Polski Komitet Narodowy Międzynarodowej Rady Ochrony Zabytków ICOMOS

SAPIENZA UNIVERSITÀ DI ROMA

VILNIUS GEDIMINAS TECHNICAL UNIVERSITY

Sustainable Urban Rehabilitation in Europe

Historical building adaptation to modern function

Erasmus+

Sustainable Urban Rehabilitation in Europe

3rd Semester

Susana Mora Alonso-Muñoyerro
Ignacio Mora Moreno
David García García
Carolina Hernández Martínez
Camila Burgos Vargas

Historical building adaptation to modern function

3 ECTS

SH

Sustainable Heritage

EC

Elective Courses

Erasmus+

SURE
SUSTAINABLE URBAN REHABILITATION IN EUROPE

UNIVERSIDAD POLITÉCNICA DE MADRID

Sustainable Urban Rehabilitation in Europe

Historical building adaptation to modern function

3 ECTS

SH Sustainable Heritage

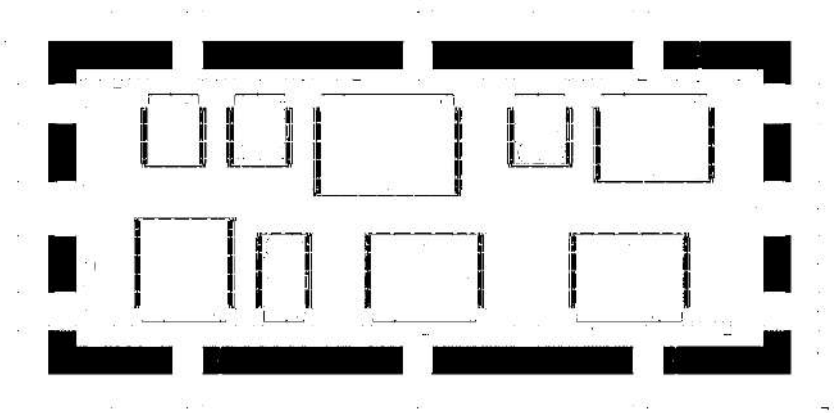
EC Elective Courses

01	Introduction to building adaptation
02	Typology: big to big & small to small adaptations
03	**Typology: big to small & small to big adaptations**
04	Programme: extensions
05	Programme: bubbles
06	Programme: other adaptations
07	Circulations: horizontal circulations
08	Circulations: vertical circulations
09	Enclosure: protective enclosure
10	Enclosure: lightweight roofs, façades and finishings
11	Systems: climatization
12	Systems: fire protection, water supply and evacuation
13	Illumination: natural lighting
14	Illumination: artificial lighting
15	Illumination: lighting systems

Sustainable Urban Rehabilitation in Europe

Historical building adaptation to modern function

3 ECTS



LESSON 03: TYPOLOGY - BIG TO SMALL & BIG TO SMALL ADAPTATIONS

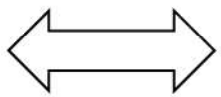
TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

MODULAR & OPENED COMPOSITION ⇨ **SMALL SCALE**

UNITARY & CLOSED COMPOSITION ⇨ **BIG SCALE**

ADAPTATIONS ACCORDING TO TYPOLOGY

MODULAR BUILDING/
SMALL SCALE



UNITARY BUILDING
BIG SCALE

- SMALL SCALE → SMALL SCALE
- BIG SCALE → BIG SCALE
- BIG SCALE → SMALL SCALE
- SMALL SCALE → BIG SCALE

SMALL SCALE → SMALL SCALE

The building does not comply with modern habitability and comfort standards, which are being implemented.

B. BIG SCALE → BIG SCALE

Transformation that requires finding a new use to the building while maintaining unity and the qualities of the space. It may be difficult to find spaces for compartmentalized uses.

C. BIG SCALE → SMALL SCALE

The building that undergo these types of transformation are usually industrial buildings and they are valued for their historical role in the urban context, and the economic value of its construction, but not necessarily for their artistic or architectural values.

D. SMALL SCALE → BIG SCALE

Uncommon transformation. The replacement of residential buildings by new buildings of tertiary use, or the conversion of houses, palaces, farmhouses, etc. can occur. in public uses of small-medium scale (municipal offices, visitor centres, libraries ...)

SMALL SCALE → SMALL SCALE

The building does not comply with modern habitability and comfort standards, which are being implemented.

B. BIG SCALE → BIG SCALE

Transformation that requires finding a new use to the building while maintaining unity and the qualities of the space. It may be difficult to find spaces for compartmentalized uses.

C. BIG SCALE → SMALL SCALE

The building that undergo these types of transformation are usually industrial buildings and they are valued for their historical role in the urban context, and the economic value of its construction, but not necessarily for their artistic or architectural values.

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Uncommon transformation. The replacement of residential buildings by new buildings of tertiary use, or the conversion of houses, palaces, farmhouses, etc. can occur. in public uses of small-medium scale (municipal offices, visitor centres, libraries ...)

TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

B▶S

A. SMALL SCALE → SMALL SCALE

B. BIG SCALE → BIG SCALE

C. BIG SCALE → SMALL SCALE

D. SMALL SCALE → BIG SCALE

B▶S

C. BIG SCALE → SMALL SCALE

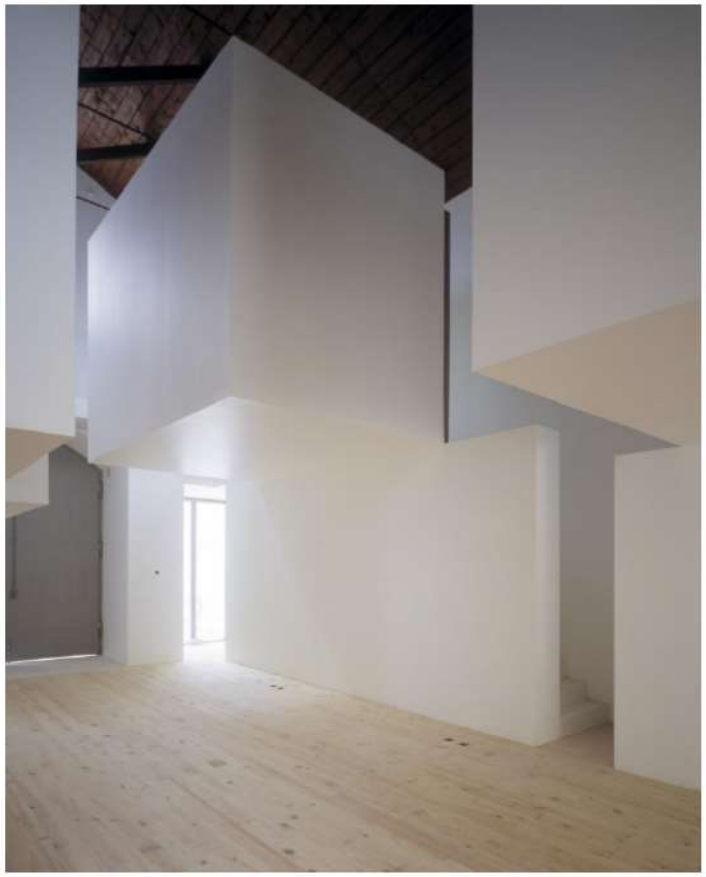
In this section it is presented the case of the adaptation of a former industrial building into a programme which requires smaller and more compartmented spaces, such as housing. One of the main concerns is to preserve elements and spaces that are representative of the building or to design any new space that can explain its previous scale.

TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

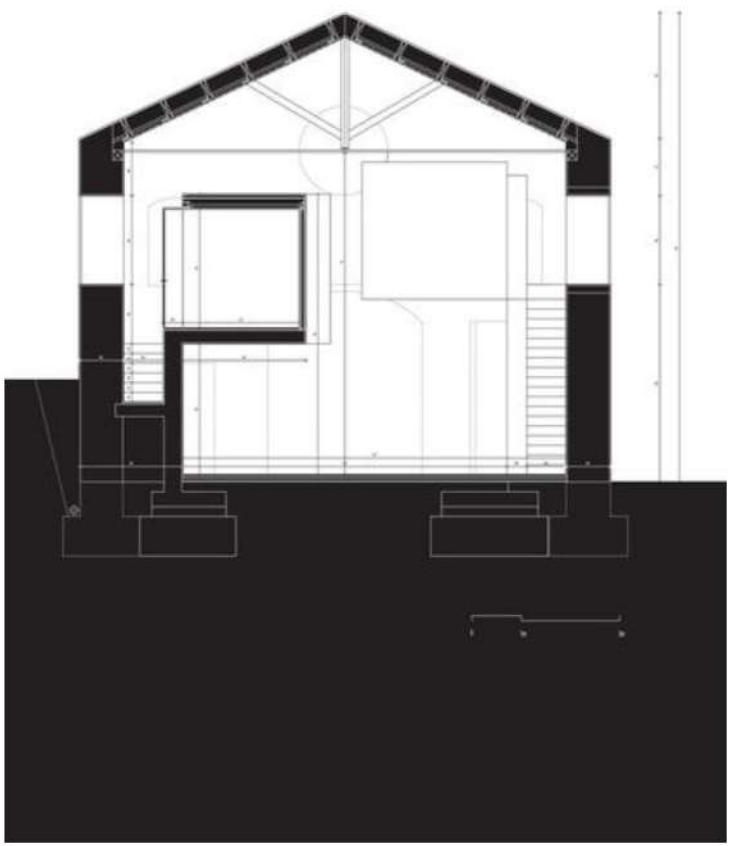
B▶S-1 From wine cellar to house

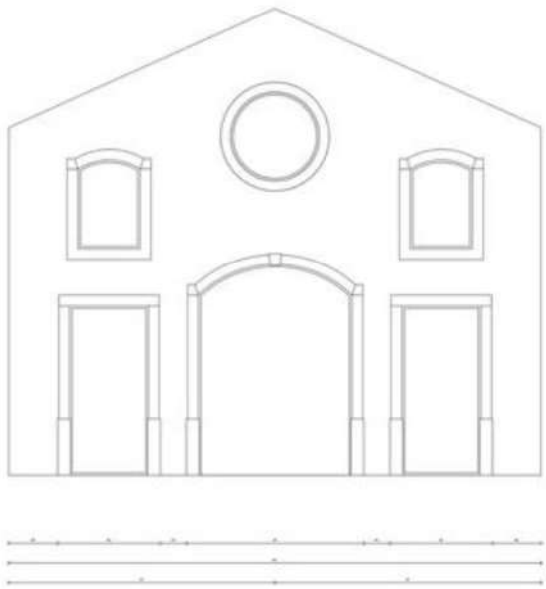
Casa en Azeitão, 2003. Azeitão, Portugal.

Aires Mateus Architects

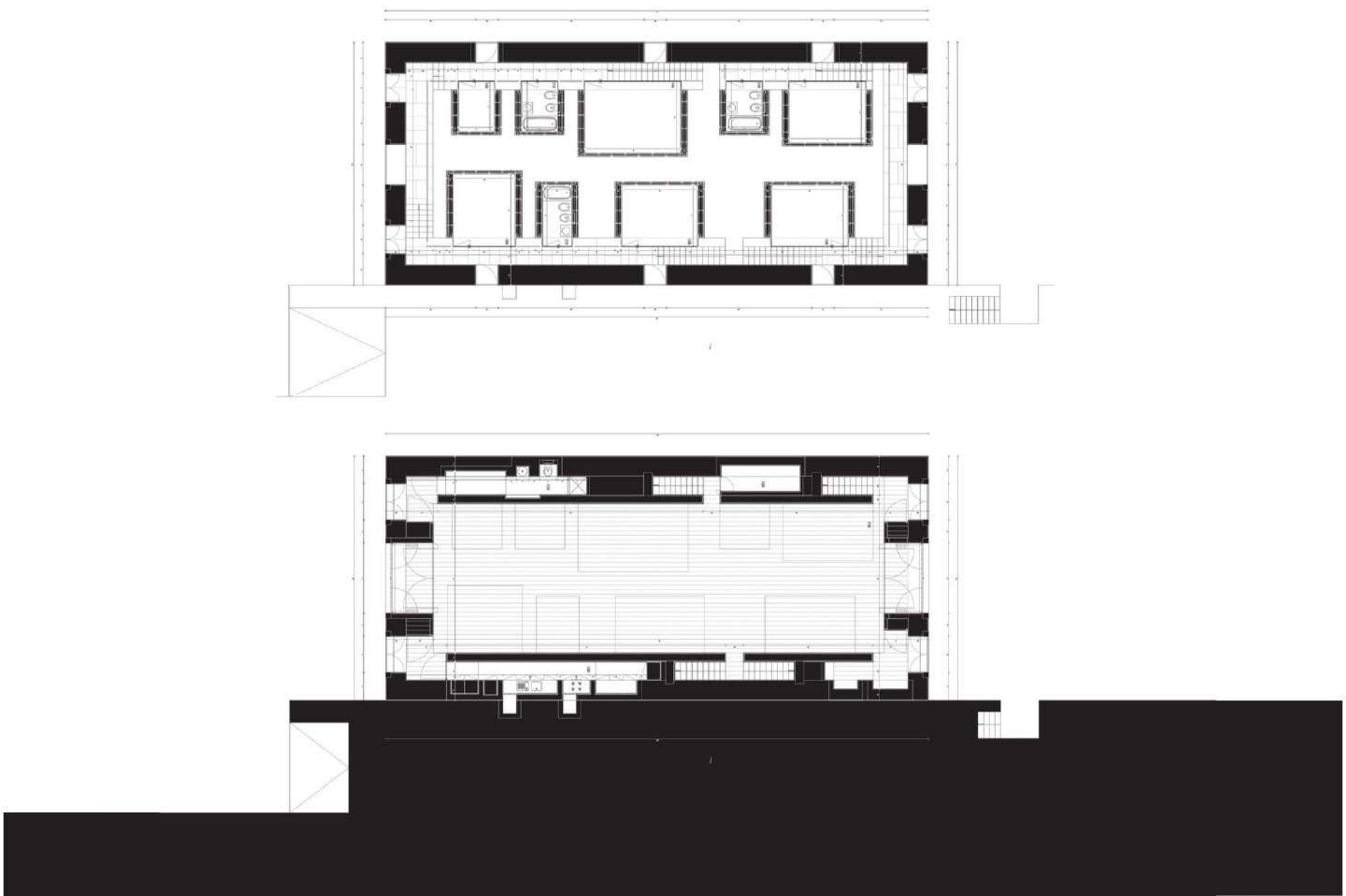


TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)





TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)



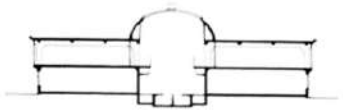
TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

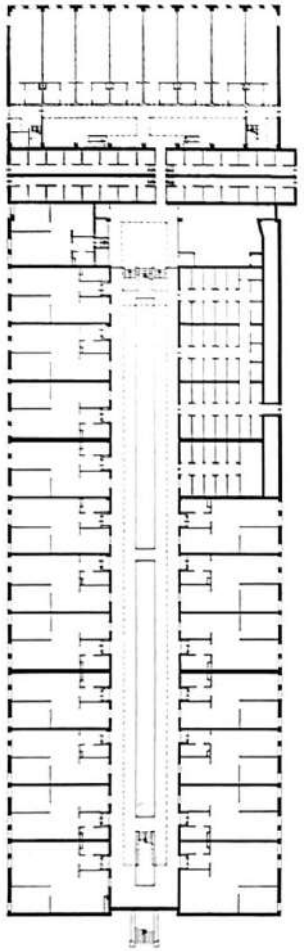
B▶S-2 From Sewage plant to residential

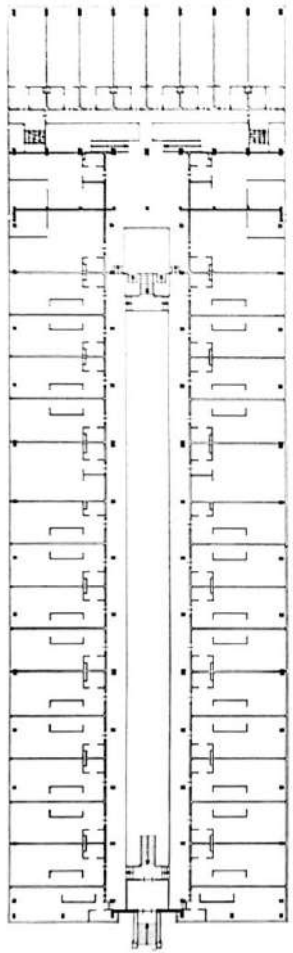
Low-cost Housing Scheme, Rotterdam, 1982.

Wytze Patijn

TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)





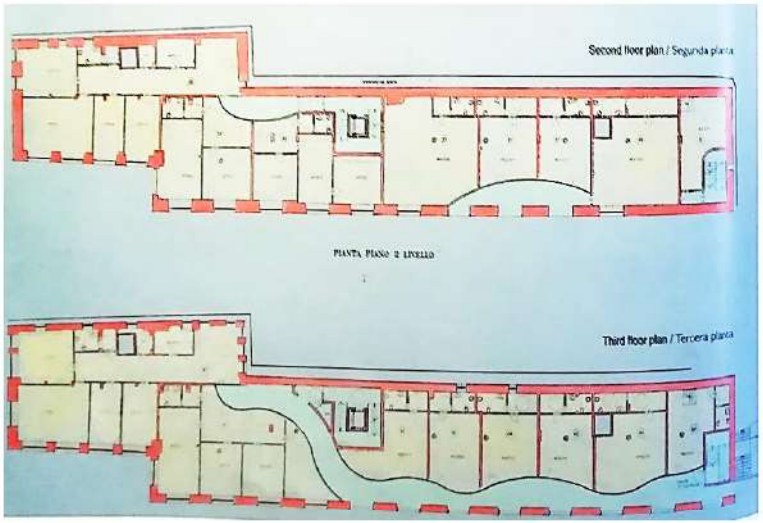


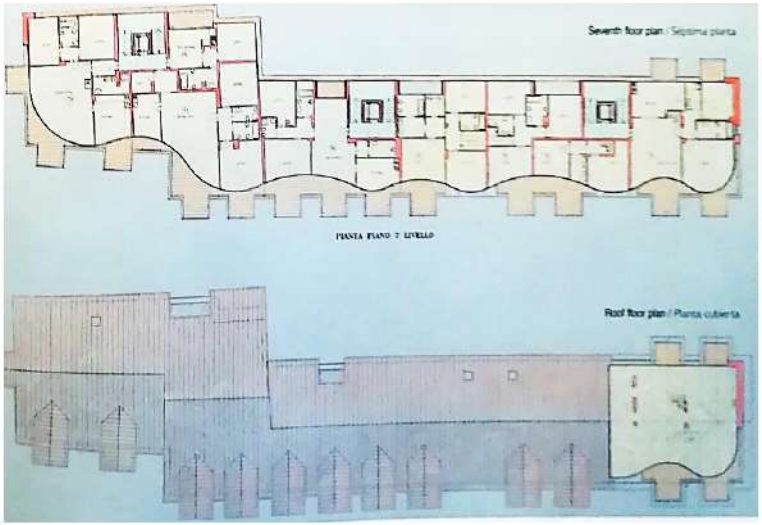
B▶S-3 From factory plant to residential

Restoration of the Former ¨Ceramiche Titano¨ Building

San Marino. Gabetti & Isola Fusari

TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

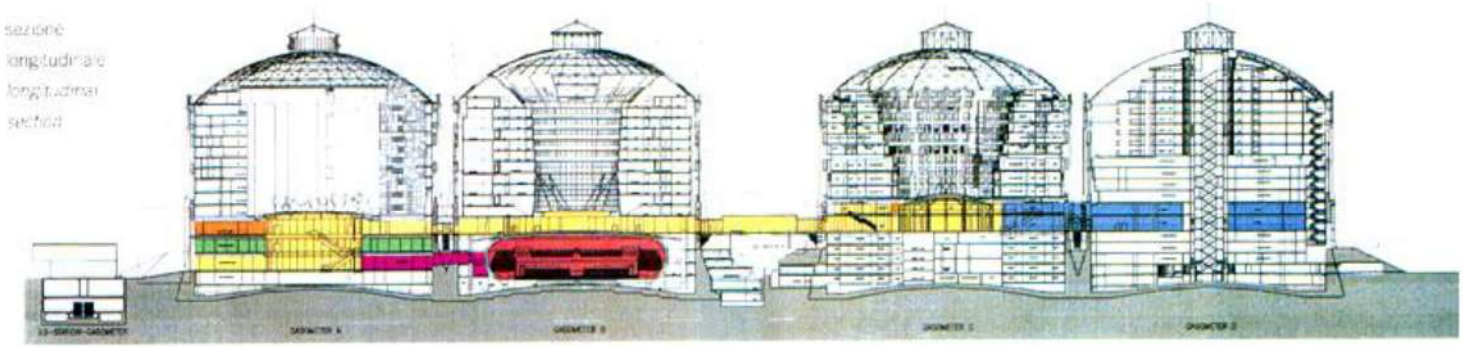


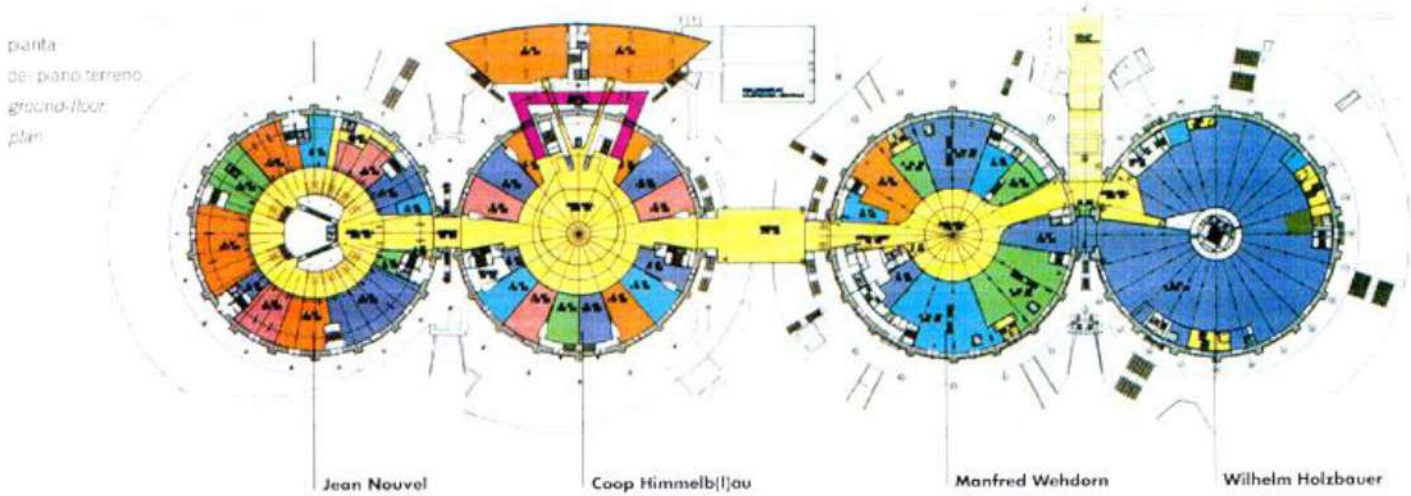


B▶S-4 From fuel tank to mixed use

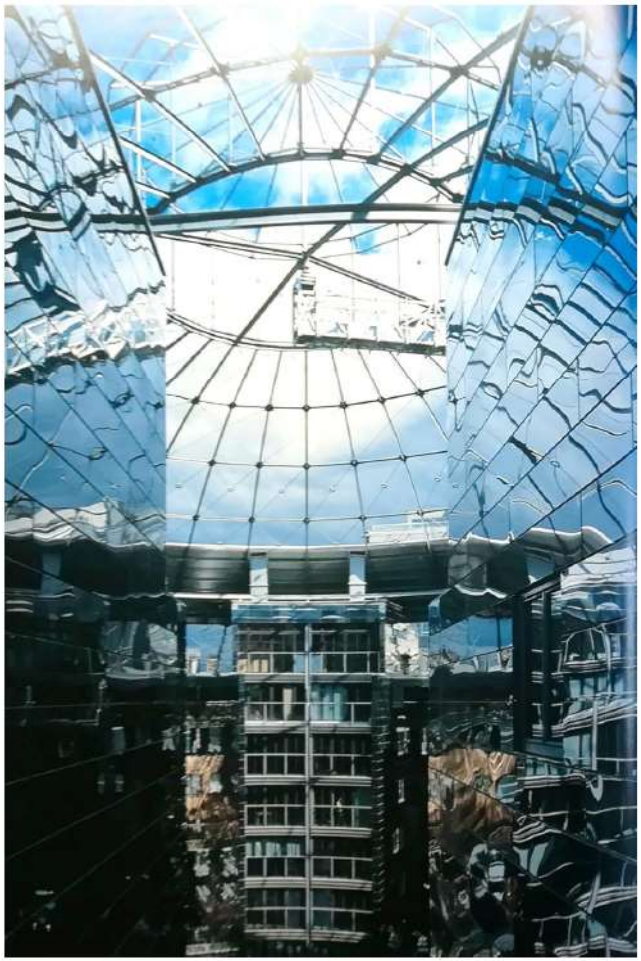
Gasometer A. Conversion into apartments, a shopping centre and hanging gardens.

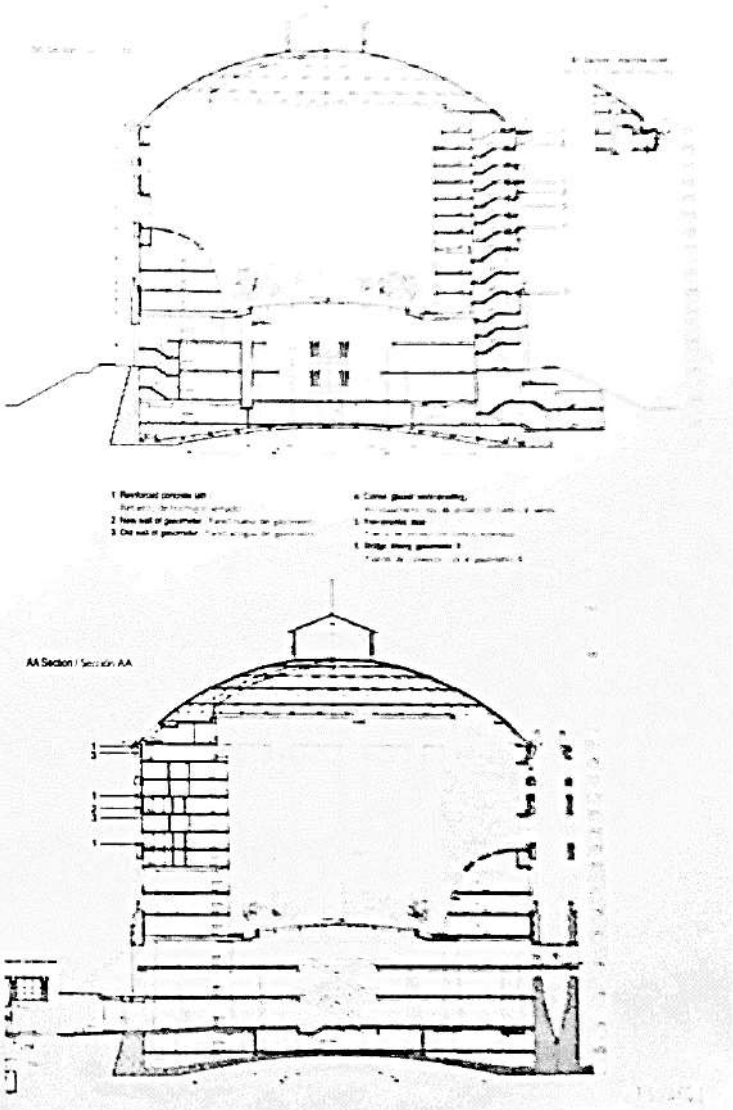
Wien, Austria. Jean Nouvel



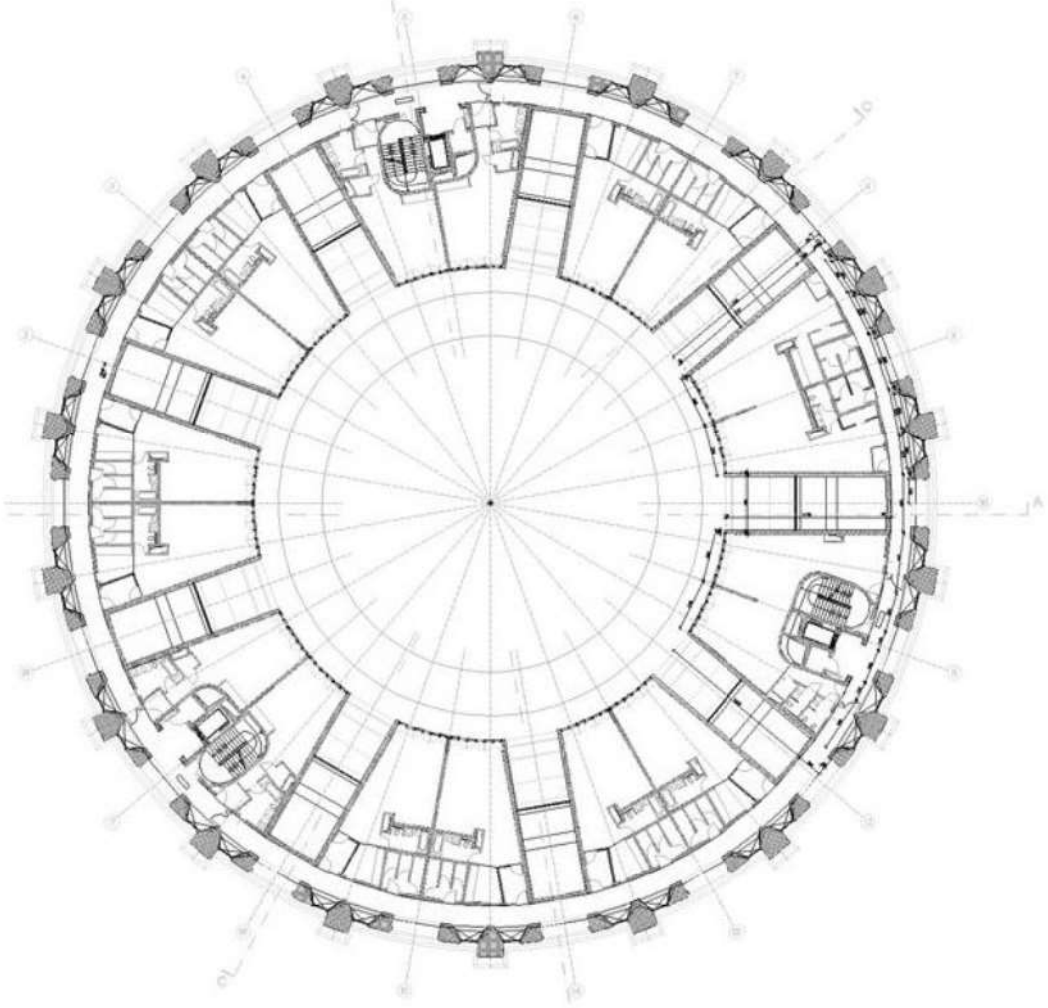


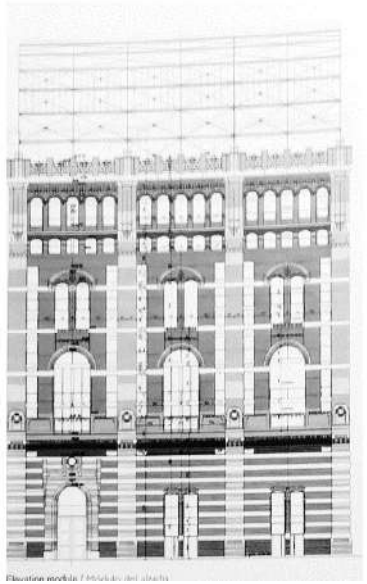
TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)





TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)





TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

S▶B

A. SMALL SCALE → SMALL SCALE

B. BIG SCALE → BIG SCALE

C. BIG SCALE → SMALL SCALE

D. SMALL SCALE → BIG SCALE

S▶B

D. SMALL SCALE → BIG SCALE

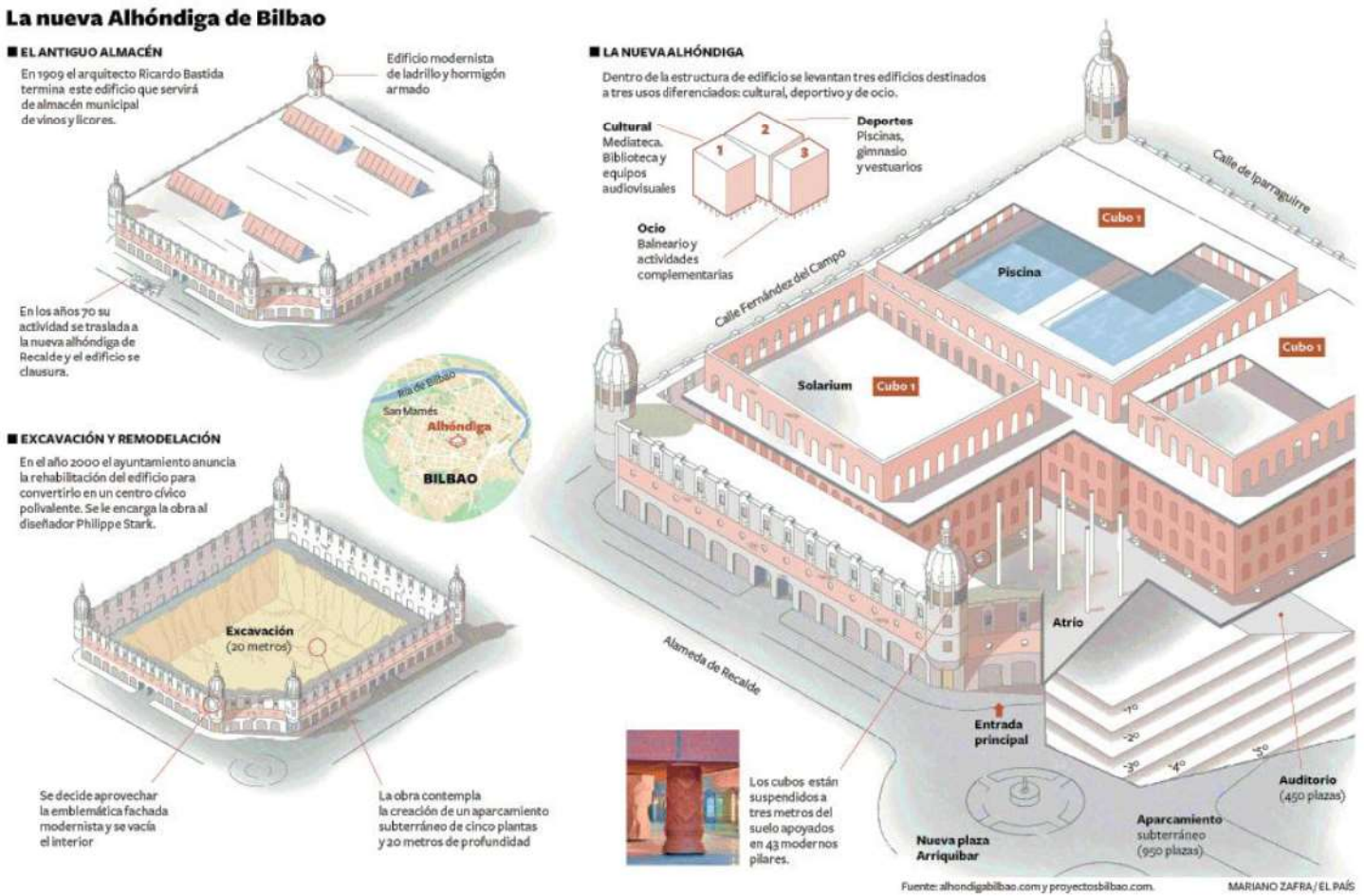
This is an uncommon transformation. The conversion of a residential building, palace, farmhouse, etc. into a large scale building (municipal offices, visitor centres, libraries, etc.) is infrequent and have many inconveniences.

In this section it is presented a common strategy, which is the preservation of the façade and the construction of a new building within. This is NOT an advised adaptation as it destroys any values that the interior of the construction could own. It is only reasonable to undergo this transformations when the only remain of the historical building is the façade, or when there is no value attached to the interior and there is no other possible compatible use.

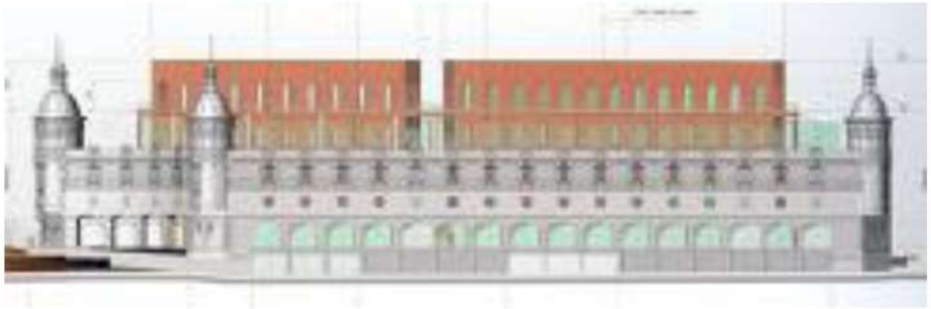
TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

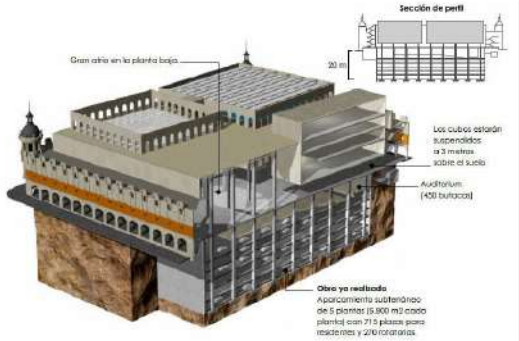
S▶B-1 From warehouse to public use

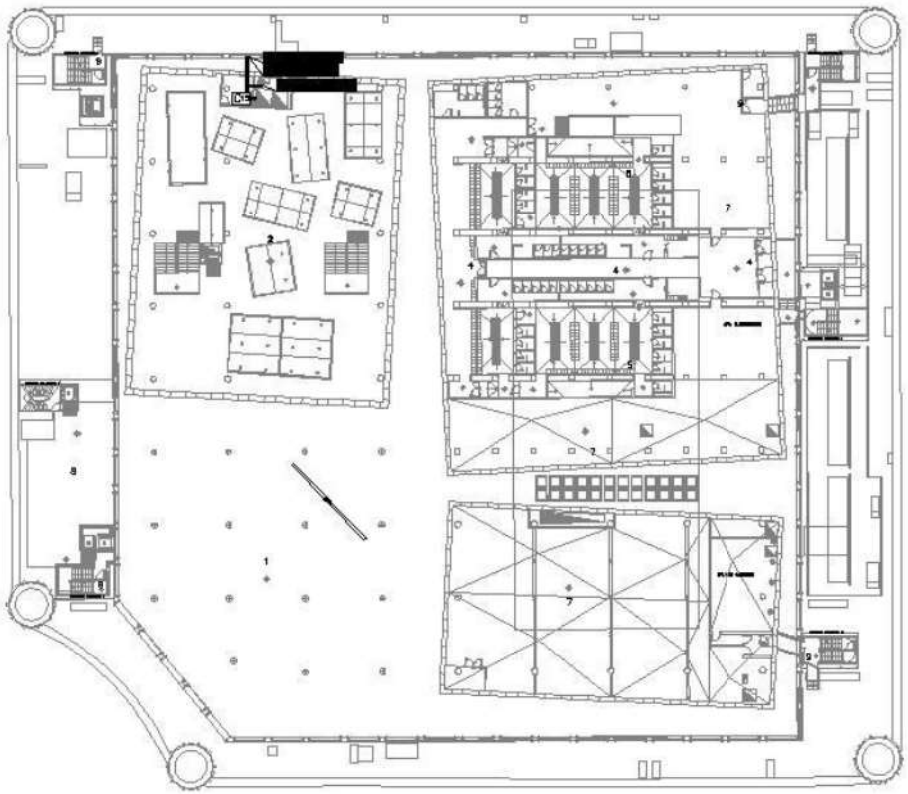
TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

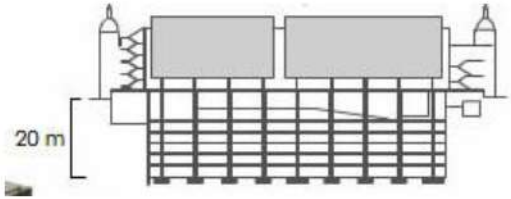


TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)









TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

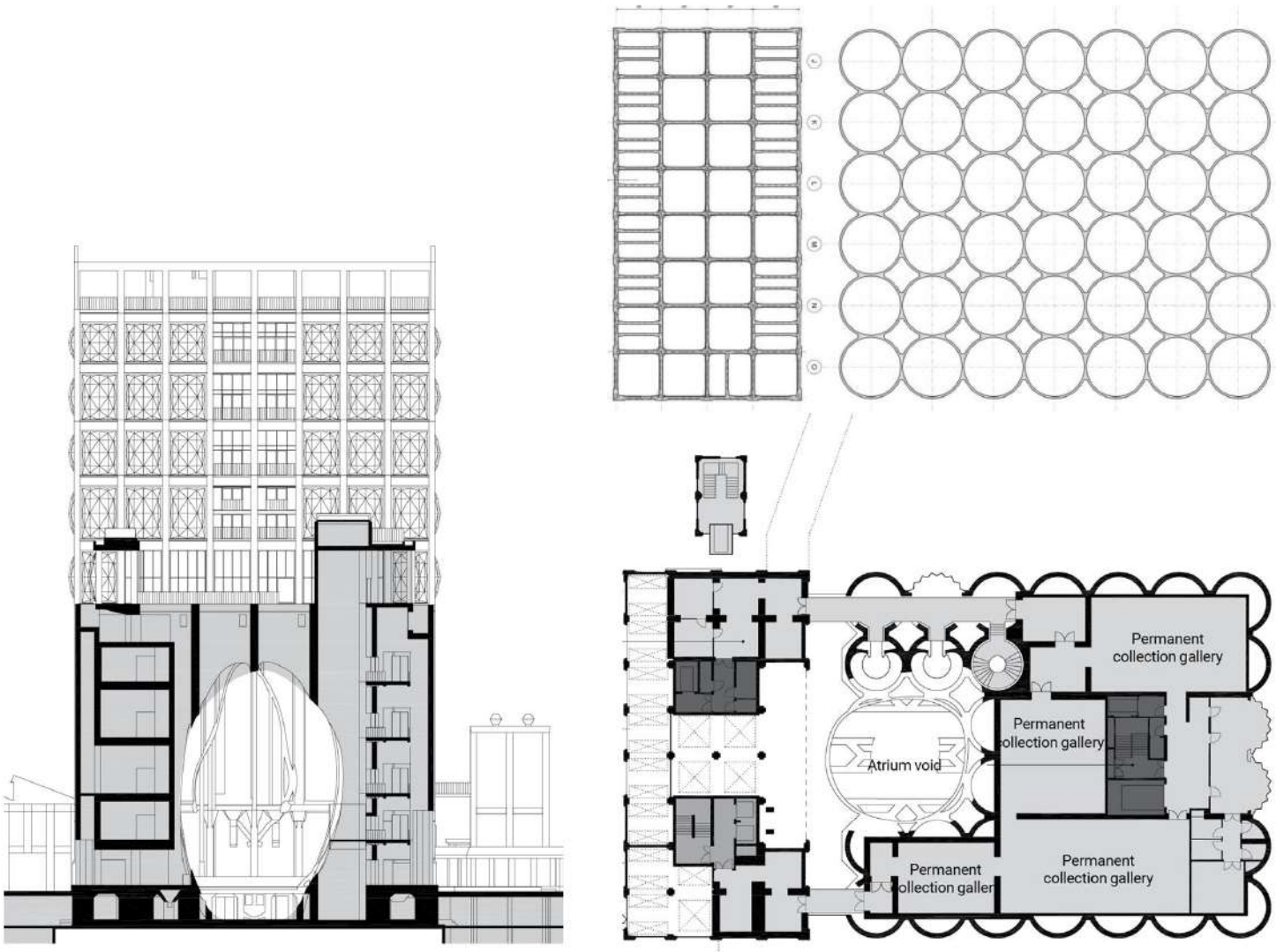
S▶B-2 From warehouse to museum

L'ouverture du Zeitz, Afrique du Sud

MoCAA

TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)

TYPOLOGY: BIG SCALE-SMALL SCALE ADAPTATIONS (II)



**Project "SURE - Sustainable Urban Rehabilitation in Europe"
implemented in frames of Erasmus+ Programme
Key Action 2: Strategic Partnership Projects
Agreement n° 2016-1-PL01-KA203-026232**

This publication has been funded within support from the European Commission.

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Co-funded by the
Erasmus+ Programme
of the European Union