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“revision of the Milan city block as an example of an alternative way of urban development”

the light grey symbolizes the buildings that can be legally transformed or replaced with the possible structure interventions. the buildings marked with black are the objects protected to some extent by the preservation law.

the district the site is located on the boarder between the dense city urban structure and one of the largest city parks. the two zones are divided by 4-lane street Viale Città di Fiume. the buildings around obey the strict urban axes that follow the layout of the streets. the city blocks contain numerous courtyards and internal spaces tightly surrounded by the walls.

design steps

step 1: removal of the existing building the site contains the messy mix of different urban structures including the hotel, apartments and few small shops

height analysis

step 2: creating the typical urban block the shape fills the site and follows the urban axes defined by surrounding buildings

step 3: improving the density of the building extending the building upwards increases the area, yet the outcome strongly limits the light access to the courtyard and internal facades

step 4: cutting the building into 3 blocks this solution provides more daylight into the building and increases the developable roof area

step 5: the access to the internal courtyard cutting the bottom block to increase the area and accessibility of the courtyard could attract more visitors and clients for the retail zone

blocks area and density analysis

site area: 5 000m2 estimated building area: 30 000m2

site area: 6 200m2 estimated building area: 27 600m2

site area: 7 250m2 estimated building area: 26 500m2

selected area

the area consists of the dense city blocks surrounded by the streets. the different structures added through the time were consuming the space of the blocks limiting the light access and possible future extensions
the concept of future flexibility of the building

the building is replacing the old structure and was designed to improve the space quality, fix today’s challenges and needs, yet in some years of the fast technological development the building utility may decrease. the new urban problems might appear or the technology improvement may extort functions that are not predictable from our perspective; the building design allows it to adjust.

the urban blocks surrounding the plot have an extremely dense structure, which reduces the quality of the space. the narrow patios reduce the daylight access to the interiors and block any possible way to extend the building shape.

the new design improves the space quality, extends the area of the typical block and provides the new combination of functions.

the new design has a possible second face: the rooms not essential for a proper functioning of the building were organised in vertical blocks. thanks to the different structure system they can be removed and replaced with vertical shafts going from the underground zone up to the roof.

the new structure can be placed on top of the new cores. extension of the building would provide new functions and extend the building area.

the areas marked with grey hatch and the hidden lines mark the location of the future cores. rooms located inside the grey areas can be removed without the charm for transportation. fittings or functionality and every floor of the building is designed considering this rule. the new cores start from the foundation and go up to the roof. the foundation structure is reinforced under the future cores and it is prepared for new loads.

each of the new cores contains two elevators, fireproof staircase and the shaft for fittings. they can be replaced with essentially structural elements supporting the heavier slabs above the top floors but in this case the four existing cores have to be extended upwards. the columns designed for the stage one of the project can be extended to support the future slab.

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possible extensions of the building

additional blocks. towers on top of the new cores. public event space. aircraft landing. cultivation.

stage one - the present

stage two - the future
radiation analysis (courtyard top view)
the radiation test allowed to choose the optimal location of the transportation cores. the selected core layout allows the maximum amount of light to enter the rooms and reduces the shading. furthermore it equally distributes the transportation units between internal functions.

transportation
the vertical transportation is provided by four cores connecting the following zones of the building:
1. parking, restaurants, hotel, apartments
2. parking, shopping gallery, apartments
3. parking, hotel, apartments
4. parking, restaurants, hotel, apartments

filings
the bottom floors of the blocks number 2 and 3 are dedicated for technical purposes. they transfer the pipe systems to the main shafts located in the cores, which go all the way down to the underground zones. the block number 1 has a continuous vertical fittings connected to the city system under the parking.

corner study

selected variants

structure
the building structure system consists of the four main concrete cores which support two steel structure platforms. the system is supported by additional layout of steel columns. the construction lays on the concrete foundations supported by underground pile system.

terraces

apartments (31)

green corners

apartments (41)

green corners

apartments (46)

green corners

apartments (46)

techncal floor

shopping gallery

hotel sport zone

hotel rooms (46)

shopping gallery

techncal floor

restaurant

articles

restaurants

disentrupark

retail

parking ramp

parking (161 spots)

parking (157 spots)

level 13 area: 2 770m2
+ 80,500

level 12 area: 2 760m2
+ 77,500

level 11 area: 2 760m2
+ 75,500

level 10 area: 2 760m2
+ 70,500

level 9 area: 2 500m2
+ 67,500

level 8 area: 2 470m2
+ 65,500

level 7 area: 1 750m2
+ 42,500

level 6 area: 1 600m2
+ 38,500

level 5 area: 2 800m2
+ 35,500

level 4 area: 2 800m2
+ 32,500

level 3 area: 2 710m2
+ 30,500

level 2 area: 1 700m2
+ 27,500

level 1 area: 2 700m2
+ 23,500

level 0 area: 4 800m2
+ 1,000

level -1 area: 4 800m2
+ 0,000

level -2 area: 4 800m2