

Innovative Residential System^{TM/SM}





Concept

Purpose

Houses height – P+4 - 20 m

Housing, commerce, services height – P+6- 24 m

We want to think about this project not as a common apartment building or a set of apartments but as a neighbourhood combining different type of residential units with large terraces offering lake and green areas view.

All building spaces from street entrance to apartment door brings „look and feel“ concern for quality and identity.

We succeed to replace typical closed and dark core with a space that integrates horizontal and vertical circulation, natural lighting and ventilation. For cladding we suggest translucent walls using „kalwall“ , translucent concrete or glass brick.

Terraces offer to all apartments green area and lake views.

Specified elevator is SCHINDLER 1000, modular platform for residential buildings.

The project maximizes the built area efficiency and uses the resources to create an authentic integrated in nature living place.

The central concept is the integration of the residential complex into the natural landscape.

Buildings' volumes emphasize the connection between interior life and the exterior environment.



The project objectives

The design concept focuses on the harmonious integration of the buildings into the natural landscape and lake vicinity.

Apartments composition strictly follows the legal requirements regarding housing surfaces and parking standards. Parking places are one for every apartment and 20% for visitors.

All apartments are double oriented and naturally ventilated and have been allocated a terrace area of minimum 6 sqm, dedicated for relaxation and socialization.

On the ground floor the apartments are provided with 25 sqm private gardens, offering a natural transition between the interior and the surrounding space.

Buildings layout offers the required mix for total number of apartments.

Aproximately 17% of the total number of apartments are planned to be build in order to be rented.

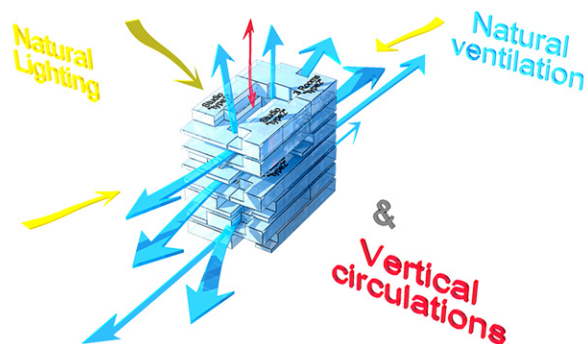
General plan design is oriented to provide a community identity along the lake border offering in the same time a diversity of leisure options for sports and relaxation activities.

Design quality parameters

BUILDING GROSS AREA / APARTMENTS NET AREA = 74%

APARTMENTS NET AREA / APARTMENTS GROSS AREA = 84%

COMMON SPACES / BUILDING GROSS AREA = 9%



Project values

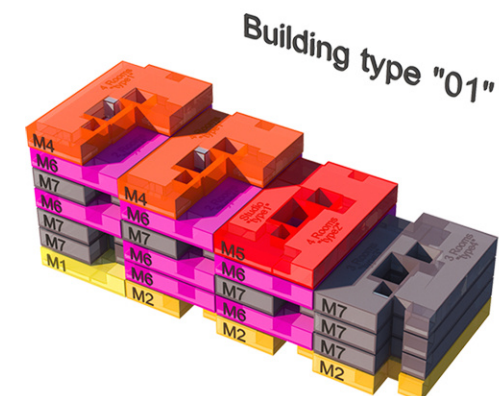
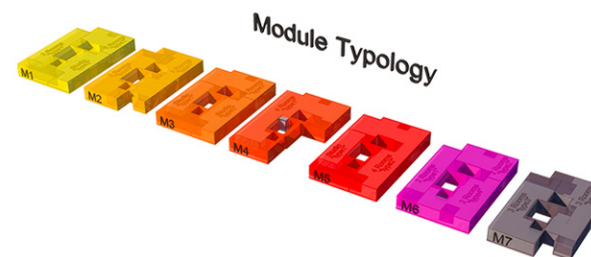
Targeting an exceptional project value the design propose :

- **multiple and flexible use of apartment layout ;**
- **identical structure for all buildings and modules;**
- **simple architectural details;**
- **an efficient symbiosis between buildings basement and garage area;**
- **easy access from garage to apartments;**
- **full transversal natural ventilation for all apartments;**
- **natural light enhance inside building perimeter;**
- **lake and park view from terraces;**
- **options in the future development through the possibility to change the apartment proportion.**

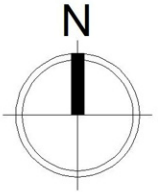
Key materials and systems

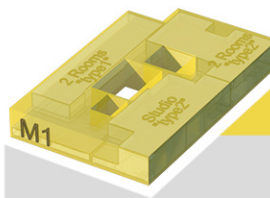
The proposed Costruction materials

- reinforced concrete,
- efficient masonry,
- ecological paintings,
- triple glazed windows and doors,
- thermo facade system will be specified as sustainable components in order to reduce environment impact and increase building durability.



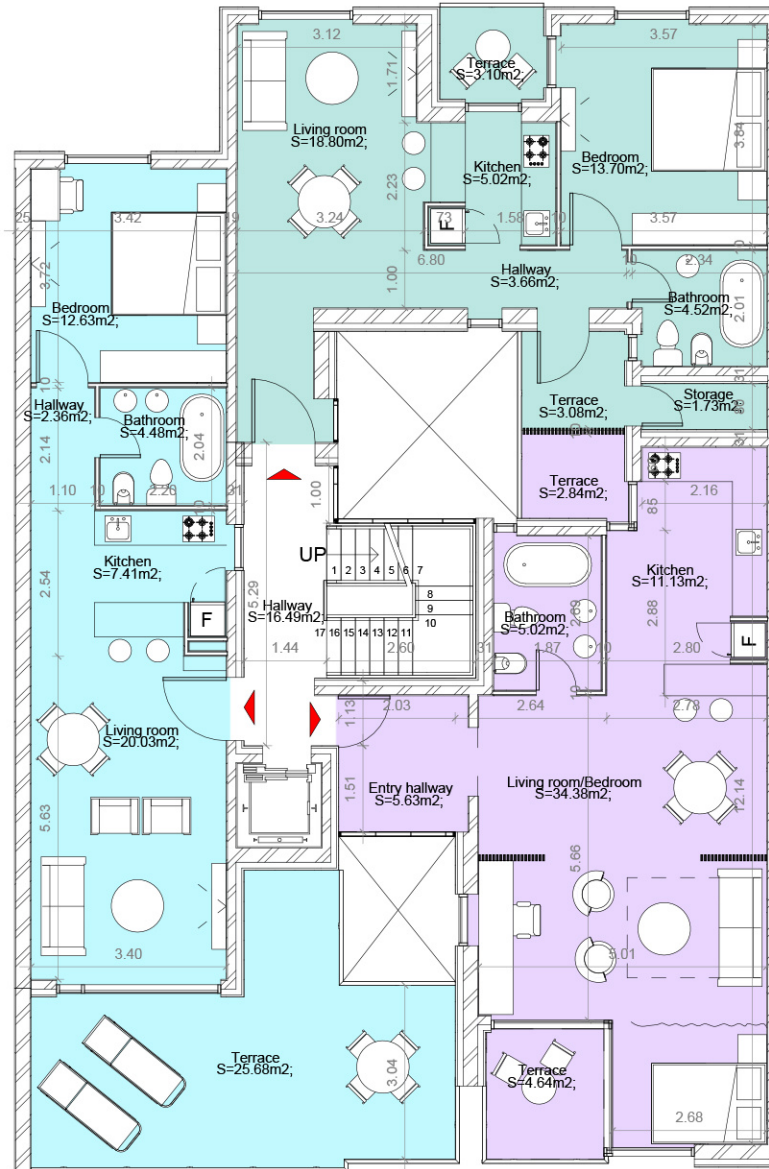
Site plan





“Module #1”

Total gross area = 200.16 sqm
Common spaces gross area = 21.02 sqm
Gross area APARTAMENTS/MODULE = 177.11 sqm
Net area APARTAMENTS/MODULE = 150.54 sqm



STUDIO "type 1" apt.
Gross area = 39.64 mp
Net area = 34.27 mp
Terraces = 25.88 = 7.48 mp

STUDIO "type 2" apt.
Gross area = 63.08 mp
Net area = 56.16 mp
Terraces = 4.64+2.84 = 7.48 mp

2 ROOMS "type 1" apt.
Gross area = 54.15 mp
Net area = 46.91 mp
Terraces = 25.68 mp

2 ROOMS "type 2" apt.
Gross area = 60.00 mp
Net area = 47.43 mp
Terraces = 3.10 + 3.08 = 6.18 mp

2 ROOMS "type 3" apt.
Gross area = 76.11 mp
Net area = 64.22 mp
Terraces = 11.62+11.97 = 23.59 mp

2 ROOMS "type 4" apt.
Gross area = 82.76 mp
Net area = 70.9 mp
Terraces = $4.68 + 2.84 = 7.52$ mp

3 ROOMS "type 1" apt.
Gross area = 87.99 mp
Net area = 73.95 mp
Terraces = 5.21+14.26 = 19.47 mp

3 ROOMS "type 2 - 50%" apt.
Gross area = 79.67 mp
Net area = 64.81 mp
Terraces = 3.09+3.13 = 6.22 mp

3 ROOMS "type 3 - 50%" apt.
Gross area = 80.00 mp
Net area = 66.37 mp
Terraces = 1.62+15.19 = 16.81 mp

3 ROOMS "type 4" apt.
Gross area = 85.54 mp
Net area = 71.45 mp
Terraces = $5.21 + 4.49 + 14.26 = 23.96$ mp

4 ROOMS "type 1" apt.
Gross area = 134.84 mp
Net area = 112.27 mp
Terraces = 15.03+13.22+3.09 = 31.34 mp

4 ROOMS "type 2" apt.
Gross area = 141.98 mp
Net area = 122.94 mp
Terraces = $4.72 + 5.90 + 2.98 = 13.60$ mp

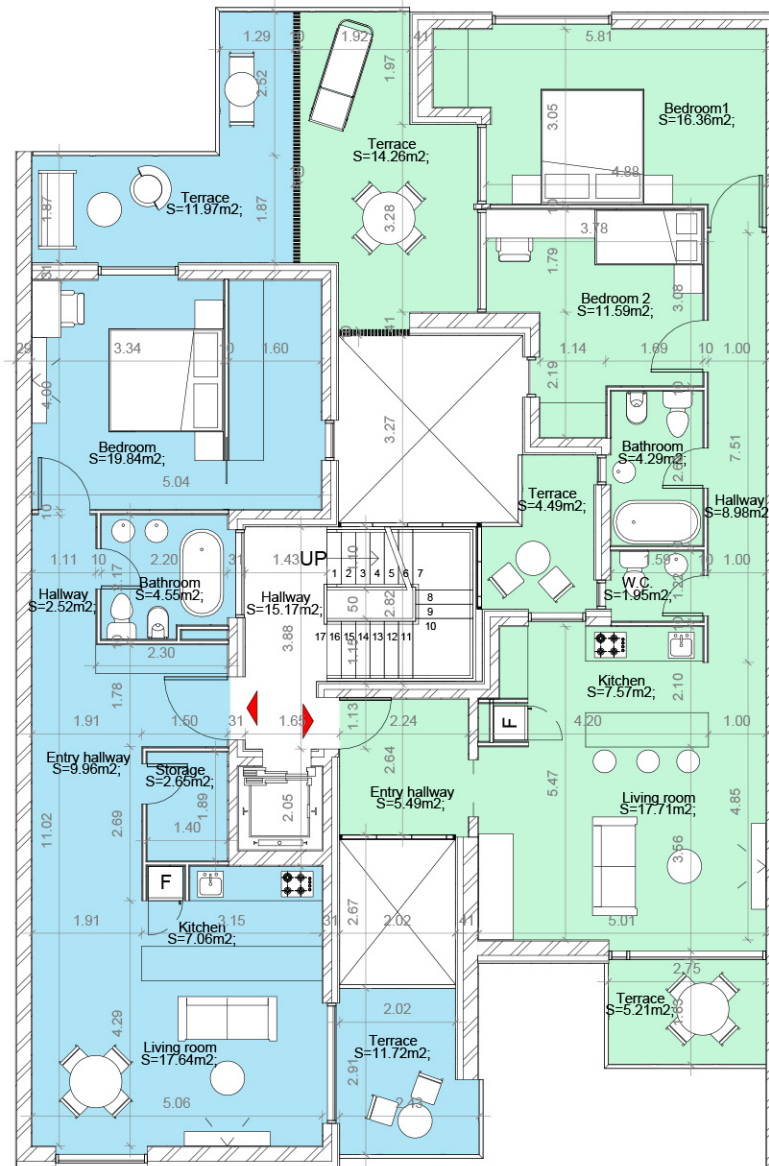
Module 1

Module 2



"Modul #2"

Total gross area = 184.97 sqm
Common spaces gross area = 18.21 sqm
Gross area APARTMENTS/MODULE = 164.10 sqm
Net area APARTMENTS/MODULE = 138.17 sqm



STUDIO "type 1" apt.
Gross area = 39.64 mp
Net area = 34.27 mp
Terraces = 25.88 = 7.48 mp

STUDIO "type 2" apt.
Gross area = 63.08 mp
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Net area = 64.81 mp
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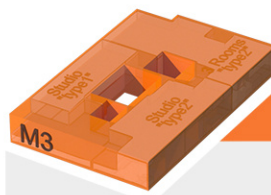
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Gross area = 80.00 mp
Net area = 66.37 mp
Terraces = 1.62+15.19 = 16.81 mp

3 ROOMS "type 4" apt.
Gross area = 85.54 mp
Net area = 71.45 mp
Terraces = 5.21+4.49+14.26 = 23.96 mp

4 ROOMS "type 1" apt.
Gross area = 134.84 mp
Net area = 112.27 mp
Terraces = 15.03+13.22+3.09 = 31.34 mp

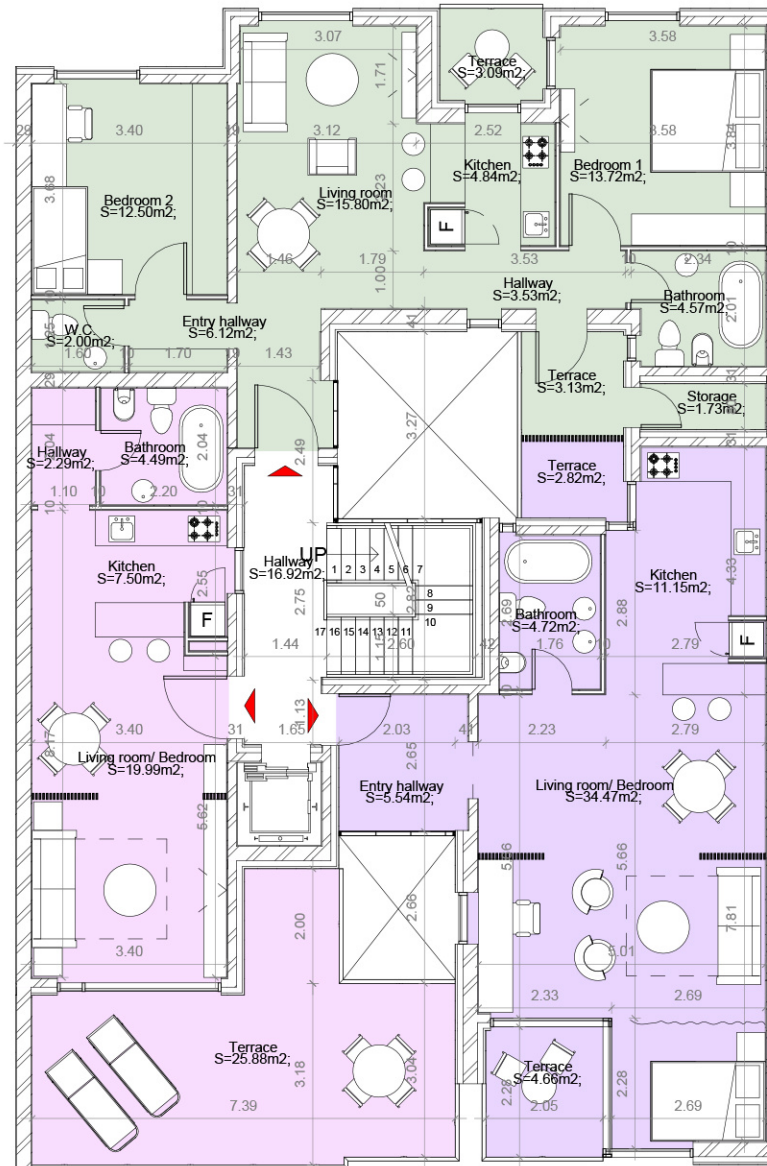
4 ROOMS "type 2" apt.
Gross area = 141.98 mp
Net area = 122.94 mp
Terraces = 4.72+5.90+2.98 = 13.60 mp

Module 3



“Modul #3”

Total gross area = 211 sqm
 Common spaces gross area = 20.79 sqm
 Gross area APARTMENTS/MODULE = 182.56 sqm
 Net area APARTMENTS/MODULE = 154.97 sqm



STUDIO “type 1” apt.
 Gross area = 39.64 mp
 Net area = 34.27 mp
 Terraces = 25.88 = 7.48 mp

STUDIO “type 2” apt.
 Gross area = 63.08 mp
 Net area = 56.16 mp
 Terraces = 4.64+2.84 = 7.48 mp

2 ROOMS “type 1” apt.
 Gross area = 54.15 mp
 Net area = 46.91 mp
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 Net area = 47.43 mp
 Terraces = 3.10 + 3.08 = 6.18 mp

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 Net area = 64.81 mp
 Terraces = 3.09+3.13 = 6.22 mp

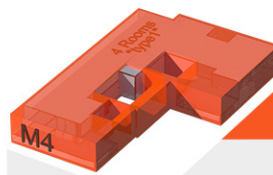
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 Terraces = 1.62+15.19 = 16.81 mp

3 ROOMS “type 4” apt.
 Gross area = 85.54 mp
 Net area = 71.45 mp
 Terraces = 5.21+4.49+14.26 = 23.96 mp

4 ROOMS “type 1” apt.
 Gross area = 134.84 mp
 Net area = 112.27 mp
 Terraces = 15.03+13.22+3.09 = 31.34 mp

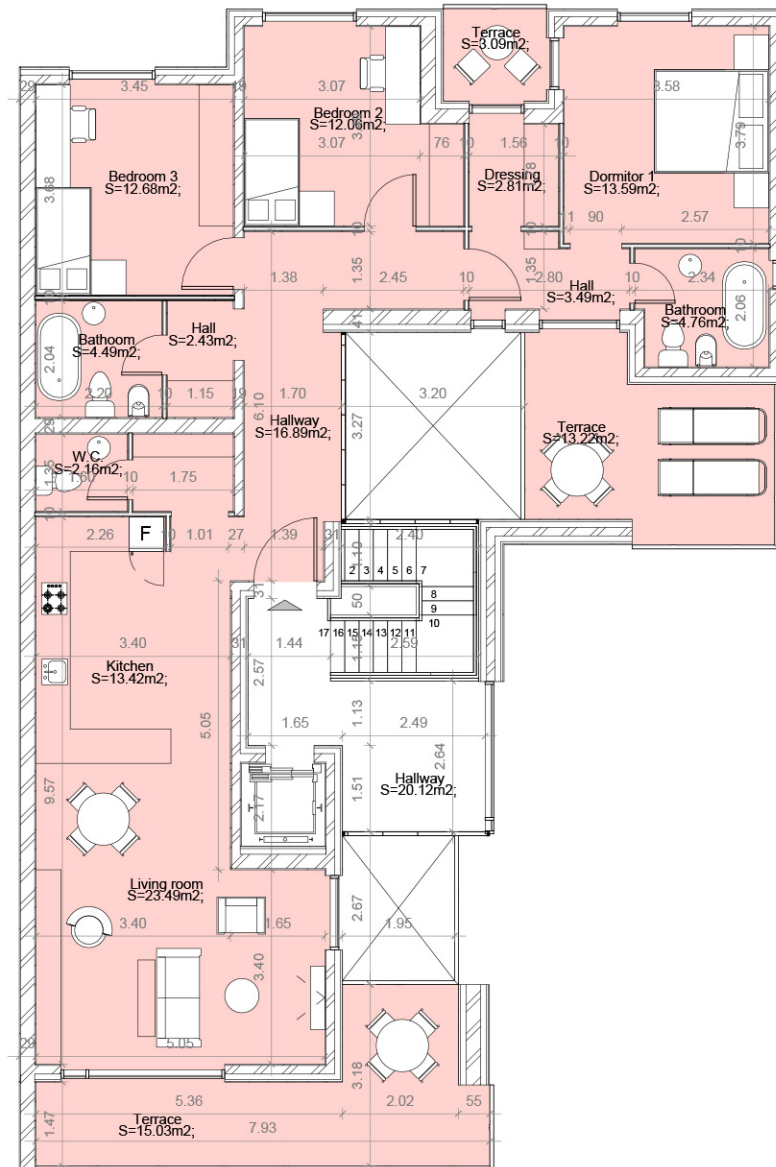
4 ROOMS “type 2” apt.
 Gross area = 141.98 mp
 Net area = 122.94 mp
 Terraces = 4.72+5.90+2.98 = 13.60 mp

Module 4



“Modul #4”

Total gross area = 161.85 sqm
 Common spaces gross area = 24.84 sqm
 Gross area APARTMENTS/MODULE = 134.84 sqm
 Net area APARTMENTS/MODULE = 112.27 sqm



STUDIO “type 1” apt.
 Gross area = 39.64 mp
 Net area = 34.27 mp
 Terraces = 25.88 = 7.48 mp

STUDIO “type 2” apt.
 Gross area = 63.08 mp
 Net area = 56.16 mp
 Terraces = 4.64+2.84 = 7.48 mp

2 ROOMS “type 1” apt.
 Gross area = 54.15 mp
 Net area = 46.91 mp
 Terraces = 25.68 mp

2 ROOMS “type 2” apt.
 Gross area = 60.00 mp
 Net area = 47.43 mp
 Terraces = 3.10 + 3.08 = 6.18 mp

2 ROOMS “type 3” apt.
 Gross area = 76.11 mp
 Net area = 64.22 mp
 Terraces = 11.62+11.97 = 23.59 mp

2 ROOMS “type 4” apt.
 Gross area = 82.76 mp
 Net area = 70.9 mp
 Terraces = 4.68+2.84 = 7.52 mp

3 ROOMS “type 1” apt.
 Gross area = 87.99 mp
 Net area = 73.95 mp
 Terraces = 5.21+14.26 = 19.47 mp

3 ROOMS “type 2 - 50%” apt.
 Gross area = 79.67 mp
 Net area = 64.81 mp
 Terraces = 3.09+3.13 = 6.22 mp

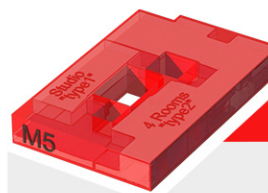
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 Gross area = 80.00 mp
 Net area = 66.37 mp
 Terraces = 1.62+15.19 = 16.81 mp

3 ROOMS “type 4” apt.
 Gross area = 85.54 mp
 Net area = 71.45 mp
 Terraces = 5.21+4.49+14.26 = 23.96 mp

4 ROOMS “type 1” apt.
 Gross area = 134.84 mp
 Net area = 112.27 mp
 Terraces = 15.03+13.22+3.09 = 31.34 mp

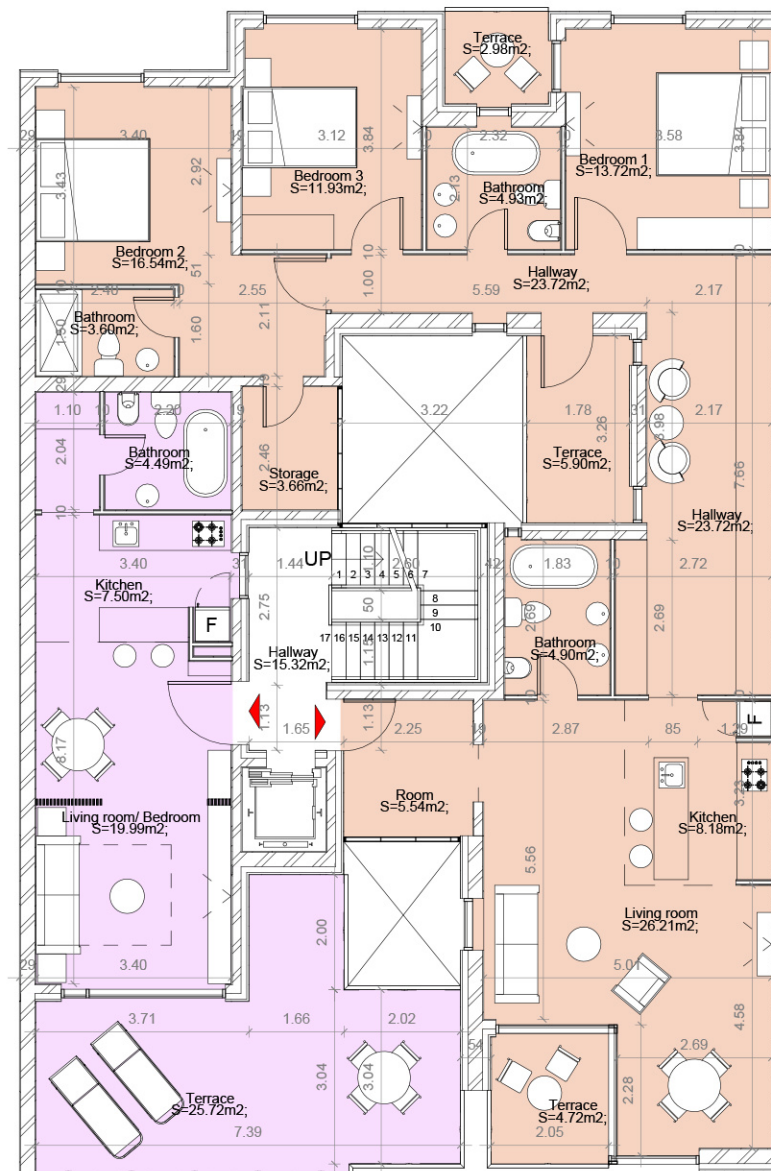
4 ROOMS “type 2” apt.
 Gross area = 141.98 mp
 Net area = 122.94 mp
 Terraces = 4.72+5.90+2.98 = 13.60 mp

Module 5



“Modul #5”

Total gross area = 205.11 sqm
 Common spaces gross area = 18.95 sqm
 Gross area APARTMENTS/MODULE = 181.62 sqm
 Net area APARTMENTS/MODULE = 157.21 sqm



STUDIO “type 1” apt.
 Gross area = 39.64 mp
 Net area = 34.27 mp
 Terraces = 25.88 + 7.48 mp

STUDIO “type 2” apt.
 Gross area = 63.08 mp
 Net area = 56.16 mp
 Terraces = 4.64 + 2.84 = 7.48 mp

2 ROOMS “type 1” apt.
 Gross area = 54.15 mp
 Net area = 46.91 mp
 Terraces = 25.68 mp

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 Net area = 47.43 mp
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 Net area = 73.95 mp
 Terraces = 5.21 + 14.26 = 19.47 mp

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 Gross area = 79.67 mp
 Net area = 64.81 mp
 Terraces = 3.09 + 3.13 = 6.22 mp

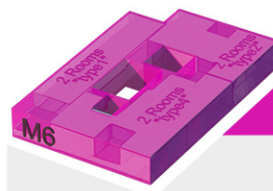
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 Net area = 66.37 mp
 Terraces = 1.62 + 15.19 = 16.81 mp

3 ROOMS “type 4” apt.
 Gross area = 85.54 mp
 Net area = 71.45 mp
 Terraces = 5.21 + 4.49 + 14.26 = 23.96 mp

4 ROOMS “type 1” apt.
 Gross area = 134.84 mp
 Net area = 112.27 mp
 Terraces = 15.03 + 13.22 + 3.09 = 31.34 mp

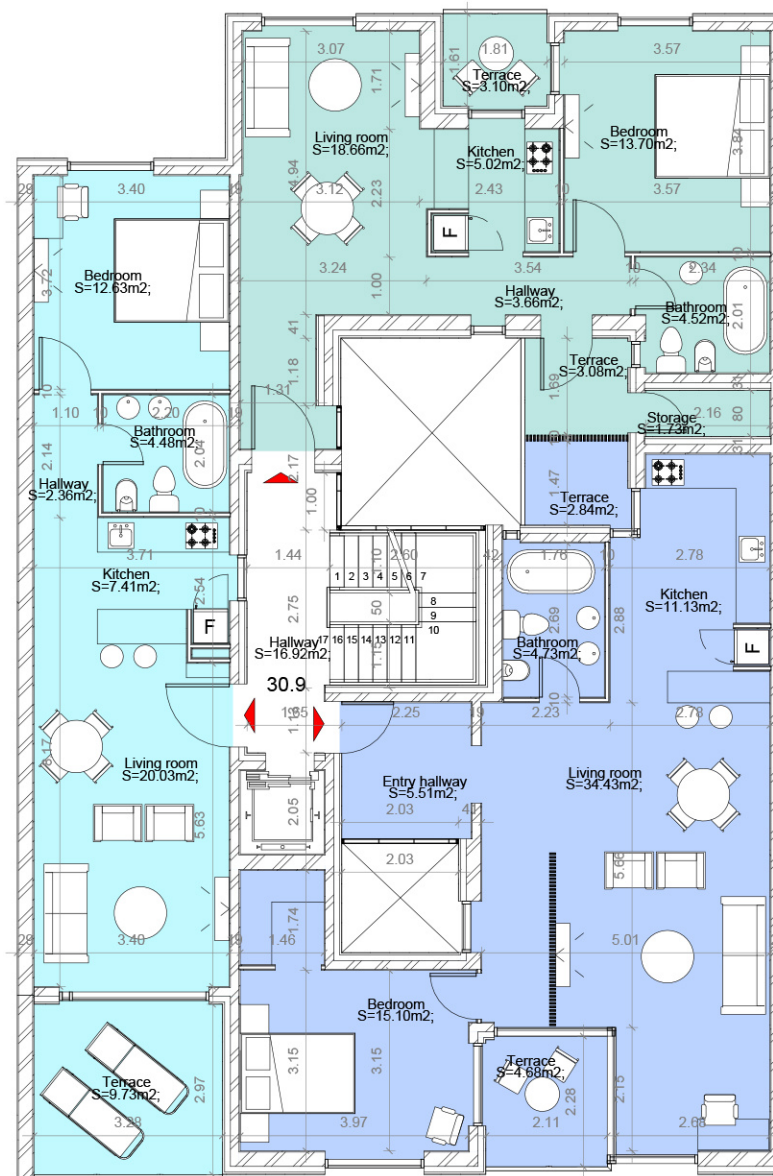
4 ROOMS “type 2” apt.
 Gross area = 141.98 mp
 Net area = 122.94 mp
 Terraces = 4.72 + 5.90 + 2.98 = 13.60 mp

Module 6



“Modul #6”

Total gross area = 223.83 sqm
 Common spaces gross area = 20.40 sqm
 Gross area APARTMENTS/MODULE = 196.46 sqm
 Net area APARTMENTS/MODULE = 165.10 sqm



STUDIO “type 1” apt.
 Gross area = 39.64 mp
 Net area = 34.27 mp
 Terraces = 25.88 = 7.48 mp

STUDIO “type 2” apt.
 Gross area = 63.08 mp
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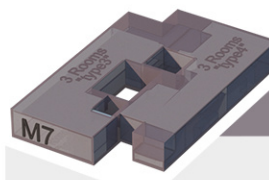
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 Terraces = 1.62+15.19 = 16.81 mp

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 Net area = 71.45 mp
 Terraces = 5.21+4.49+14.26 = 23.96 mp

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 Net area = 112.27 mp
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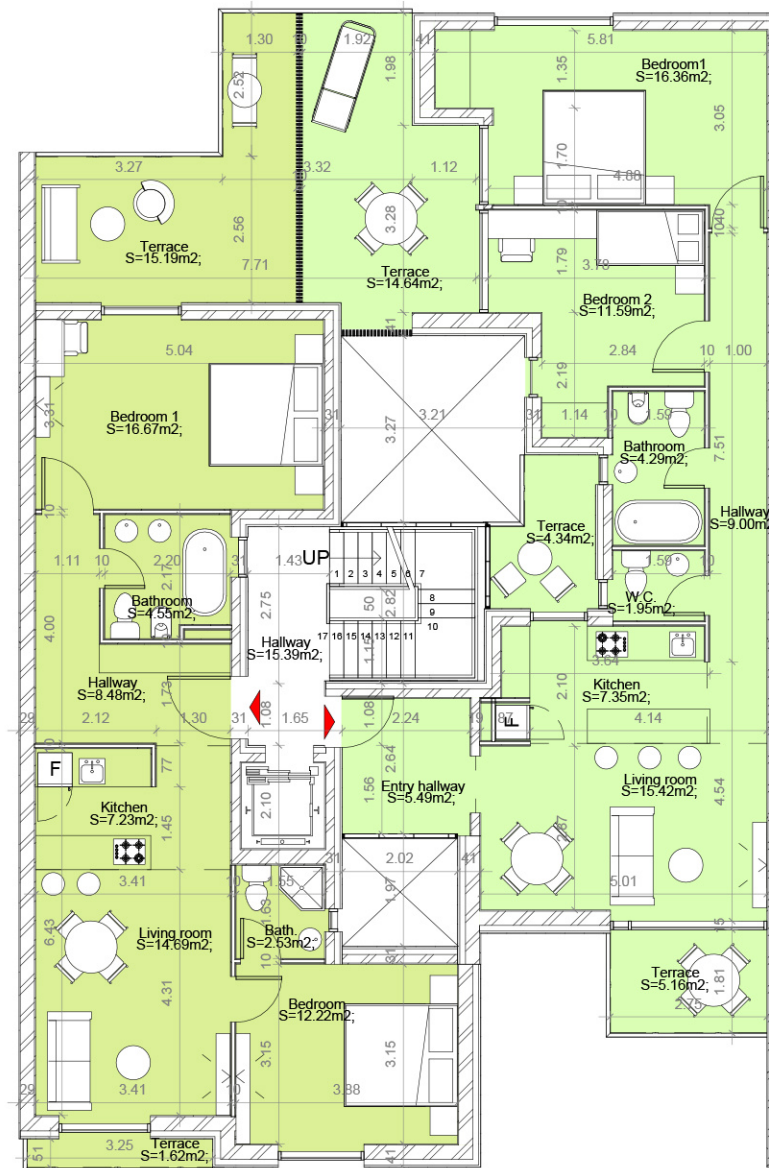
4 ROOMS “type 2” apt.
 Gross area = 141.98 mp
 Net area = 122.94 mp
 Terraces = 4.72+5.90+2.98 = 13.60 mp

Module 7



“Modul #7”

Total gross area = 185.48 sqm
 Common spaces gross area = 17.79 sqm
 Gross area APARTMENTS/MODULE = 165.54 sqm
 Net area APARTMENTS/MODULE = 137.82 sqm



STRUCTURE

- Height regime = Basement + Ground Floor + 4 Stories + 2 Attics
- Floor height:
 - o Ground floor = 3.00 m
 - o Current floor = 3.00 m

The building has been designed with a load-bearing structure consisting of individual reinforced concrete walls arranged in both primary directions of the structure.

The building's superstructure has a regular shape in plan, rectangular, without significant setbacks in height.

The walls have thicknesses of 25 cm and 30 cm.

The structural system was chosen in accordance with the architectural requirements and is designed to ensure a favorable response of the structure to gravitational and seismic actions. The proposed load-bearing structure to resist gravitational and horizontal forces is made of reinforced concrete and consists of independent or coupled walls with a 15 cm slab resting on beams or directly on the structural walls. The designed slab system ensures a rigid diaphragm behavior at each floor level.

The foundation system beneath the building's footprint is represented by a general reinforced concrete raft with a thickness of 80 cm, while beneath the extended basement, the raft has a thickness of 65 cm.

The aim was to implement a favorable structural mechanism for dissipating seismic energy. This objective was achieved by directing the stressed areas into the post-elastic domain, with priority given to the structural elements of the superstructure that, by the nature of their behavior, possess a significant nonlinear deformation capacity (due to bending), such as: beams or coupling girders and walls (at the base, on the ground floor). Through the nonlinear bending deformation of the structural elements, energy is dissipated from the seismic action, and the forces that could lead to brittle failures of the structural elements are limited.

All materials used will have quality certificates, conformity certificates, and will be approved.

NON-STRUCTURAL COMPONENTS

All non-structural components in the building, such as architectural components (finishes and cladding, canopies, railings, signage, parapets), partitioning and enclosing elements, including suspended ceilings (partition and perimeter walls, drywall or other materials, glazed facades, raised floors), installation systems, equipment, and other facilities will be designed and executed in compliance with the provisions.

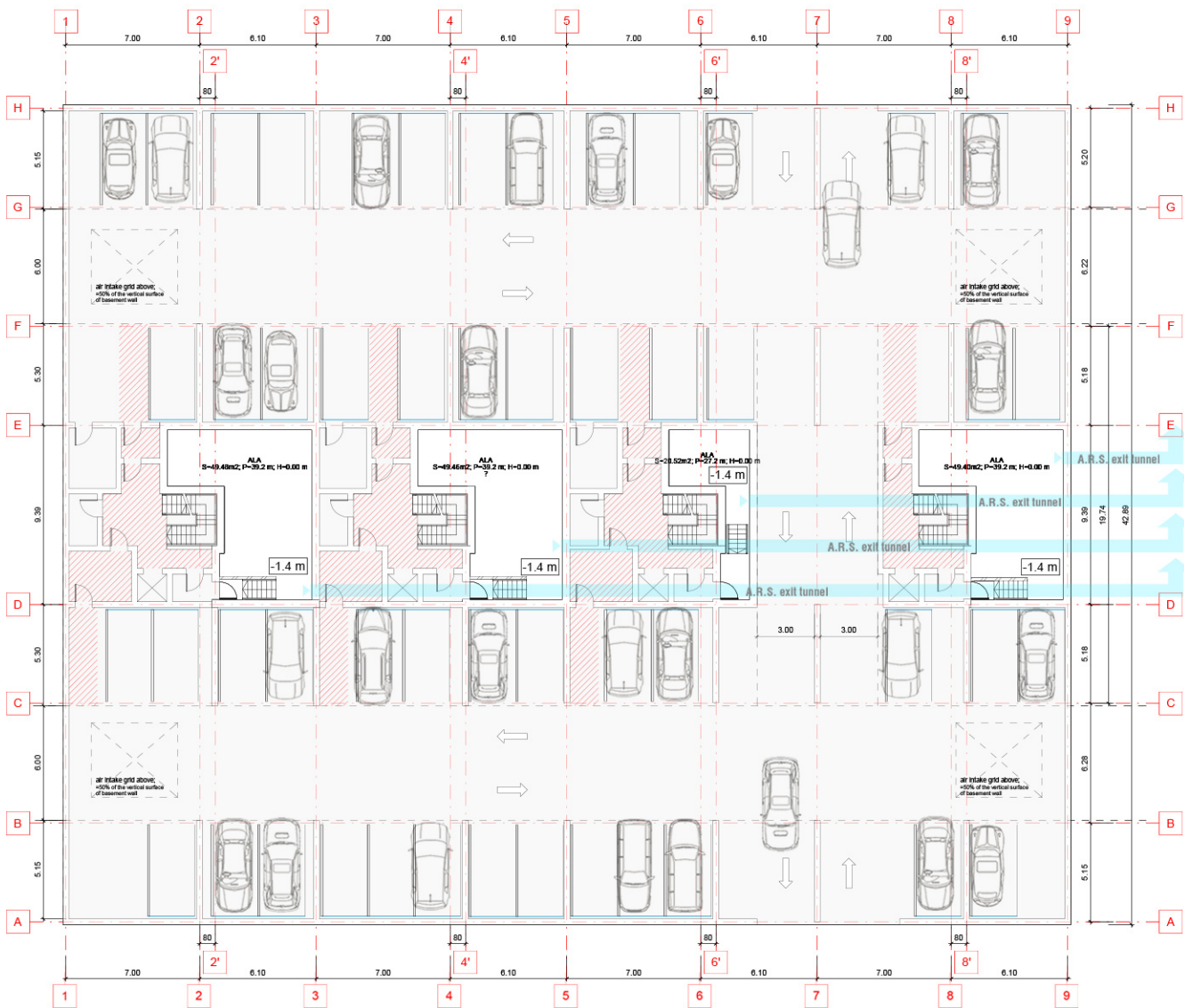
CONCLUSIONS

The load-bearing structure of the building has been designed, calculated, and projected in accordance with the current standards and regulations in Romania.

Recommendations and classifications for the building have been considered in line with the provisions of the regulations, and the calculations were performed based on these.

Some of the solutions envisioned in this project may be adapted according to the capabilities and possibilities of the contractor. In addition to the construction site organization plan, the contractor will need to develop a technological plan, depending on the equipment available and other capabilities. This will be done in consultation with and approval from the structural designer.

Basement



Houses - TYPICAL FLOORS A01, A02, A03, B01, B02, B03

	A01	A02	A03	B01	B02	B03
Apartments area	3808	4179,9	7963	3808	4898,6	6656
Building Gross area	5105	5621	10592,2	5105	6580,8	8890,9
Terraces	771,3	833,8	1516,8	771,3	975,7	1304,5

*roof terraces not included

TYPICAL BASEMENT

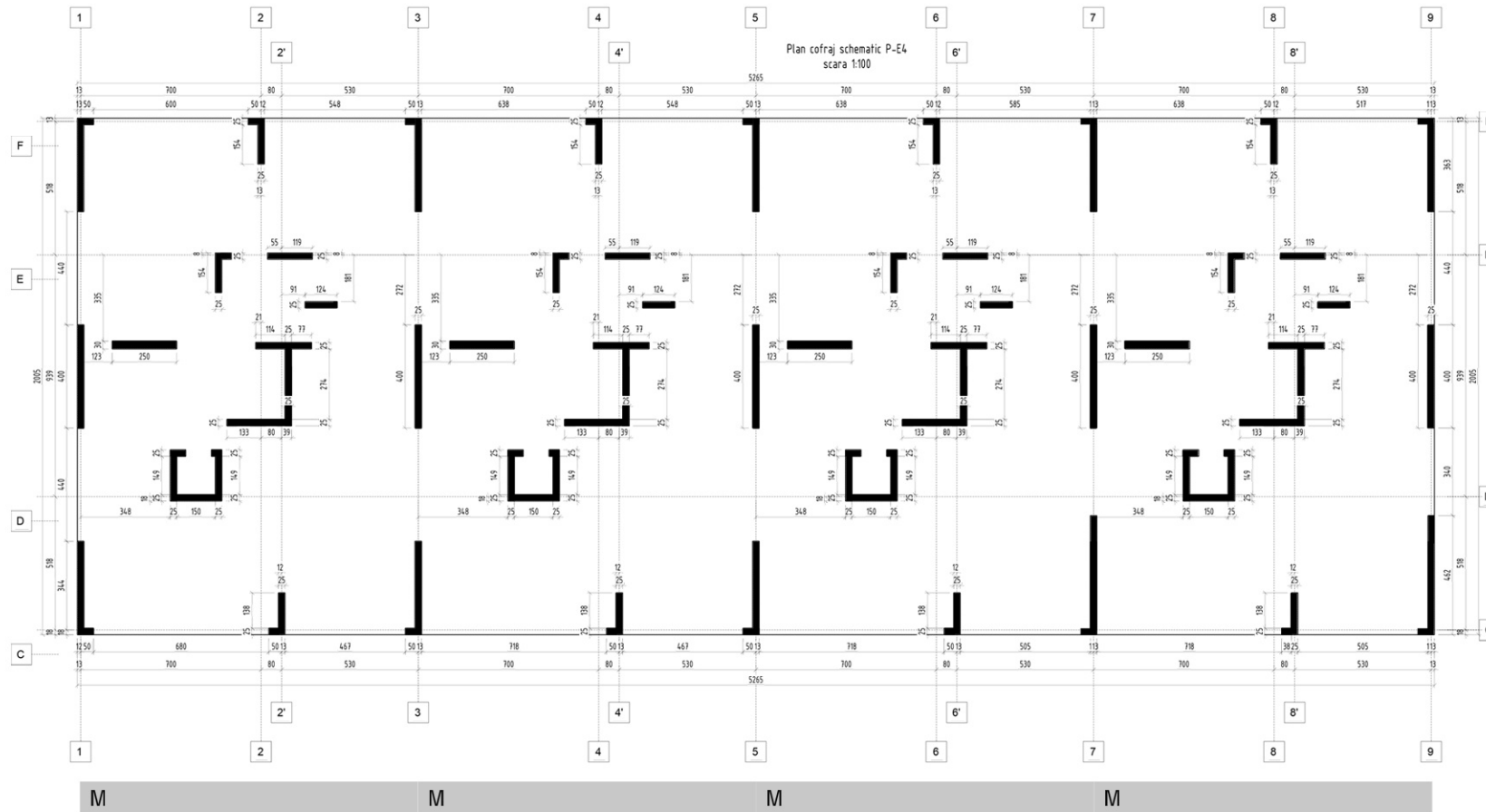
450sqm for house,
1810sqm garage
Gross area 2260sqm

Parking area - basement - 560 parking lots + 187 on site parking lots;
69 motorcyrcle parking lots (basement level);
& 172 bicycle parking lots (basement level).

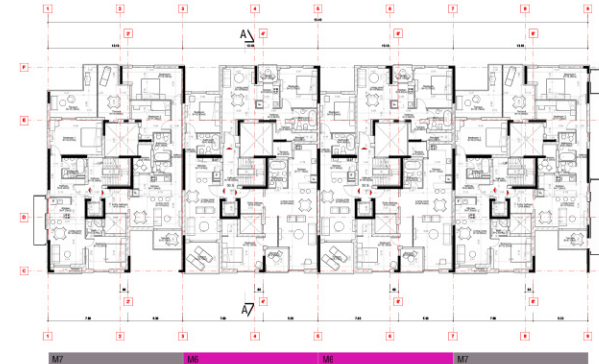
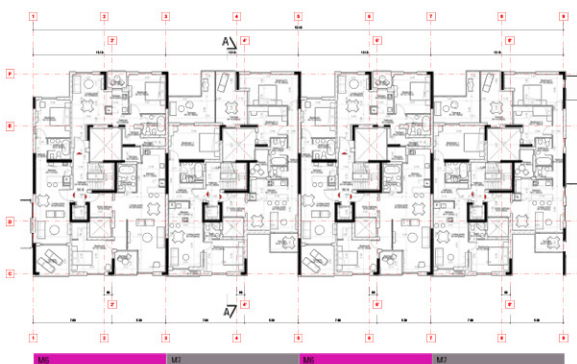
Natural organized air ventilation scheme for parking area as per NP 127/2009. art.9.j.
Free openings area - 50 % of opposite underground facades.

Section





Typical Floor - building type "A01"

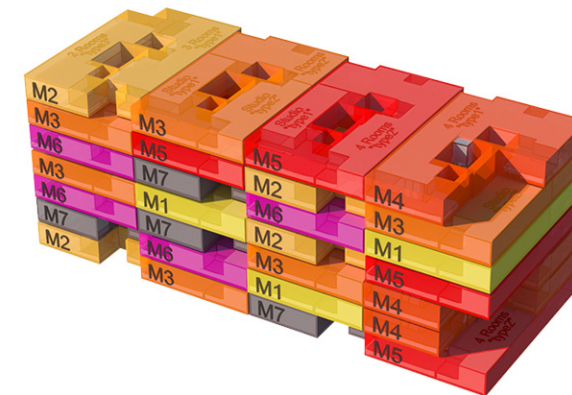


Project synthesis

			Height regime	Ground floor Area/ Building	GROSS AREA Building	TERRACES Area/ building	Terraces area/GROSS AREA	APARTMENTS Gross area/ building	Gross area ap/GROSS AREA	APARTMENTS Net area/ building	Net area ap/GROSS AREA without terraces	COMMON SPACES Gross area/ building	Gross area common spaces/GROSS AREA	TYPICAL UNDERGROUND AREA	PARKING
1	X	BUILDING A10-03	P+5-6partial	1700,00	10592,25	1516,80	14,32 %	7990,68	75,44 %	6701,98	73,85 %	926,63	8,75 %	3945,50	3175,50
2	X	BUILDING A6-02, A7-02	P+4-6R	988,54	5621,30	833,83	14,83 %	4190,54	74,55 %	3519,27	73,51 %	508,67	9,05 %	2260,10	1810,10
7	X	BUILDING A1-01, A2-01, A3-01, A4-01, A5-01, A8-01, A9-01	P+3+4R+5R+6R	988,54	5105,87	771,34	15,11 %	3820,25	74,82 %	3205,06	73,94 %	453,08	8,87 %	2260,10	1810,10
10		SITE		3677,08	21319,42	8583,84		43113,51		36175,94		5395,03		24286,40	19466,40
		SITE AREA	42069,00	sqm											

Modules distribution / Building type

	MODUL 1				MODUL 2				MODUL 3				MODUL 4				MODUL 5				MODUL 6				MODUL 7			
	S	2R	3R	4R	S	2R	3R	4R	S	2R	3R	4R	S	2R	3R	4R	S	2R	3R	4R	S	2R	3R	4R	S	2R	3R	4R
STUDIO	1								2								1				3							
2 ROOMS		2				1																			2			
3 ROOMS							1			1																		
4 ROOMS														1														
ap./ modul		3				2				3				1				2				3				2		
module/ site	7	14			40	40			16	8			23	23	7		7				86				76			



BUILDING A-03										BUILDING A-02										BUILDING A-01									
x1										x2										x7									
108										57										50									
130										69										60									
APARTMENTS										APT.										APT.									
PARKING										PARKING										PARKING									

