

## MASTERPLAN

Our project idea started with a reflection on the flooding problem that plagues the city of Karlovac since many years and, through harmonious development and a strong environmental footprint, we will try to think about how to solve and exploit this situation at the same time. The creation of "depressions" spaces wants to be an idea to combat this phenomenon: the new spaces can be used in normal conditions and will become "natural basins" in case of rain, within which the water of the spaces surrounding would also be directed, thus allowing the normal use of pedestrian and bicycle connections and other spaces located at a higher height. To compensate for these "depressions" some spaces would be "in relief", thus creating a soft and fluid landscape throughout the city. This is the guideline we would like to take to other parts of the city. Our attention has focused on the project site "Luščić" Park and the area near the stadium, the "Korana" Sport Bay.



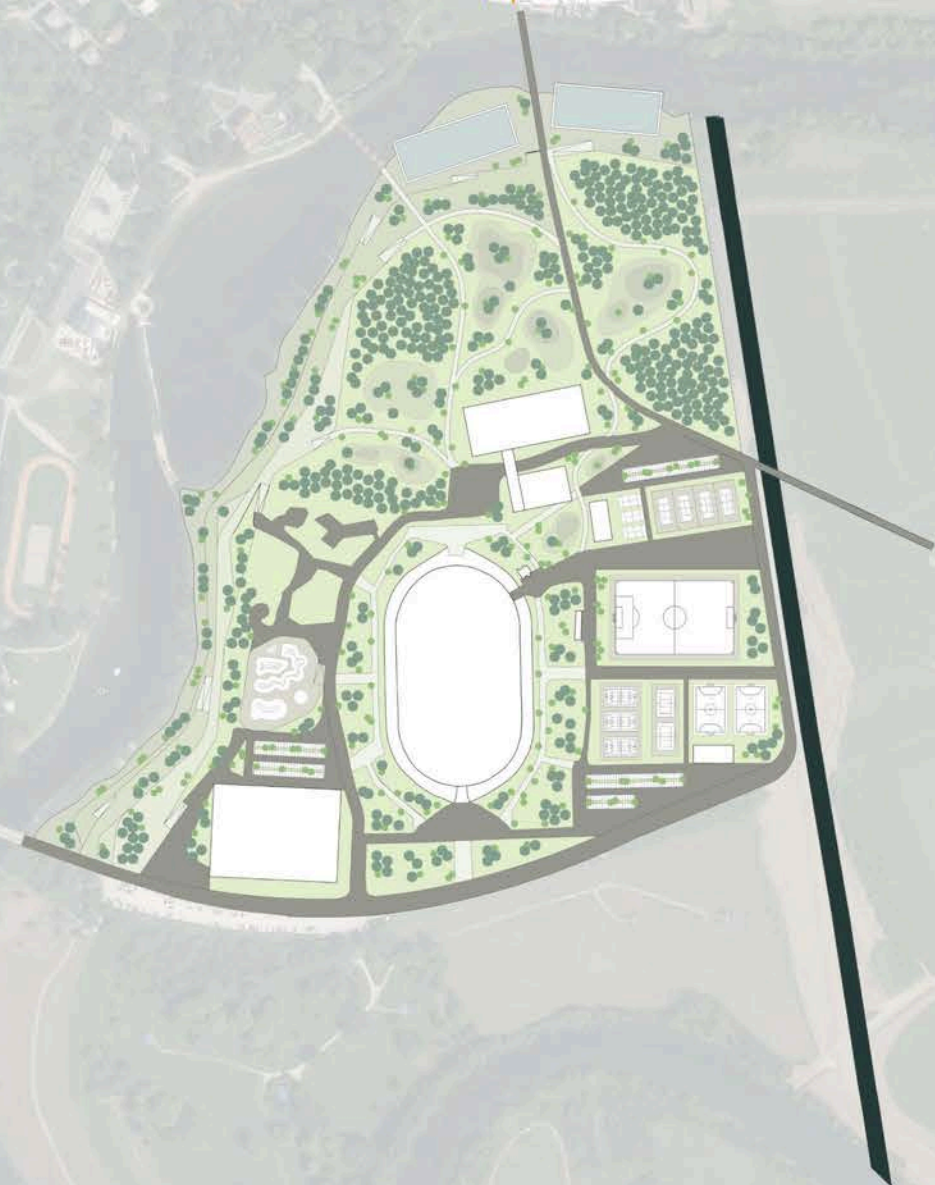
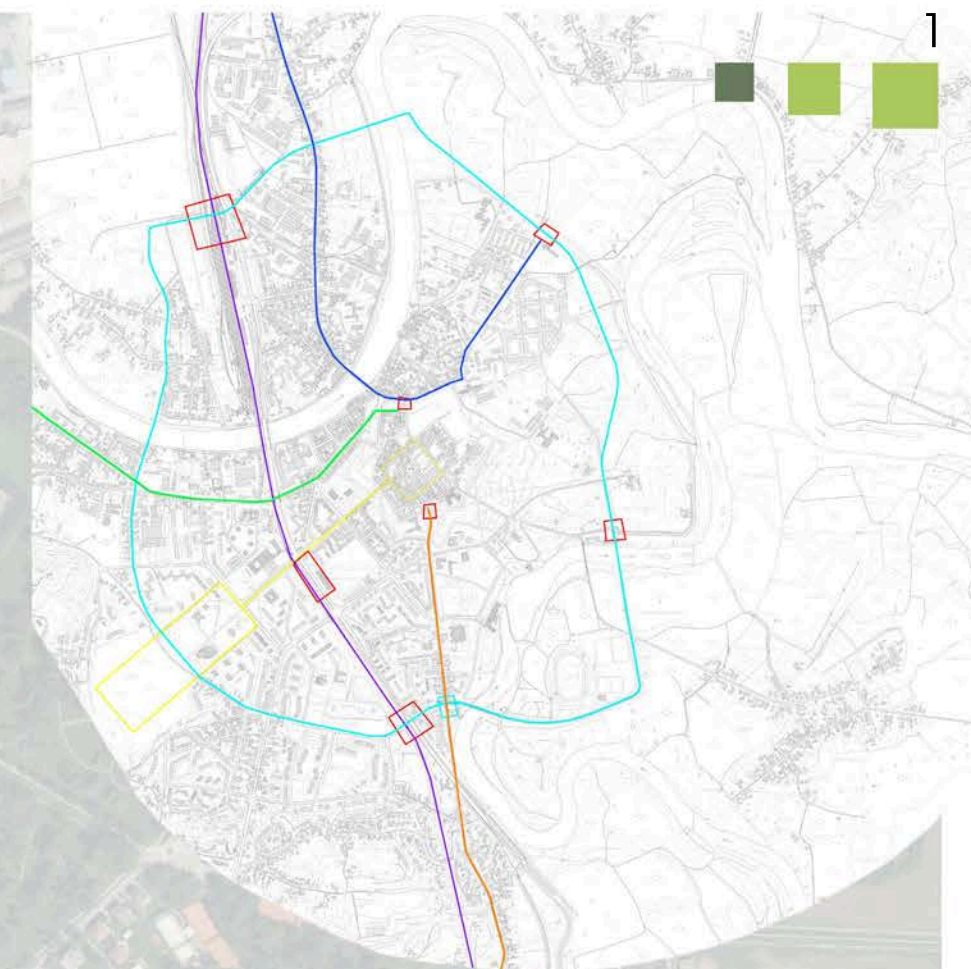
## MOBILITY

An important part of our idea concerns the improvement of the network of connections in the city with the provision of a new network of electric trams. The solution will not require the installation of rails and overhead lines, as an electric tram will be loaded into the parking station during passengers' ascent / descent. The new tramways will allow, together with the national railway network and the bus lines, to unite the various city districts, with greater efficiency and with shorter times, managing to reach areas that until now had no direct access to these alternative mobility systems.

The new tram lines are 5:

- Central - Novi centar - Luščić (yellow)
- Ring line (light blue)
- Banija (blue)
- Dubovac (green)
- Turanj (orange)

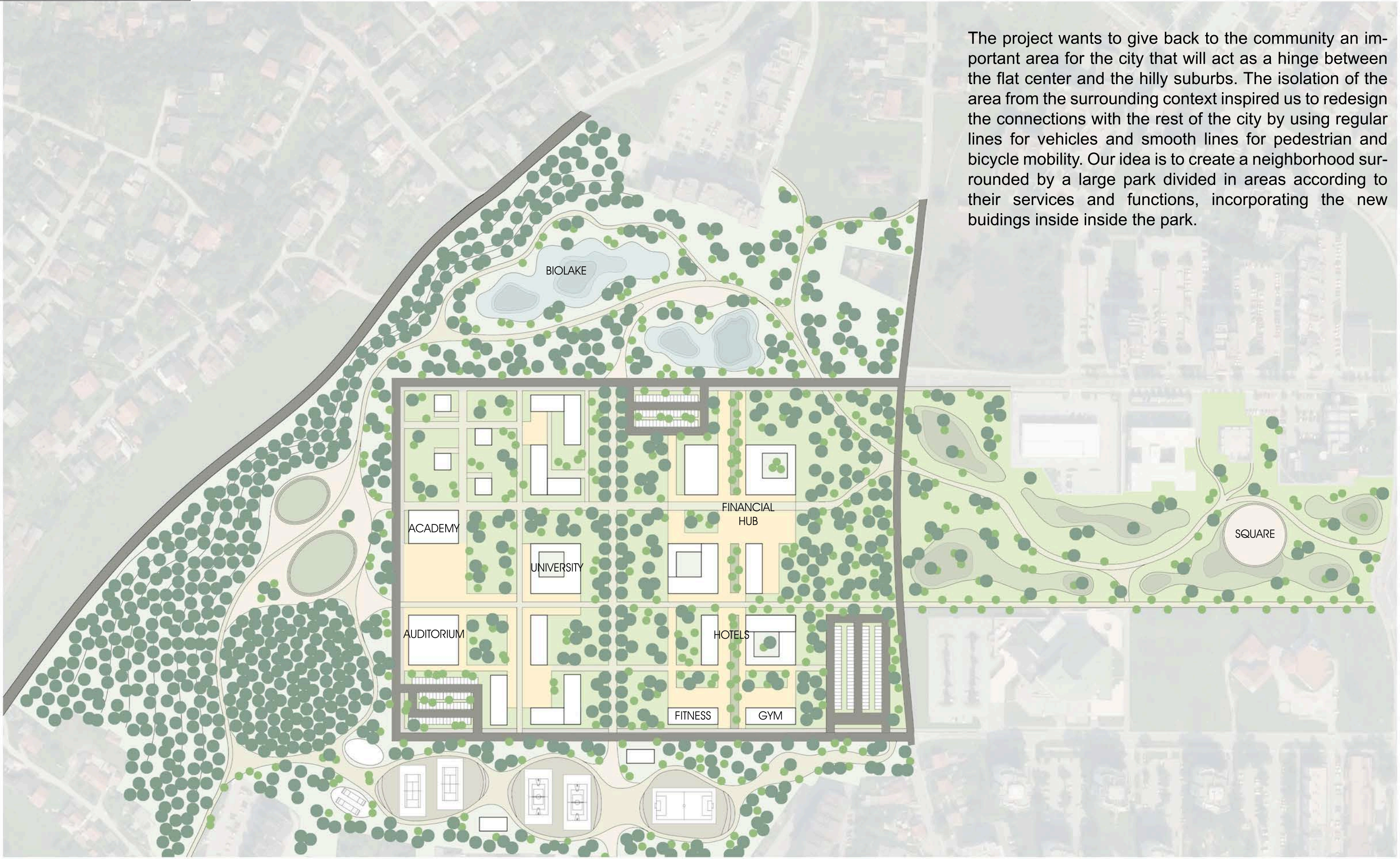
All lines will go to the four peripheral corners of the city, meeting at different points, interchange stations, where you will have the possibility to change lines or switch to cycling / pedestrian mobility. The bike path will be encouraged and increased to cover the entire municipal area.





LUSCIC PARK

The project wants to give back to the community an important area for the city that will act as a hinge between the flat center and the hilly suburbs. The isolation of the area from the surrounding context inspired us to redesign the connections with the rest of the city by using regular lines for vehicles and smooth lines for pedestrian and bicycle mobility. Our idea is to create a neighborhood surrounded by a large park divided in areas according to their services and functions, incorporating the new buidings inside inside the park.





## BUILDINGS

The structures of the new buildings will all be made of wood and steel, whose energy consumption is almost zero. The new high-performance NZEB buildings will be the first in the city and will act as a flywheel and example for future construction and renovation. They will be made using photovoltaic panels and / or tiles with accumulators, to completely cover their energy needs. The rain water and snowfalls will be channeled into special recovery tanks for irrigation and sanitary use. On the façade, the presence of green panels coupled with walls made of wood and lime-hemp will help reduce the dispersion of accumulated heat and stabilize the climate of the buildings during the seasons. Warming up will come largely from low-enthalpy geothermal energy. A part of the roofs will be converted into "green", a useful system because it allows to recover the water excesses that are stored in tanks and reused for hygienic and fire-fighting services, and because it allows to reduce the costs of cooling and heating. Part of the covers have been designed to be passable and livable by the population. The type of extensive green will allow low maintenance costs and will have a natural effect. For this reason we will use plants that adapt easily to the climatic conditions and are self-regenerative in order to withstand the most extreme conditions present on the roofs. Among the mosses, the succulents and the herbaceous there are many species that meet these requirements and have a high covering effect. An extensive greening therefore assumes the function of an ecologically and economically effective protective layer, instead of, for example, a gravel protection. Furthermore, they are the right solutions on sloping and sloping roofs. The walkways and access roads will require structures capable of ensuring the continuity of the roof functions (such as waterproofing, drainage, thermal and acoustic insulation) and the resistance to the horizontal forces generated by its use.

## POWER

In addition to the use of biocompatible and low-impact materials, both in the implementation and in the use phase, systems structures will be provided for a rational use of energy and water, as well as systems capable of generating and co-generating, in order to reduce pollutant emissions and waste. The use of photovoltaic energy will be provided, connected to a system of energy storage, solar panels or tiles, for the production of domestic hot water, geothermal energy will be used which, together with wind-powered micro-generators, will act as highly efficient tri-generation system.





## KORANA SPORT BAY

Across the river, on the west side of the city, you reach the current Branko Čavlović-Čavlek Stadium, which will act as the heart of the new "Korana" Sport Bay, the sports park of the Masterplan. We have decided to build new structures to give impetus to sport, not only in the sense of movement but to favor the aggregation, inclusion and promotion of the values it represents. Among the structures there will be implemented: new public swimming facilities built inside the river waters; an ice stadium; new basketball, volleyball and tennis courts. A new skate and bmx park will also be included among the sports activities. The construction of a canoe channel has been planned bypassing a bend in the Korana river, between the stadium on the left and the small residential area on the right. This new channel will have a double function: the primary one as training field for regattas and the secondary one as an expansion tank for floods, delaying and preventing the entry of water into the city. Its banks will be built in green steps, giving the opportunity to families and curious to be able to stay and spend a break from work, make a pic-nic or a sneak peek at training sessions. The entire sports park will be immersed in a new raised wood, which will act as a shelter for the summer heat and a place of relaxation.

