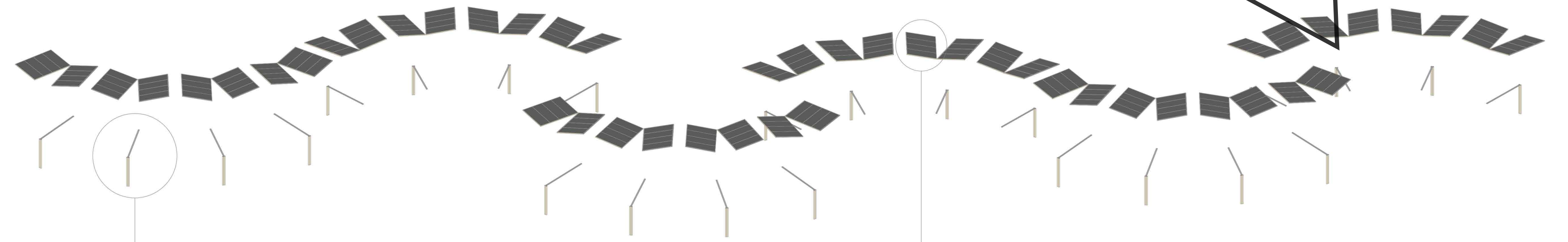


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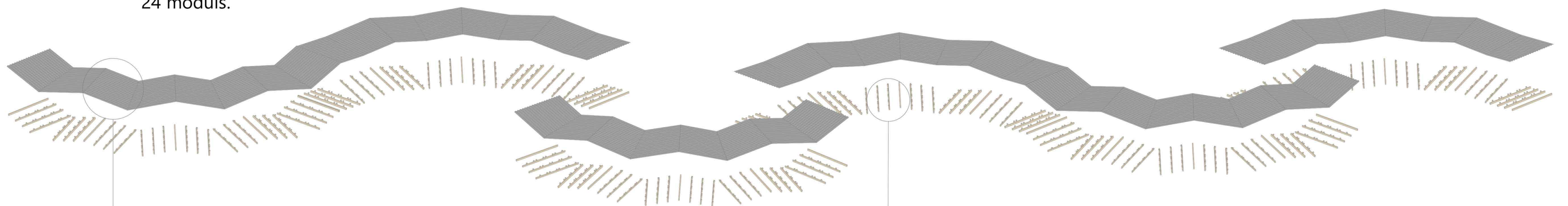


Rainwater Harvesting System from Rooftop Surfaces

The project involves the controlled drainage of rainwater collected from rooftop surfaces, which is directed from designated low points of the roof into an underground cistern. Due to the favorable topography of the site—located at a higher elevation than the surrounding urban area—the stored water can be distributed to the city through a gravity-fed pipeline network, contributing to the municipal freshwater supply. The system includes a sealed, high-capacity cistern and an ultraviolet (UV) filtration and disinfection unit, ensuring that the harvested water meets health and safety standards for usage. We used 24 moduls.

Sustainable Power Supply via Solar Technology

The design placed special emphasis on the use of renewable energy sources. As part of this, a total of 48 solar panels were installed on the rooftop, each with a surface area of 9,60 m², resulting in a total photovoltaic surface of 460,8 m². The electricity generated will be delivered to the village via underground cabling, providing partial or full power supply from a sustainable energy source.

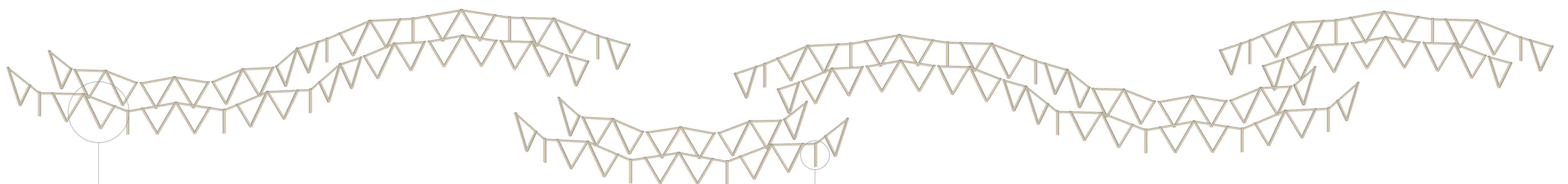


Roof cover

For the installation of the solar energy system, we used corrugated sheet roofing, which provided adequate structural stability and secure mounting. A total of 48 panel modules were installed as part of the system.

Roof Beam

The roofing and structural support system for the solar panels was designed using modular beam elements. For the complete installation requires support beams, in a total of 172 beams integrated into the structure.

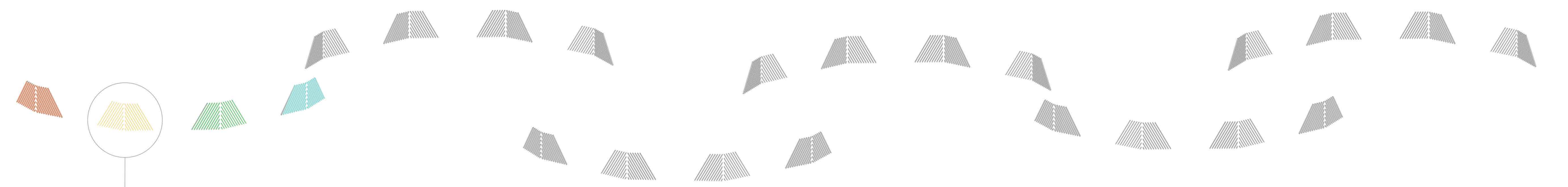


Structure - triangular moduls

The structure consists of 48×2 triangular wood elements, which together ensure the stable and secure mounting and provide the necessary structural load-bearing capacity for the entire system

Structure - vertical moduls

The structure consists of 24 vertical iron columns, which work in conjunction with the wooden structural elements to ensure the overall stability and load-bearing capacity of the support system.



Design panels

For the decorative elements of the building, we used the typical colors of Fiji, which are featured in a total of 24 decorative panels. Each decorative panel consists of the following arrangement of elements: 24 pieces of 250 cm long, 4 pieces of 210 cm long, 4 pieces of 160 cm long, 4 pieces of 115 cm long, 4 pieces of 70 cm long, 4 pieces of 20 cm long diagonal rods. We used 5 different colour for painting.

Ground screws

The load transfer of the structure to the ground is achieved through ground screws, with a total of 120 units used to ensure a stable foundation.

