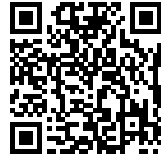




## COFFEE PRODUCTION PLANT: VAST GREEN ROOF

*Posted on November 12, 2020 by martabuges*



**Categories:** [Energy and sustainability](#), [Giorgi Khmaladze Architects](#), [Middle Density](#), [Project](#), [Urban Paradigms](#)

**Tags:** [Architecture&nature](#), [Built landscape](#), [Circulation](#), [Concrete](#), [Construction](#), [Design strategies](#), [Footprint](#), [Green roof](#), [Greenery](#), [Open Space](#), [Power of materiality](#), [Production](#), [Project](#), [Skylight](#), [Volume](#), [Working Space](#)

Located on a highway connecting the city to the airport, the site is sparsely developed. Surrounded with fields and pine trees, the project houses a coffee production plant, its offices, a coffee tasting area and small coffee exhibits.

Inside, all the programs are arranged in a continuous unobstructed space, with glass partitions as boundaries in between. From the highway, the building is a homogeneous concrete folded volume with no visible openings to define its programs. At the back, it opens onto the pine forest. From above, it blends into the surroundings with a vast green roof, where occasional openings in the form of atriums, terraces and skylights bring natural light indoors. This reduces the impact of the building's large footprint, visible from planes taking off and landing next to the site.



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## Concept / Context and Strategy

Given the prominent location, the city required a building that would avoid the appearance of a typical factory, and the client's intention was to create a strong visual identity for the newly created coffee brand. The program required spaces that would accommodate the coffee production plant with its facilities and office spaces that would provide a variety of work space arrangements, meeting rooms and socializing areas, both indoors and outdoors. Additionally, the public areas needed to include a coffee tasting café with small coffee exhibits.



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In response, the regular, box-like volume of the production plant required to serve the building's primary purpose adjusts to the other program components by wrapping around them. It stays high where necessary to fit the production equipment and drops down where possible. The same strategy is used for the offices: the building shell wraps around working, meeting and leisure spaces arranged on floors divided into various levels. The three atria, the light wells, and the numerous skylights bring daylight into the work areas and shared spaces below. The atria are filled with plants to form small green outdoor spaces directly visible from all indoor areas.



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From the highway, the monolithic mass, with no visible openings, adapted to the slope of the site is an object of curiosity. Its internal spaces are all oriented toward the green park located on the back side and toward the sky by means of two terraces that are part of the green roof. The all-concrete façade folds to produce a double curved geometry. Its appearance changes over the course of the day with the sun's movement, producing an interplay of light and shadows.

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The central entrance is a narrow gap produced by lifting the concrete shell, leading into a large main lobby located between two of the green atria. The multilevel platforms for coffee exhibits and lounges welcome visitors beside the stairs and ramps leading to the coffee tasting cafe and the office spaces. The underground level is mainly used for indoor parking and various storage areas and facilities.

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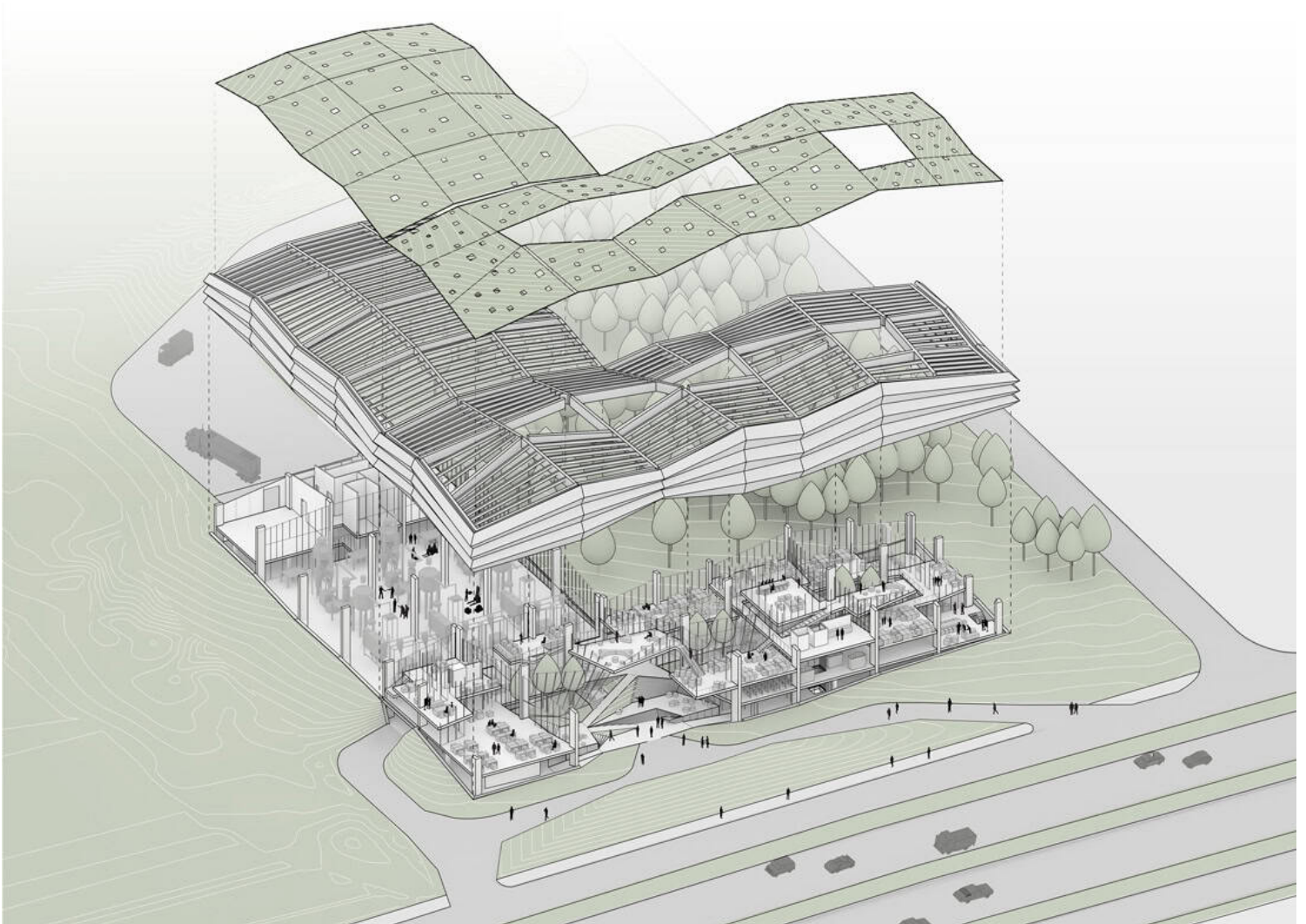
## Construction / Materials and Structure

The concrete structure using one-way waffle slabs spans up to 16 meters to create large unobstructed spaces. Steel floor slabs are suspended from the roof slab by steel rods generating various levels. The cast-in-place folded concrete façade, which ages well, is a double wall with an insulating layer in between. The 3,680 sqm green roof acts as an additional thermal barrier for the roof insulation. The roof is intended to grow vegetation found around the site with wild grasses and plants to blend in with the surroundings and require less maintenance.



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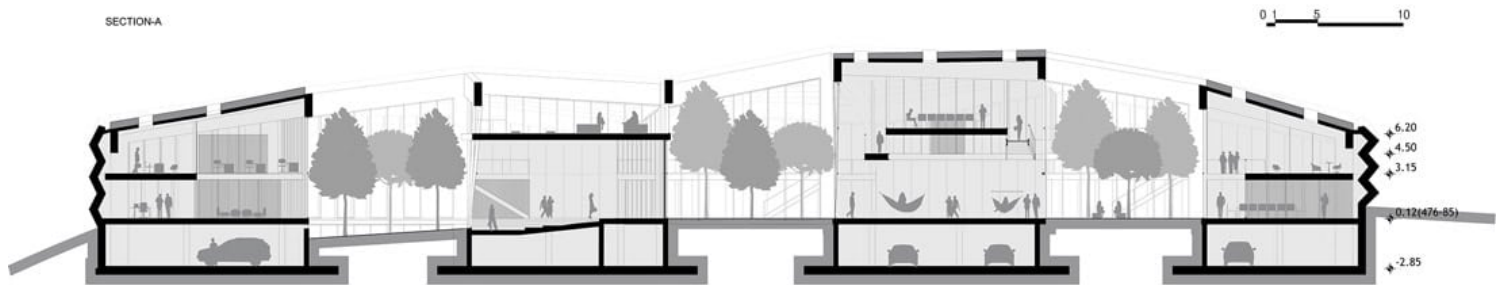
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