EVENTSCAPE

# Inventory Constrained Design

## Request for Proposals

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Oct 1st, 2022

## Project Summary

Eventscape is looking to partner with an academic research group to produce a structural prototype using principles of Inventory-constrained Design.[1] Using a stock of black locust wood in various pre-cut lengths, we ask our partner to design and rationalize a compelling structure using computational design and digital / robotic fabrication techniques.

## Objectives

The primary objective of the project is to find ways to reuse stock in meaningful ways. We recognize that the building industry, and subsequently the architectural fabrication industry, plays a significant role in global production of CO2. While we see efforts in optimization of material and novel ways of manufacturing to reduce energy consumption and increase efficiency, we would like to address the other side of the production- namely, inventory and waste management. The inventory presented in this proposal is a good case in point: we are currently storing a series of pre-cut black locust wood in various lengths for a canceled project, dimensions of which are not suitable for other projects. In similar situations the fabricator is left with a conundrum- whether to store the stock indefinitely for a possibility for another suitable use, or to discard the stock to make room for other upcoming projects. Instead, we would like to find a meaningful use for the stock *given* its dimensional constraints.

This is an opportunity for Eventscape to make meaningful contributions to the discourse on sustainable production and assist research initiatives that might benefit from the support of an industry partner.

[1] C. Fivet, J. Brütting, Nothing is lost, nothing is created, everything is reused: structural design for a circular economy, Struct. Eng. 98 (1) (2020) 74–81.

# Project Parameters

## Criteria of Evaluation

1. Utilization of the stock
    - Does the project utilize the stocks close to its original state, or does it require significant modifications to the stock?

2. Consideration of secondary impacts
    - Can the structure have a second life? Can it be disassembled, reassembled into different configurations?
    - Will it require secondary procedures- 3D printed, machined joints, off-the-shelf products? If so, is the impact of these secondary procedures considered in the proposal?
    - Are the machine times and the resulting energy consumption considered?

3. Involvement of Technology
    - How does technology affect and improve the workflow of design and fabrication?
    - Level of involvement of technology (including but not limited to computational design, structural optimization, mixed reality, digital/robotic fabrication, AI assisted workflows) within the various phases of the project. For example, does the strategy require human-robot collaboration in the production and/or installation phase? Or can it utilize mixed reality and/or laser projection in the production and installation phase?

4. Compelling narrative
    - Does the project have a narrative, and a function that goes beyond structural and material optimization?
    - Does it have a compelling visual language?

5. Fabrication Strategy & Level of Support
    - How will the project be made? What facilities will be used to fabricate the project?
    - Does the academic research group have the in-house capabilities to execute the project, or will they require Eventscape’s support? If so, what level of support will they require?

# Project Shortlist Selection

Upon receiving proposals, an internal review process will be conducted to assess their merits. Subsequently, three projects will be shortlisted and given equal visibility through publication and promotion on Parametric Architecture's website and social media channels. To determine the ultimate winner, a jury comprised of industry experts will carefully evaluate the shortlisted projects.

Additionally, a public voting process will be held to determine the "People's Choice" winner, providing an opportunity for wider engagement and recognition.

It is important to note that inclusion in the shortlist does not constitute a binding agreement for the allocation of wood. The final allocation of wood will be based on the projects' demonstrated functionality or potential for realization. The selected winner must be able to confirm their capability to carry out and complete the project as envisioned in their proposal.

# Inventory

### Black Locust Wood

| Dimensions | Count (Approx.) |
|---|---|
| 4” x 4” x 6.5” | 300 |
| 4” x 4” x 8.5” | 600 |
| 4” x 4” x 17” | 300 |
| 4” x 4” x 26” | 100 |
| 4” x 4” x 48” | 100 |

# Company Information

Eventscape is a highly custom architectural fabrication company that provides turn-key solutions from concept to installation. In close collaboration with our clients and other partners, we estimate, design, engineer, fabricate, and install a wide range of projects unrestricted by scale, form, material, or location. We are well versed in advanced CAD/CAM, parametric design and digital fabrication including multi-axis CNC and robotic arm, as well as other traditional equipment. Our versatility, combined with a wide range of materials and processes, allows us to uniquely position ourselves as a single-source supplier of a complete product. The quality that emerges from our holistic process is unmatched by products assembled by multiple trades on site.

Eventscape is driven by innovation and a constant desire to push the boundaries of fabrication; in fact, this drive has been our primary engine of growth. Research into emerging technology, methods and materials is an integral and critical part of our identity, and we make significant investments and commitments to keep ourselves up to date and to find the path forward. We see collaboration with academic institutions as shared opportunities to push disciplinary knowledge, and have collaborated with institutions including most recently the University of Pennsylvania to bring projects to life.

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