OFFICE
IN
BB CENTRUM
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Czech Technical University in Prague, Faculty of Architecture

2/ ASSIGNMENT of the diploma project

Mgr. program navazující

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Academic Year / Semester: 2019 - Summer Semester
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Diploma Project Theme:
See the Application Form for DP

Assignment of the Diploma Project:
1/description of the project assignment and the expected solution objective
2/description of the final result, outputs and elaboration scales
3/list of further agreed-upon parts of the project (model)
To this list further attachments can be added according to necessity.

1/description of the project assignment and the expected solution objective

The site in Michle Prague4, there is a area called BB centrum, past 20 years this project is ongoing. In this area, there is a site where the office building is planed to built.

My objective is to design office building here to provide office space, especially for the startups in Czech republic which is increasing recent years. This office space act as a hub of the business, make the synergy through shared gathering space inside of building.

2/description of the final result, outputs and elaboration scales

Site: 1/1000
Site landscape: 1/1000
Plan: 1/500 - 1/200
Sections, Elevations: 1/500 - 1/200
Visualisation

3/list of further agreed-upon parts of the project (model)

Scaled model

Date and Signature of the Student  Shohei Nozawa

Date and Signature of the Diploma Project Tutor

Date and Signature of the Dean of FA CTU
1. Abstract

The site which is BB centrum, developing rapidly from last 2,30 years. The area is different compare to any other Prague area. The area is include variety of function from school to office, retaliation and so on. As if they are one small city inside of city. The area Michle has population of 20,432 and it's density, 3708 ppl / m², and BB centrum area has almost 15,000 people area working. From this information, it can be said that the area has great potential to grow.

At same time the number of self-employee and startups in Czech republic is increasing. The diploma project focuses to design office space attract people who work for small company such as startups, self-employee. The flexible office space adapt small organization and promote interaction of people through the architecture.
2. The area
2.1 Prague

Size: 2420 ha
Population: 128,096
Population density

The number of apartment
65,877

Capacity of elementally school
Public: 12,725
Private: 725

The secondary school
Public: 7,148
Private: 4,115

Colleges
3
Universities
4

Structure of the area
[2016, ha]

Number of stories
[2016, m²]

Zoning
[2015, %]

Height of building
[2016, m²]
1. The area
   1.2 Michle

Population: 20,432
Population density: 3708 ppl / m²

2.2 HISTORY

Michle is a district of Prague city, part of Prague 4. Michle is first mentioned in 1185; it has been part of Prague since 1922.

In 1185, Michle was referred for the first time. In 1922, the village Michle with 9318 inhabitants and 446 houses became part of Prague. In 1990 the Michle became part of Prague 4.

Transportation infrastructure
- Railway
- Highway

The area of Michle

BB centrum
North part of Michle
2. BB centrum

2.1 ABOUT

BB Centrum

The multifunctional BB Centrum complex (25 hectares) is comprised of a total of 17 buildings, 12 of which are office buildings, two residential projects, a fitness and wellness centre in the BRUMLOVKA building, a social centre and Eliáš Christian elementary school, nursery school and now also high school. The concept of the office buildings fulfills the clients’ most demanding criteria for a practical and comfortable design of spaces of the highest quality, on the best technical and technological level.

There are also two publicly-accessible parks in BB Centrum. Baarův Park by the FILADELFIE building, which features a large water fountain, has one hectare with a row of benches, a free Wi-Fi zone, a freely accessible library booth, a pétanque terrain, a rotating swing and an untraditional Chinese whisper post. The second is the first phase of Brumlovka Park, which is located close to the Social Centre and which is dominated by a large playground with several elements and attractions. Another library booth is available here, as are several places to sit, plus a separate meadow for walking dogs.

2.1.2 History

BB Centrum – its name is formed by the initials of Baarova Street and BRUMLOVKA building.

1992 – 1996 – preparation of the BB Centrum project

November 1996 – commencement of construction of the first phase of BB Centrum, Building C

BB Centrum have started 20 years ago from 1998, the development of the complex is not at an end. In the future it is planning three more office and residential projects, a Museum of the Bible and an extension to Brumlovka Park. The construction of a block of flats for long- and short-term leases is currently underway. The total investment into BB Centrum will therefore reach 1.1 billion euros.
2. BB centrum
2.2 Existing building

PRESENT SITUATION

BB Centrum stretches over an area of 20 ha. Strategic position near the main traffic artery D1 and the inner Prague ring road.
Number of finished buildings: 17 (12 office buildings, 2 residential project a primary and a nursery school, Community Centre, multipurpose BRUMLOVKA building
Total area of the finished buildings: 250,000 sq m
Number of parking stalls: 5,200

Number of companies residing in BB Centrum: 70
Number of employment positions at BB Centrum: 15,000

The largest office tenants: O2 Czech Republic, Hewlett-Packard, Moneta Bank, Skupina ČEZ, UniCredit Bank, Microsoft, ŠKODA AUTO, Mars, Wrigley...
Number of shops and services: 60

Major shops and services: Albert supermarket, dm drugstore, Česká pošta, exclusive fitness and wellness Balance Club Brumlovka, Ristorante Pizzeria Grosseto, vegetarian restaurant Maranatha, Costa Coffee, hair and cosmetic studio BOMTON, pharmacy

Green areas and water features in BB Centrum: Baar Park and Brumlovka Park, large roof terraces with greenery, green areas among the buildings, water features
Children playgrounds and sport park
Athletic stadium
Central Brumlovka Square
Green BB Centrum: all the new buildings in the BB Centrum pass BREEAM certification

FUTURE

Total area after completion of all intended plans: 425,000 sqm
Total cost of developing BB Centrum will exceed cca CZK 32 billion

www.bbcentrum.cz
3. Site analysis
3.1. The satellite photo of the site

The site located the corner of BB centrum project area, Next to the Baar Park. Currently used as parking lot. The site is sandwiched by two main wide road, one of them is the highway.
3. Site analysis

3.2. The noise in the area

The highway causes more noise than any other road. The site is right next to the highway, so it will need to be considered as a design element.

3. Site analysis

3.3. The height of surroundings

This is the map of building height in the Michle area. As the project continued, the area of BB centrum building height went up compared to outside of the area. Outside area is generally around 6m height of the building, however, the buildings inside of the area is more than 20m height which is a big difference.
3. The site analysis
3.4. The function of surroundings

Bule part include residencial and school, the red part include office. Considering number of office and the other functions in the area, residencial building can be more constructed.
3. The site analysis
3.5. Design element and photo

As for designing architecture in this site, there are things to be considered into design.
1- How to deal with the noise from highway.
2- How to make connection with the park next to the site.
3. The site analysis

3.6. Access
Today, there are 340,000 people area self-employed office connected professions. Technological advancement and digitalisation allow new flexible forms of employment away from the fixed desk in the corporate office.
5. Proposal
5.1 Idea

The maximum floor area which can be built in this site is 30,000m². Also the maximum stories are 8 floor.

In order to take sunlight into the park, the volume reduced. Those area is moved to the other side of the site.

The shared area (including core) of the office is introduced to between office spaces to provide opportunity to meet new people.
The south part of office exterior is designed to prevent noise from highway. On the room top, the solar panel is placed where sufficient sun light is expected.
5. Proposal
5.2 Site Plan
1. Running track
2. Sitting area and Restaurant
3. Park with greenaly
The shared area is located between office space which promote interaction of people who work here. These space consist different types of function.
### 5. Proposal

5.4 Plan

5.4.1 Elevation

<table>
<thead>
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<th>+0 Ground floor</th>
<th>+8000 2nd floor</th>
<th>+12000 3rd floor</th>
<th>+16000 4th floor</th>
<th>+20000 5th floor</th>
<th>+24000 6th floor</th>
</tr>
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<tr>
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<td>+16000 4th floor</td>
<td>+20000 5th floor</td>
<td>+24000 6th floor</td>
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<td>+24000 6th floor</td>
<td>+28000 Roof</td>
</tr>
</tbody>
</table>

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5. Proposal
5.4 Plan
5.4.1 Elevation

West elevation 1 / 500
East elevation 1 / 500

+28000  Roof
+24000  6th floor
+20000  5th floor
+16000  4th floor
+12000  3rd floor
+8000   2nd floor
+4000   1st floor
+0      Ground floor
5. Proposal
5.4 Plan
5.4.2 Section

+20000  5th floor
+20000  5th floor
+16000  4th floor
+12000  3rd floor
+8000   2nd floor
+4000   1st floor
+0      Ground floor
-4000   -1 floor parking
-7500   -2 floor parking
5. Proposal
5.2 Plan
5.4.3 B3,B2,B1 parking floor 1/500
5. Proposal
5.2 Plan
5.4.3 Ground floor 1/500

1. Office
2. Entrance
3. Restaurant
4. Meeting room
5. Technical room
6. Garbage room
7. Storage
8. Administrative office
5. Proposal
5.2 Plan
5.4.3 1st floor 1/500

1. Office
2. Shared area
5. Proposal
5.2 Plan
5.4.3 2nd floor 1/500
5. Proposal
5.2 Plan
5.4.3 3rd floor 1/500
5. Proposal
5.2 Plan
5.4.3 4th floor 1/500

1. Office
2. Shared area
3. Solar
5. Proposal
5.2 Plan
5.4.3 5th floor 1/500
5. Proposal
5.2 Plan
5.4.3 6th floor 1/500

1. Office
2. Shared area
3. Roof top
6. Visualization
6. Visualization
6. Visualization
6. Visualization
Entrance hall and shared area
RESOURCES

EMPLOYMENT SITUATION IN CZECH REPUBLIC
-OECD data

-Coworking in the Czech republic

ARCHITECTURE DESIGN
-Roy and Diana Vagelos Education Centre / Diller Scofidio + Renfro

-Novartis Campus / Weiss/Manfredi
https://www.archdaily.com/533475/novartis-campus-weiss-manfredi/?ad_source=myarchdaily&ad_medium=bookmark-show&ad_content=current-user

-Building E, Building Delta, Building Alpha, Building Gamma / Aulík Fišer architekt

-FILADELPHIE Building / DAM.architekti
http://www.dam.cz/cs/portfolio/bbc-filadelfie

-The edge / PLP Architecture
http://www.plparchitecture.com/the-edge.html

SOLAR PANEL AND ENERGY CALCULATION
-Calculation formula for the annual solar energy output of a photovoltaic system

-Yearly sum of solar electricity generated in Czech republic
  • http://re.jrc.ec.europa.eu/pvg_download/map_pdfs/G_opt_CZ.pdf

-Solar panel from Panasonic

Maps and surroundings data
  • https://www.openstreetmap.org/#map=14/50.0498/14.4294&layers=H
  • https://www.citypopulation.de/php/czechrep-praguecity.php
  • http://www.geoportalpraha.cz/cs/opendata#.XHrFcC2ZN24

BB CENTRUM
  • https://www.bbcentrum.cz

OFFICE BUILDING IN GENERAL
  • https://www.designingbuildings.co.uk/wiki/Occupant_capacity_of_a_building_or_space?fbclid=IwAR2MYPs-t6yOy5-bT-IUKvf54MZLyxldcBT5UU0vwYy1LUUpSoVcmIkhpZHAs

-What is hybrid building?

-WBDG whole building design guide : Office
  • http://www.wbdg.org/building-types/office-building?fbclid=IwAR0xx7_jti87x5SH0Q4WN-8NtQusJTkmTlt-d3ultoGT4Yd-JhVq0fu_i_xA

• Drafting of buildings / Yasuhide Segawa