The location plot of 14.185m2, which falls under the 'area of the infrastructure system' according to the General Urban Plan of Split from 2007 and later additions, there are two Kodl substations plus a newer substation that is in operation today. In the western part of the plot there is a park fenced and protected with tall cypresses in which there are also two Kodl substations.
In the eastern part of the plot is a modern substation in operation with outdoor storage space (electric poles, wires, sheets) plus a grounded concrete block with electrical installations directly connected to the main transmission line pole that passes the electrical network.

On morphology that can be read on the wider urban area, we set up an orthogonal raster with which we try to simplify and make it easier to read the interrelations of existing and new buildings.
From this analysis we can see that we can set up 20 Kodl substations in the park part of the location.
To achieve the appropriate scale of the load-bearing structure, we use as a module 1/4 the size of Kodl's substation, 9m (size of the atrium central part with a roof).

SMOKOVIK

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Situation

m 5 10 18 40 50



This figure shows the size ratios and proportions, as well as the interaction of Kodl's substation with the remaining alterable space. The orthogonal matrix may also be used to determine the appropriate span of the load-bearing structure, which is then used as a modular system.

The square field framework of a regular raster was reciprocally reduced and divided into smaller units or "rooms", where the substation occupies one of the modules. All other modules were divided into reciprocally smaller units, as needed.

The conservation approach defines another vital and fundamental setting of the space: the visitors are able to observe the whole substation; it does not fade away in the background but is highlighted instead.
The proposed distance from Kodl's substation for the intervention is half the module of one substation, or 9 m (1× construction module).
One module occupies 1/4 of the area of Kodl's substation, which equals the size of the central roofed atrium. The side of the square module is 9 m long, corresponding to 1/2 of the transverse length of the substation.

The concrete block or grounding system of the transmission line is currently enclosed by a wall and accessible only to authorized persons.
Outside the wall, a transmission line pole approximately 25m high stands out, which is visible from the east side of Solin road as a clear spatial reference.

The designated project site is in Dujmovača, spread across about 14,200 m2 in the IS6 Zone: transformer substation (infrastructure system areas) based on the 2007 Amendments of General Urban Plan of Split (GUP) document (City of Split, 2007), comprising cadastral parcels no. 930/1, 932/2 (Kodl's main substation), and 932/3 (Kodl's auxiliary substation), as well as parcels 930/2 and 931/3 for vehicle access. The surrounding area is part of the economic zone, also based on Split's GUP.

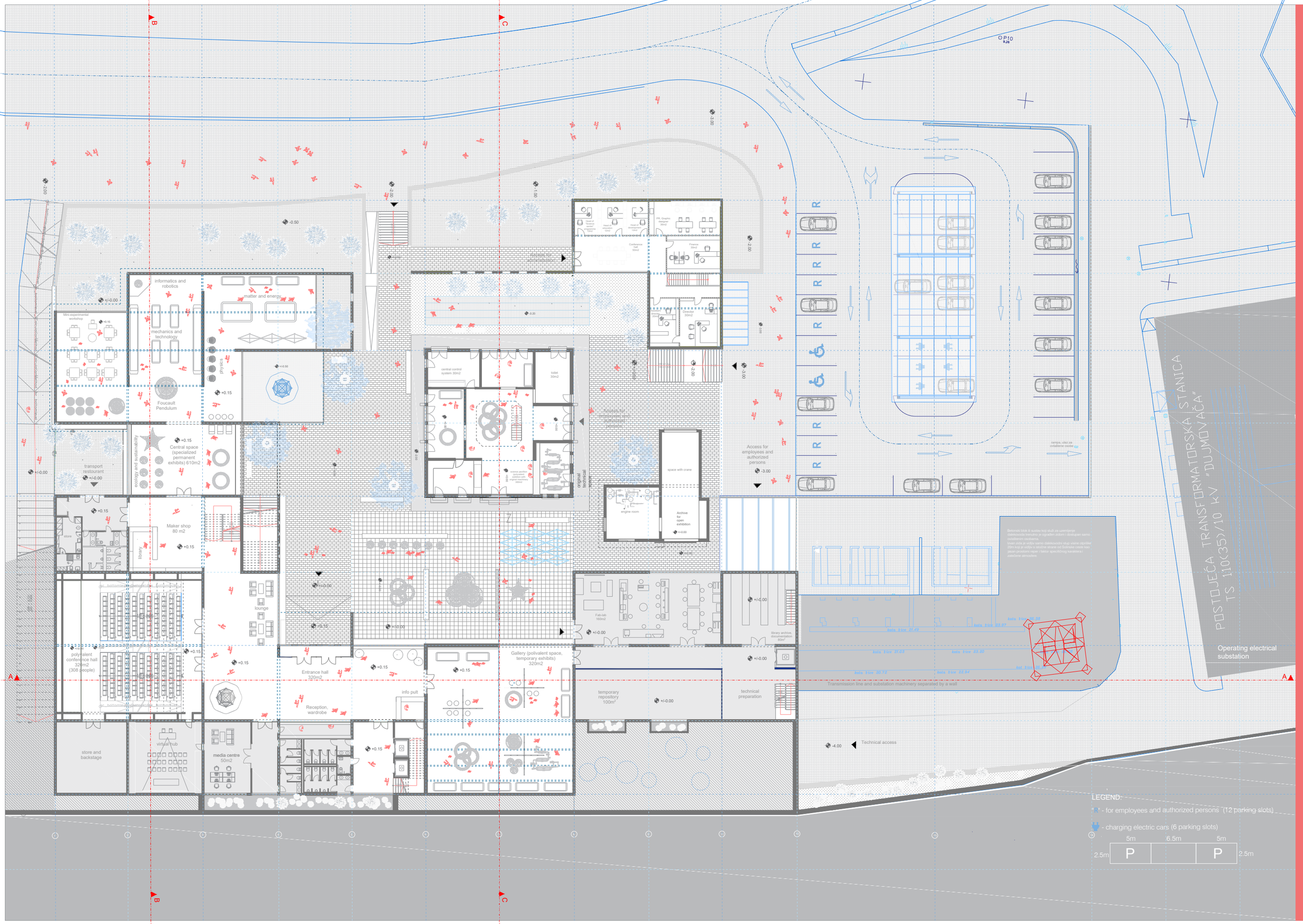
The land parcel contains Kodl's main electrical substation and a smaller, auxiliary substation, as well as another, modern substation that is currently in use.

The western part of the parcel contains a park ringed and protected by tall cypress trees, and features Kodl's two buildings. One of the main features of the site is its introversion with regard to the original, utilitarian purpose of the substation.

The project intervenes on about 9,200 m2 of this portion of the parcel. The eastern part of the parcel contains the currently operating substation with an outdoor disposal site (utility poles, wires, metal sheets) and a grounded concrete block with electrical installations connected to the main transmission tower that forwards the power network.

A transmission line earthing system is a protective system consisting of earthing conductors buried in the ground, and sometimes of a ground line.
The purpose of grounding is to protect people who are found near the poles when the ground connection of the transmission line conductor occurs, but also to increase reliability by limiting return jumps when lightning strikes a pole or protective rope.

The space that currently serves as the site of an external landfill for the electric substation that is in operation would be vacated, and used as a common parking lot for visitors and employees of the science center and substation (50 parking spaces). Access to the substation, which is in operation, is still blocked for ordinary visitors by the entrance ramp and fence.

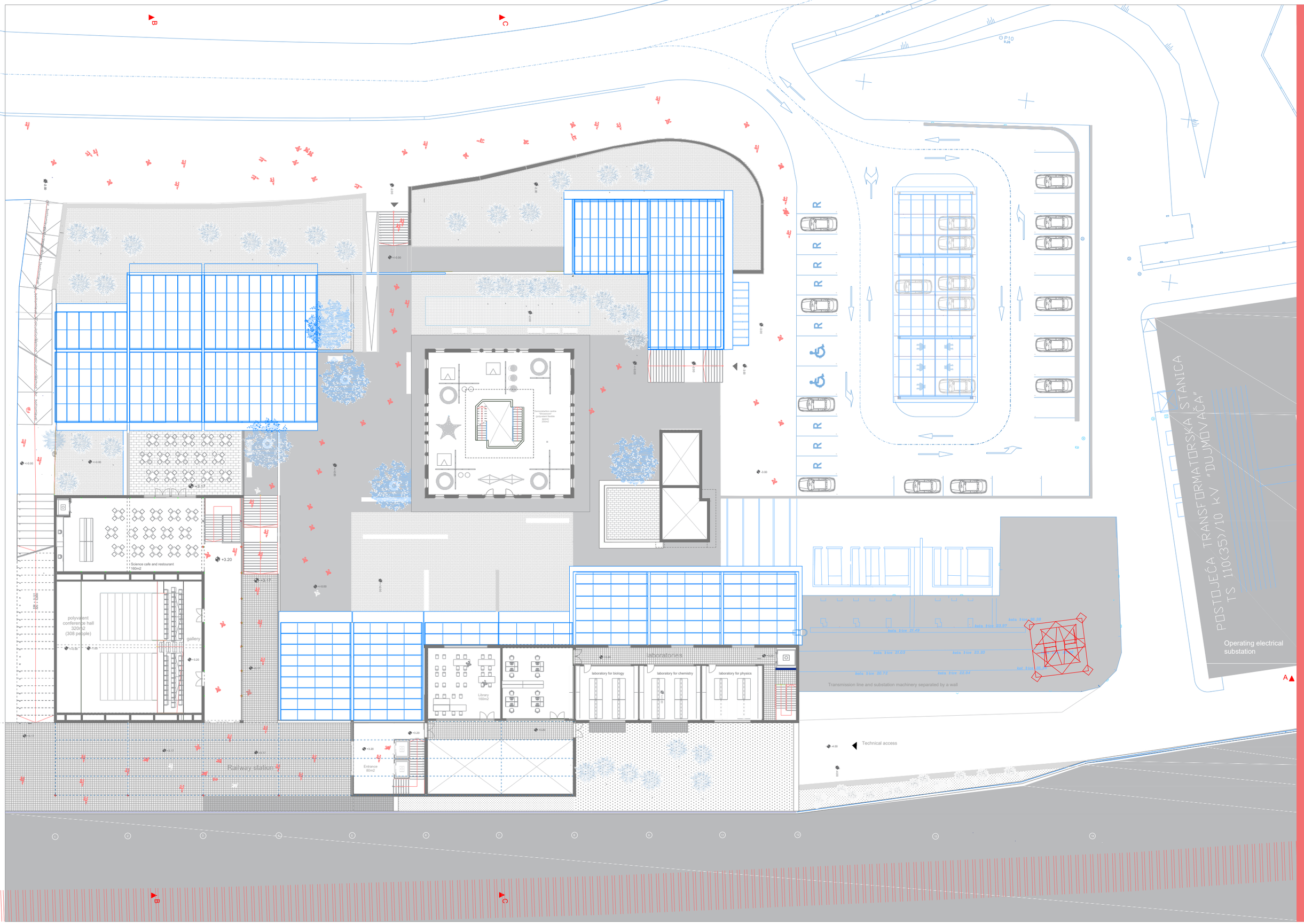


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Ground floor +/-0.00

m 1 5 10 15 20

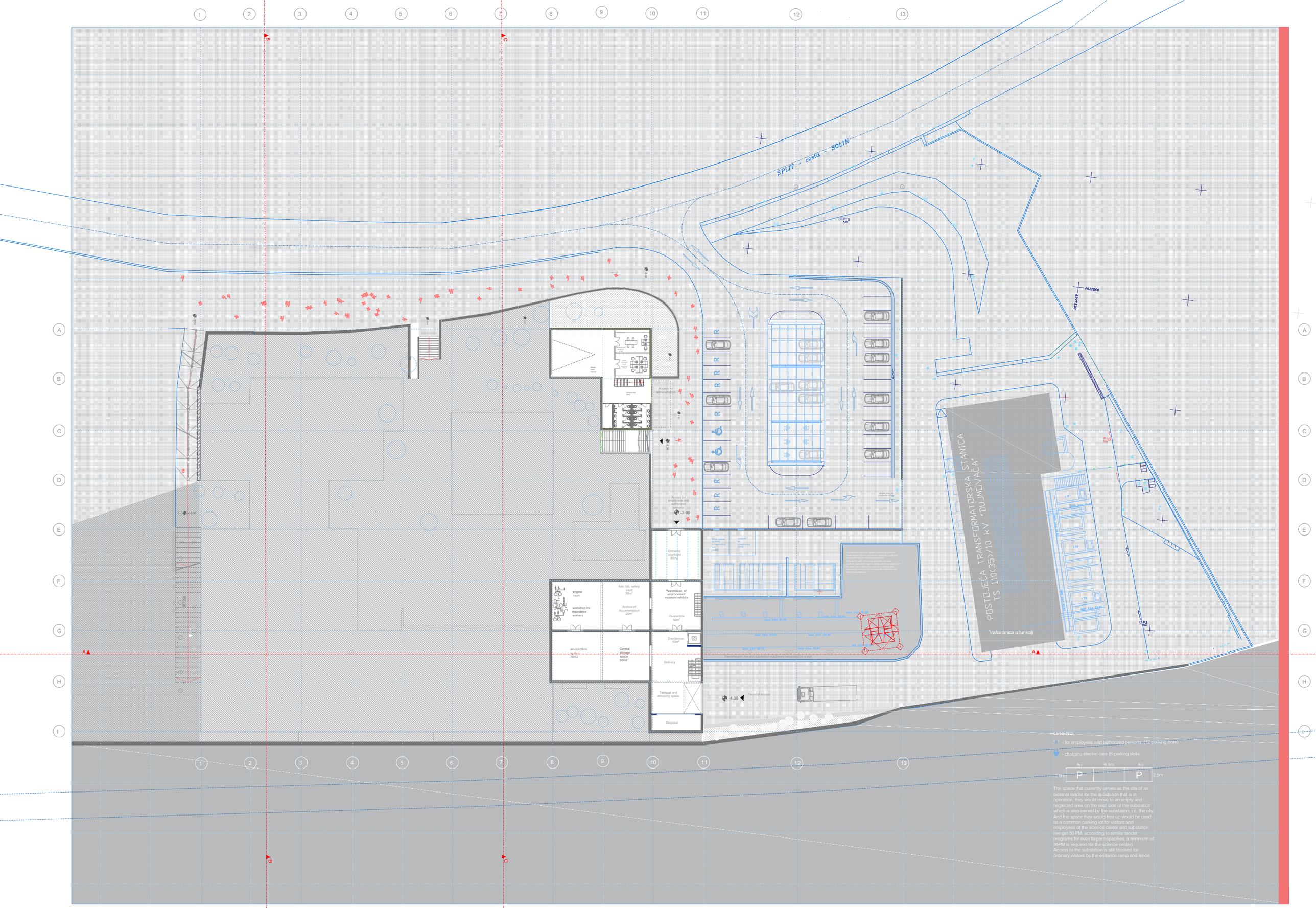


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First floor +3.20

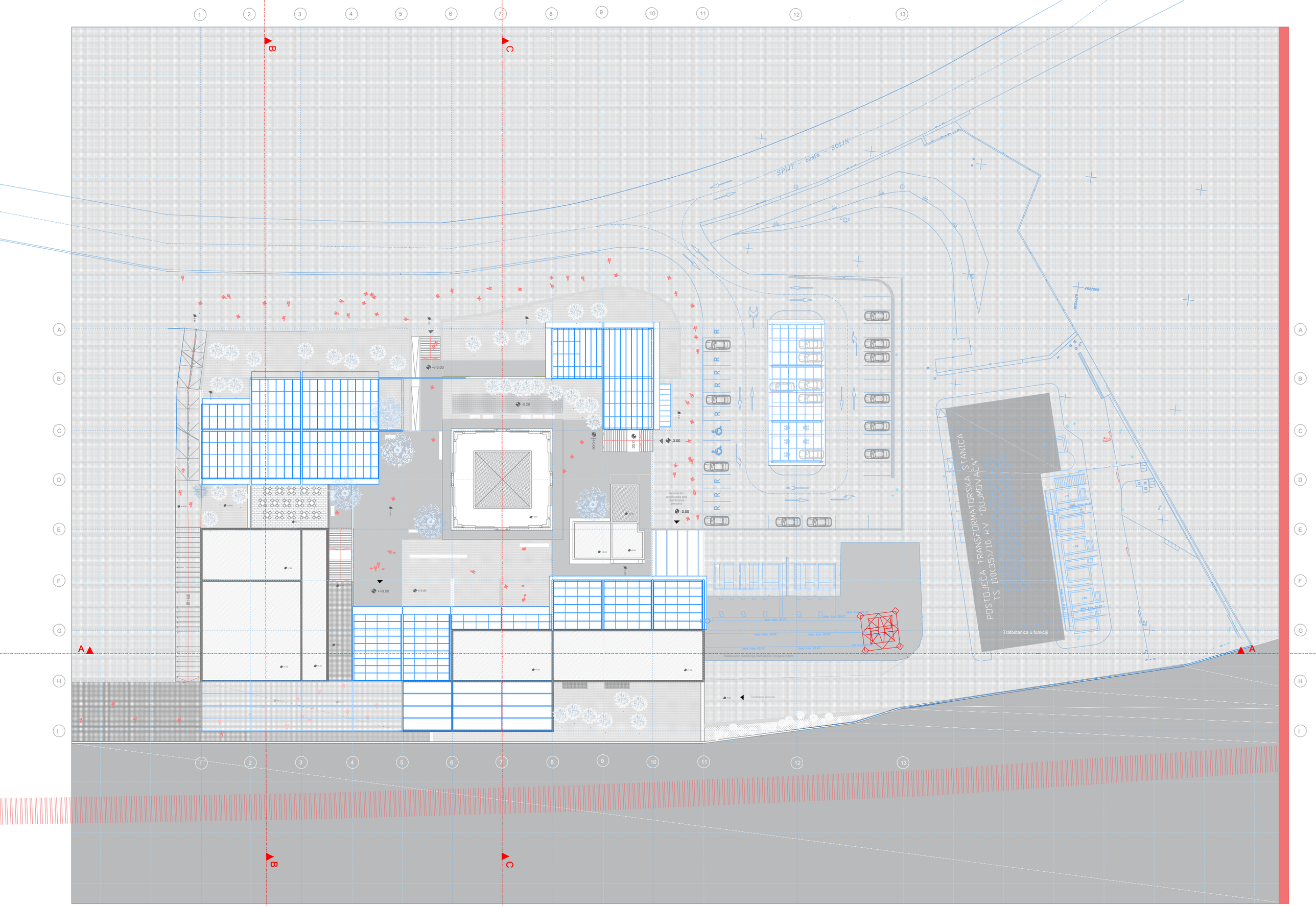
m 1 5 10 15 20



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Basement floor -3.00



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Roof floor +7.25

11 10 9 8 7 6 5 4 3 2 1

13.90m
8.45m
7.55m
4m
0m
-3m

Technical access

A transmission line grounding system is a protective system consisting of grounding conductors buried in the ground and sometimes of a ground line.
The purpose of grounding is to protect people who are found near the poles when the ground connection of the transmission line conductor occurs.
(penetration of the body of the electrical insulator or jump through the air along the insulator), but also to increase reliability by limiting the return jumps when lightning strikes a pole or protective rope.

Access for employees and authorized persons

The metal beams that carry the glass roof panel achieve horizontality. Its height is accentuated with two substations and caught fir trees at the site.

Existing atmosphere is an unusual combination of industry and landscape architecture with many details of the bricks.
(It is interesting that in Dujmovača 1875. first industry was brick and cement.)

13.90m
8.45m
7.55m
4m
0m
-3m
-3.7m

Original wall with the entrance and the brick details Josip Maria Kodl designed.

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above_East/ bottom_North

m 1 5 10 15 20

A B C D E F G H I

13.90m
6.40m
4m
0m
-1m

The transmission line pole, approximately 20 m high, is visible from the east side of Solin's street and from the interior of the courtyard as a clear spatial benchmark and a factor of a specific character.

Glavni izložbeni prostor 610m2

znanstveni zaštitni restauran

muzejska trgovina i knjižara 80m2

polivalentna dvorana 320m2 (308 gledatelja)

virtualni hub i medijski prostor 100m2

Height of the walls is adjusted according to the cornice of Kodl's substation, so that its roof stands out. As materials we use a combination of concrete and brick as the inversion of the materials used by the Kodl.

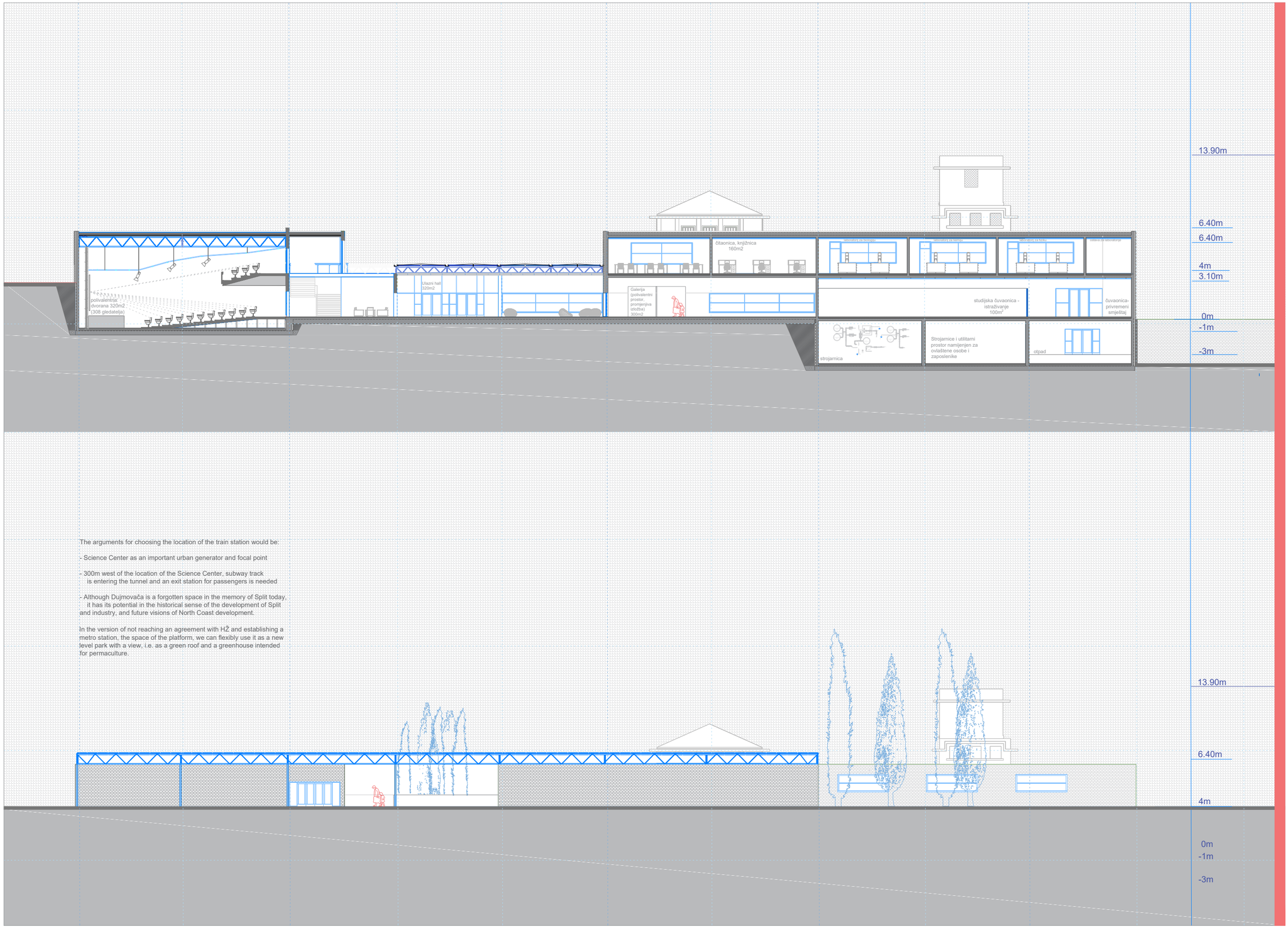
13.90m
6.40m
4m
0m
-3m

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above_Section A-A/ bottom_West

m 1 5 10 15 20



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above_Section B-B/ bottom_South

The ground floor of the substation has polyvalent content depending on the events,festivals or the need for additional space for an independent 'pavilion exhibition'.
The interior space is interesting because of the specific ambience, and contains original rooms with old machines that were once in use.

Nowadays, a space that is able to take more attention from visitors and spontaneously generate various unpredictable functions is considered to be of better quality.

Materials such as floor metal grilles and sheets reveal passers-by and create a specific sound and ambience of the factory.

Library and reading room overlooking Kodi's substation and park

There are a little more than 37 cypresses on the site that protect and frame the plot, and a dozen other different trees. With a structural approach and evasion, we tried to preserve as many trees as possible (37 cypresses and 5 other trees).

a crane warehouse is connected to the workshop and an outdoor exhibition

"A Fab Lab is a technical prototyping platform for innovation, invention, collaboration and learning; a place to play and to create. It is a small-scale workshop offering digital fabrication comprised by off-the-shelf, industrial-grade fabrication and electronics tools, wrapped in open source software"

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above_section C-C/ bottom_section D-D

m 1 6 13