

MULTIFUNCTIONAL BUILDINGS IN HOLESOVICE, PRAGUE



Master's thesis project | Tamar Benashvili | Studio Kordovsky Vrbata |
Czech Technical University | 2022

Master Thesis

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I would like to express my gratitude and appreciation towards the teachers of studio Kordovsky Vrbata: Petr Kordovsky and Ladislav Vrbata. It was always pleasant to interact with them, and I was always getting value out of meetings.

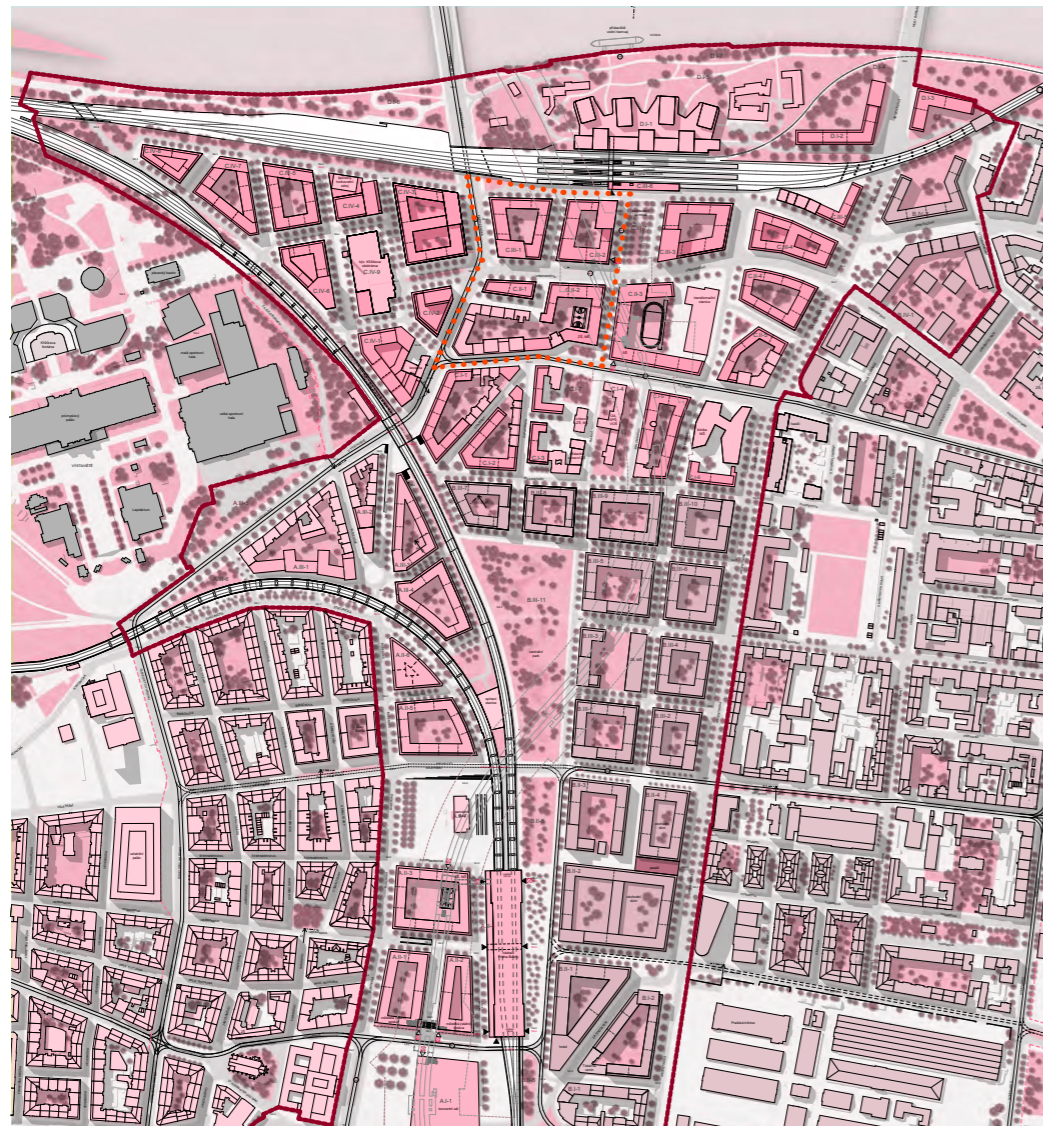
I would like to thank to Miss Kristyna Sedlarikova from the International Office, who was always incredibly helpful. I can't describe accurately to what extent her dedication, pleasantness and professionalism made my life easier.

I would like to thank my friends and family for support.

01. Overview

The project aims to solve multifunctional buildings close to the train station as outlined on the winning masterplan of Holesovice-Bubny development. The design proposal, in addition to designs of the actual buildings, suggests some urbanistic adjustments to the masterplan for the particular area.

The buildings within the defined scope are multifunctional, however, the majority of spaces are occupied with offices. Therefore, big part of the research was dedicated to understand how modern-day office spaces work.



Project scope. Location.
Outlined on the winning masterplan by Pelcak a Partner Architekti

02. Analysis

This part of the portfolio is divided into two parts: Analysis of the location context and review of workspace design approaches.

02.01. Location Context

02.01.01 Holešovice-Bubny Historic Development

The main part of Holešovice is located in the so-called Prague Meandr of the river Vltava on its left bank. Bubny and Letna district on the hill also belong to Holešovice – Prague 7. Holešovice (1850-1960 Holešovice-Bubny) joined Prague in 1884.

The first mention of Holešovice dates back to 1228 in the title of a person: Bishop Bohumil of Holešovice. The original village of Holešovice also included settlement of Holešovičky or Malé Holešovice located on the opposite (right) bank of Vltava, but it joined to Libeň starting from 16th century. However, the originally small agricultural settlement Holešovice positioned on today's Prague- Holešovice railway station developed on the whole previously uninhabited territory, flooded fields and meadows of the Vltava Meander in the last third of the 19th century and turned into one of the most important industrial suburbs of Prague.

Since that period important territorial landmarks were built, including the central Slaughterhouses, Bubenské Nádraží, gas plant. In addition to that, in 1891 in the neighboring district in the immediate vicinity of Holešovice Complex for Provincial Exhibition was built and this encouraged other changes within Holešovice as well, namely, construction of Cable Car to Letná, tram tracks Letná – Výstaviště etc. A port has been built on the river bank opposite to Libeň. In 1850 Holešovice joined to Bubny village and since 1884 it was called Holešovice Bubny. In 1928 Libeň Bridge was open, which further improved the transport connectivity to the district.

During the reforms of Prague districts in 1960 Holešovice Bubny was officially named as Holešovice. During 1970-80ies the district was divided by the north-south highway connecting Hlávkuv most and the Most Barikádníků. This magistral improved transport connectivity but also affected noise and pollution. In 1984 the district got connected via Metro and stations Vltavská and Nádraží Holešovice were built. At the same time, the railway station of the same name was opened at so called holešovické přeložce diverting traffic from city center via holešovický and Libeň.

The flood in August 2002 affected the most of the Holešovice. The library on the Ortenově náměstí, which had a depository of rare prints of the municipal library in the cellar, was flooded to a height of about 1 meter.

Due to the advantageous position of Holešovice within the context of wider center rapid developments of office and residential complexes took place after 2000: for example, reconstruction of high-rise building of the former PZO Kovo at the Libeň Bridge and construction of the Lighthouse Vltava Waterfront Towers complex.

As for urban development of Holešovice, it is known that the residents of high medieval Holešovice (11-14th centuries) Holešovice maintained contact not only with the neighboring Bubny, but also with other localities. Through centuries Holešovice did not develop rapidly from urban point of view, as the number of houses and farms did not really change, and even in 1840 the development showed character of agricultural village with number of cottages. Nevertheless, their territorial area surpassed neighboring Bubny and gradually grew by a number of homesteads, located in a narrow zone between the banks of the river Vltava and parallel to today's Vrbenského street. The main economic artery was represented by vineyards located in the bend of the River and on the territory of the current Holešovičky, which in addition to fishing, emphasized the agricultural character of the settlement.



Plan de la ville & du siege de Prague 1700-1740. Source: www.oldmapsonline.org



Les environs de Prague 1750-1770. Source: www.oldmapsonline.org

From the middle of 19th century, Holešovice began to transform into a suburban district, which was significantly contributed by the join of Holešovice with Bubny (1850). Despite of the administrative unification, both of the parts kept separate independent path of development. The urban design of the new district was characterized by the main axis, which became today's Milady Horákové Avenue. The residential network was further developed in connection with today's Dukelských hrdinů and Bubenská streets, which counted around 110 houses with 1200 inhabitants by 1857. It was a great advancement, because by 1837 it only counted 36 houses and 291 inhabitants. In total, by 1837 Holešovice had 96 houses and 830 inhabitants in total, but due to the industrial revolution, the district was gaining more and more industrial character compared to residential Bubny. This tendency was reflected in the construction of factories and railway stations, Buštěhradské dráhy via Stromovka and its connection to the existing line to Dresden in 1868. This was followed by the construction of a workers' colony of houses with courtyards and gardens. One of the main avenues of Holešovice, today's Dělnická Street, was named after this colony.

At the beginning of 1880-ies 32 factories and smaller industrial enterprises were built in Holešovice. The river port also contributed the increase of importance of Holešovice as one of the main industrial areas within Prague. In 1884 Holešovice bubny became prague 7. By that time, the district had 23 streets and 5 roads, 461 houses and over 11000 inhabitants. At the same year, final regulatory plan was confirmed, which was characterized by rectangular network of streets and two squares, and four years later the official naming of individual streets were added.



1860-1880 | Source: www.oldmapsonline.org



1800-1830 | Source: www.oldmapsonline.org



1890-1918 | Source: www.oldmapsonline.org



1870-1900 | Source: www.oldmapsonline.org



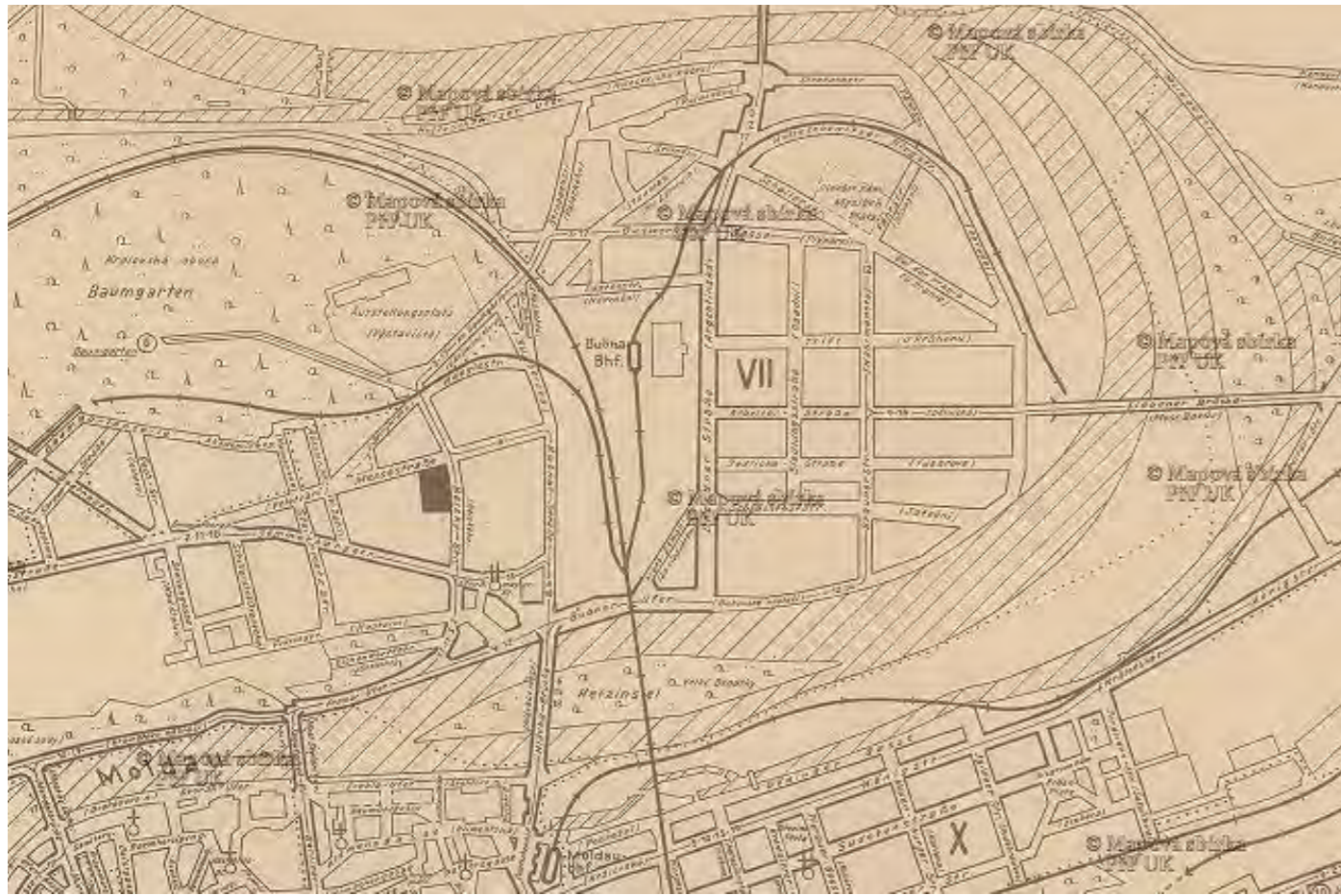
1929 | Source: www.oldmapsonline.org



1923 | Source: www.oldmapsonline.org



Nejnovější plán Prahy 1912-1940 | Source: www.oldmapsonline.org



Prag Orientierungsplan 1942 | Source: www.oldmapsonline.org

In 1900 the number of houses reached 780 and the population was around 30 000. The modernization of the newly created seventh part of Prague manifested itself primarily in the construction of companies of Prague scale importance. During 1880-90ies many important objects were added to the district:

New gas plant (1888), Slaughterhouse (1895), the first Prague Burgher Brewery (1897), power plant (1900). In 1895 a modern sewerage system was completed and five years later there was a public bath too.

Progress was in terms of transportation as well. The port in Holešovice was opened in 1894 and two years later the road below Letná was completed. The horse tram was also electrified. The beginning of 20th century brought with it other transport links in the form of construction of two waterfront, which was connected with internal parts of Prague with new bridges – Cechuv Most and Hlavkuv Most (1909-1911). Buildings of social significance were also built: schools, a falconry, the church of St. Antony, first sports clubs were established near Letná. At the beginning of the First World War, the population of Holešovice-Bubny climbed to 44,000 and the number of houses exceeded one thousand.

During the first Republic, the Vltava riverband was relocated and the associated construction of the Liben Bridge and Trojsky bridge happened, which resulted in the demise of the unregulated flood area of Manin. Thanks to these measures, residential construction continued in the Holešovice meander, and at the same time industrial enterprises from 19th century, so characteristic for this part of Prague, were pushed out in the area west of Bubenská street. The trade Fair Palace, and the electric Companies Building were built on the vacated plots (1927-35), after the construction of the workers' Accident Insurance Company, the image of the old Bubny almost disappeared.

The port of Holešovice was characterized by lively trade with Hamburg during this period. Sports activities have expanded through Štvanice to include a winter stadium(1931).

Only the area of Staré Holešovice - Zátor has retained its small-town to village character. The Second World War brought with it, above all, the demographic transformation of Holešovice; The local Jewish population was also transported from Holešovice-Bubny, starting the path of their death from the Bubenské embankment after several days of internment in Radiopalác.

After the war, the local Germans had to emigrate. The unfortunate 50s were a swan song for the Zátory, part of which was demolished also due to the concrete plant Prefa on the banks of the Vltava, the district essentially disappeared in the 1970s during the construction of the Nádraží Holešovice metro station .

In 1960, the name Holešovice-Bubny was abolished and the official designation continued to bear only the name Holešovice. The foreshadowing of the deindustrialisation of Holešovice was the closure and abolition of slaughterhouses, only the social coup after 1989 brought with it a transformation sealed by the flood in 2002, which ended the operation of the port of Holešovice and industrial Holešovice ended definitively.

Part of today's Holešovice, unofficially called Staré Holešovice, known as Zátory, definitely disappeared in 1977. Their memory is commemorated by today's Na Zátorách street and the Prague - Holešovice railway station, exhibited on their part. The name Zátory or závory refers to the low bank into which the ice floes penetrate and this name was then transferred to the whole part of Staré Holešovice. Originally, it was mainly an economic area, whose inhabitants were engaged in fishing, growing agricultural crops, sailing on boats and rafts, working as sandblasters, icebreakers and ferrymen. The district was dominated by the former Palackého, today's Partyzánská Street, around which individual farms stood. Partyzánská Street is the oldest street in Holešovice, which was surrounded by houses and outbuildings. It was actually created by connecting Trojská and K Pelci streets, František Palacký .

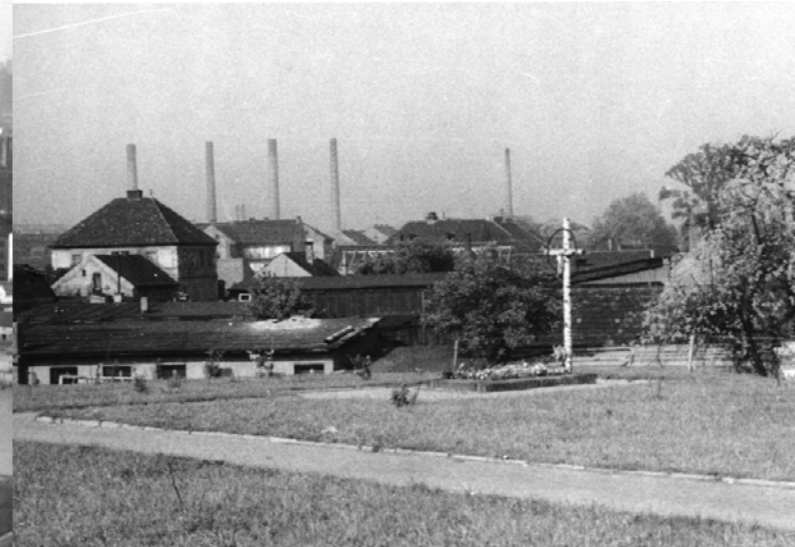
In 1894, the then Palackého Street was extended to the Exhibition Grounds . In Palackého Street there was a tram depot with the final stop of tram number 3. The Empire- style house with a front garden belonged to Dormitzer's map. In the street, a visitor or local native could refresh himself in five inns: U Libuše or U Zeleného stromu on the north side of the street, which also housed the Sokol organization, and also in the U Saláků inn, which was later replaced by a dairy. The U České koruny inn also stood in the northern part. The last inn U Zaradíčků, later U Vltavana stood in the easternmost part of the street behind the Barikádníků Bridge. Its current name is Partyzánská received only in 1947 to commemorate the heroes of World War II. The historic buildings disappeared in the 1970s, today's street is only part of the original street.

The first industrial building here was Dormitzer's carton, built in 1823. The change was brought about by the stopping of the Holešovice land in the second half of the 19th century, thanks to which apartment buildings were added and Zátory, with its old-world character, turned into a peripheral area. In the interwar period, the easternmost part of Palackého Street gave way to the construction of the Troja Bridge.

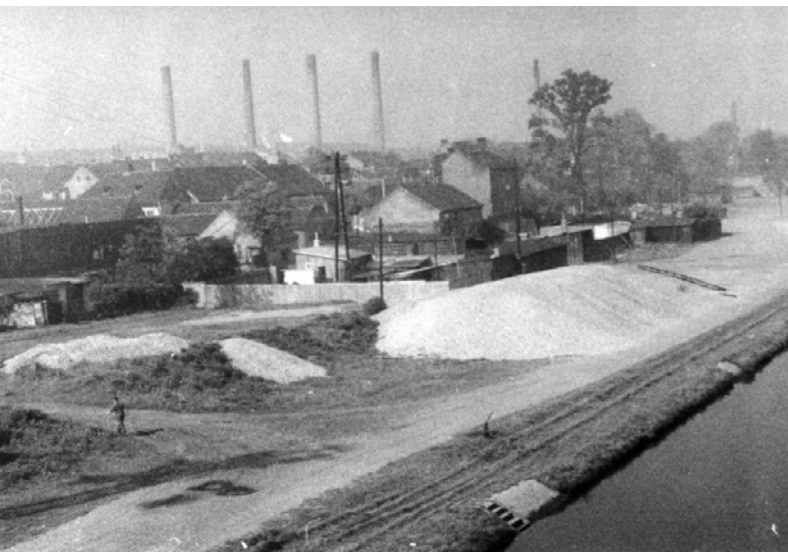
The post-war period in connection with the building of socialism in Czechoslovakia meant the gradual demise of the district, caused by extensive demolition and construction of the concrete plant Prefa, and for example houses in the eastern part of Holešovice embankment disappeared as No. 14 U Pulmistrů, No. 20 U Lípů, No. 21 U České koruny, No. 22 U Hlaváčků, No. 24 U Kroupů, No. 25 Na Holešovce, No. 42 U Valášků. Only the farm No. 31 has been preserved in the area of the concrete plant, near which the river ferry and the house of the Vaňh family used to be operated. From 70. The street network either disappeared completely: Arnoštovská, Zelená, Prokopova streets, or remained in torsion as in the case of Partyzánská, Strobachova, Trojská, Na Zátorách, Jablonského, V Závětrí streets, part of which received a completely different route. The construction of university dormitories is currently being considered, which would also provide a student community character to this part of Prague 7.



Views on holešovický meandr by 1928. Source: milujuprahu.cz



Old Holešovice photographs. Source: www.stareholesovice.cz



Old Holešovice photographs. Source: www.stareholesovice.cz

In the original area of Nové Holešovice, located in the area from the Bubny railway station to the Vltava meander, concentrated construction began in the second half of the 19th century, together with the delineation of a rectangular street network. Even today, Holešovice streets are distinguished according to their origin, either as location (Na Maninách, Na Výšinách, V Závětrí, Přístavní, Přívozní, Malá Plynární, Plynární or V Háji streets) or setting a direction (U Pergamenky / formerly K Uranii). Part of the streets is named after the type of human activity (Dělnická, Komunardů), part after important personalities (Ortenovo náměstí, Jankovcova, Vrbenského, Tusarova, Varhulíková, Poupětov, Bondy).

The oldest buildings have been preserved along part of Osadní Street (named after the settlement of workers' houses), which is still lined with the original tree-lined alley. The Holešovice embankment was soon built up by port buildings, which were followed by larger factory complexes, a power plant with its own siding, and a burgher brewery with bakeries was built a short distance away. The construction of the metro and the station building in the 1970s engulfed the original workers' garden colony, as well as the disappearance of part of the Bubny station complex along Argentinská Street (named after a South American country following the import of cattle to the Holešovice slaughterhouse). Dresden or Partisan). The industrial face of Nové Holešovice, as it was profiled in the 19th century through small industrial buildings and larger factory halls, is gradually transforming into a modern administrative and residential district in the spirit of the time, supplemented by studios of architects and artists, but also new artistic and cultural and social scenes. To this day, a complex of city slaughterhouses has also been preserved, dominated by a functional market, supplemented by other shops, restaurants, bistros, shopping halls and art scenes such as Slaughterhouse 78 and the Millennium Theater.

The remarkable buildings of Nové Holešovice undoubtedly include Vaňkovo semenářství (architects Emil Králíček and Matěj Blecha, built in 1911) and its neo-renaissance house designed by architect Jan Zeyer in the block of houses lining Bubenské nábřeží. The already mentioned complex of city slaughterhouses is dominated by another representative of the Neo-Renaissance in the form of a water tower. In Osadní Street you can find a local representative of the so-called "national style", fashionable in the 1920s, namely the houses of the Municipality of Prague for the socially weaker (Rudolf Hraběta), which are separated by individual parks. Another example of interwar social construction from the early 1930s are the panel galleries in Osadní Street.

At present, Osadní Street is dominated by the DOX Center for Contemporary Art (adapted and supplemented by new interventions Ivan Kroupa, 2008), located at the intersection of Osadní Street with Poupětová Street (named in honor of the local brewery František Ondřej Poupět in 1905). The Gallery of Modern Art, frequently visited by foreign art enthusiasts, is housed in the rebuilt industrial buildings of the former Rossemann and Kühnemann machine factory, which opened here in 1901, followed later by the construction of a corner office building (František Troníček) and reinforced concrete production buildings for the locksmith company Páv.

In the spirit of Cubism, a small factory of the Materna company was built on the corner of Osadní and Dělnická streets (Rudolf Stockar). In the imaginary stylistic chronology, it is followed by the opposite functionalist apartment building in Dělnická Street from the late 1930s (Josef Chochol). A few houses away, the concrete palace of Metrostav (Karel Filsak) is located in the same street. Osadní street opens into today's Ortenova náměstí.

on the eastern edge of which until the 1950s stood the wooden theater stage Uranie (Osvald Polívka), which was moved here from the Exhibition Grounds. U Uranie Street was named after the theater stage, which was part of the most important road connection between the north-eastern and north-western areas of Prague in the middle of the 20th century, and all transit traffic rolled through it. This time, the square is dominated by the art-déco style in the form of Masaryk's schools.

The square on its northern side is enclosed by two large buildings, the former Leopold Mahler Cotton Spinning Mill. The older building from 1889, whose internal structure consists of a combination of cast iron columns and brick ceilings, also served as a boiler room and engine room. The second, younger building, contained a four-storey spinning mill with a corner tower, containing a staircase and a reservoir for supplying the sprinkler fire extinguishing system (designed by Sequin and Knöbel, implemented by Alois Richter). Today, after extensive reconstruction, in which a higher floor has been added, the Czech Post is housed in these buildings.

Opposite it, on the corner of U Pergamenky Street (in house No. 516, stood a former parchment paper factory) and Jankovcova Street (named in honor of a member of the anti-Nazi resistance, Wolfgang Jankovec, executed by the Nazis for resistance activities in 1944), is a functionalist house for employees of the Mining and Metallurgical Company (M. Koněřza). Jankovcova Street up to the Libeň Bridge is lined by the port complex with half-timbered buildings from the early 20th century (František Sander). On the southern side of Jankovcova Street, there are industrial areas, today mostly commercial and administrative, among which the building of the Holešovice bakeries from 1909–1910 (Bohumil Hübschmann) stands out. It is also inextricably linked with Nové Holešovice Libeň Bridge. Its origins date back to 1903, when the temporary bridge, originally used in the construction of the bridge at the National Theater, replaced the last articulated concrete bridge built in Prague in 1924–1928.

Architect Pavel Janák used Cubist morphology to decorate the concrete structure, railings and stairs. With its artistic decoration, the company ranks among the top interwar architectural works. On the forecourt of the reinforced concrete Libeň Bridge stand two high-rise buildings: the Kovo Palace, today Tokovo, including the seat of the Supreme Audit Office from the 1970s (Zdeněk Edel) and the Lighthouse, according to the design of Israeli designers. The adjoining Dělnická Street (was established in the 1970s after the construction of a colony of workers' houses) also has other functionalist houses (Josef Martínek) and a former Tesla factory.

In Na Maninách Street we can find the building of the first multi-storey garages in Prague from 1928 (design by Bedřich Adámek, realization by Josef Blecha, reinforced concrete skeleton with beamed ceilings realized by Brázdil and Ješ). In 1988, Josef Škopek's Park Garage building, comprising two underground and seven above-ground floors with 120 parking spaces and two elevators for cars, car washes and equipment for employees, was rebuilt for the needs of an advertising agency (architect David Chisholm).

Currently, the building is used for administrative purposes. In U Průhonu Street (founded in 1894 on the site where cattle were grazed for grazing) there is a functionalist house with a motif of a prismatic bay window (Eugen Rosenberg) and a former brewery from the beginning of the 20th century (Josef Bertl). At present, there are commercial, administrative and residential premises in the brewery complex. Opposite the brewery is also a building from the early 20th century, which housed the famous foundry factory Franta Anýž, later Zúkov (architect Antonín Engl). One of the main avenues of Nové Holešovice is the traffic artery of Komunardů Street (formerly also Rohanská or Habrmanova), where the La Fabrika cultural center is located (conversion by Lukáš Ježek, Tomáš Novotný and Tomáš Zimek from the KAVA studio), but earlier the seat of two metal plants Karel Bendelmayer, a foundry of artistic cast iron and the factories for the production of František Richter's jacks. The foundry operated as part of the ČKD plant until the 1980s, and the second plant for the production of jacks even until the 1990s.

From the original building of the former power plant, in the design of which Jan Kříženecký also participates at the turn of the 19th and 20th centuries, at Partyzánská Street (once Palackého, Strobachova, Trójská Street), the Art Nouveau hall of the engine room has been preserved today.

Holešovice is also located on the territory of the protection zone of the monument reserve in the capital. To date, there are a total of 51 immovable cultural monuments in the Prague 7 - Holešovice district, of which 10 of the immovable cultural monuments listed below can be found in the new and old Holešovice districts. Given that a detailed list of the updated Central List of Immovable Cultural Monuments of the Czech Republic through the Monument Catalog, managed by the National Monuments Institute on their website, can be found on the NPÚ website. Here is a brief list of these immovable cultural monuments:

- Holešovice Power Plant
- Měšťanský pivovar
- Prague Market Square – Slaughterhouse
- Cultural house Domovina
- Holešovický přístav
- Water meter factory Adolf R. Pleskot
- Apartment building, Argentinská čp. 702/1
- Administrative building of the J. Materna paint factory
- Apartment building - block of nine houses, Tusarova čp.
- The stock motor mill.

Holešovice now. Source: www.tvarchitect.com



02.01.02 Holešovice - Bubny now

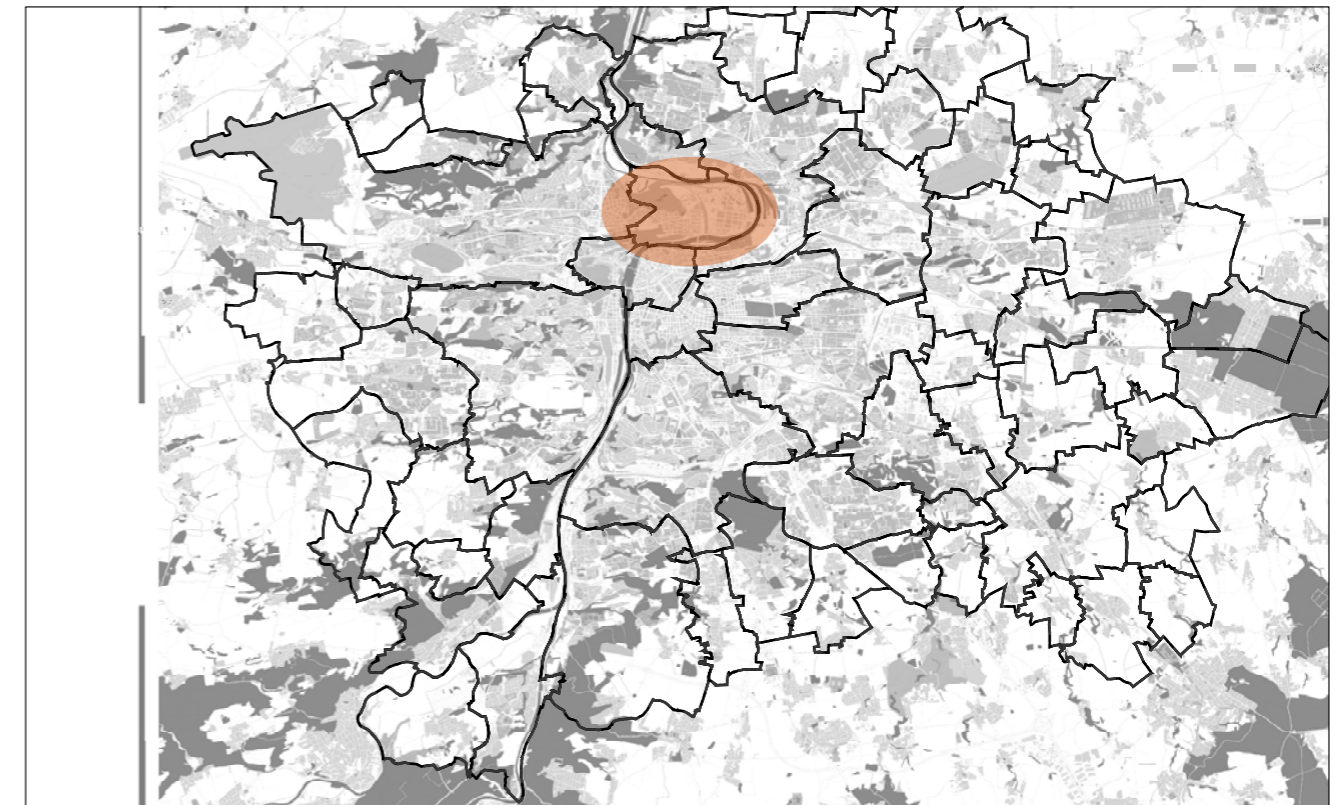
Today, Holešovice (including Letná) is a popular residential area, located near the center. Quality housing is enhanced by large green areas of Letenské sady and the nearby Stromovka, which is already located in the Bubeneč cadastre. For Holešovice itself, east of the railway line in the bend of the Vltava, an interesting industrial architecture is typical, in many cases successfully reconstructed.

35,000 inhabitants live in Holešovice on an area of 4.69 km².



Industrial Holešovice. Source: www.prahaneznama.cz

Holešovice within Prague context. Source: Geoportal data. Map produced by Author



0 2.25 4.5 9 Kilometers

LEGEND

TMESTSKECASTI_P

Schwarzplan. Source: Geoportal data. Map produced by Author

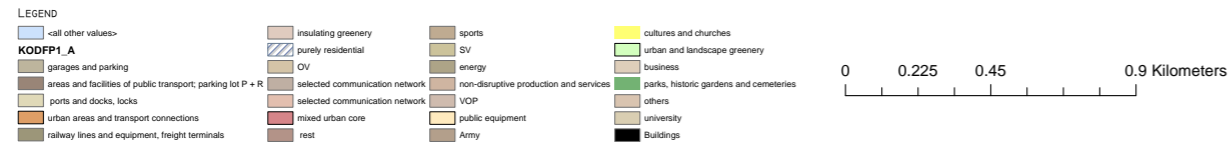
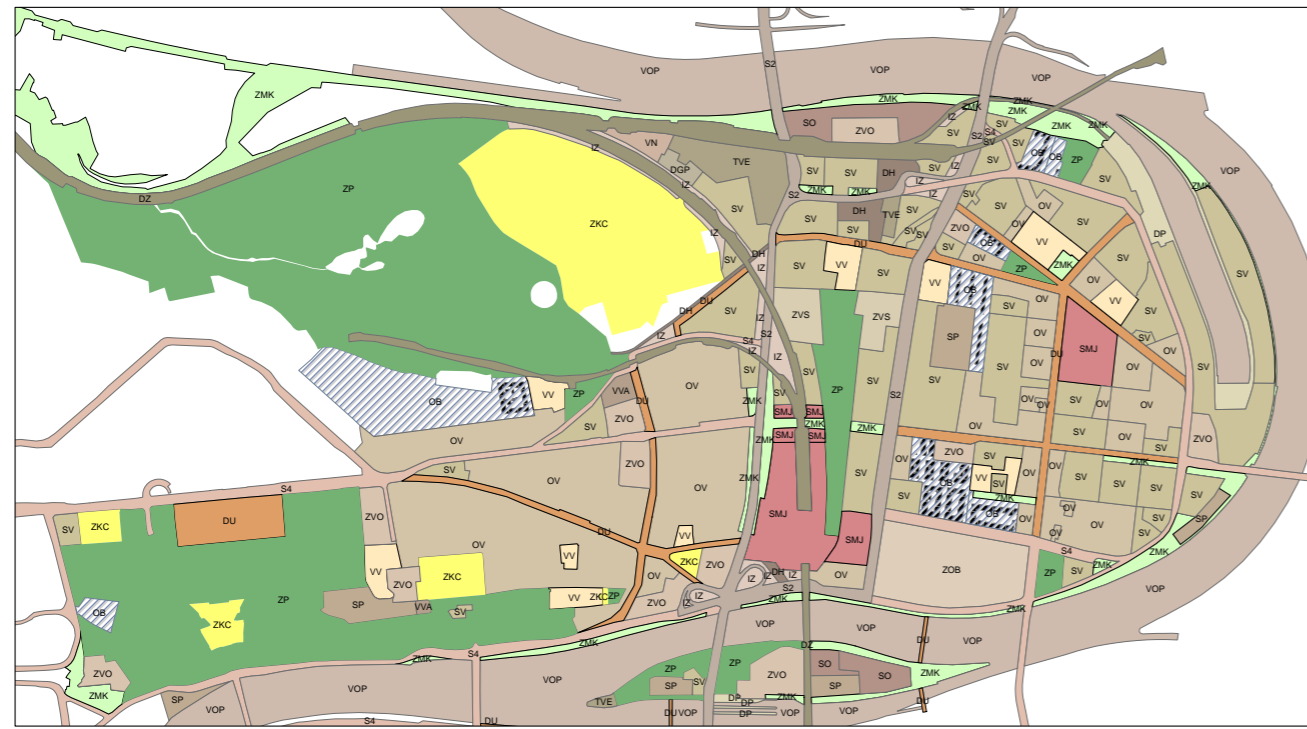


0 0.225 0.45 0.9 Kilometers

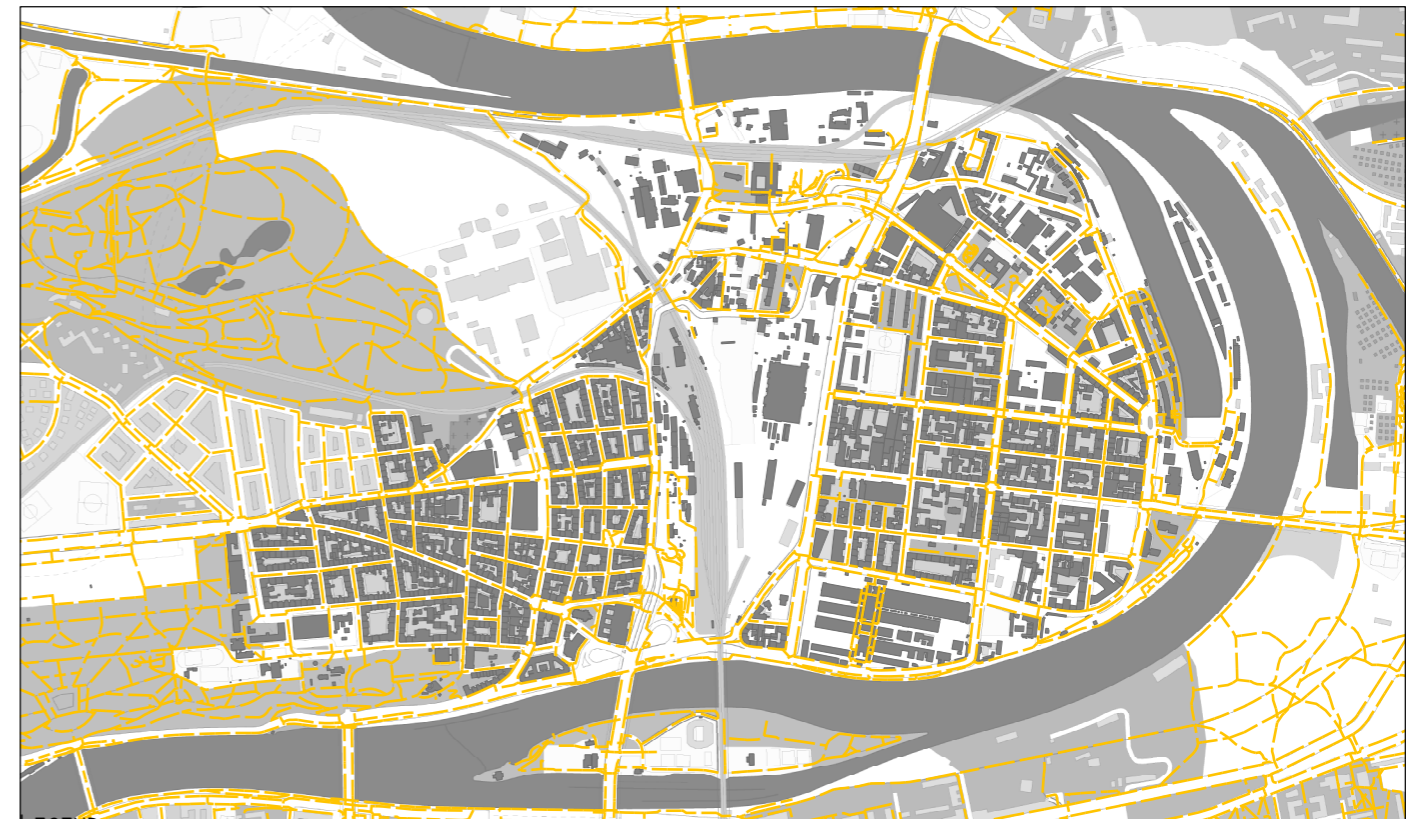
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Buildings

Functional Use. Source: Geoportal data. Map produced by Author



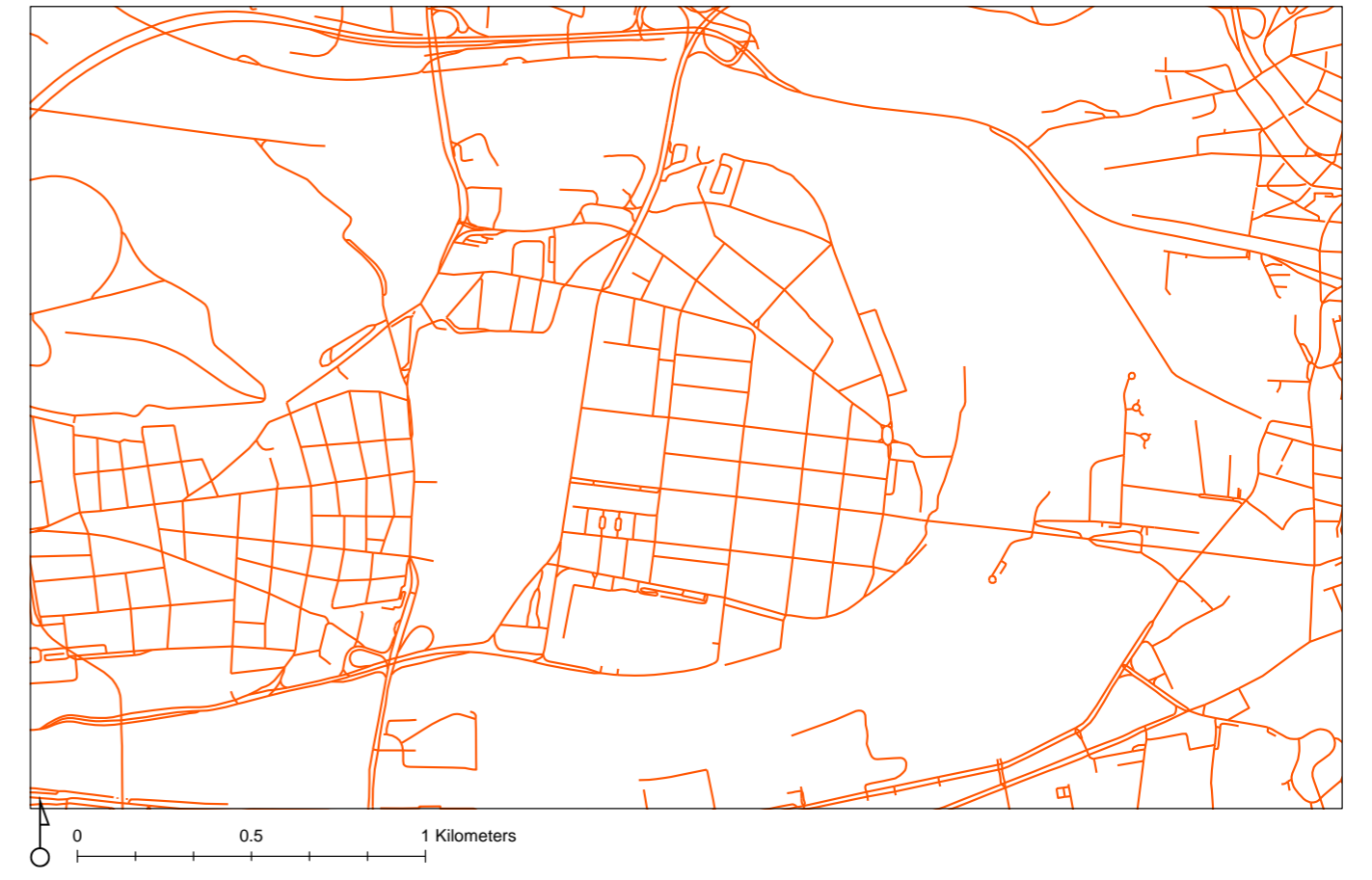
Walking Directions. Source: Geoportal data. Map produced by Author



Actual Functional Use of the area. Source: Geoportal data. Map produced by Author



Roads. Source: Geoportal data. Map produced by Author



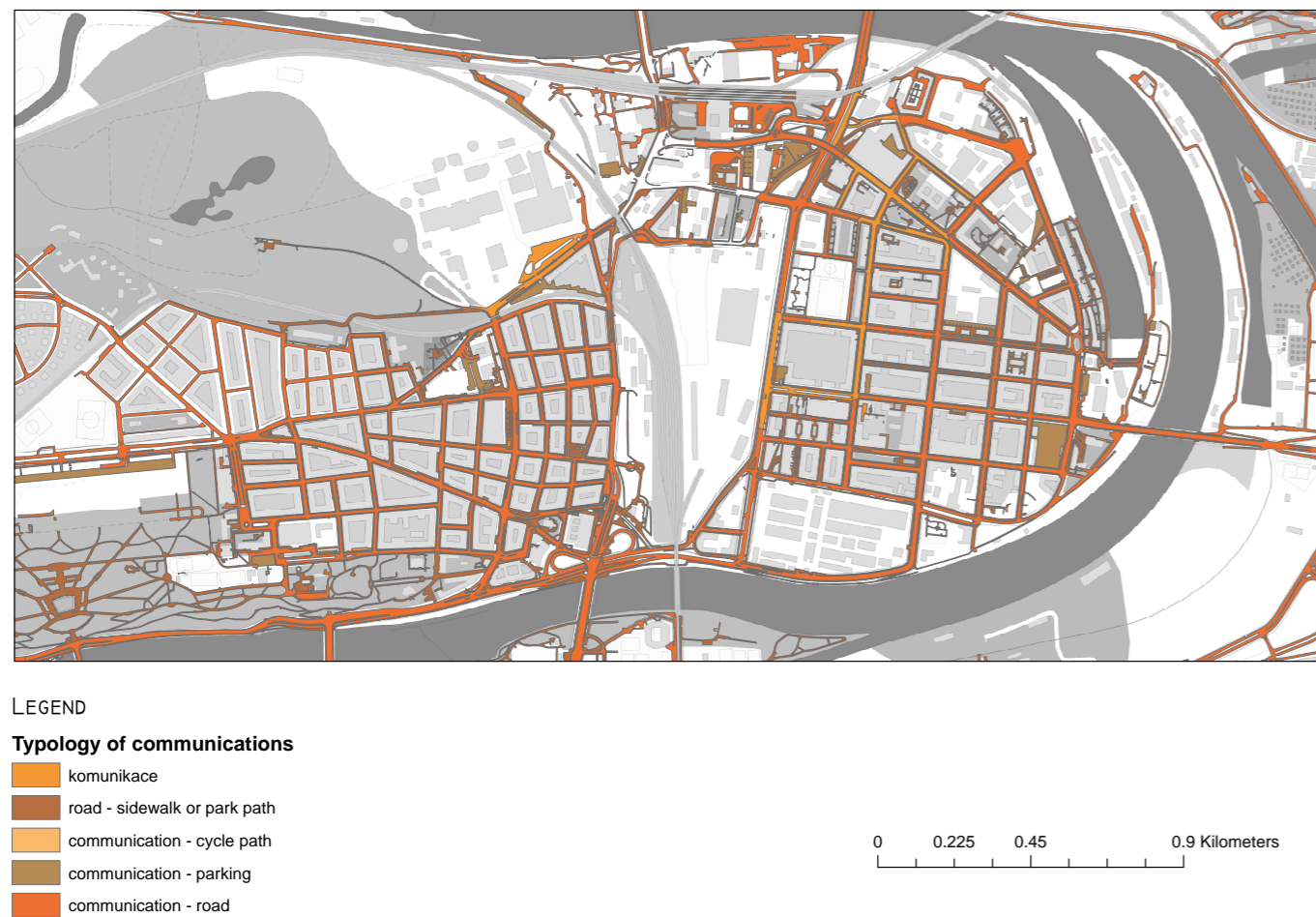
Public vs Private spaces. Source: Geoportal data. Map produced by Author



Green Spaces. Source: Geoportal data. Map produced by Author



Typology of communications. Source: Geoportal data. Map produced by Author



Railway and industrial areas. Source: Geoportal data. Map produced by Author



Cycling routes. Source: Geoportal data. Map produced by Author



Public transport lines and stops. Source: Geoportal data. Map produced by Author



LEGEND
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0 0.225 0.45 0.9 Kilometers

02.01.03. Bubny - New Development Plan

The area around former Bubny station has been without proper development for quite long. However, in 2017 the winning proposal by Pelčák a Partner architekti was confirmed. According to the authors of the winning proposal:

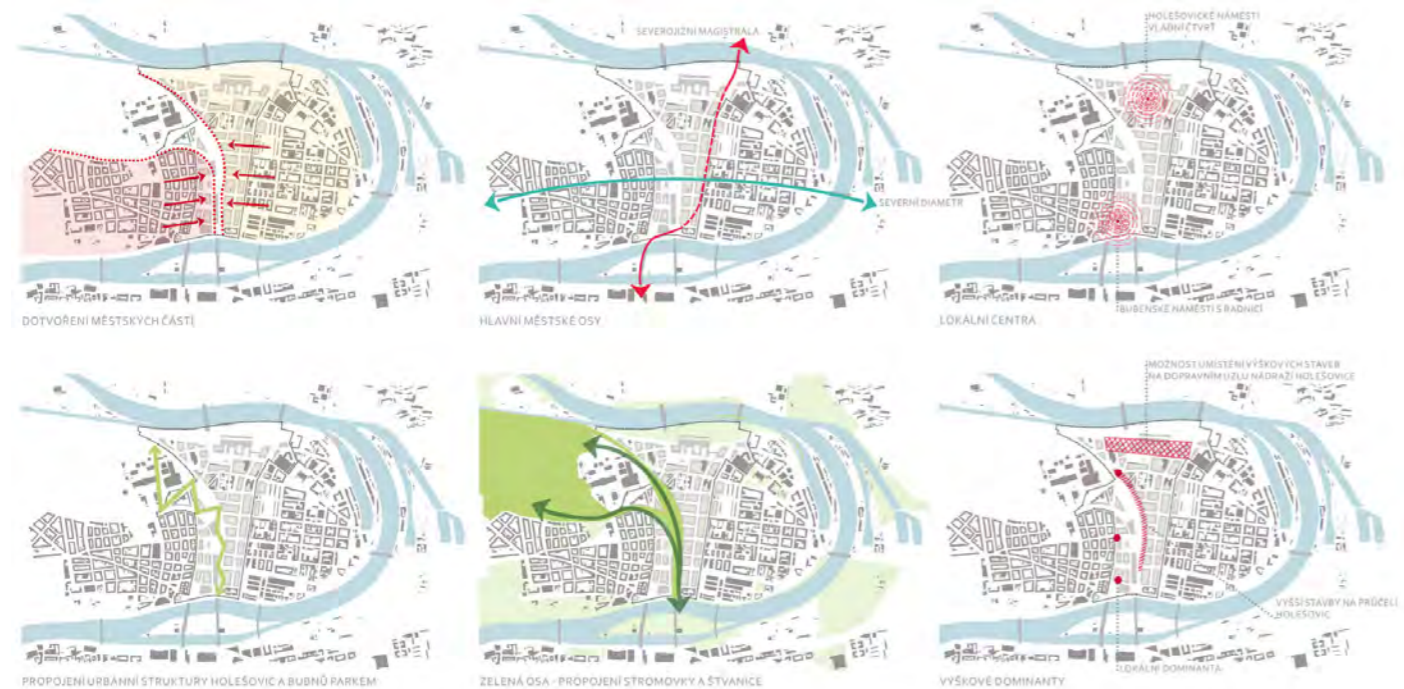
The territory of Holešovice is divided by line barriers into several built-up urbanly unconnected areas. The largest of them de facto form the whole district - Holešovice and Bubny resp. Summer. Barriers are transport corridors - railways, north-south highway and brownfield in the place of the former Bubny railway station between them. The area of 104 ha defined by barriers in the immediate vicinity of the city center creates a huge deposit of buildable areas, which should also be built up. The strategy of this urbanization is to create two city-wide focal points, the government district in the north at the site of Holešovice railway station and the town hall and cultural square on the bridgehead of the Hlávka bridge. These two public investments, these two clear urban figures, will be complemented and, in fact, connected by a backbone - a central park along the eastern side of the railway. He will re-create the identity of the Holešovice district (its front - the park embankment) and Bubny and at the same time will be their connecting link. And again by public investment made by the city. Thus, the city has in its hands tools for successful revitalization and urbanization of the entire territory, respectively. it will create a framework and picture of this urbanization that will be filled by private investors on other private lands.



New development at Bubny: Source: www.pelcak.cz



New development at Bubny: Source: www.pelcak.cz



New development at Bubny: Source: www.pelcak.cz



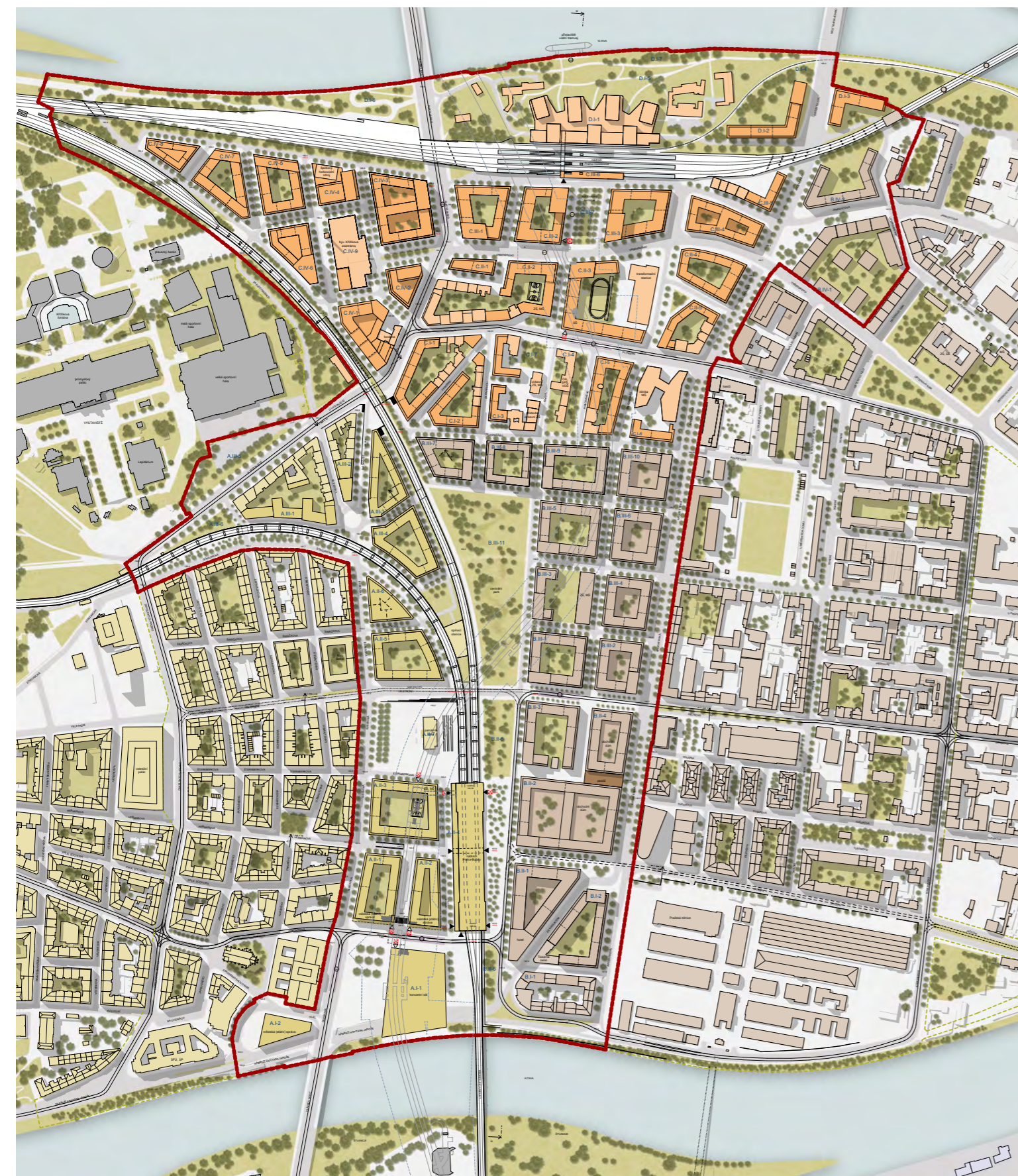
.2.2. Situace širších vztahů - návrh

LEGENDA ŠIRŠÍ VZTAHY

urbanistická osa	→	řešené území	—
hlavní cyklistické trasy	→	širší území	—
železniční dráhy	—	zástavba Bubny - stávající	—
železniční zastávka	○	zástavba Holešovice - stávající	—
trasy metra	—	zástavba Zátory - stávající	—
stanice metra	○	zástavba Bubny - návrh	—
navrhované tramvajové tratě	—	zástavba Holešovice - návrh	—
územní rezerva pro TRAM	—	zástavba Zátory - návrh	—
variantní řešení TRAM v ulici Jateční	—	zástavba Výstaviště	—
tramvajové tratě	—	chodníky	—
tramvajové zastávky	○	vegetace	—
autobusová stanice MHD	○	řeka	—
		ulice s celoměstským významem	—
		městská třída	—

4.1.4. Urbanistická situace

Jedná se o zmenšený výkres. Výkres v měřítku 1:2000 včetně legendy k výkresu je umístěn ve výkresové příloze pod číslem G.3.2 Urbanistická situace.



G.2.4 Urbanistická situace - návrh

4.3. Vizualizace

4.3.1. Nadhledové perspektivy



G.2.15. Nadhledová perspektiva 1

Nadhledová perspektiva z jihozápadu



02.02. Overview of Office space design

02.02.01. "Classic" approaches of office space design

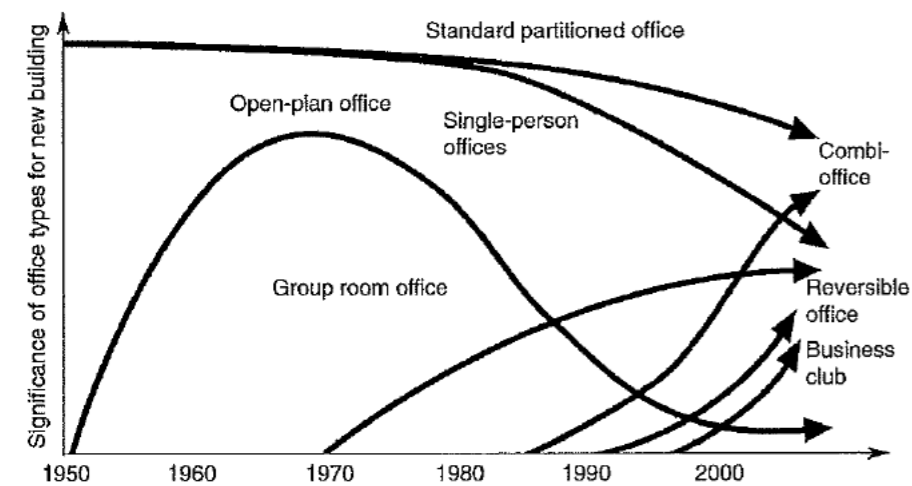
During past decades the type of work conducted at the offices changed. More and more emphasis is on creative information processing and improving ways of accessing the information rather than just routine processing of the Data.

Office spaces are increasingly important: It creates the image of the company (corporate identity) and can become an "attraction factor" to talented workers. Design for areas for breaks and relaxation and the tailored configuration of workspaces are supposed to increase the overall satisfaction of employees and their productivity.

In addition to that, company headquarters is becoming an information marketplace, meaning that many employees at the same time, temporarily or in changing groups are using them to achieve their day-to-day work related goals. Since the demands and needs vary, so should the design: Offices should offer different sorts of spaces depending on the activity or type of work. Options range from single workplace in a cubicle office through group rooms to workstations which are only used at specific times (hot desking). The more flexible the spaces are in a building, the easier that is for a company to adapt to ever-changing requirements.

One of the main influences for changing needs for office spaces is the technology and office automation. The rationalisation potential of administrative activities (filing, sorting, copying, searching, acquisition of material) and communication activities (conferences, meetings) is about 25% of weekly working time. Routine tasks acting as active relaxation breaks would be reduced by about 50%. Increasing telecommuting leads to a reduction in office space, because only some activities (meetings etc.) then take place in the office building at specific workstations, which are no longer personalised and can be used by various employees as required ('hot-desking').

Demand cycles for office spaces



Development of demand of different types of office spaces. Source: Neufert Architects' Data, fourth edition

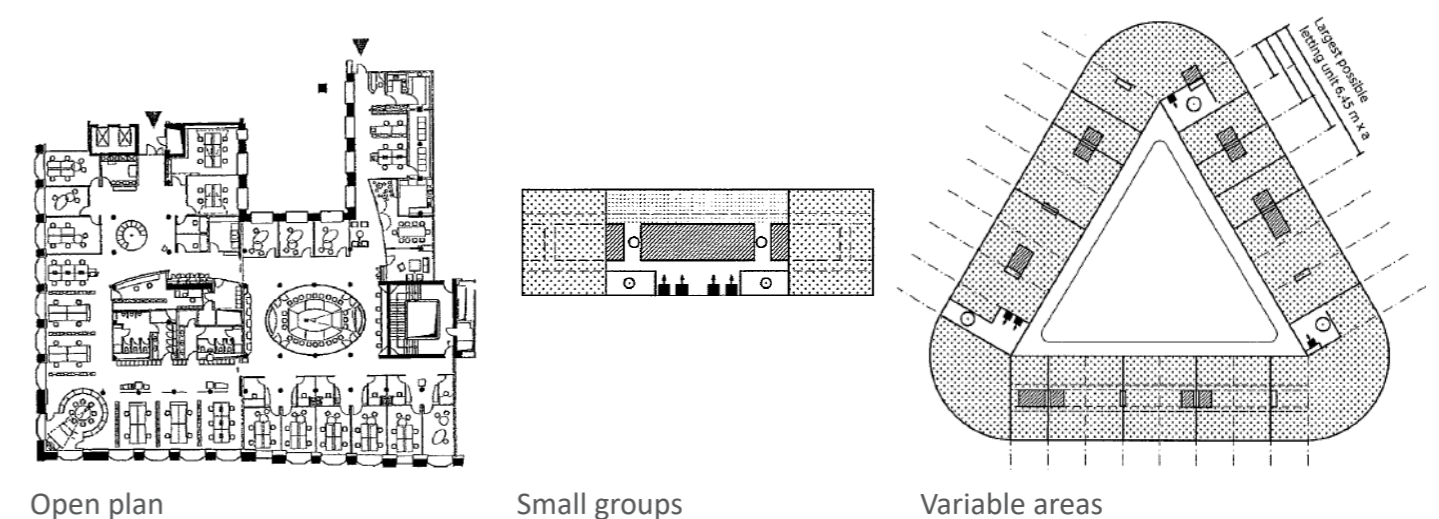
When it comes to office buildings, several forms of office organization were identified during the research.

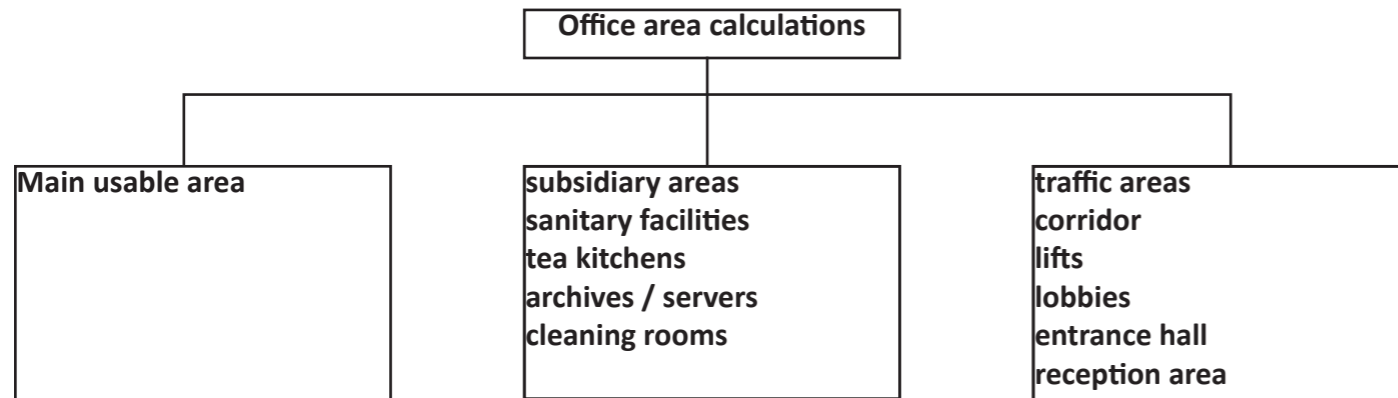
Open-plan offices - clearly laid-out, divided, only structured - are suitable for large groups of employees who are predominantly engaged in shared work and for routine activities with low need of concentration. This becomes more and more an exception nowadays, rather than the rule.

Single-room offices are suitable for independent or concentrated work, as a single-person room or for a few people in very small groups who need to exchange information constantly. This arrangement has been common in Germany since World War II and still has its justification when the requirements of the workplace correspond or in newbuild high-rise offices, where the structure of the building can be so decisive that it leads to the very standardised character of spatial and organisational working practices.

Reversible offices constituted an attempt to improve the working conditions in open-plan offices, which are often found to be inadequate on many grounds (no differentiated air conditioning, daylight, optical and acoustic disturbance). The possibility of partitioning producing a more effective single-room office structure (i.e. cubicles) when required for more concentrated work considerably increased technical input to enable flexibility. However, not only the dissatisfaction of the users but also the increasing lack of cost-effectiveness with increasing energy prices led to this form of office being questioned.

Group rooms (smaller open-plan) are suitable for work groups with constant information exchange. This form of office was an attempt to install room layouts with more scope for individual decisions (→ Changes at the workplace, p. 232), via the size of the workplace surroundings (max. 7.5 m to a window), and thus improve the working conditions of an open-plan arrangement (light, air, individuality), which were found to be inadequate with the increasing demands on office work. It is possible to do without full air conditioning in favour of back-up ventilation services, in addition to opening windows and using radiators.





Office areas diagram. Source: Neufert Architects' Data, fourth edition

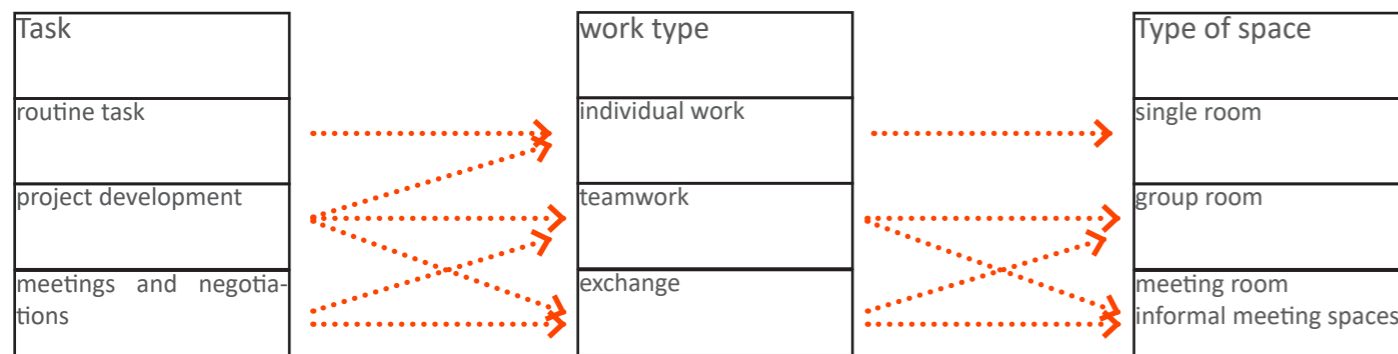
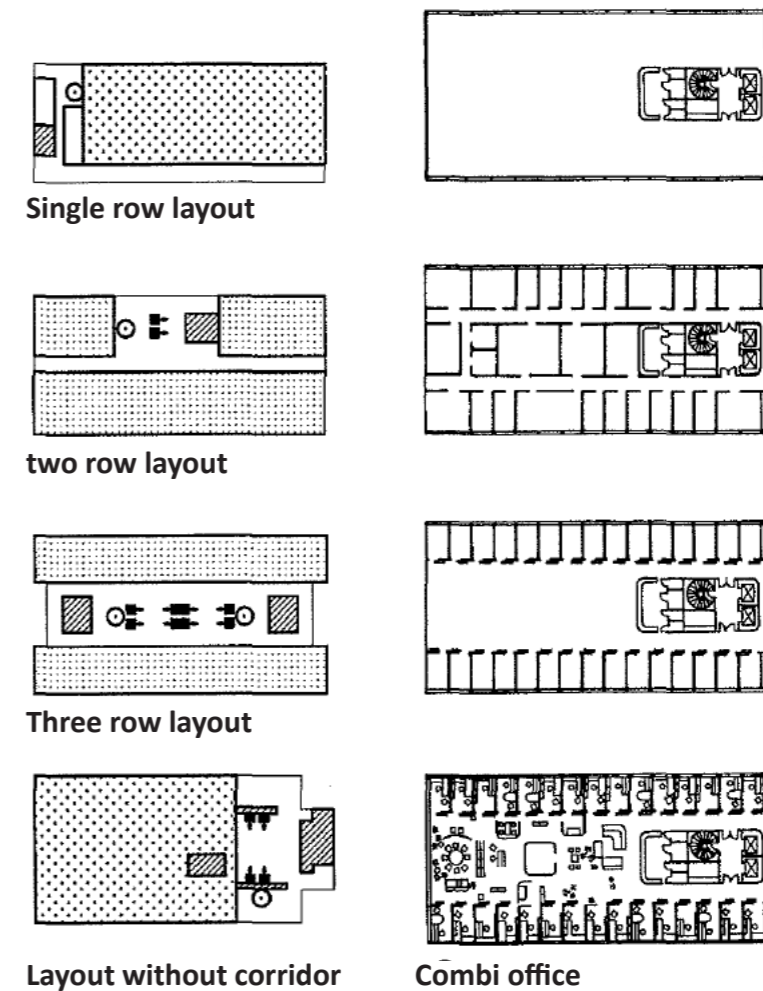


Diagram of type of work and type of spaces. Source: Neufert Architects' Data, fourth edition

	Individual	Group
Formal	single room hotdesk open plan workstation	Meeting rooms group rooms
Informal	Relaxing areas	relaxing areas kitchens informal meeting spaces

Conceptual matrix based on research. Source: Author

According to Neufert, the office's form and room layout are dependent on activity, procedural organisation, technology use and company culture. The building structure and design of rooms can have a significant influence on the use. Efficiency gains can result from factors like reduction of the area per workstation, rooms designed to support procedures and improve motivation, for which emotional factors above all are decisive, like material and colour ideas, but also the provision of quiet and communication areas for formal and informal meetings. The analysis of requirements can produce valuable pointers to possible forms of office.



Building layout types. Source: Neufert Architects' Data, fourth edition

03. Design Proposal

Program

The proposal includes design for four buildings as outlined in the masterplan below.

Building A and Building B:

Office lobby, atium, vertical cores, reception, cafeteria, WC and small retail spaces. On the 1st floor of both of the office buildings there are closed security areas where we placed sensitive storage spaces, such as server rooms and archives. The access to those areas is limited.

Total number of workplaces 2400 per building

Building A has two underground parking floors. For building B it was not possible due to the metro tunnel crossing the building diagonally.

Building C: Office lobby, reception, vertical cores, conference rooms, cafeteria, WC, storage, technical rooms. Total number of workstations 100 per floor.

Building D: Reception, entrance, lobby, common circulation space, relaxation space, WC, technical / storage, cafeteria, classrooms, labs, group work classrooms, library, sport court.

Structural solution.

The buildings are based on grid structure compatible with standard office layout dimensions. the grid vertical to the facade is generally 5400mm in most cases. However, the grid dimensions along the horizontal circulation areas vary due to parking requirements underground. The largest span is 8100, and the smallest - 3400.

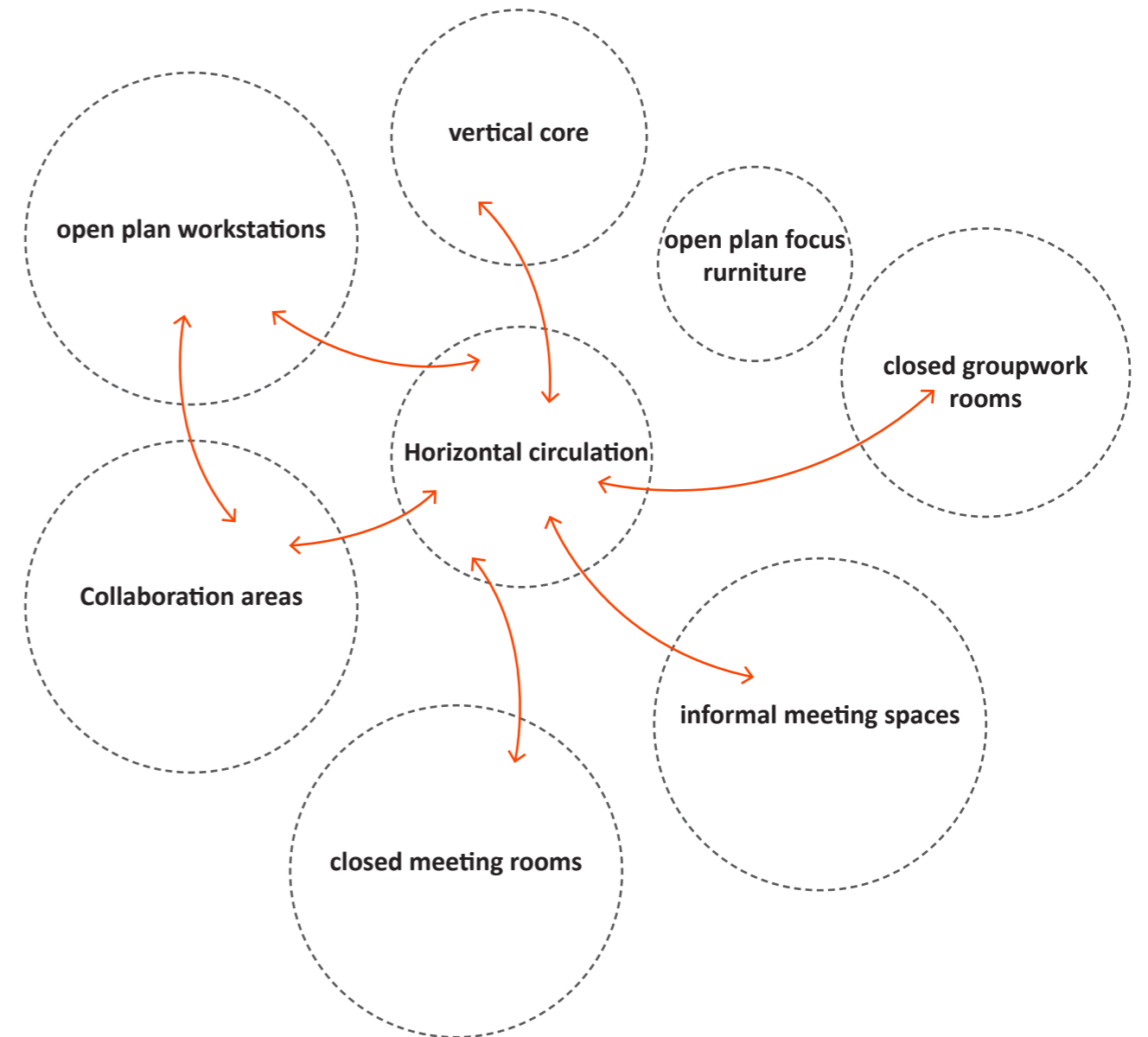
Concept of the space arrangement

Due to the changing nature of the workspaces, as practice shows, the variety of workspace types work the best. Therefore, we suggest to create all sorts of work spaces on floor plans, hence giving the end user possibility to choose the right place depending on the task they are having at hand.

The types of workspaces used in the design are:

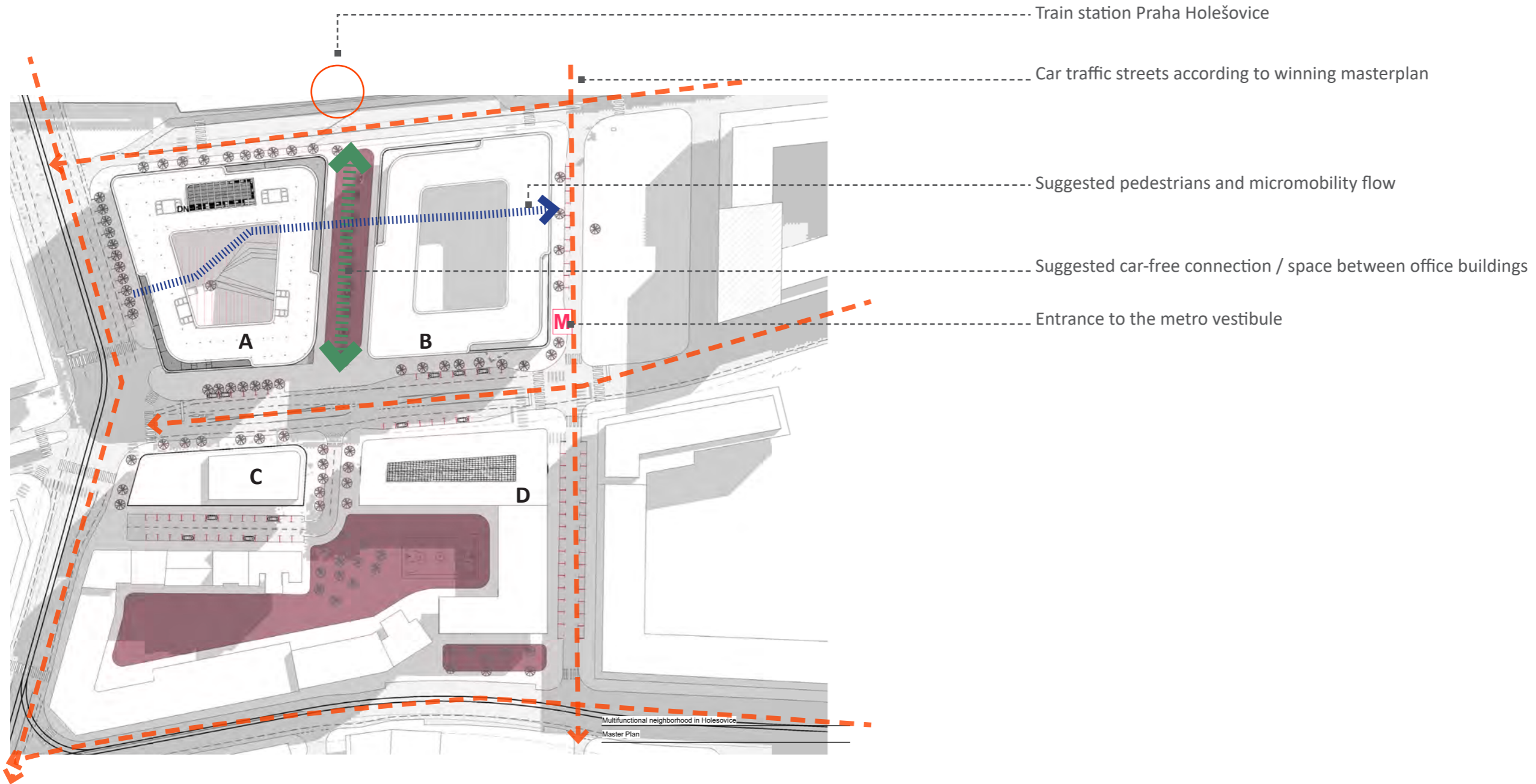
- Open plan workstations
- Collaboration areas (for group discussion and brainstorming)
- closed meeting rooms
- informal meeting spaces
- closed group work rooms
- focus rooms
- open plan focus work furniture

The leisure facilities are increasingly important for work satisfaction of the employees. therefore, we design relax spaces and kitchens. The relationship in terms of proximity between those areas is described with the diagram.



As diagram shows, each space needs to have connection with the horizontal circulation areas. However, open workstations and collaboration areas better be close to each other. The proximity will help the workflow - discussion and then output production will become easy.

03.01.02 Urban solution - modification of the masterplan



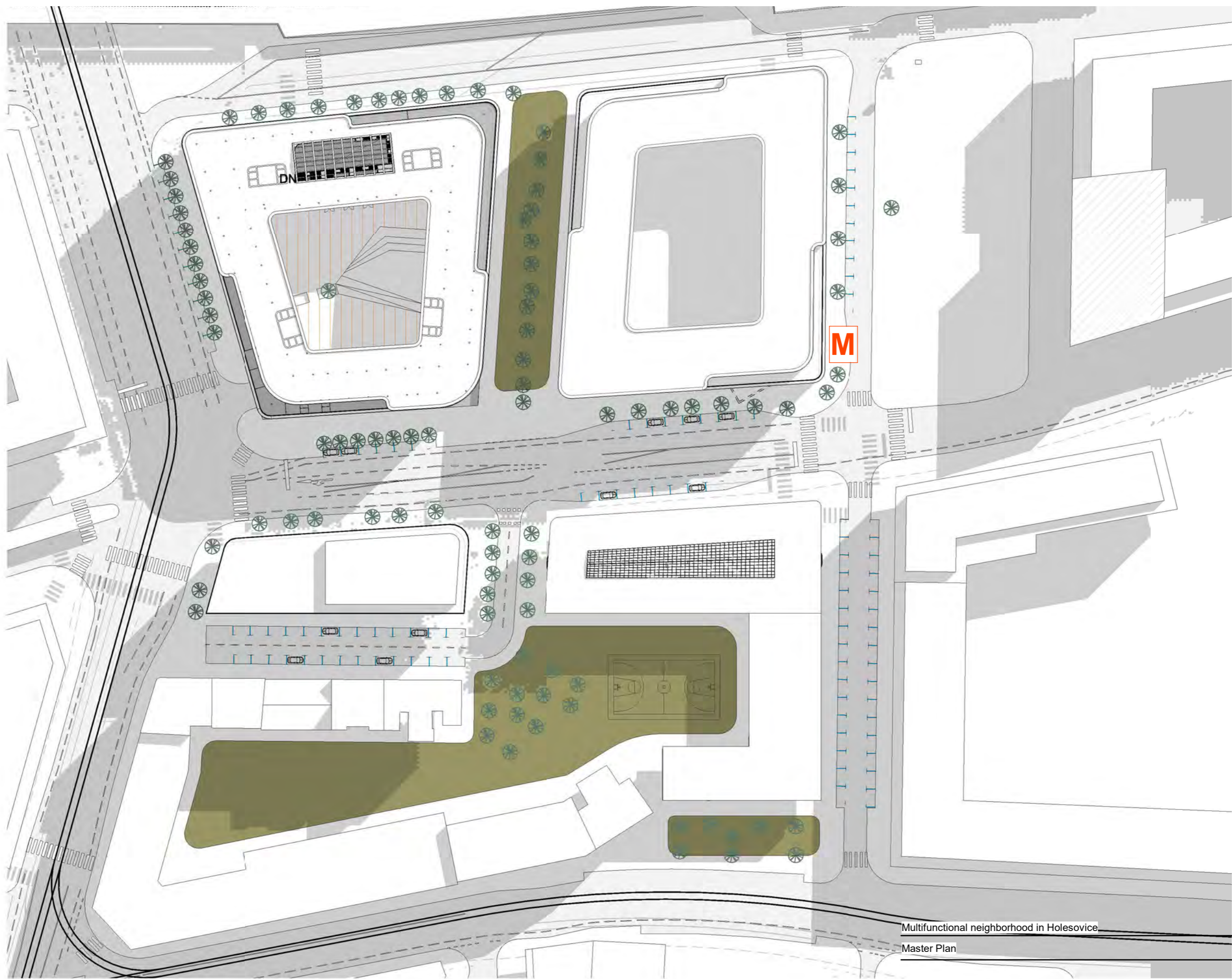
Urban solution

From urbanistic standpoint, the design suggests to create fully-pedestrian, car-free street between building A and B instead of automobile road, as shown with the green line. We also design Passages on the ground floor level for easy connection between building A and B, but also for improved pedestrian movement as shown with the blue line.

Building A and B | Offices, with small retail spaces on GF

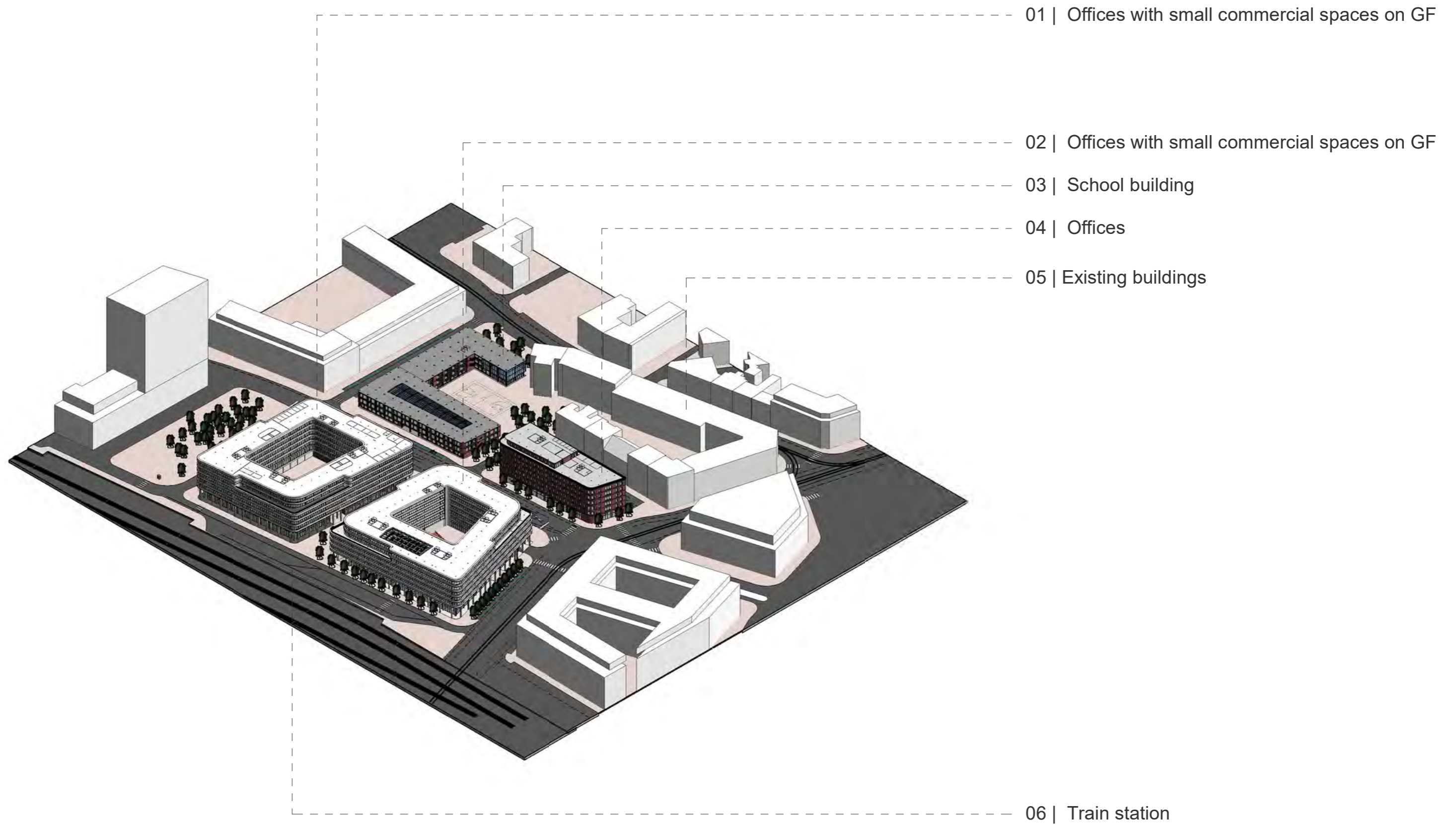
Building C | Offices

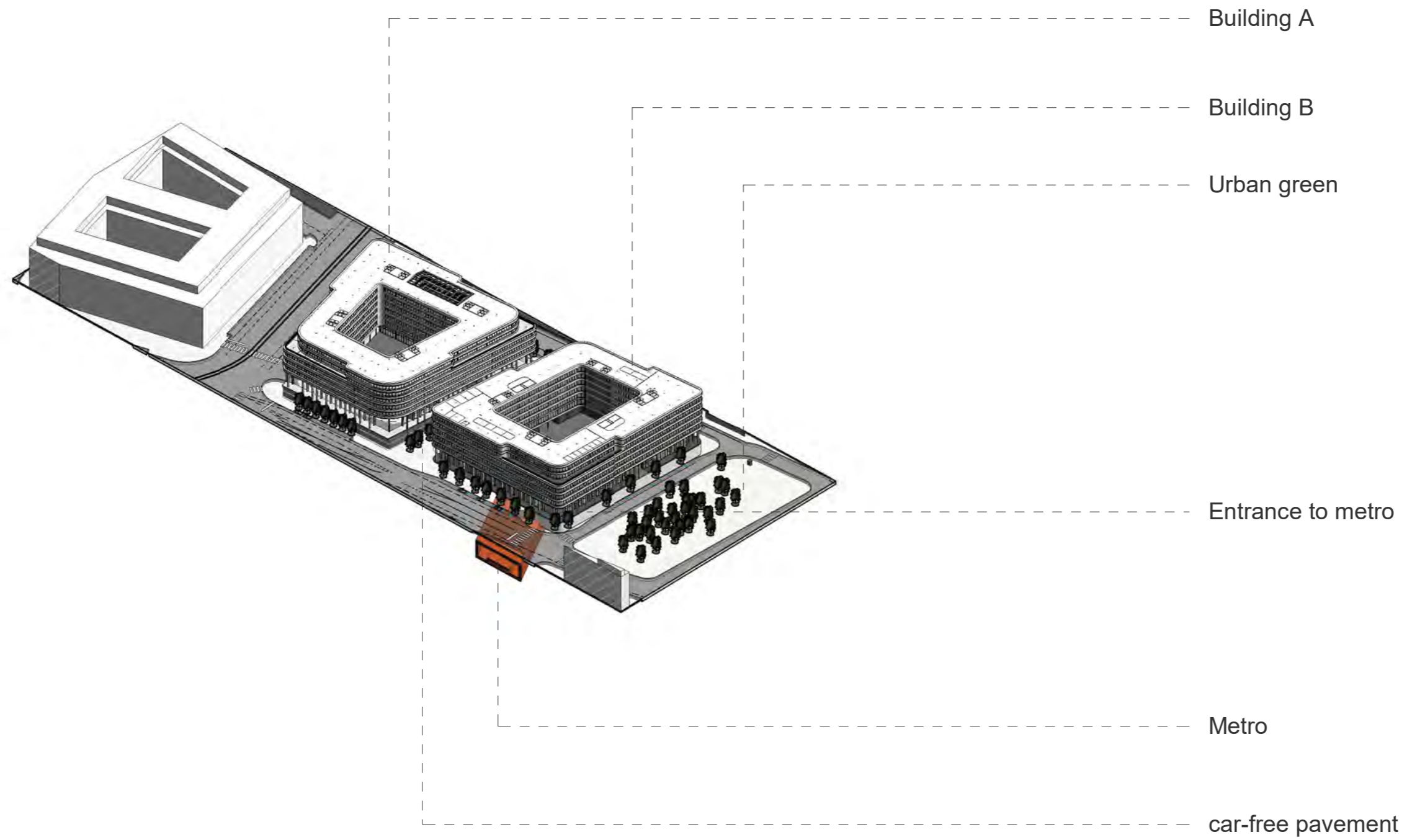
Building D | School

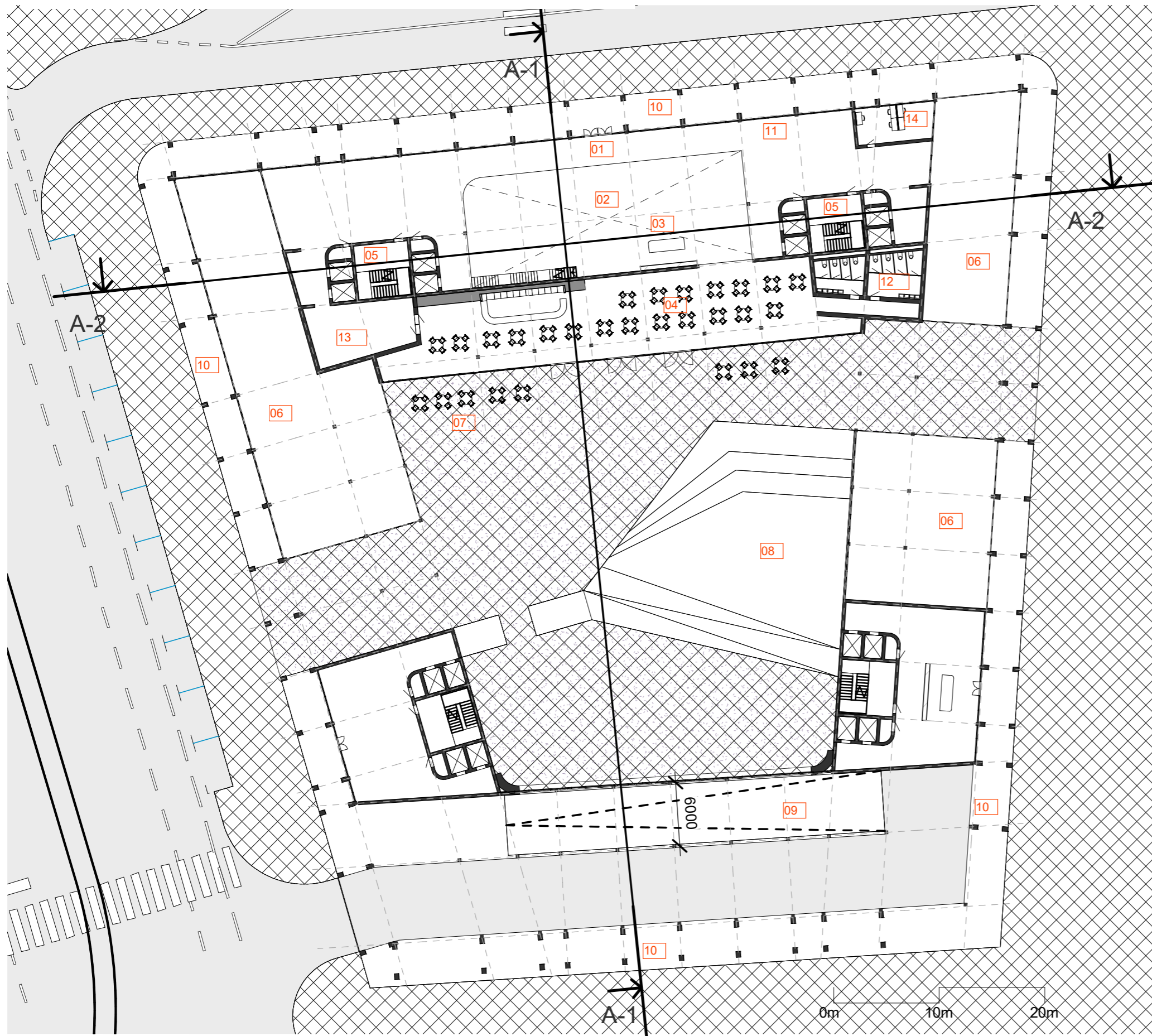


Multifunctional neighborhood in Holesovice

Master Plan



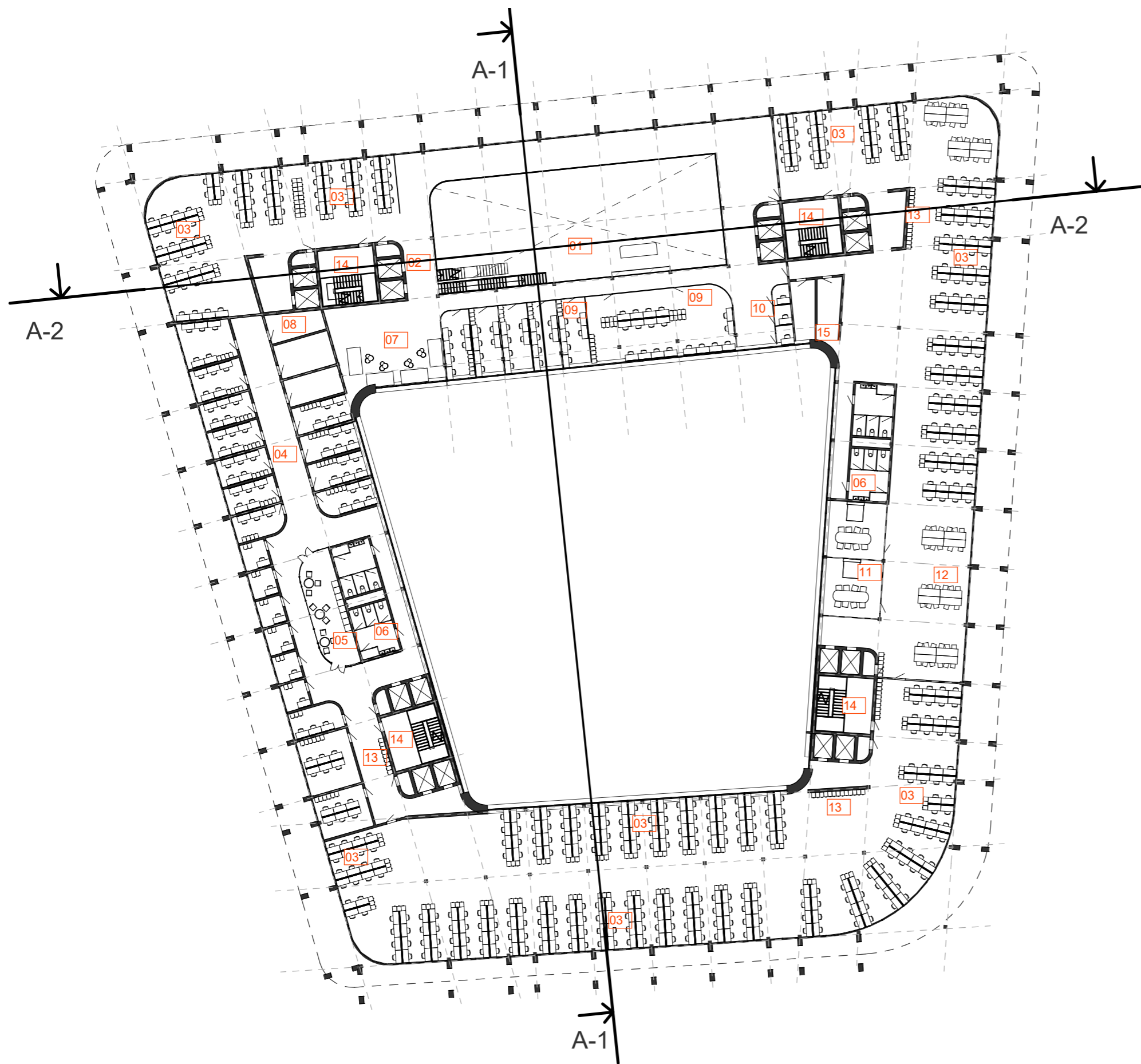




- 01 | Entrance
- 02 | Atrium
- 03 | Reception
- 04 | Cafeteria
- 05 | Core: Elecators and staircases
- 06 | Commercial spaces
- 07 | Cafeteria terrace
- 08 | Outdoor relaxing area
- 09 | Ramp for parking
- 10 | Archade
- 11 | Lounge
- 12 | WC
- 13 | Kitchen + storage space
- 14 | Security service

Multifunctional neighborhood in Holesovice

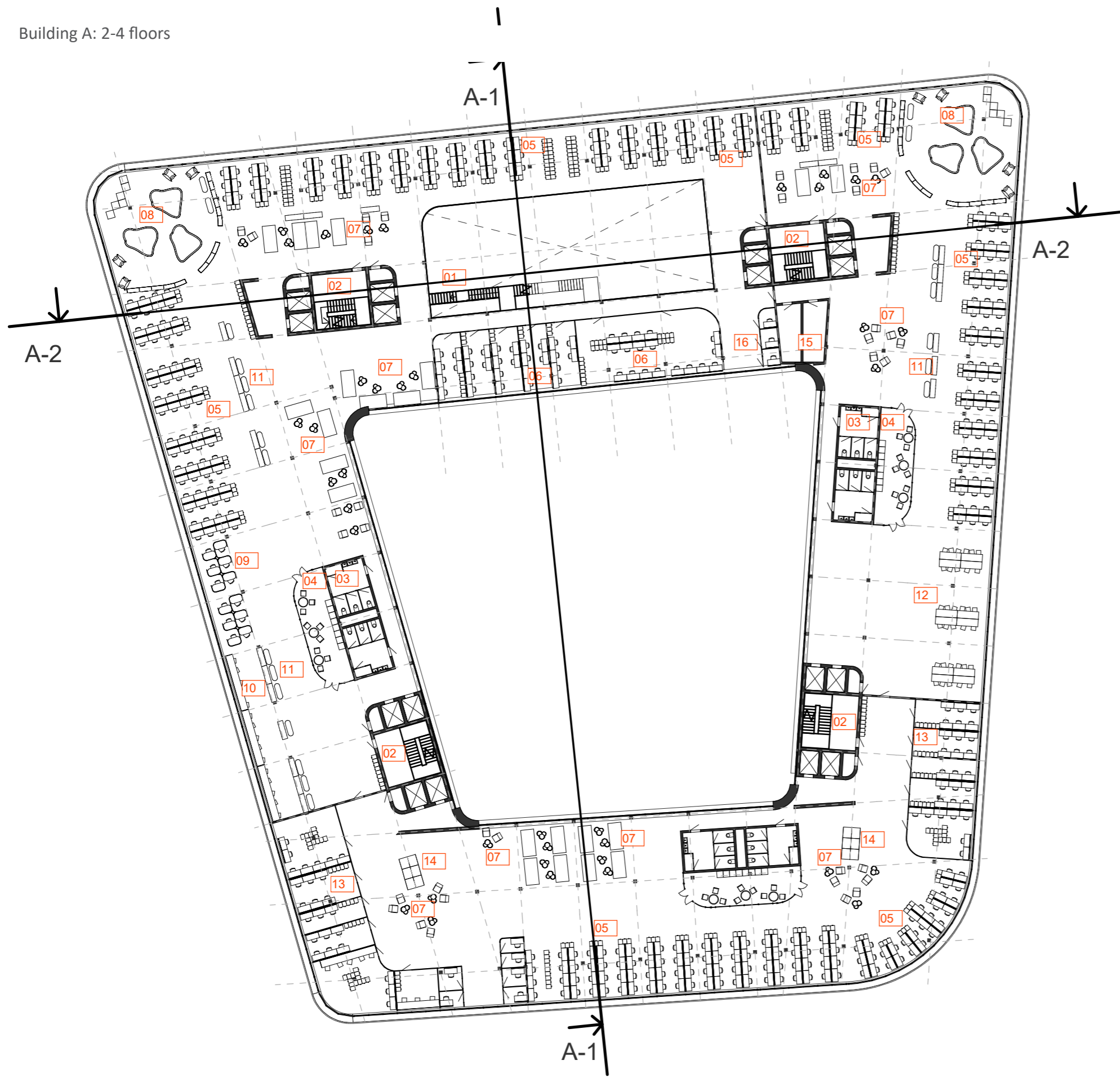
Building A - Ground floor



- 01 | Atrium
- 02 | Lobby
- 03 | Open plan Workstations
- 04 | Closed offices for IT security
- 05 | Kitchen
- 06 | WC
- 07 | Informal meeting area
- 08 | Storage / technical spaces
- 09 | Group working rooms
- 10 | Focus rooms
- 11 | Meeting rooms
- 12 | Collaboration
- 13 | Lockers
- 14 | Vertical core

Multifunctional neighborhood in Holesovice

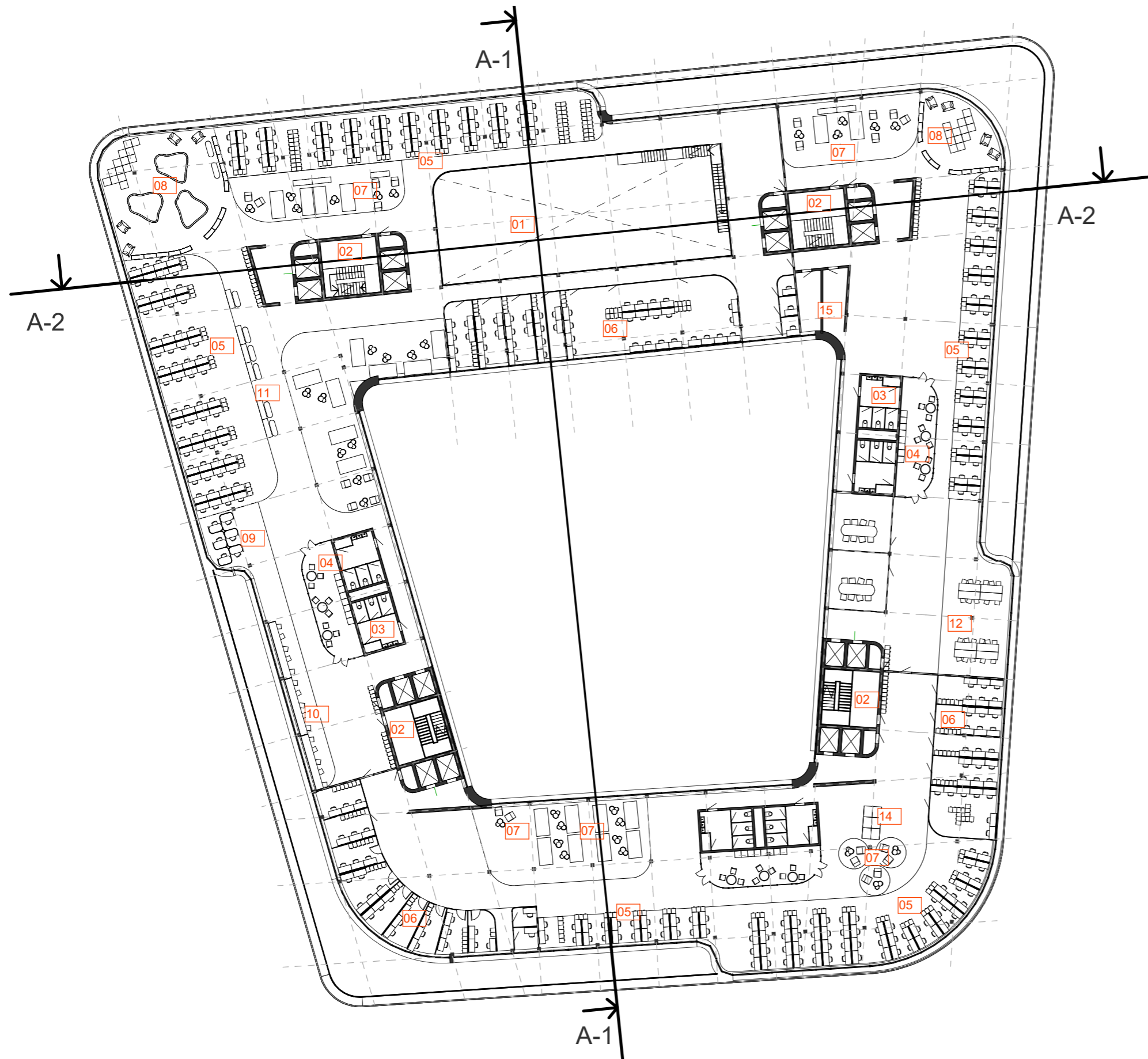
Building A - First floor



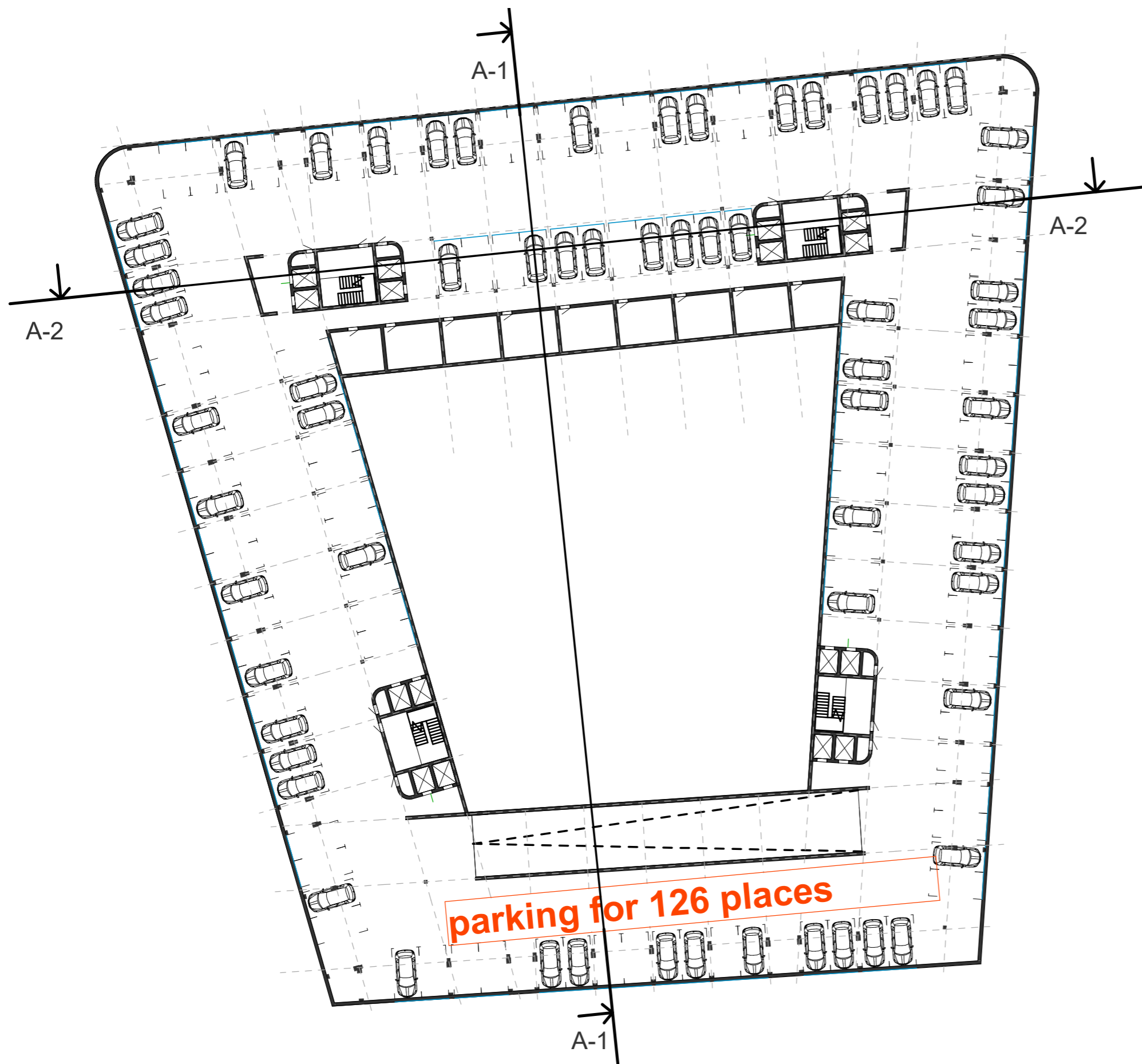
- 01 | Atrium
- 02 | Vertical core
- 03 | WC
- 04 | Kitchen
- 05 | Open plan workstations
- 06 | Closed offices
- 07 | Informal meeting area
- 08 | Relaxing area
- 09 | Hotdesks
- 10 | open plan individual focusing desks
- 11 | casual sitting area
- 12 | Collaboration space
- 13 | Closed offices
- 14 | Telephone booths
- 15 | Storage / technical space

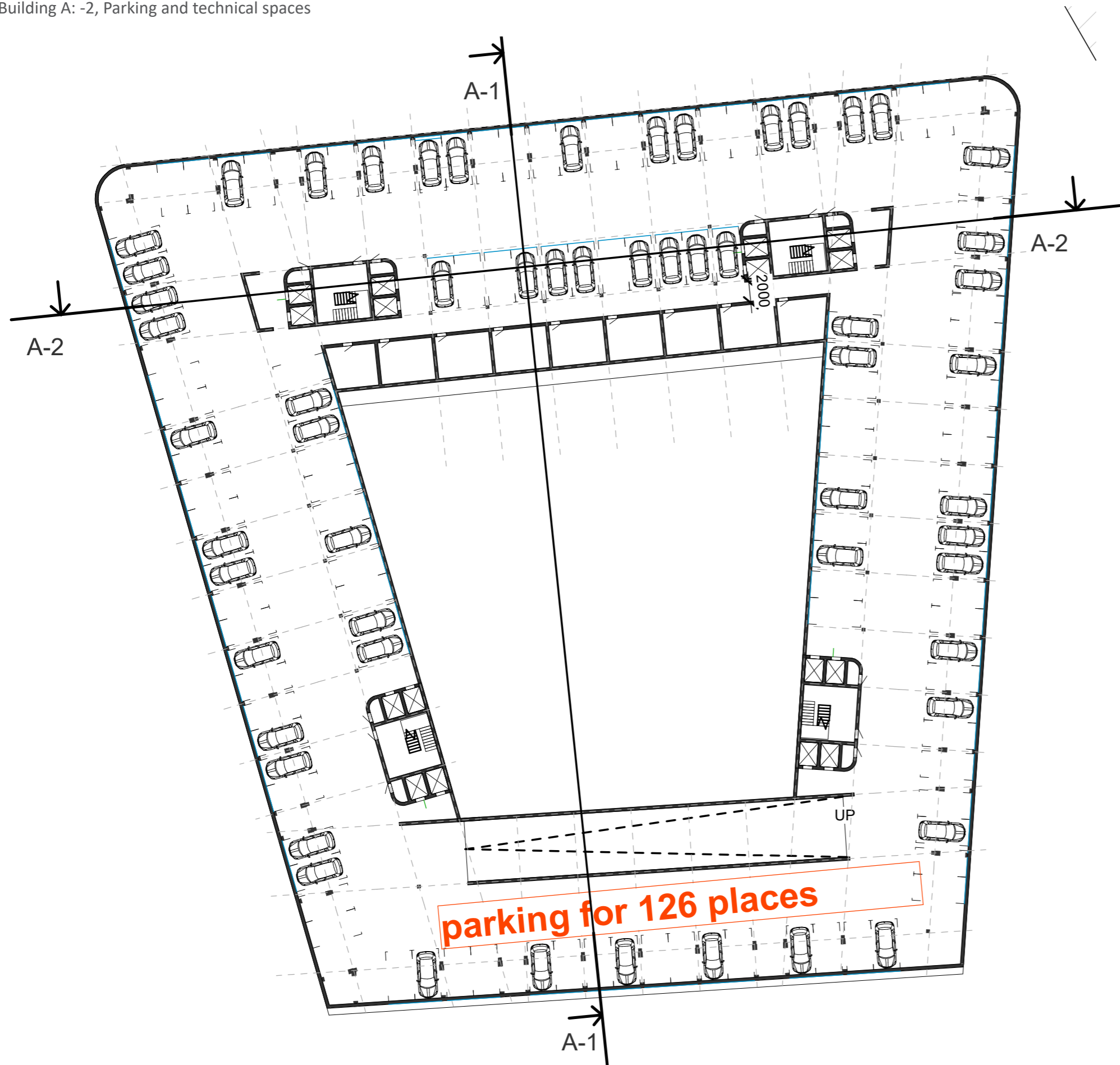
Multifunctional neighborhood in Holesovice

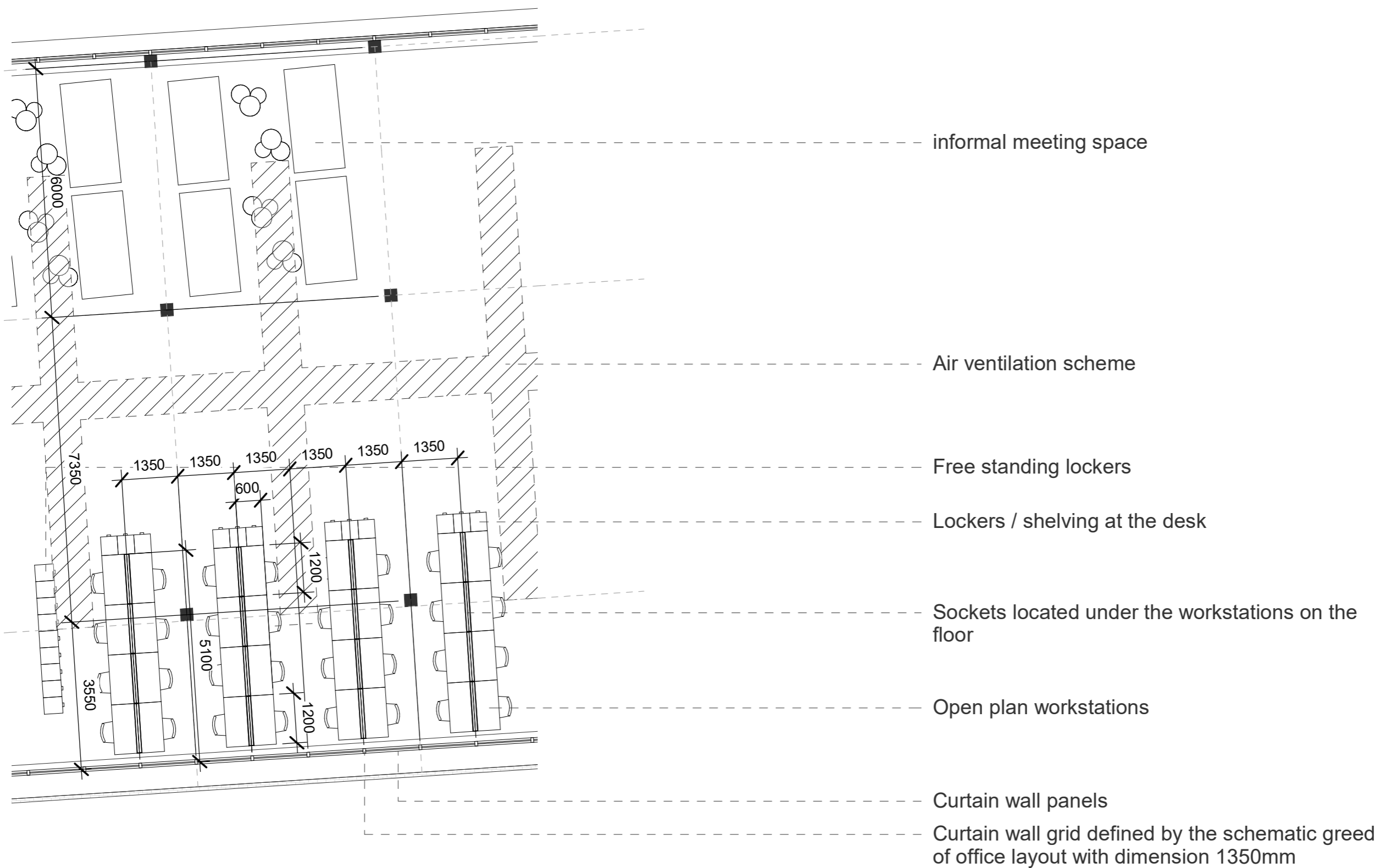
Building A - 2-4th floor

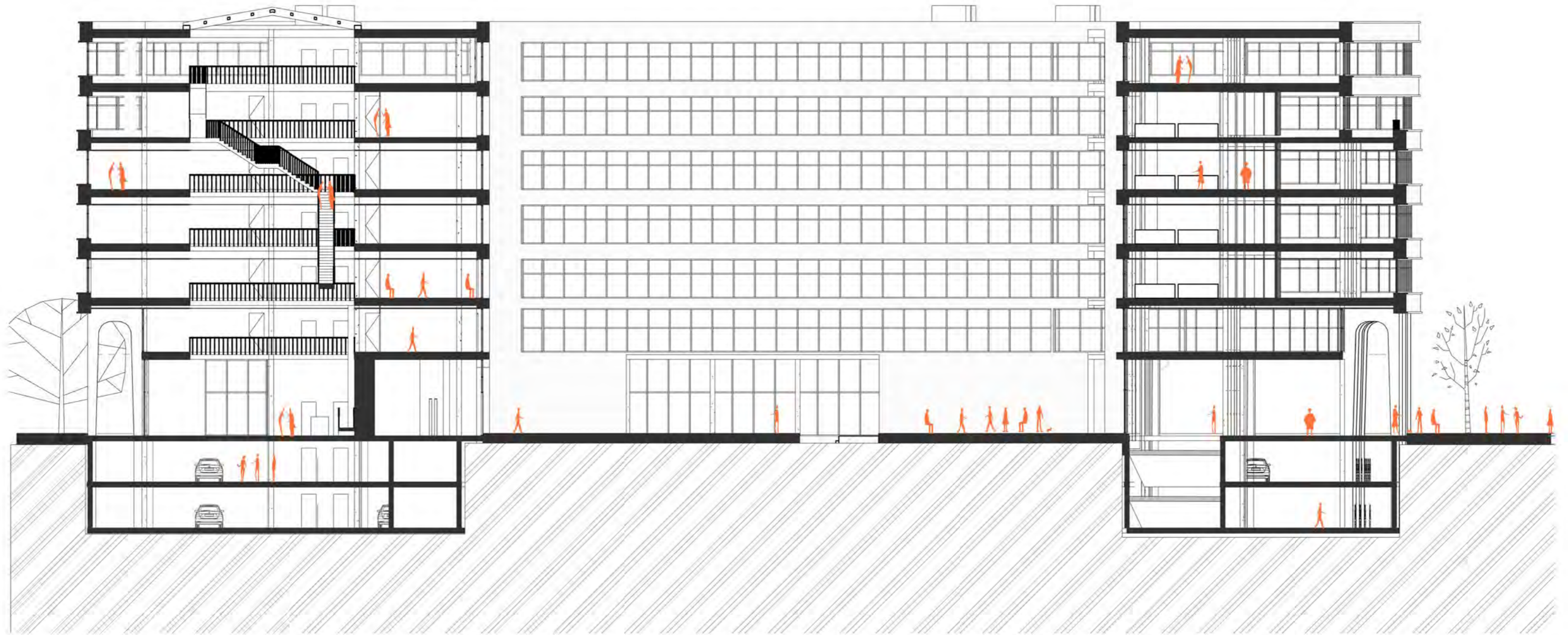


- 01 | Atrium
- 02 | Vertical core
- 03 | WC
- 04 | Kitchen
- 05 | Open plan workstations
- 06 | Closed offices
- 07 | Informal meeting area
- 08 | Relaxing area
- 09 | Hotdesks
- 10 | open plan individual focusing desks
- 11 | casual sitting area
- 12 | Collaboration space
- 13 | Closed offices
- 14 | Telephone booths
- 15 | Storage / technical space



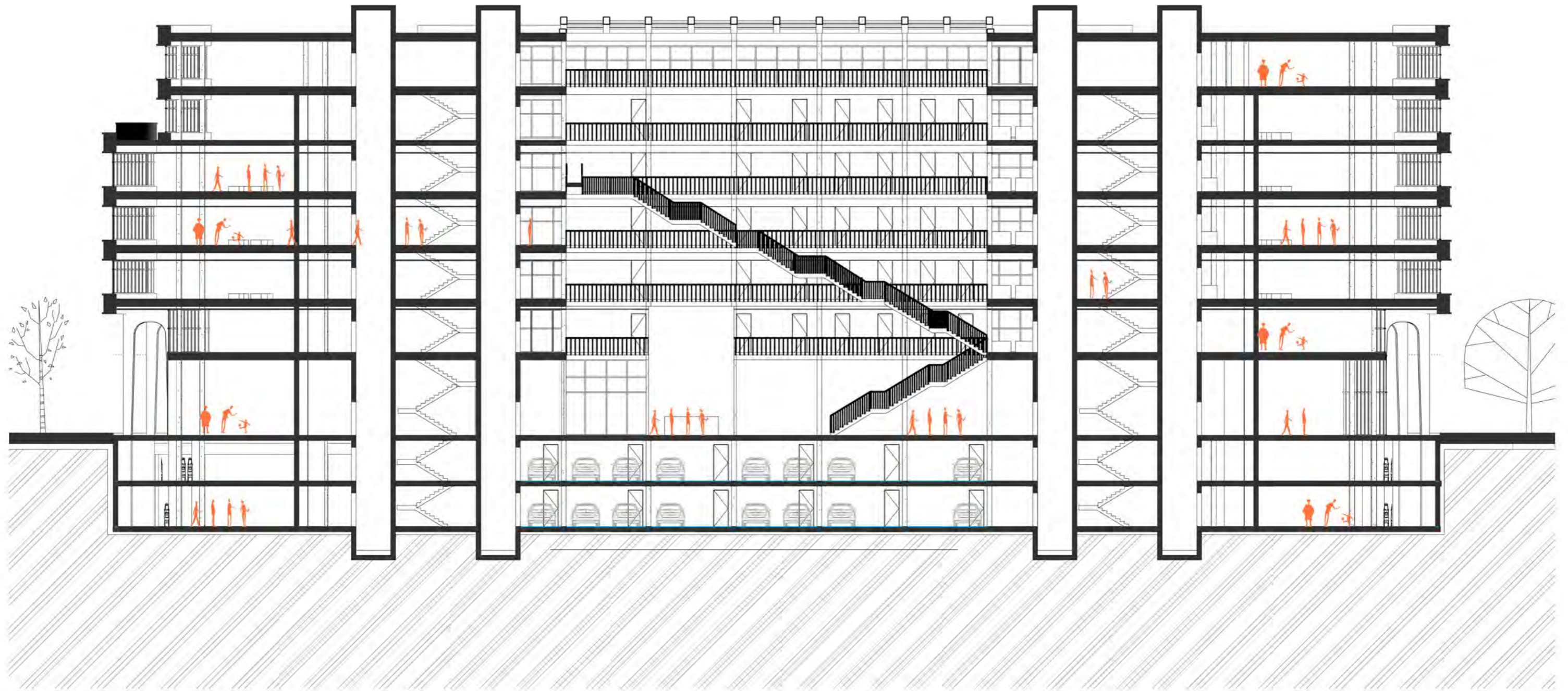






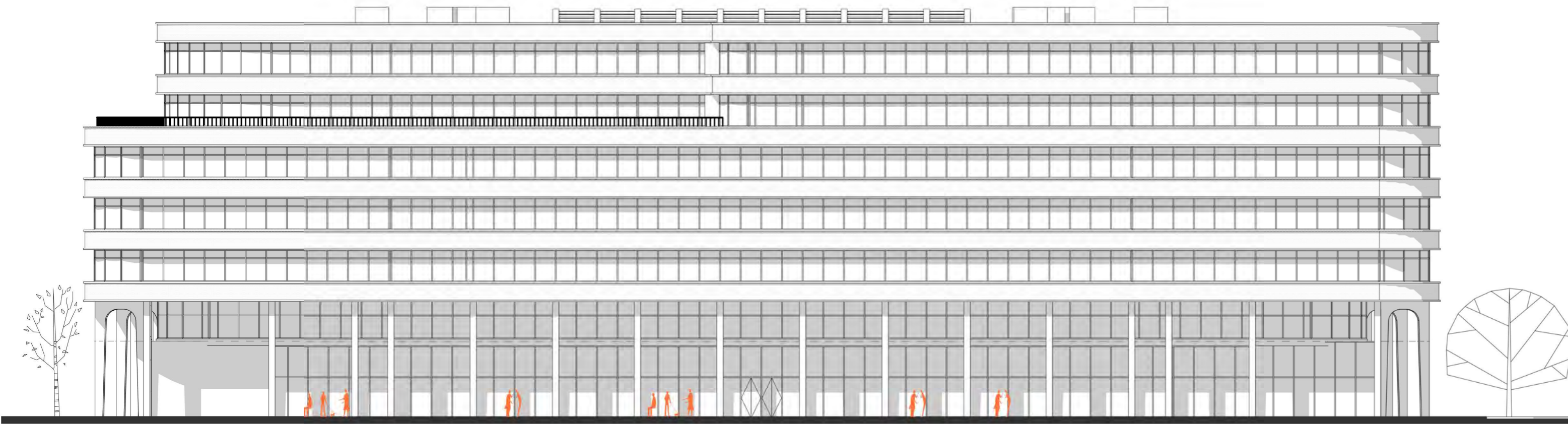
Multifunctional neighborhood in Holesovice

Building A - Section 1



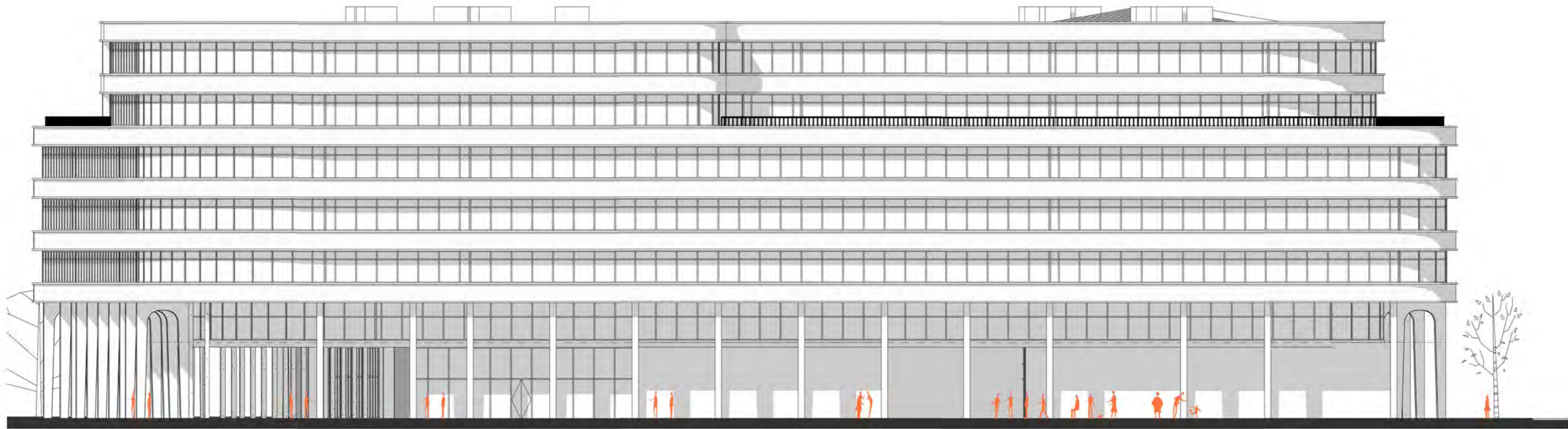
Multifunctional neighborhood in Holesovice

Building A - Section 2



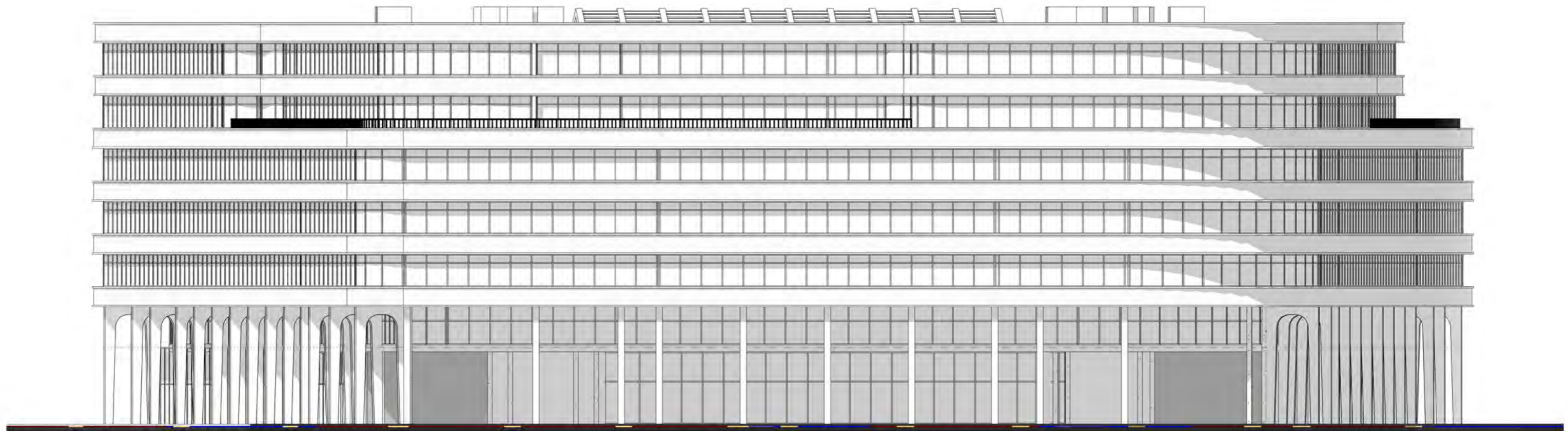
Multifunctional neighborhood in Holesovice

Building A - Facade North



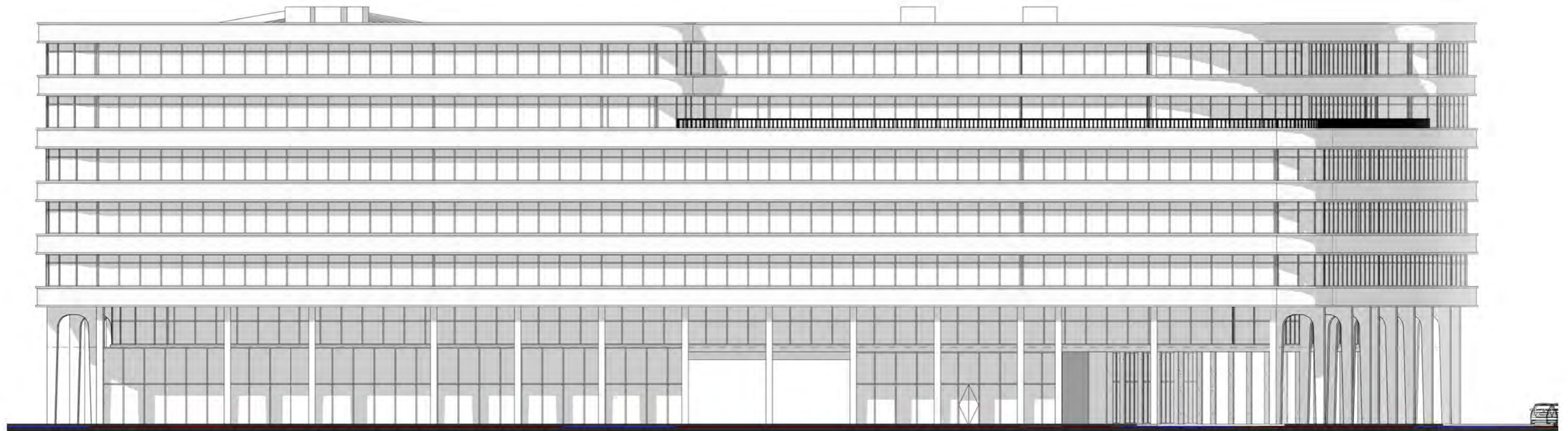
Multifunctional neighborhood in Holesovice

Building A - Facade East



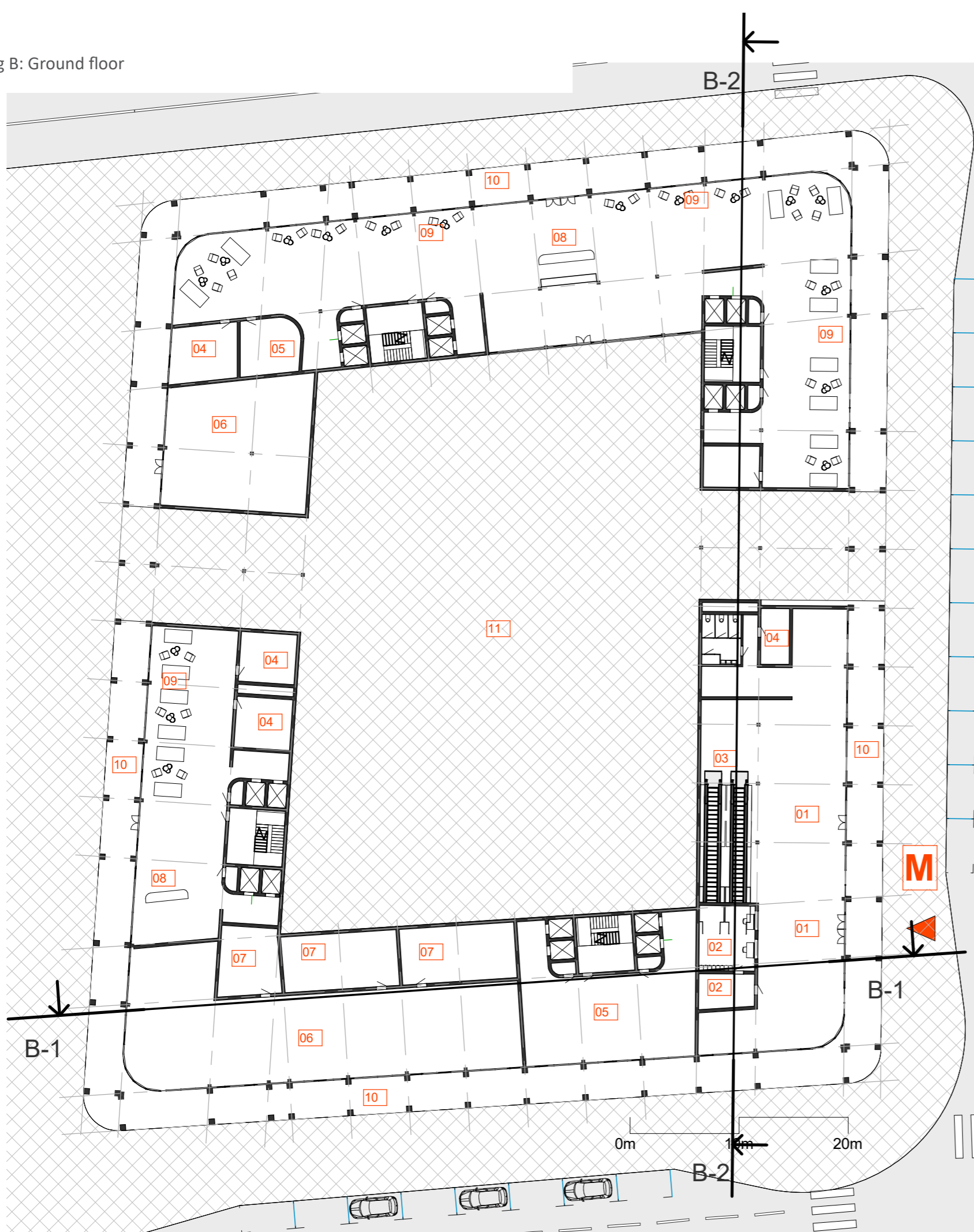
Multifunctional neighborhood in Holesovice

Building A - Facade South



Multifunctional neighborhood in Holesovice

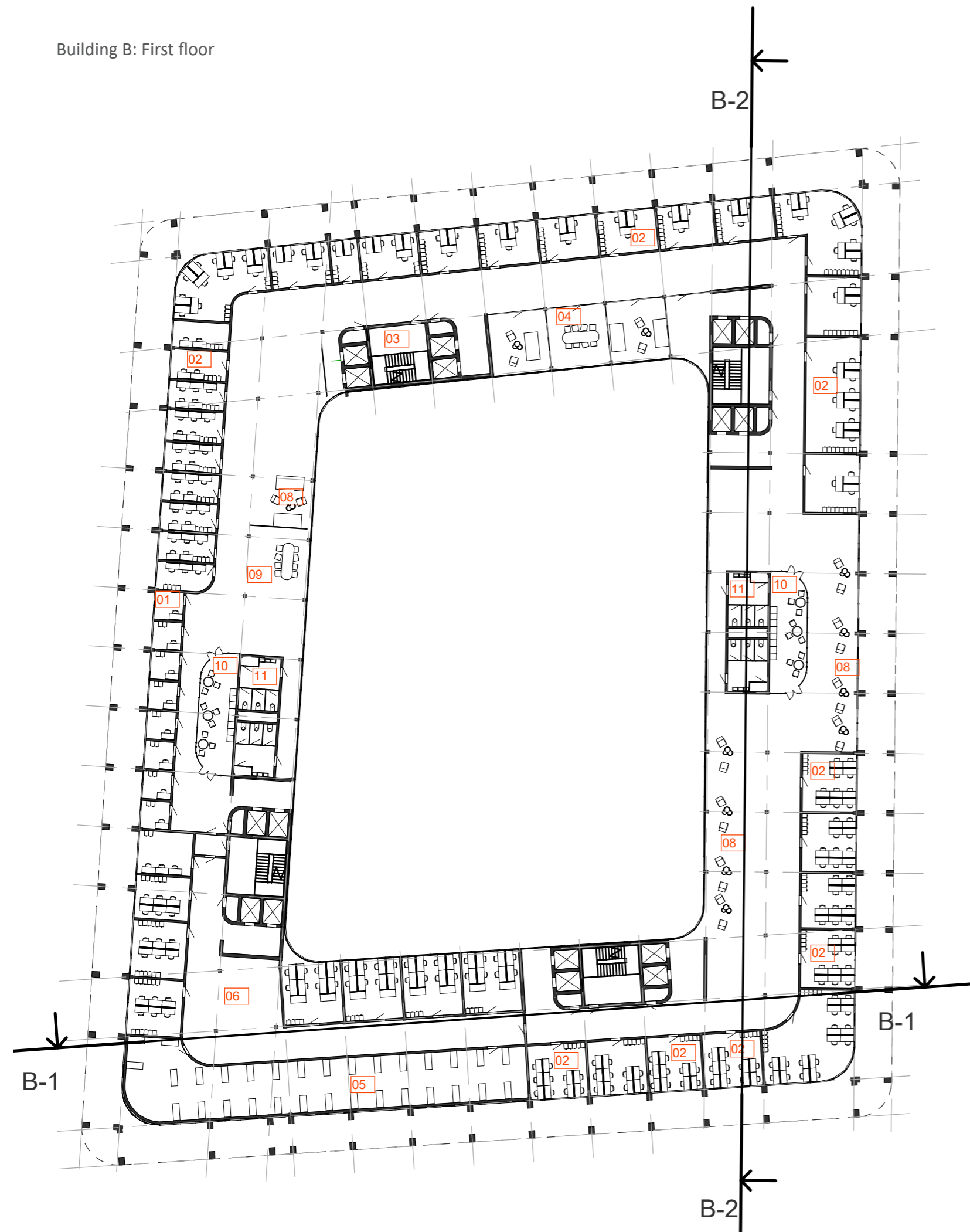
Building A - Facade West



- 01 | Metro entrance
- 02 | Tickets
- 03 | Escapators
- 04 | Cleaning / storage
- 05 | Lobby for offices
- 06 | Commercial space
- 07 | Storage
- 08 | Reception desk
- 09 | Lounge
- 10 | Archade

Multifunctional neighborhood in Holesovice

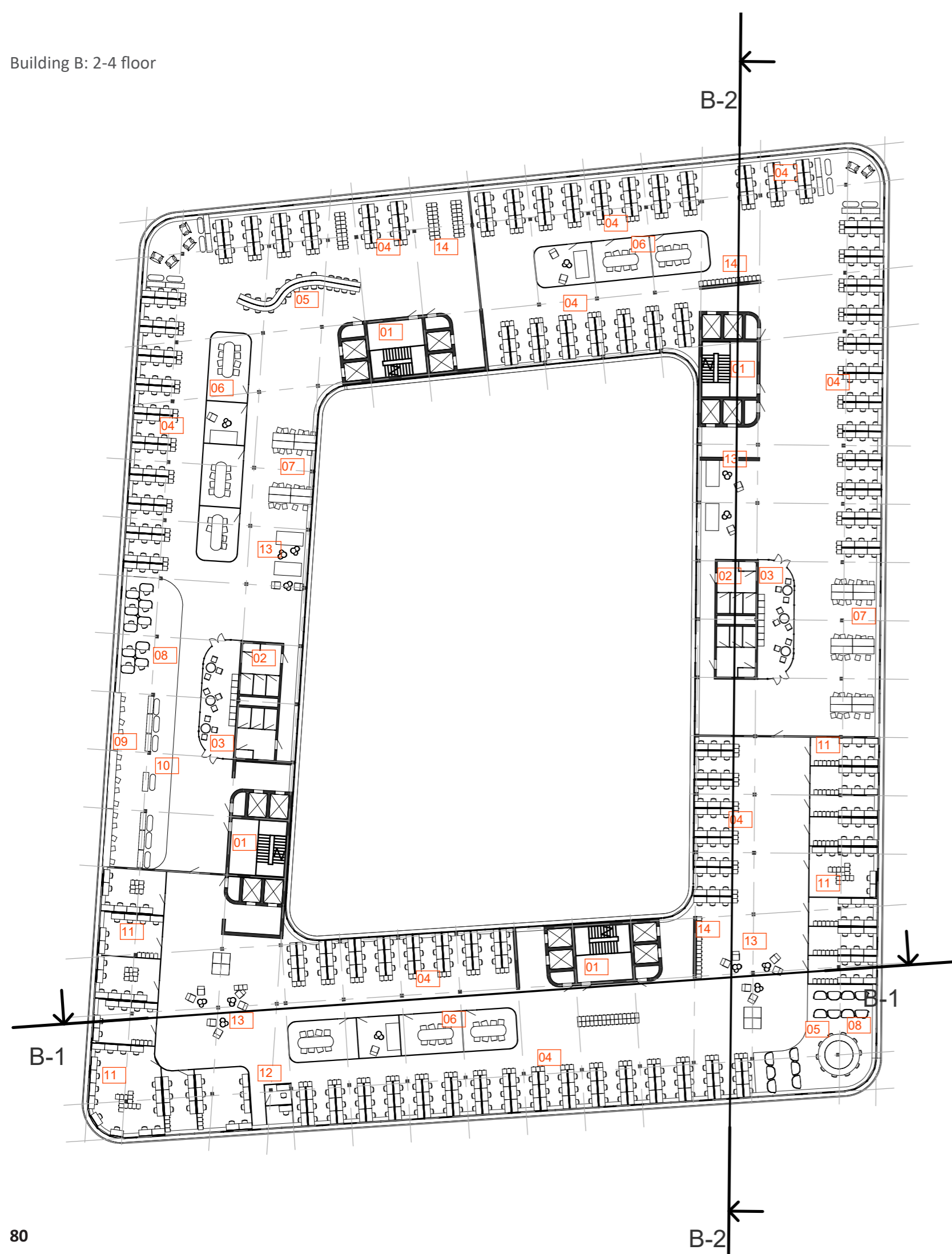
Building B - Ground floor



- 01 | Focus rooms
- 02 | Closed offices
- 03 | Vertical core
- 04 | Meeting rooms
- 05 | Servers
- 06 | Closed area for sensitive data/services
- 07 |
- 08 | Informal meeting area
- 09 | Meeting room
- 10 | Kitchen
- 11 | WC

Multifunctional neighborhood in Holesovice

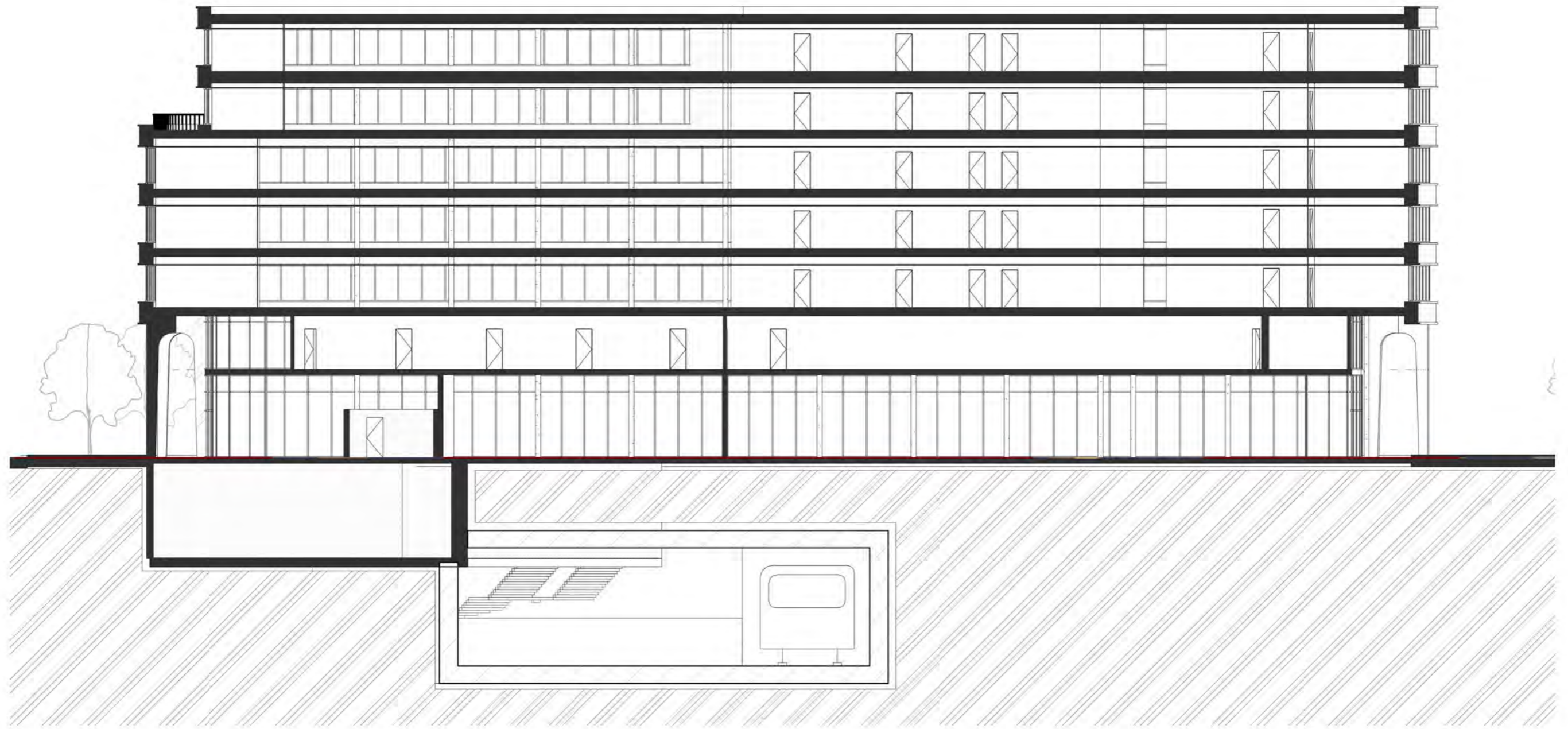
Building B - First floor

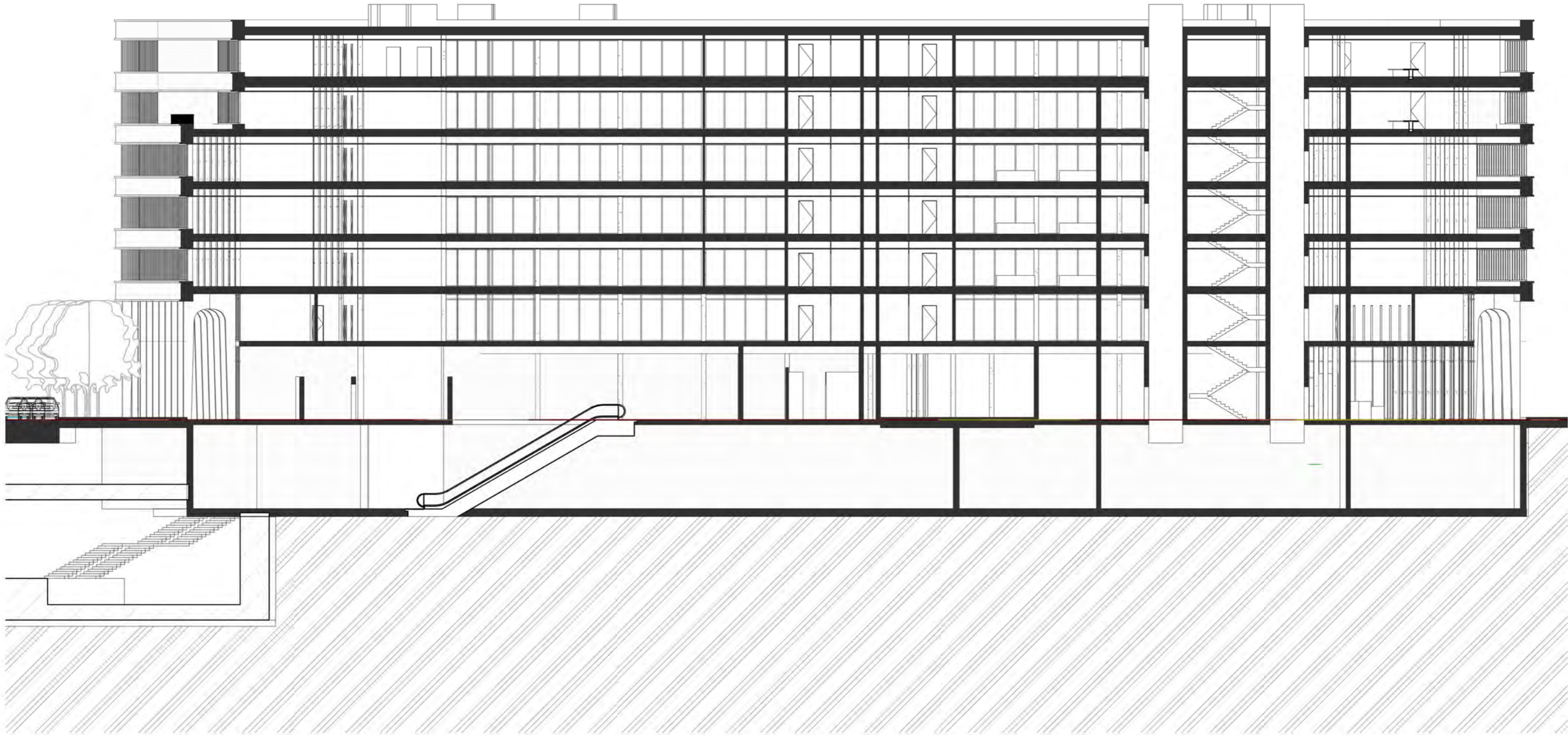


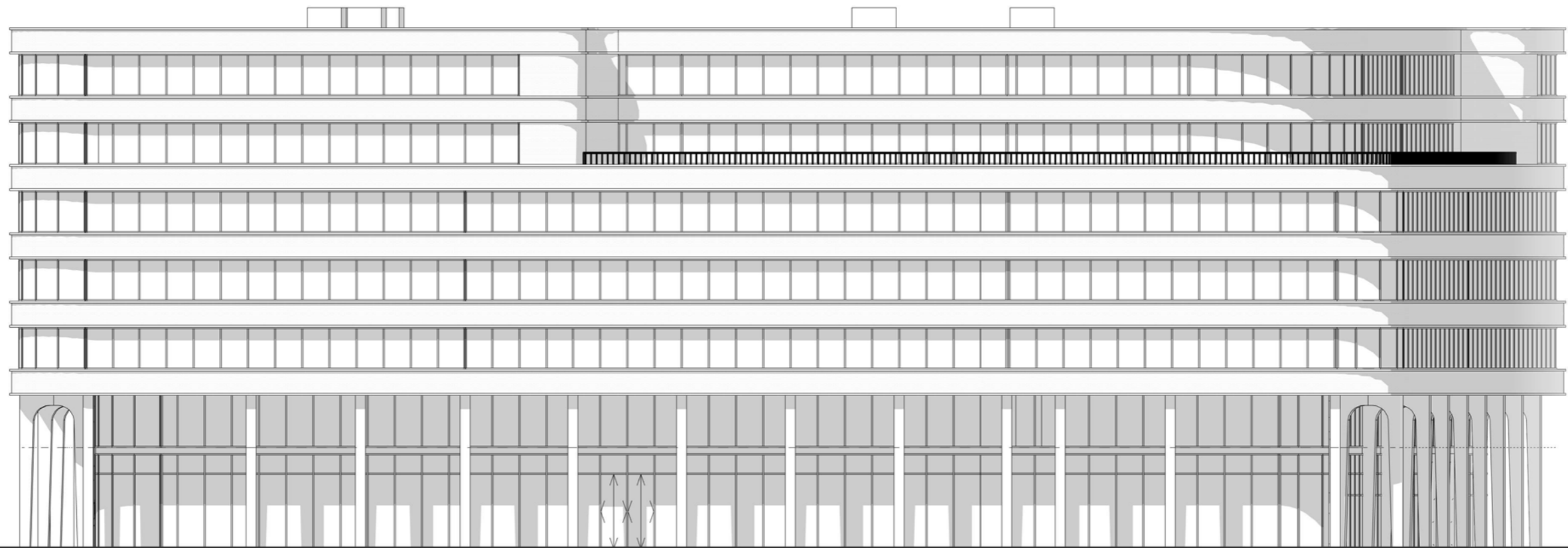
- 01 | Focus rooms
- 02 | Closed offices
- 03 | Vertical core
- 04 | Meeting rooms
- 05 | Servers
- 06 | Closed area for sensitive data/services
- 07 |
- 08 | Informal meeting area
- 09 | Meeting room
- 10 | Kitchen
- 11 | WC

Multifunctional neighborhood in Holesovice

Building B - 2-4 floors

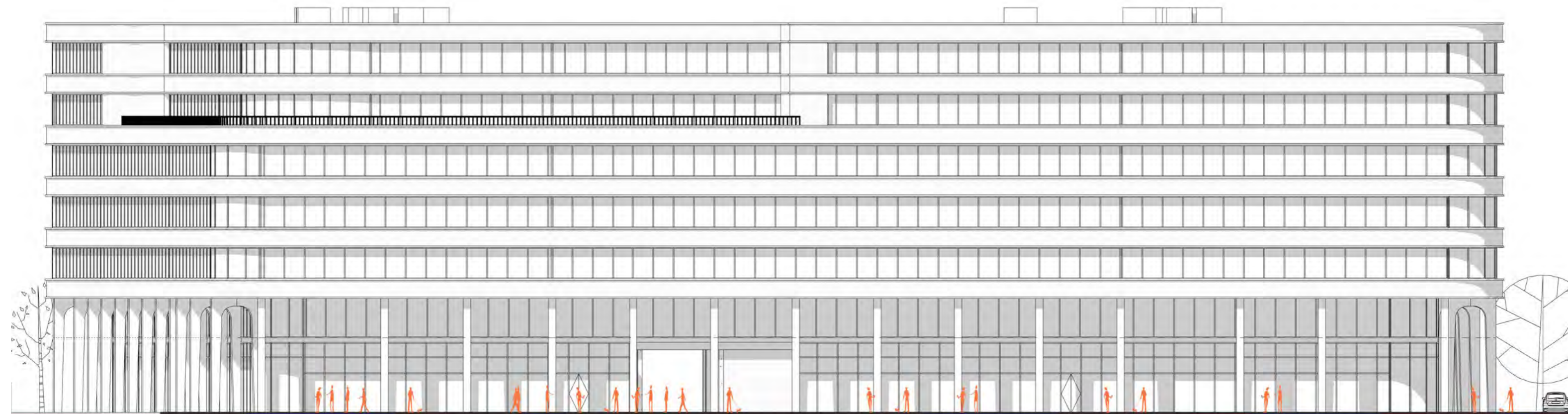


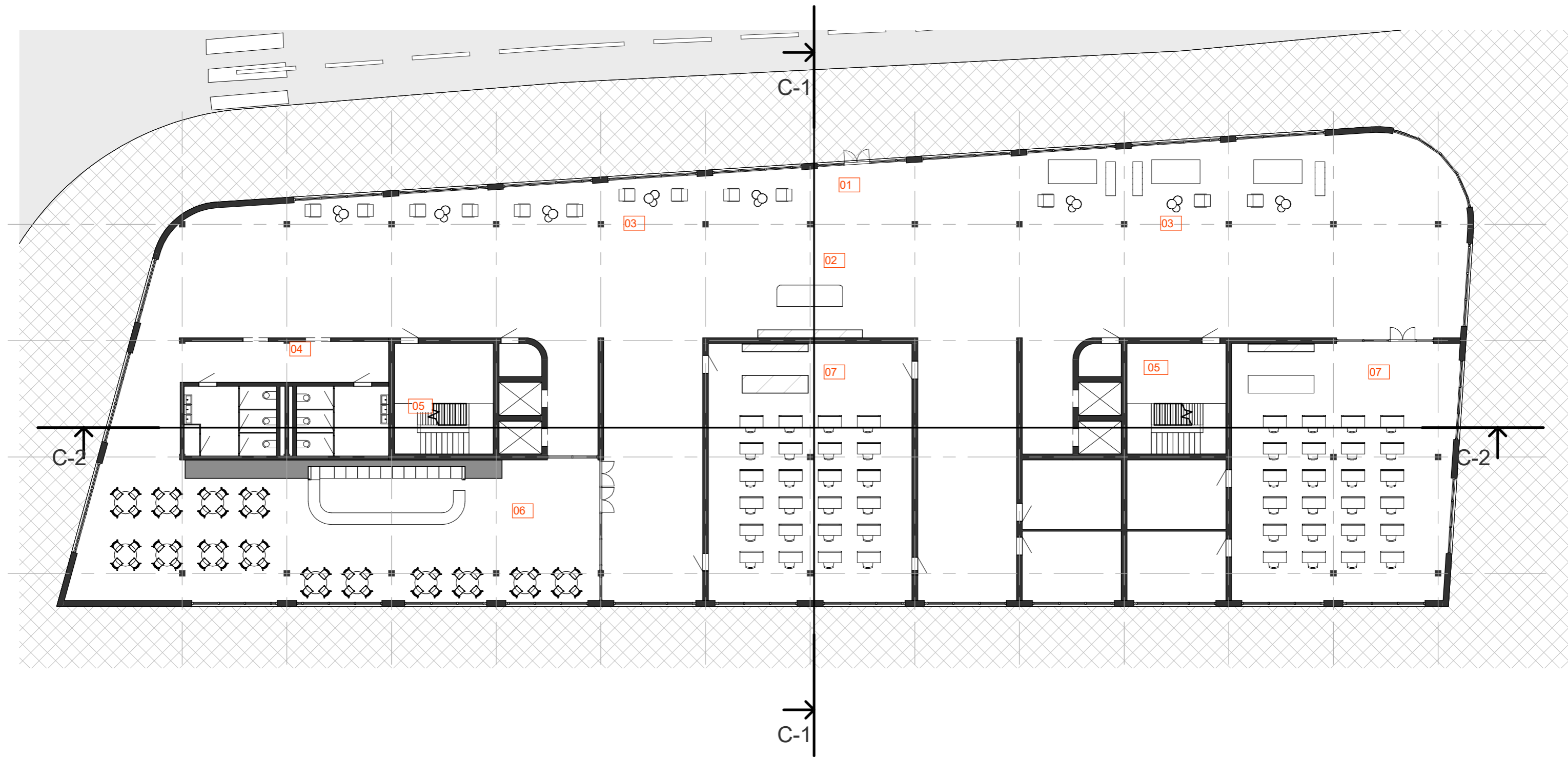




Multifunctional neighborhood in Holesovice

Building B - Facade 1





- 01 | Entrance
- 02 | Reception desk
- 03 | Lounge
- 04 | WC
- 05 | Vertical core
- 06 | Cafeteria
- 07 | Conference room

Multifunctional neighborhood in Holesovice

Building C - Ground floor



- 01 | Vertical core
- 02 | WC
- 03 | Open plan workstations
- 04 | Meeting rooms
- 05 | Collaboration area
- 06 | Informal meeting area
- 07 | Individual concentration desks
- 08 | Individual working area
- 09 | Relax space
- 10 | Closed offices
- 11 | Kitchen
- 12 | Focus rooms

Multifunctional neighborhood in Holesovice

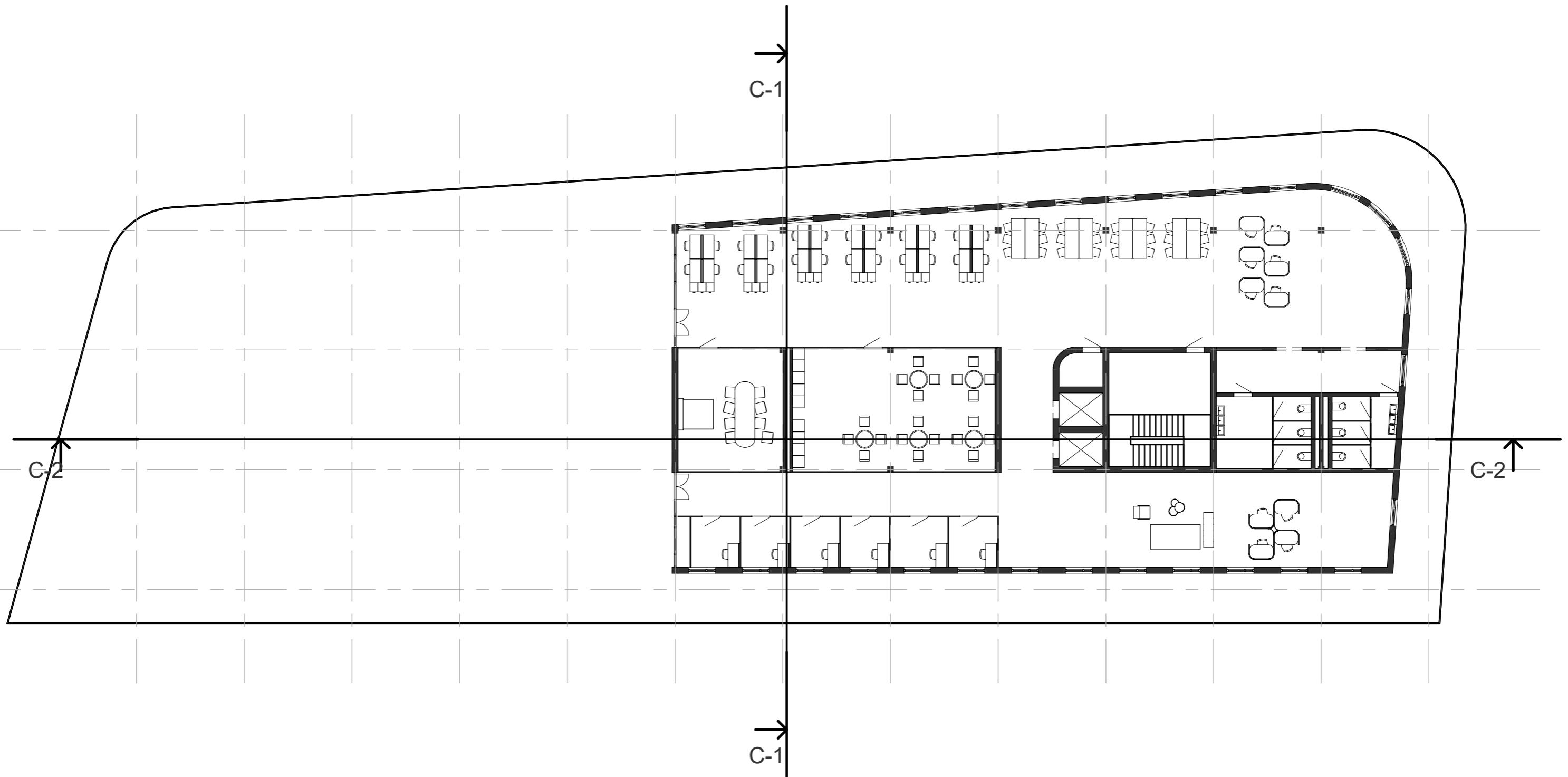
Building C - first floor



- 01 | Vertical core
- 02 | WC
- 03 | Open plan workstations
- 04 | Meeting rooms
- 05 | Collaboration area
- 06 | Informal meeting area
- 07 | Individual concentration desks
- 08 | Individual working area
- 09 | Relax space
- 10 | Closed offices
- 11 | Kitchen
- 12 | Focus rooms

Multifunctional neighborhood in Holesovice

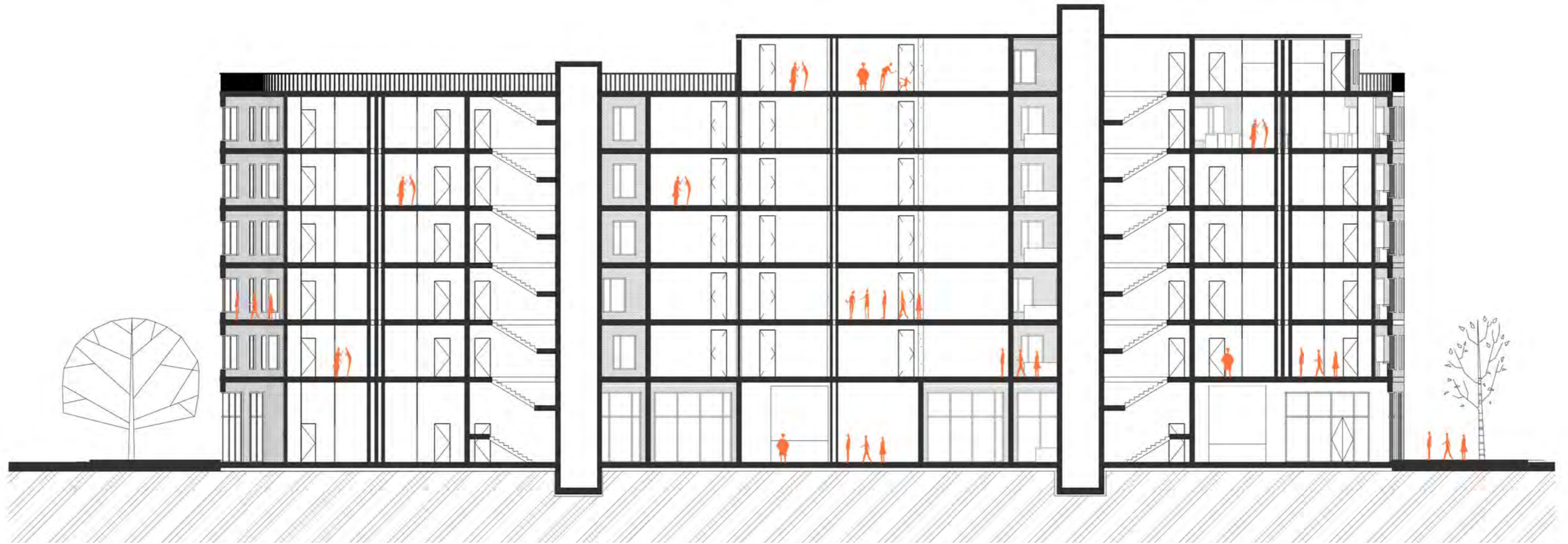
Building C - 2-4 floors



Multifunctional neighborhood in Holesovice

Building C - 5-6 floors

Building C: Section 1



Building C: Facades east and west

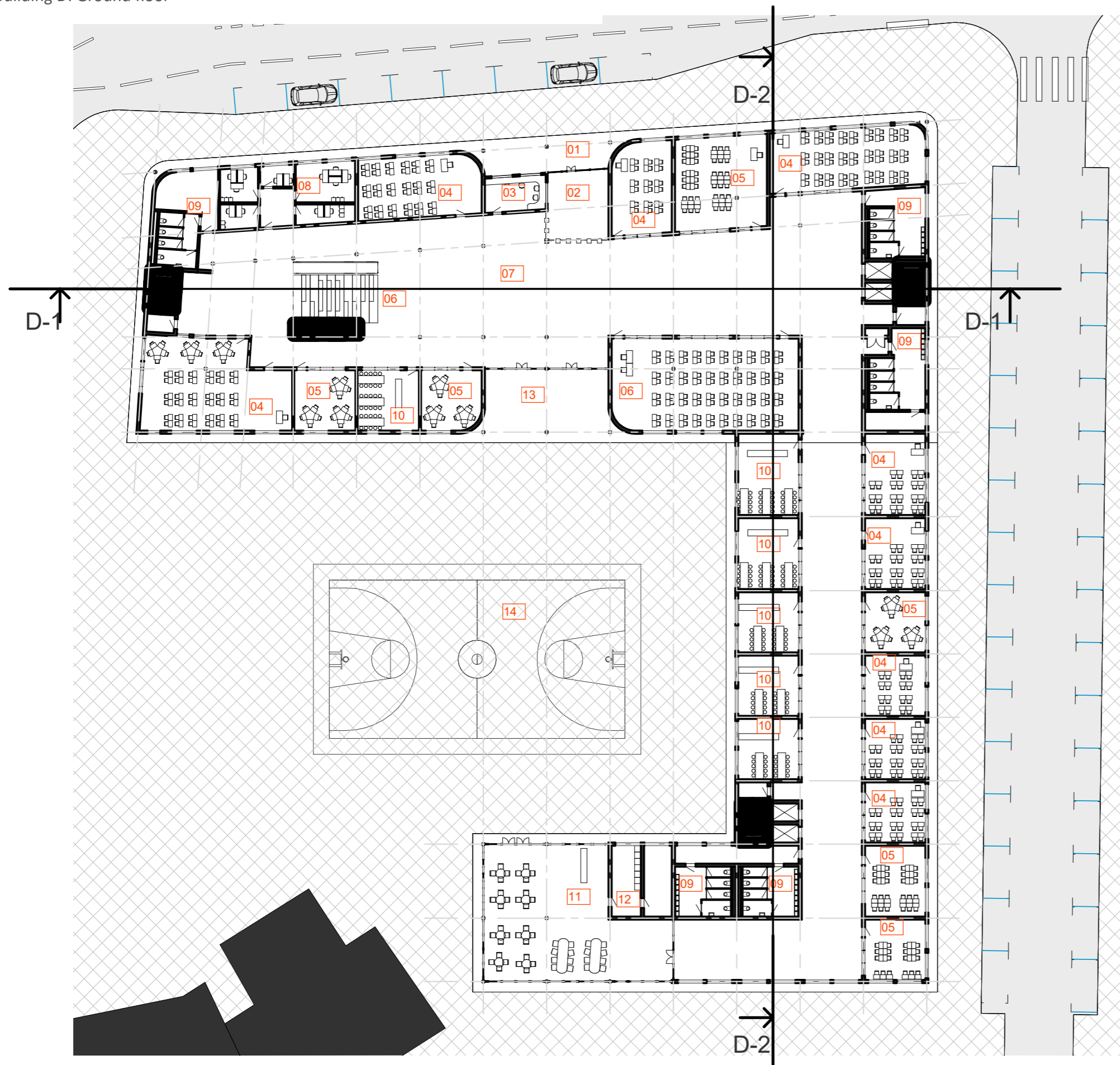


Building C: Facade North



Building C: Facade South

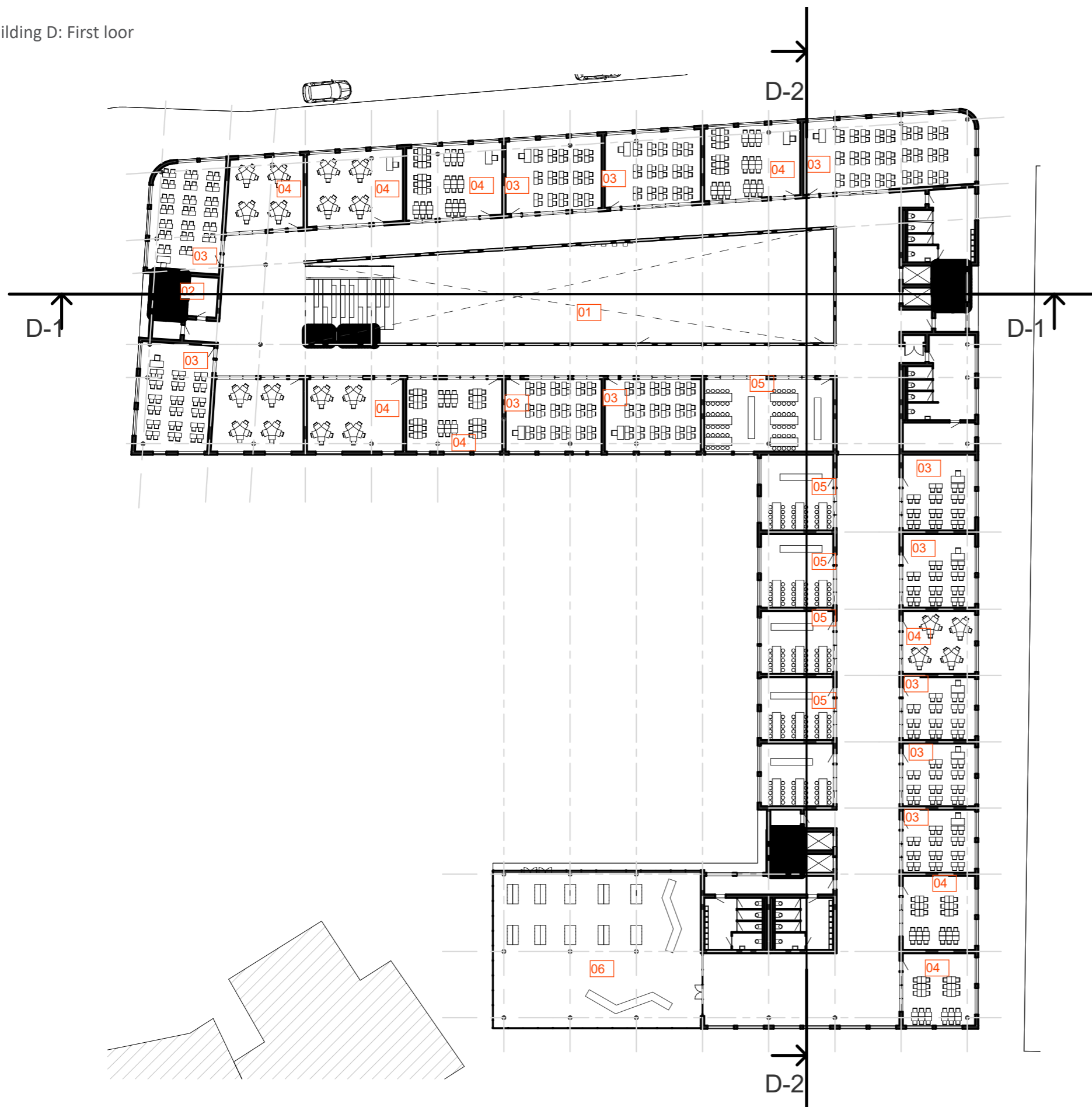




- 01 | entrance
- 02 | Entrance with turnikets
- 03 | Reception
- 04 | Classroomm
- 05 | Group work classroom
- 06 | Large event classroom
- 07 | Atrium
- 08 | Sitting
- 09 | WC
- 10 | Labs
- 11 | Cafeteria
- 12 | Kitchen
- 13 | Second entry
- 14 | basketball court

Multifunctional neighborhood in Holesovice

Building D - Ground floor



- 01 | Atrium
- 02 | Core
- 03 | Classroom
- 04 | Groupwork classrooms
- 05 | Labs
- 06 | Library

Multifunctional neighborhood in Holesovice

Building D - First floor



Multifunctional neighborhood in Holesovice

Building D - Section 1



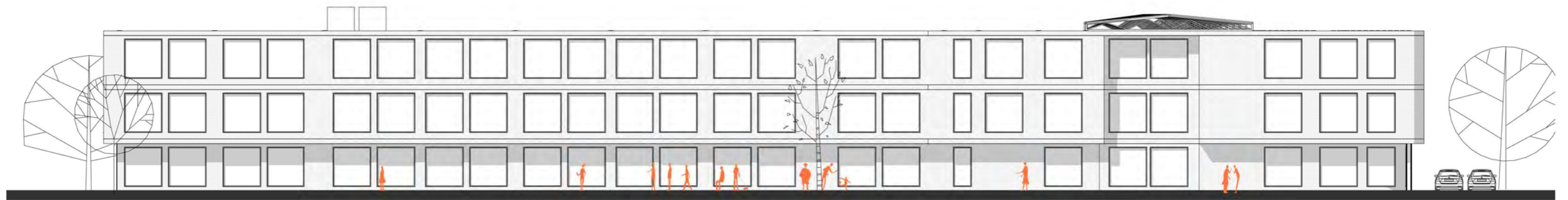
Multifunctional neighborhood in Holesovice

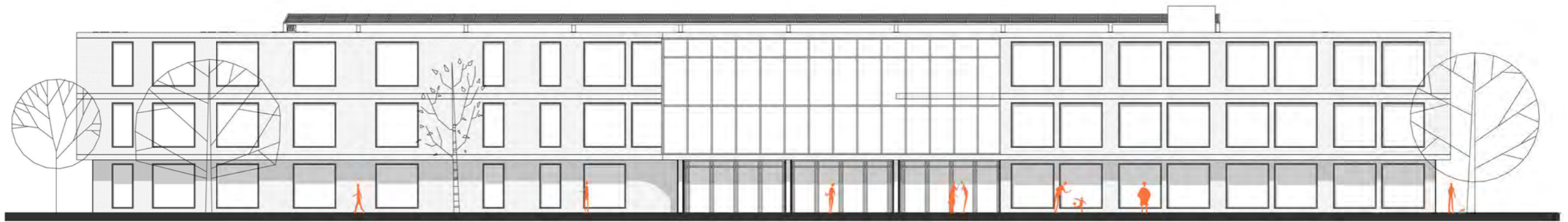
Building D - Section 2



Multifunctional neighborhood in Holesovice

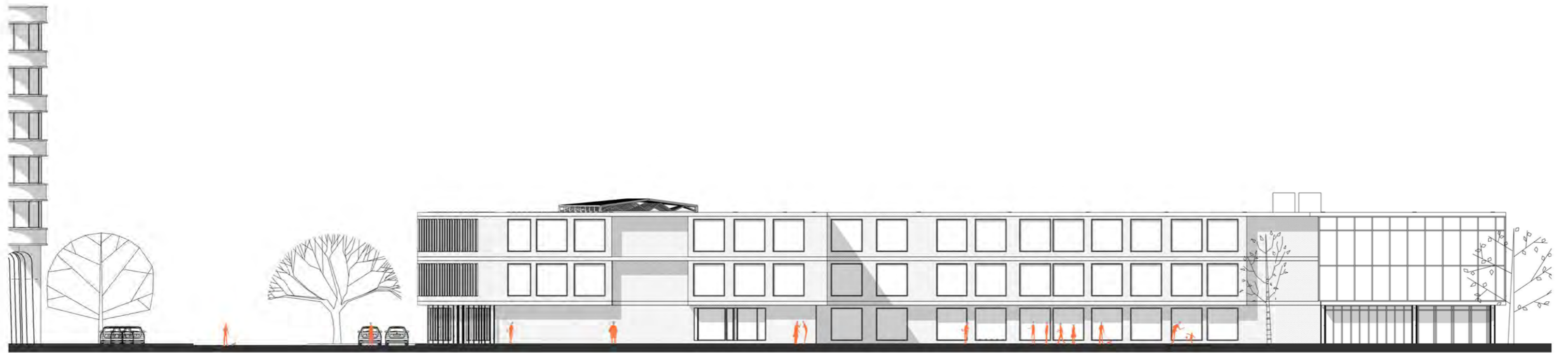
Building D - facade 1





Multifunctional neighborhood in Holesovice

Building D - facade 3



Multifunctional neighborhood in Holesovice

Building D - facade 4



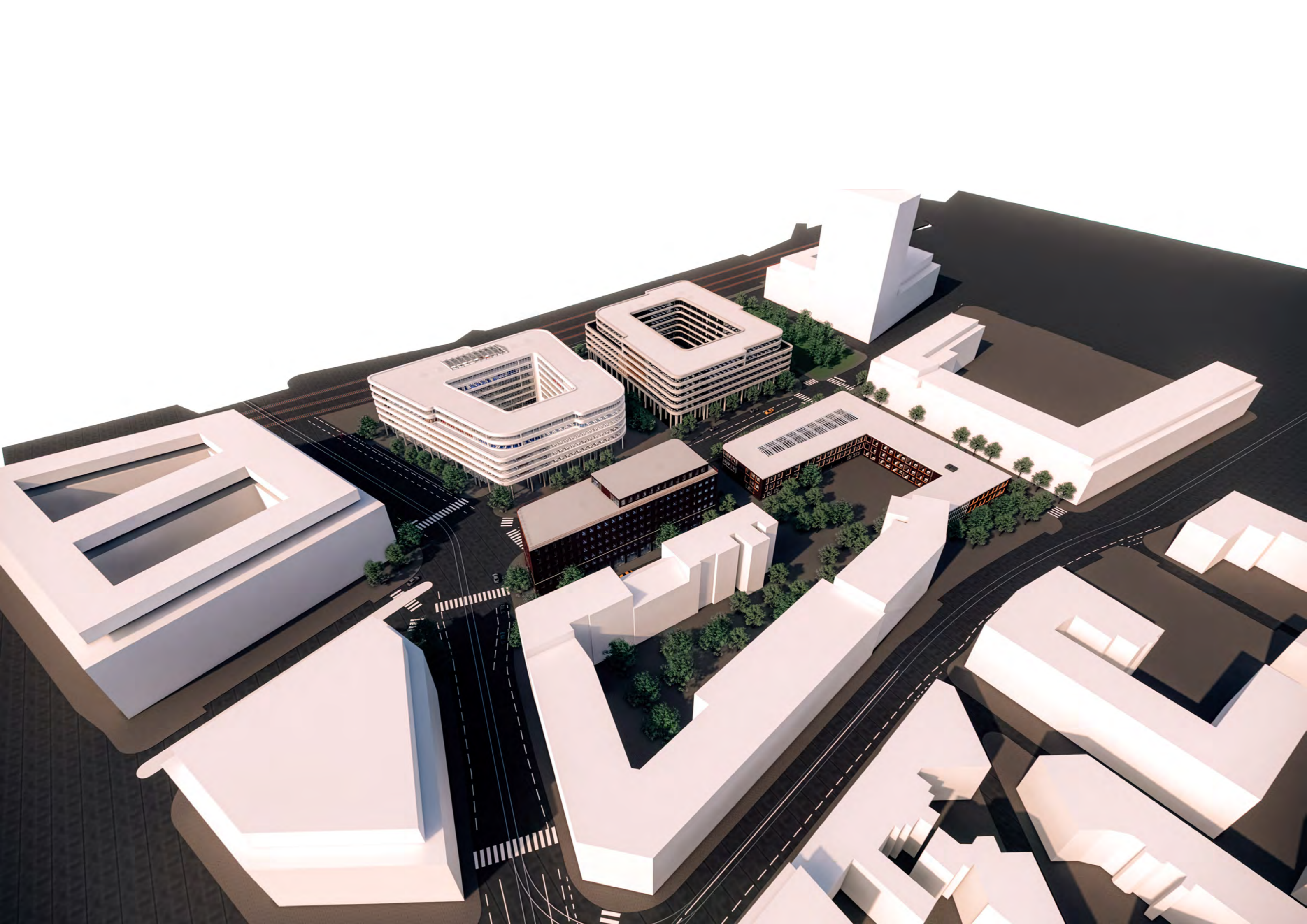






















Czech Technical University in Prague, Faculty of Architecture

ASSIGNMENT of the Diploma project

Master degree

Date of Birth: 04/01/1992

Academic Year / Semester: 2021-2022 WS

Department Number / Name:

Diploma Project Tutor: doc. Ing. arch. Petr Kordovský

Diploma Project Theme:

Architectural design of the Quarter at Holešovice train station

Assignment of the Diploma Project:

1. The Project aims to design the space outlined on the master plan. This place is interesting to us due to proximity of the train, tram and bus stations. Since certain parameters of the buildings are prescribed within the winning master plan, our proposal aims to focus on creating the aesthetically pleasing designs and excellence of the plans.
2. Final results should be master plan 1:500, floor plans of the buildings 1:200, Sections and facades 1:200, visualizations.
3. 3d model of the project.

Date and Signature of the Student: 20.09.2021 *T. Bonashvili*

Date and Signature of the Diploma Project Tutor: *[Signature]*

Date and Signature of the Dean of FA CTU: *[Signature]*

Attachment of the

**DIPLOMA PROJECT
PROPOSAL**

Tamar Benashvili

T.B.



The territory of Holešovice is divided by line barriers into several blocks. The largest of them de facto form the whole district- Holešovice and Bubny. Corridors- railways, north-south highway and brownfield in the place between them. The area of 104 ha defined by barriers in the immediate vicinity is a huge deposit of buildable areas, which should also be built up.

The strategy of this urbanization is to create two city-wide focal points, the first at the site of Holešovice railway station and the town hall and cultural square on the bridge. These two public investments, these two clear urban figures, will be connected by a backbone- a central park along the eastern side of the railway.

It will re-create the identity of the Holešovice district (its front- the park embankment at the same time will be their connecting link. And again by public investment made available as its hands tools for successful revitalization and urbanization of the entire territory. The framework and picture of this urbanization that will be filled by private investment.

Scope of the diploma project

The Project aims to design the space outlined on the master plan. This place is important to the train, tram and bus stations. Since certain parameters of the buildings are defined in the master plan, our proposal aims to focus on creating the aesthetically pleasing urban plans.

A handwritten signature or set of initials in blue ink, located in the bottom right corner of the page.

