the Natural Builders

Bamboo learning lab

Overlooking Playa Dominical, the outdoor lab is used by students studying the plantations flora and fauna.

By design the structure is built from the top down by lifting the truss members in series. Here we see the first stage of the lift. Bamboo poles are held in place temporarily using rope lashings and bungee cords.

Located in Dominical, Costa Rica the Bamboo Learning lab was commissioned by Pitzer College as part of an environmental research station. Designed by Deboer Architects the project was built in collaboration with Deco-Bambues in Costa Rica. The design was inspired in part by the sketch of a self supporting bridge penned by Leonardo da Vinci.

As the structure is raised higher we use temporary bracing to offer stability. Each phase of the lift requires the team to work in unison.

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With the skeleton in place the crew moved on to creating the final connections using threaded rod and cement mortar.

Drilling holes through multiple bamboo poles requires a steady hand and extra eyes. Ideally the bolt passes through at the exact intersection of adjacent poles. This will allow for the most even distribution of loads while offering the cleanest aesthetic. After drilling the holes it is wise to place the threaded rod immediately to avoid misalignment later.

After trimming the threaded rod, mortar is added to the critical unions of the structure by way of a an access hole drill into the poles.

Jo Scheer designed and led the building of this mid canopy observatory as part of the outdoor lab project. The Structure also known as a Hooch is tied off to surrounding bamboo plants. Its design is stable, but allowed to move in the breeze.

Students of the college worked alongside the colleges site crew and our international team. Each step of the process offered a chance for shared learning and innovation.