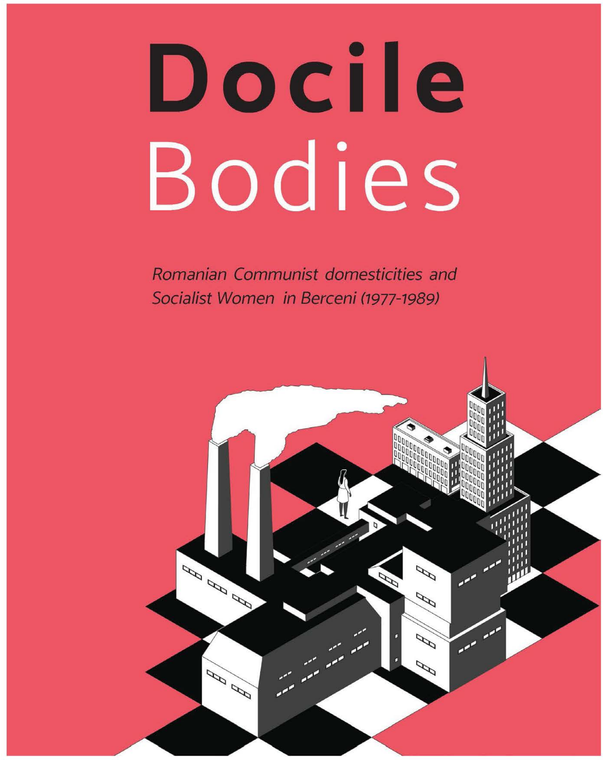


Joita - Romania

II

Reflection// Personal Practice





Reflection// Acknowledgements

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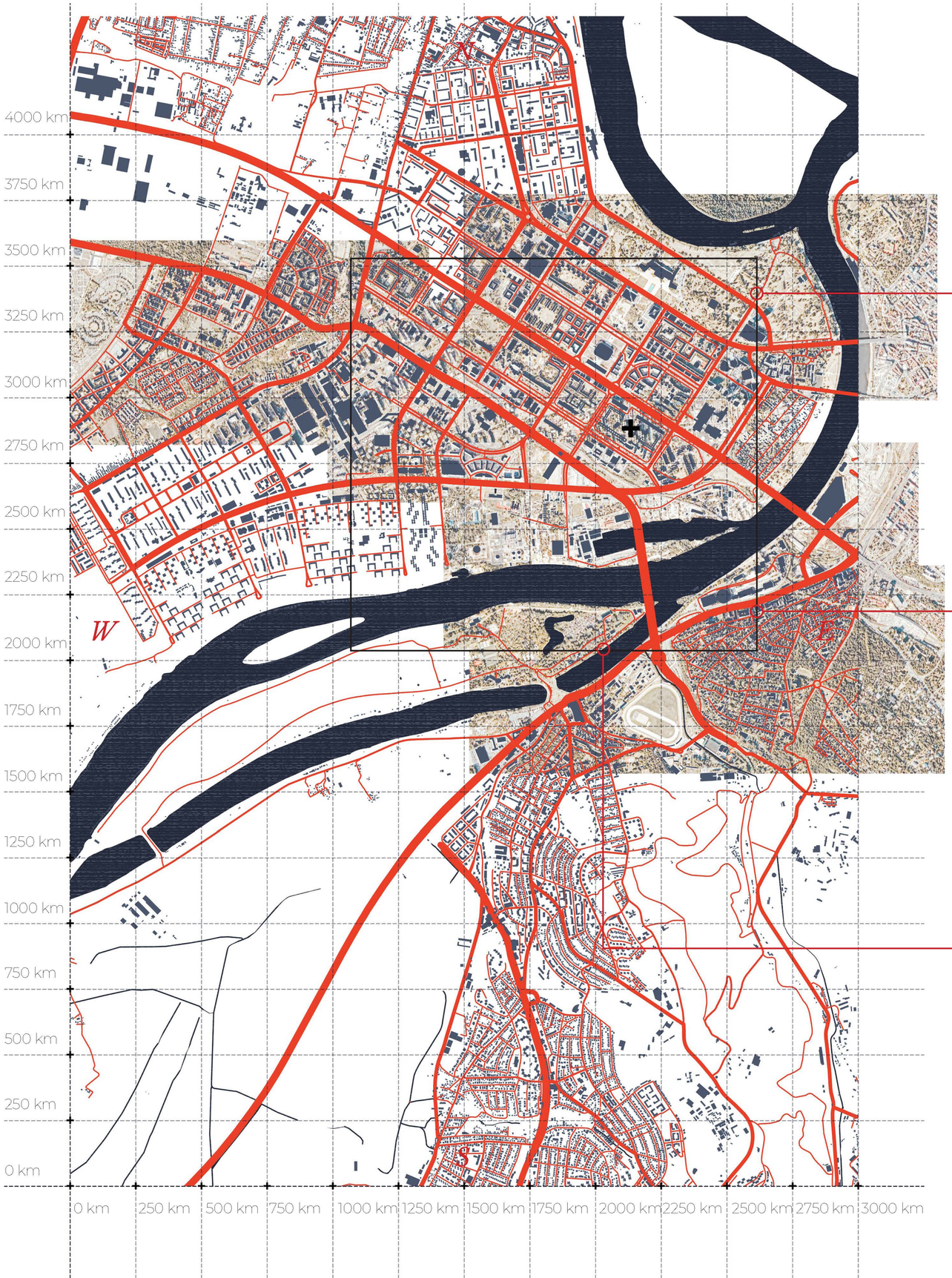
Thank You!

G

Appendix

I

Design Proposal// Prior Concepts



Blokovi

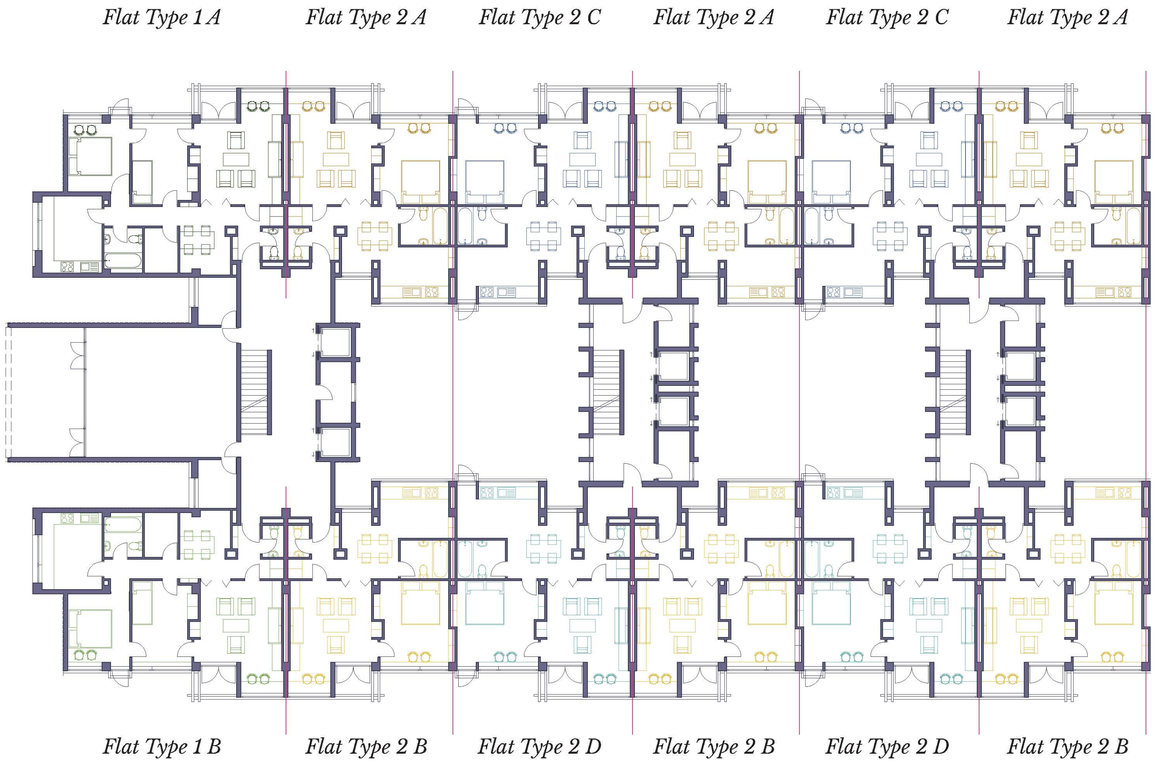
Anomie

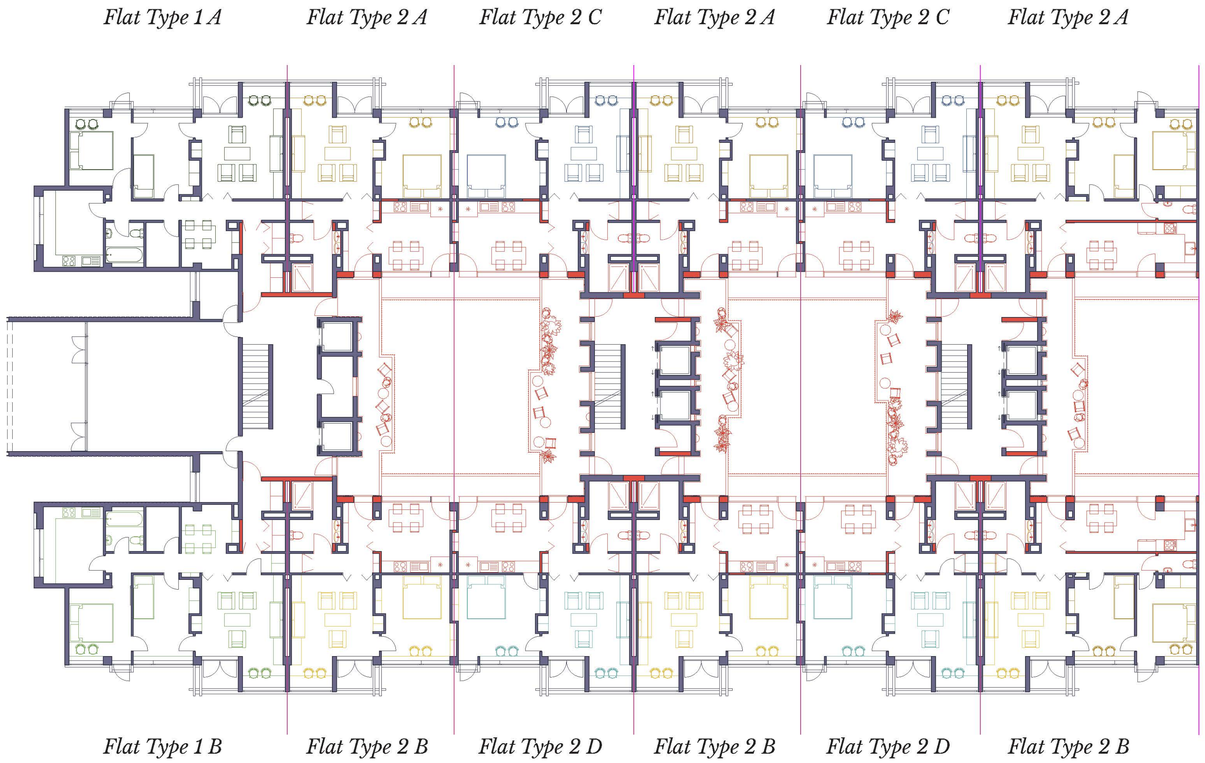
Nostalgia

Fig. 1. (Up) Conceptual Collage.

Fig. 2. (Left) New Belgrade Site Plan.

Design Proposal - Stage I// Flat Types 1 and 2





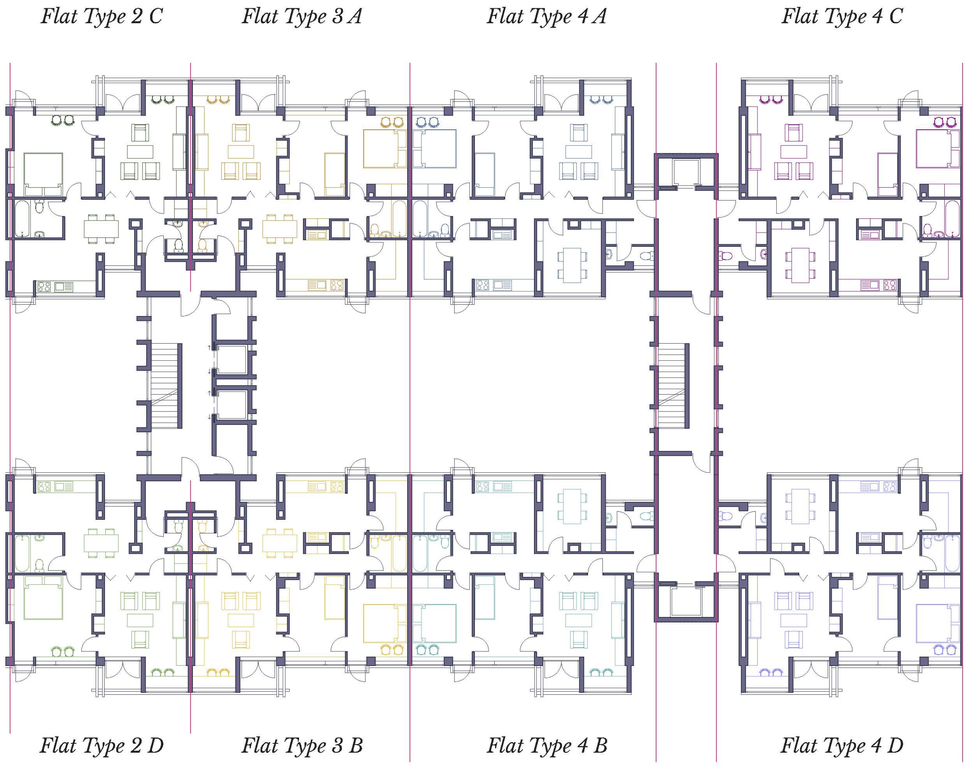
Existing Elements

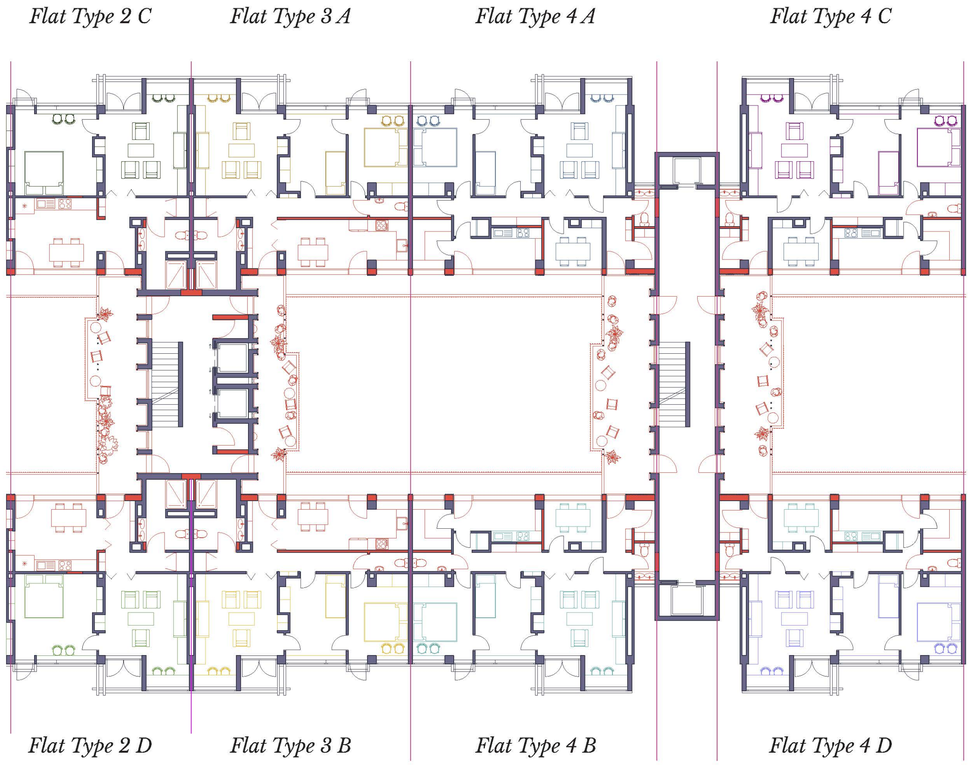
Proposed Elements

Fig. 3. (Left) Existing Flat Types 1 and 2.

Fig. 4. (Right) Proposed Flat Types 1 and 2 at Stage I.

Design Proposal - Stage I// Flat Types 2, 3 and 4





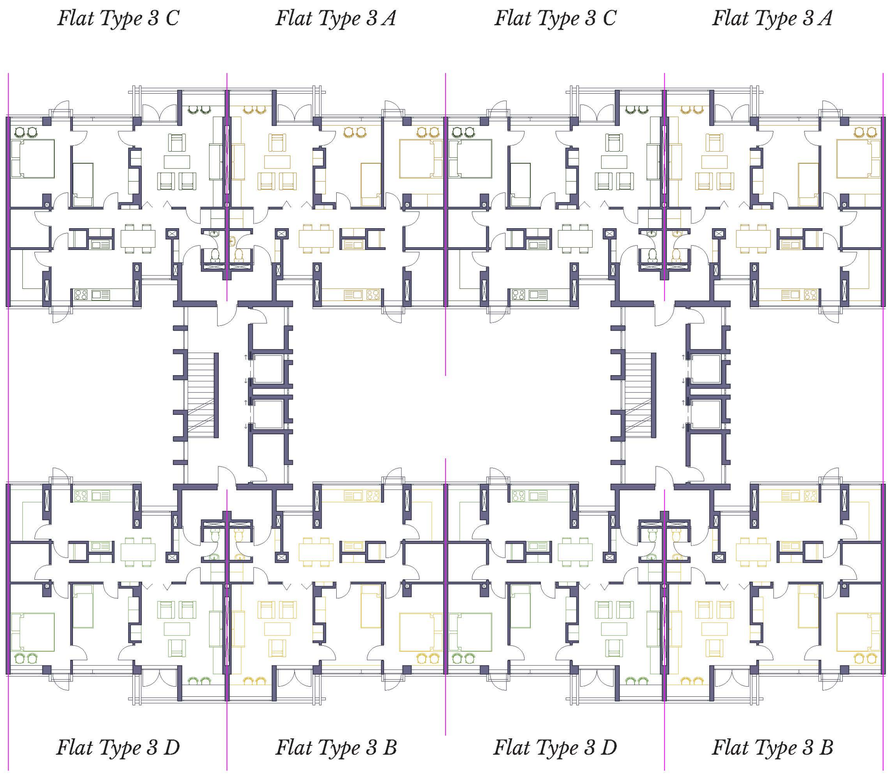
Existing Elements

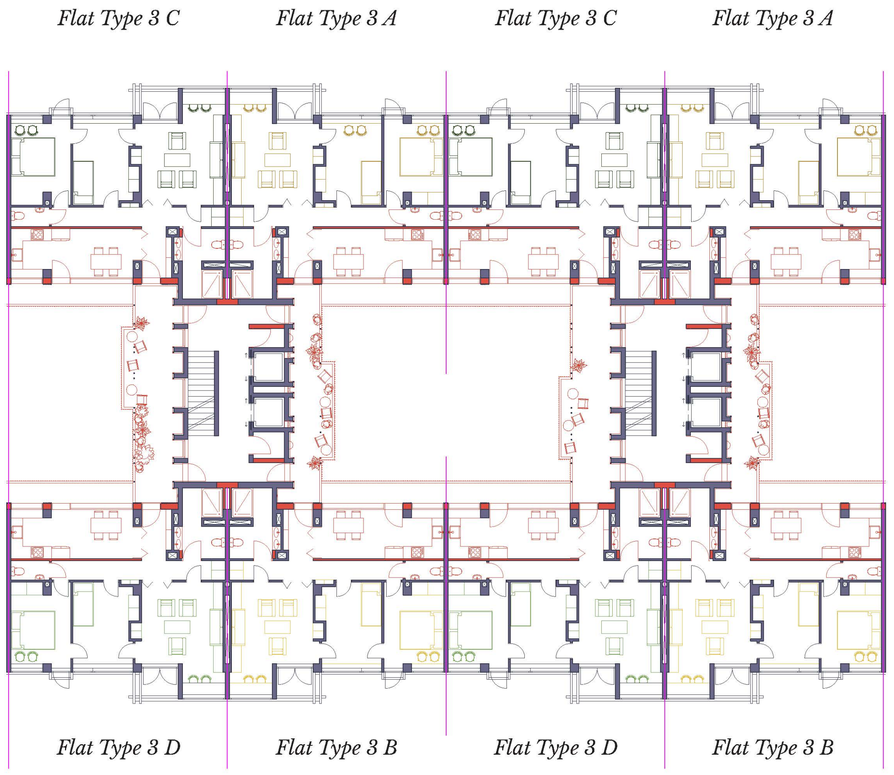
Proposed Elements

Fig. 5. (Left) Existing Flat Types 2, 3 and 4.

Fig. 6. (Right) Proposed Flat Types 2, 3 and 4 at Stage I.

Design Proposal - Stage I// Flat Type 3





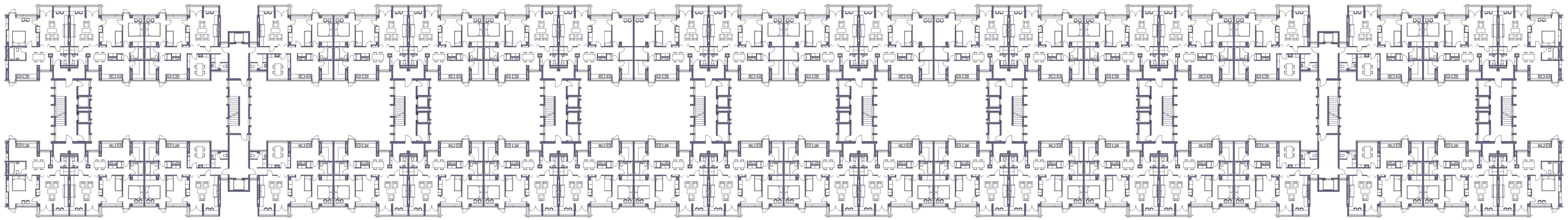
Existing Elements

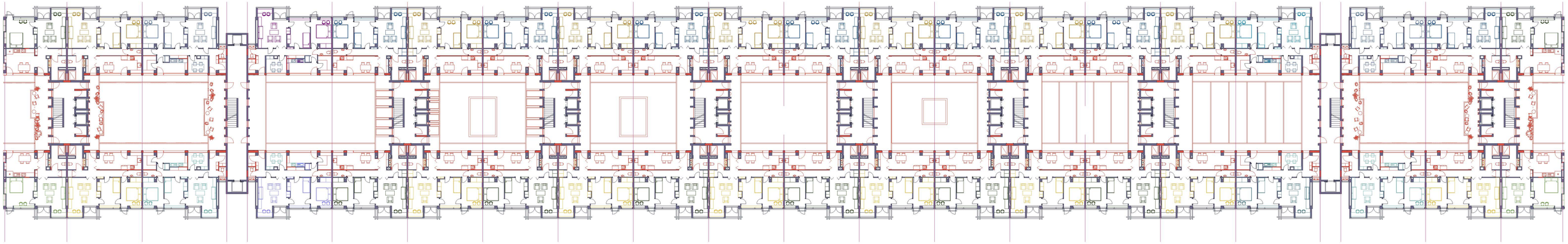
Proposed Elements

Fig. 7. (Left) Existing Flat Type 3.

Fig. 8. (Right) Proposed Flat Type 3 at Stage I.

Design Proposal - Stage I// Proposed First Floor Plan (Central Section)





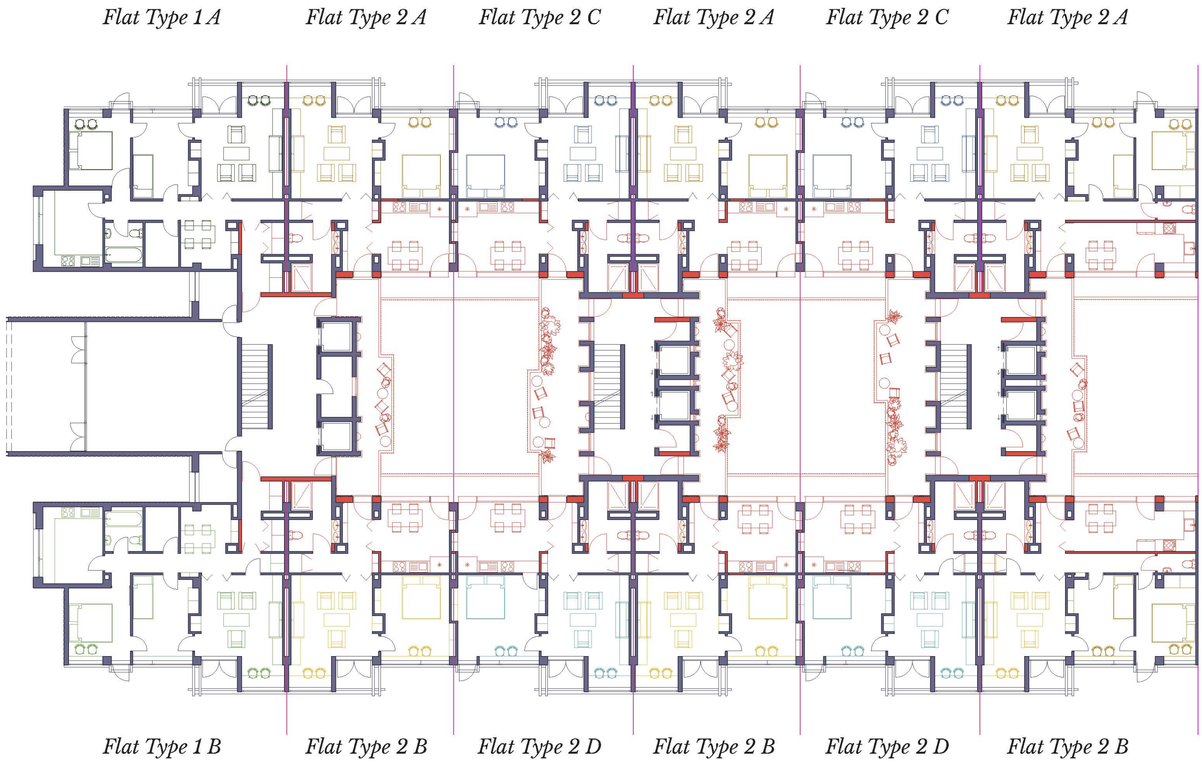
Existing Elements

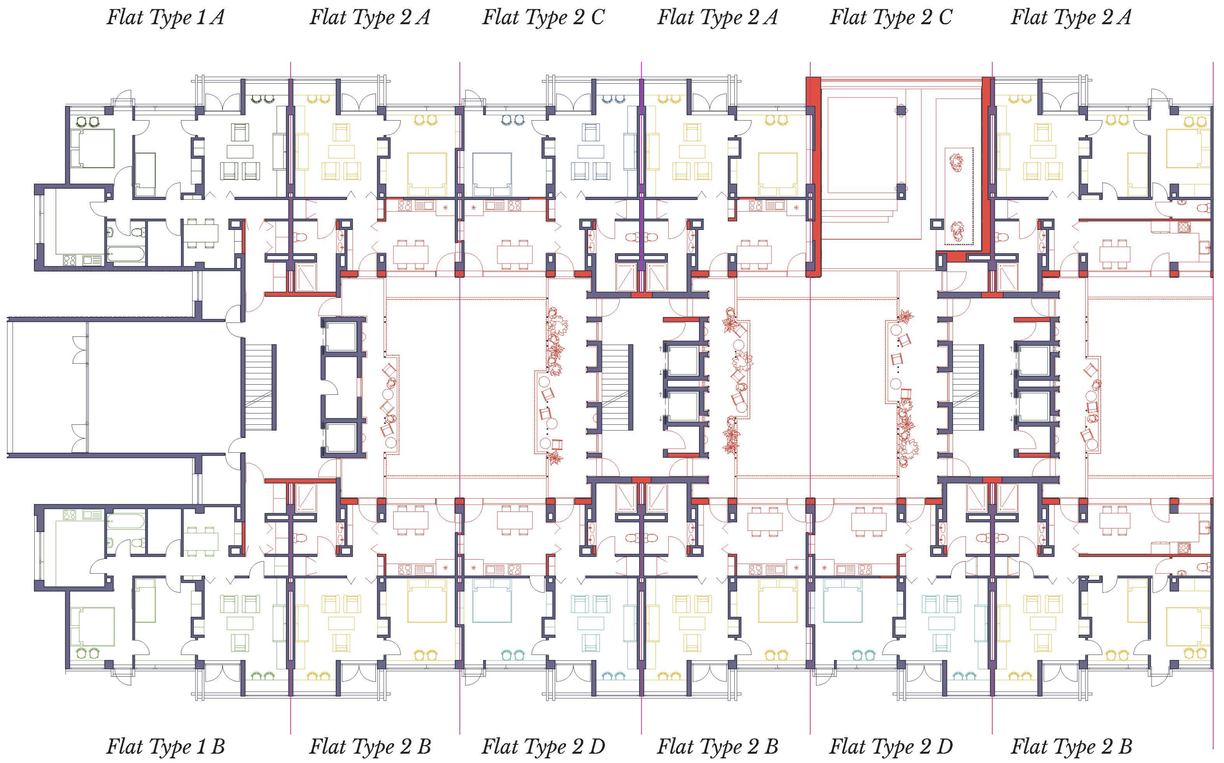
Proposed Elements

Fig. 9. (Up) Existing First Floor Plan.

Fig. 10. (Down) Proposed First Floor Plan.

Design Proposal - Stage III// Flat Types 1 and 2





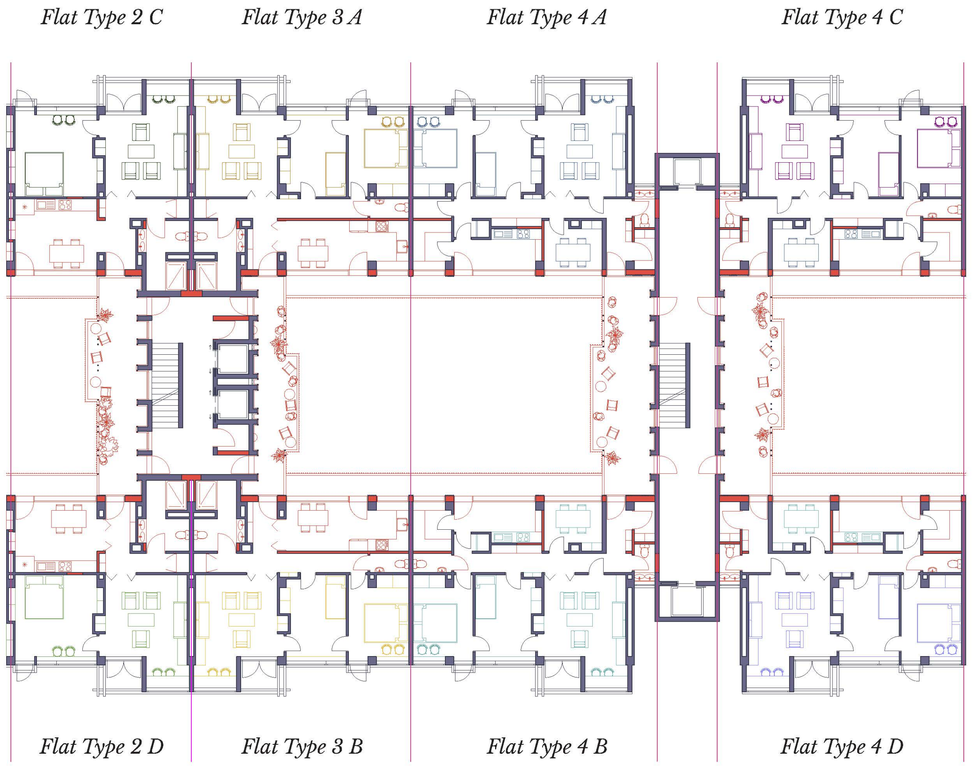
Existing Elements

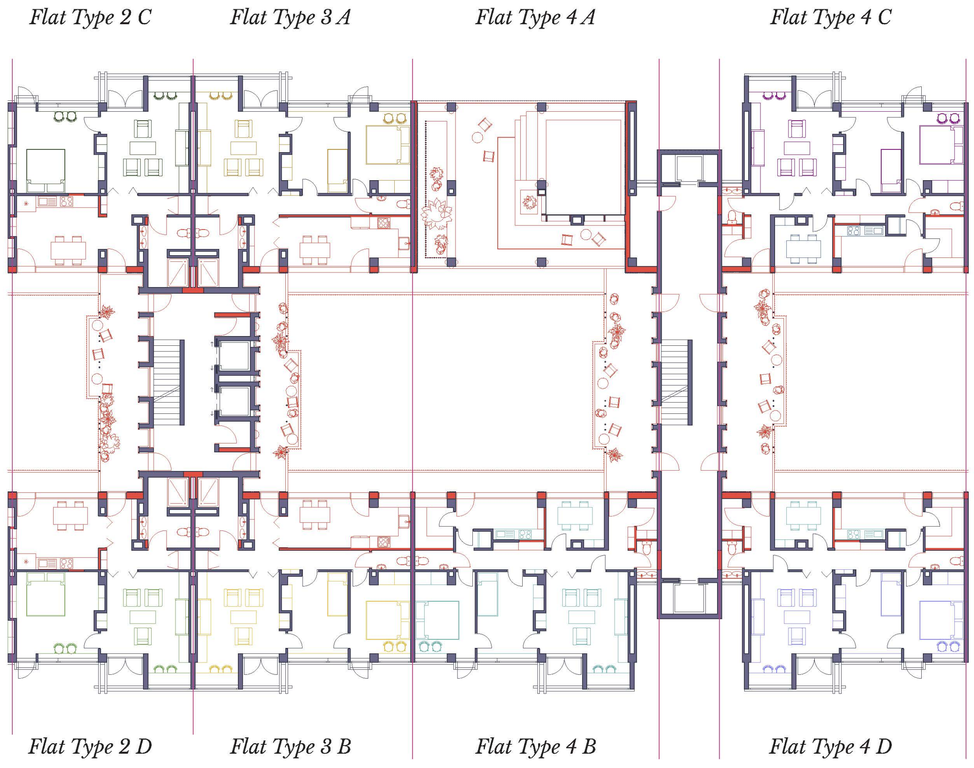
Proposed Elements

Fig. 11. (Left) Existing Flat Types 1 and 2.

Fig. 12. (Right) Proposed Flat Types 1 and 2 at Stage III.

Design Proposal - Stage III// Flat Types 2, 3 and 4





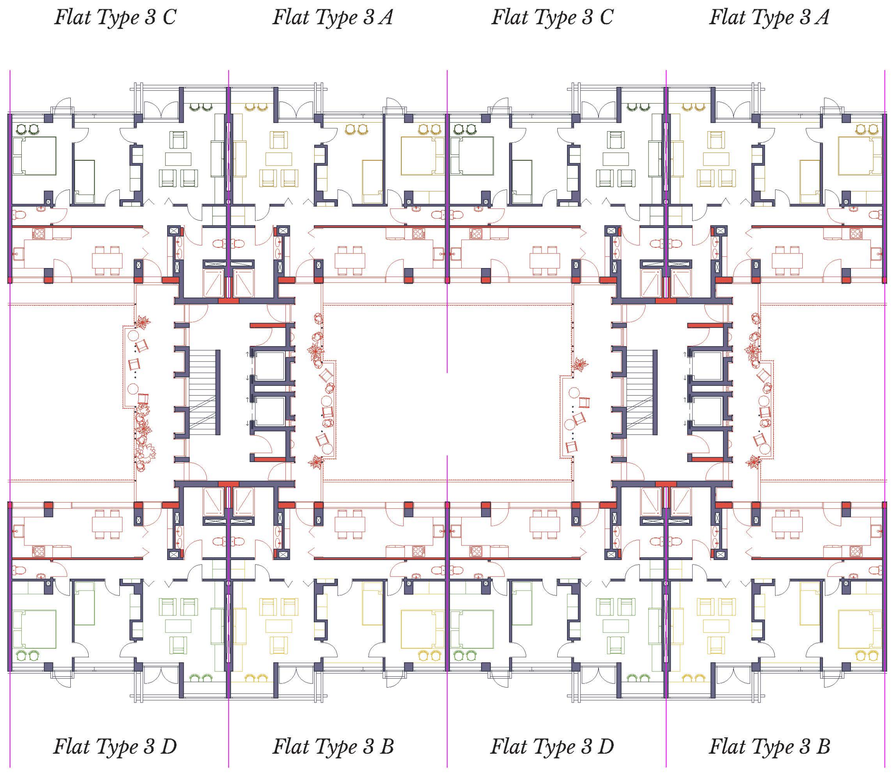
Existing Elements

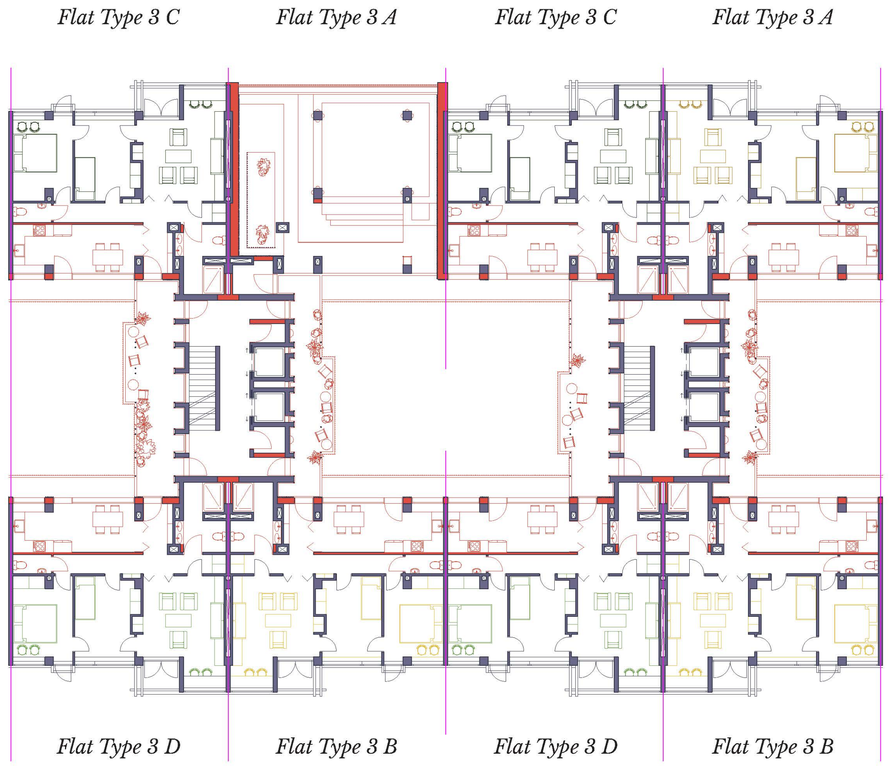
Proposed Elements

Fig. 13. (Left) Existing Flat Types 2, 3 and 4.

Fig. 14. (Right) Proposed Flat Types 2, 3 and 4 at Stage III.

Design Proposal - Stage III// Flat Type 3





Existing Elements

Proposed Elements

Fig. 15. (Left) Existing Flat Type 4.

Fig. 16. (Right) Proposed Flat Type 4 at Stage III.