

E5 ENTWERFEN 5  
UNIVERSITY OF KASSEL | KOMOREBI 木漏れ日

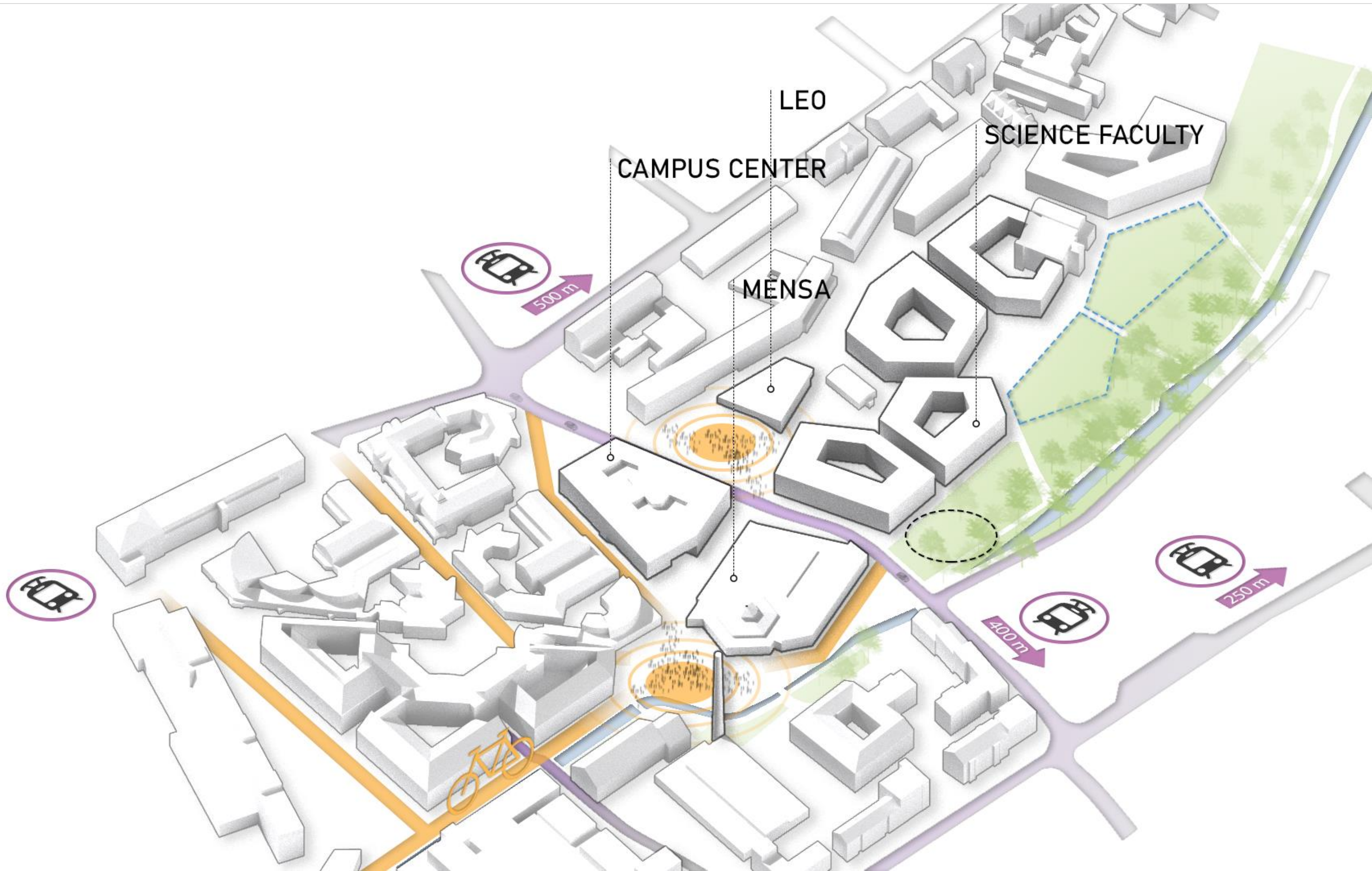


ADRIEN VAJAS 1329502, ALEXANDER FENYK 1348994, ERIC RUPPENTHAL 1369546

WINTERSEMESTER 2022/23

THE CONTEXT | KOMOREBI 木漏れ日

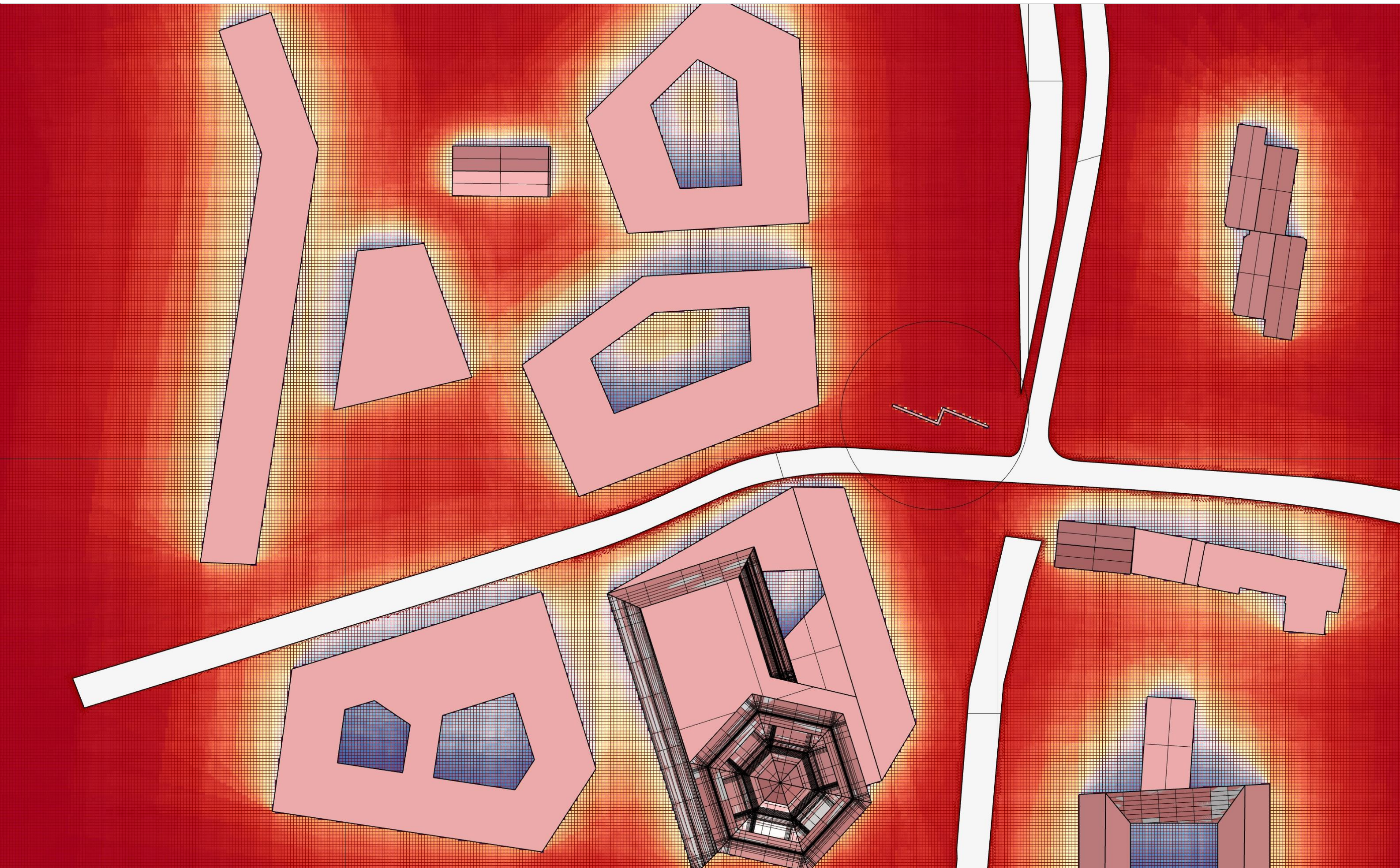












THE STRUCTURE | KOMOREBI 木漏れ日

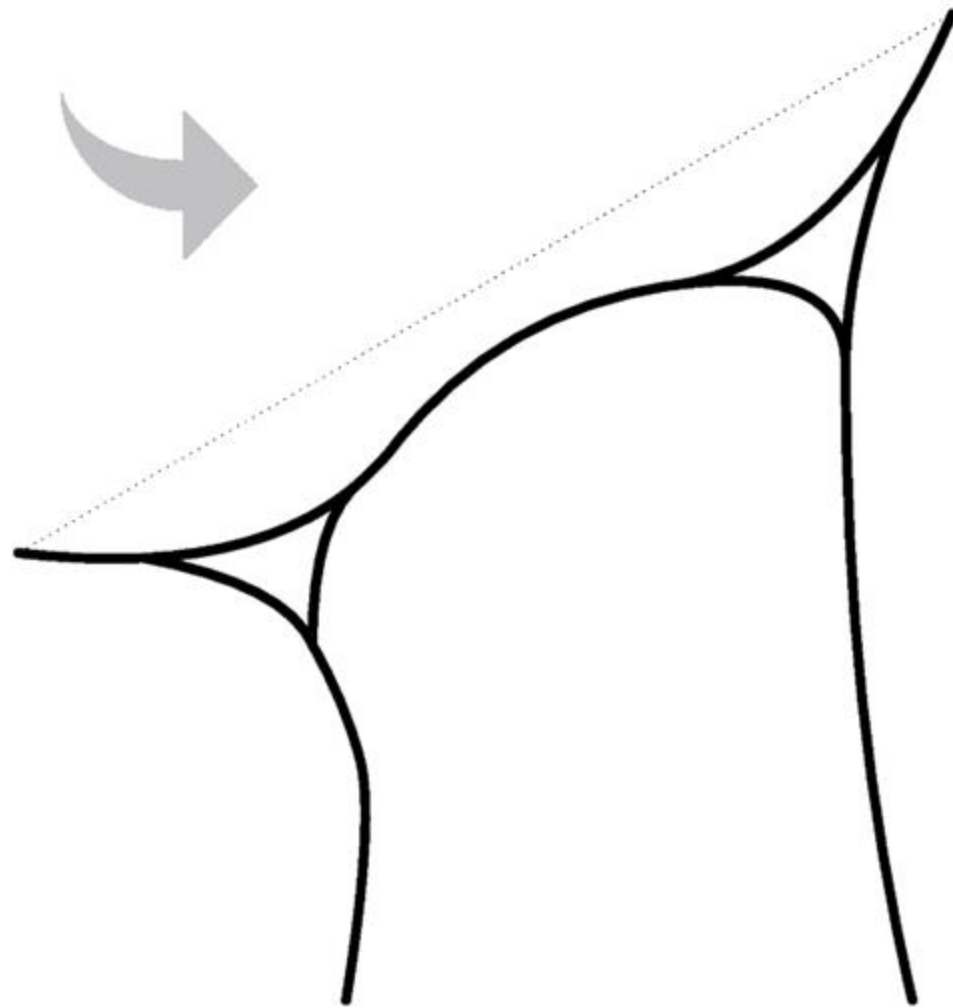




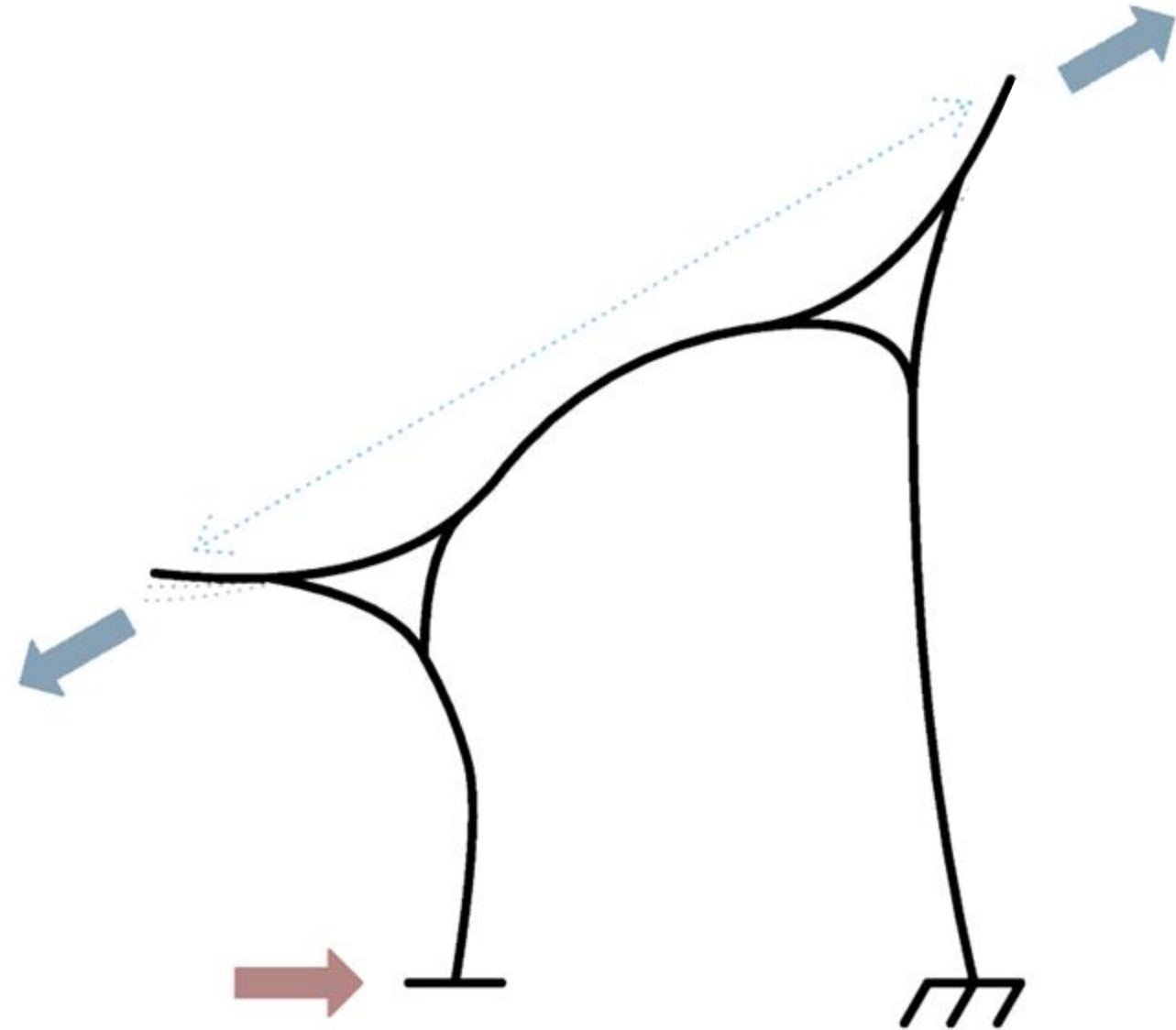
INSPIRATION BOW



LAYERING OF THIN METAL PLATES TO CREATE FLEXIBILITY AND STIFFNESS

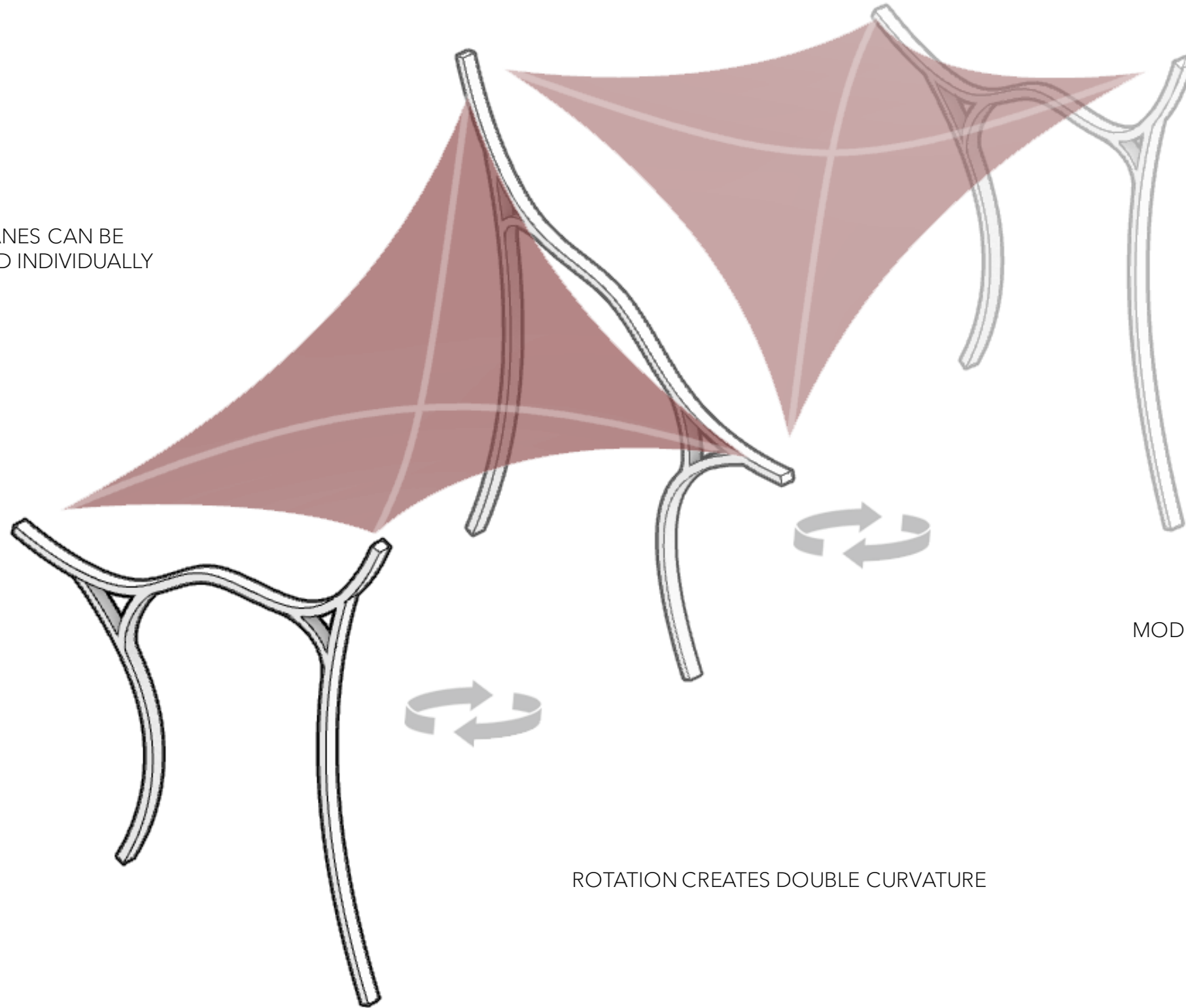


TREELIKE SUPPORT FEET ADJUSTABLE IN HEIGHT



PRESSURE APPLICATION ADJUSTABLE WITH THREADED ROD  
BOW EXPANDS AND TENSIONS THE MEMBRANE

MEMBRANES CAN BE EXCHANGED INDIVIDUALLY



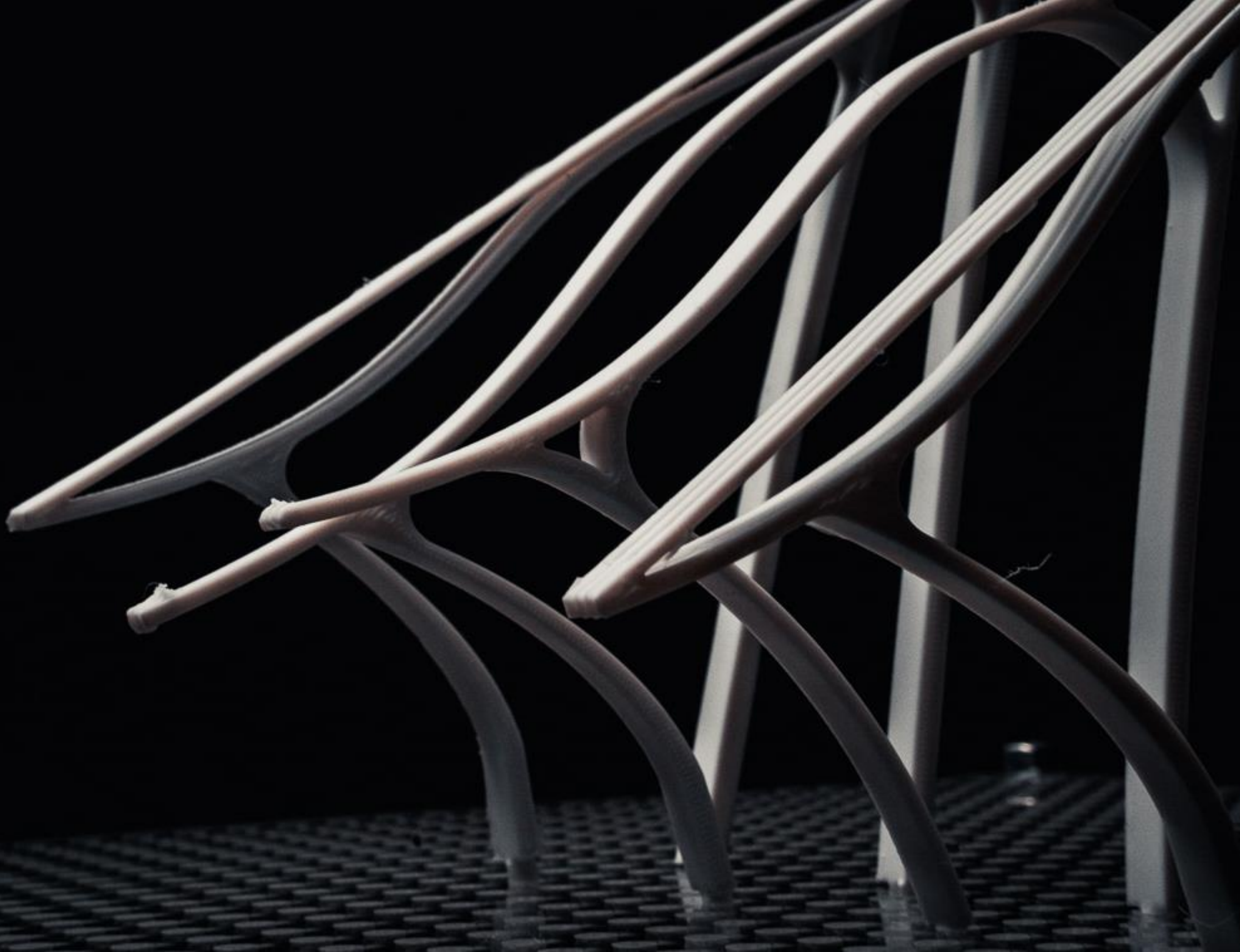
MODULAR EXPANSION OF THE STRUCTURE

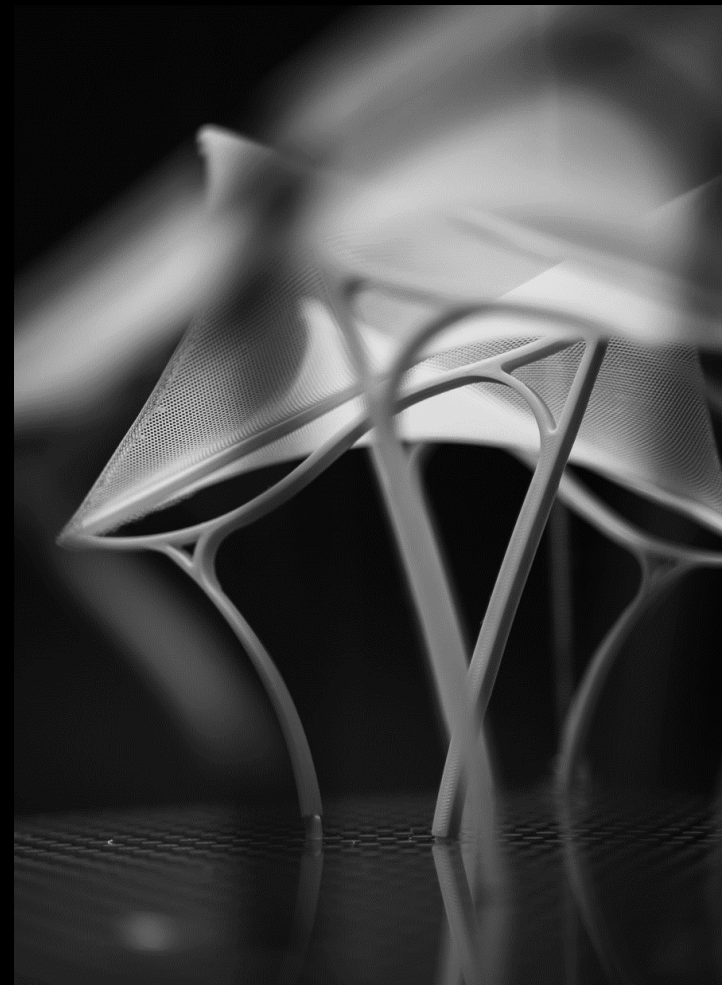
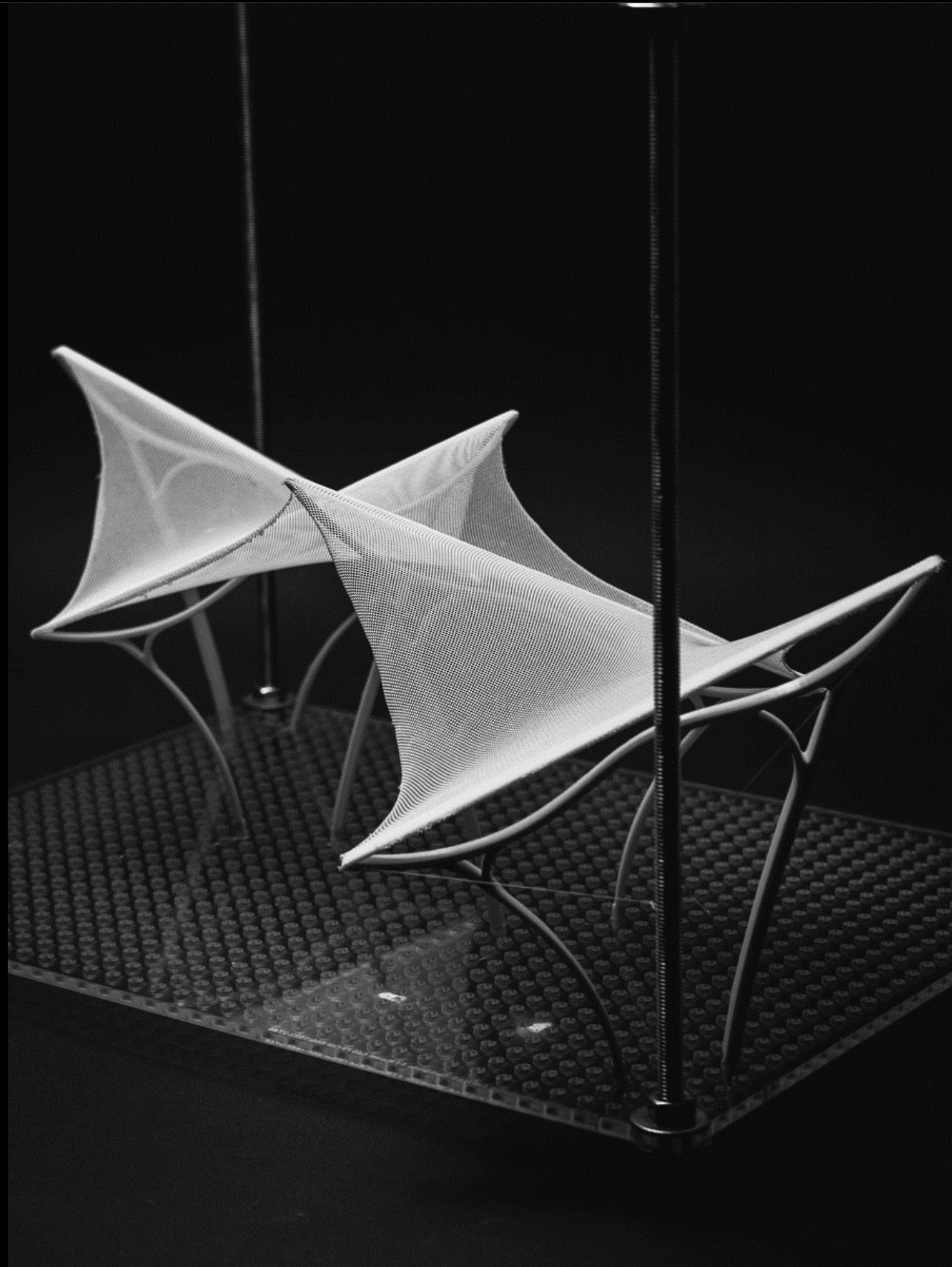
ROTATION CREATES DOUBLE CURVATURE

CAGEMODEL | FORMFINDING



CAGEMODEL | FORMFINDING





FORM STUDIES | KOMOREBI 木漏れ日



FORM STUDIES | KOMOREBI 木漏れ日



CONSTRUCTION | KOMOREBI 木漏れ日

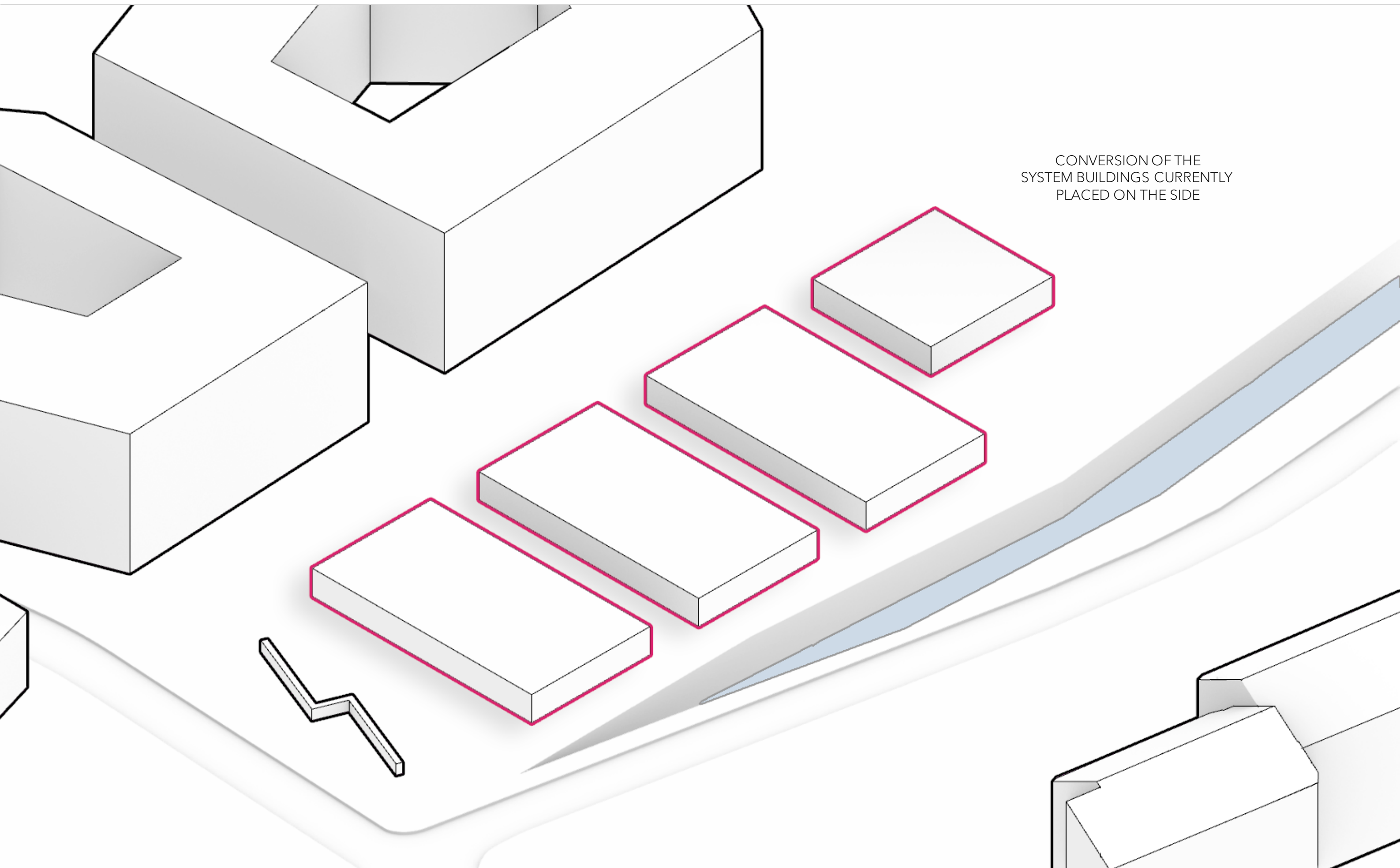




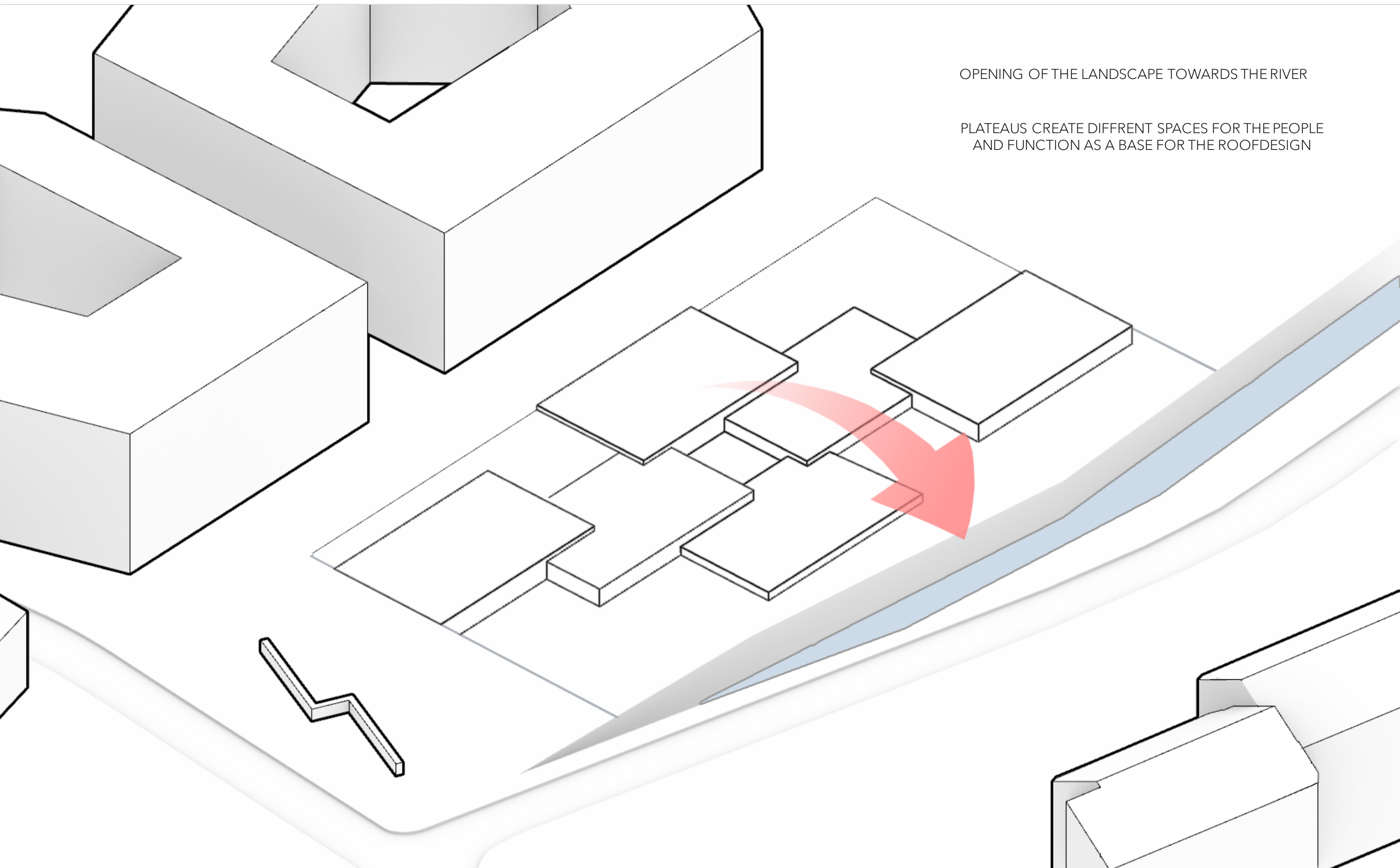


THE LANDSCAPE | KOMOREBI 木漏れ日



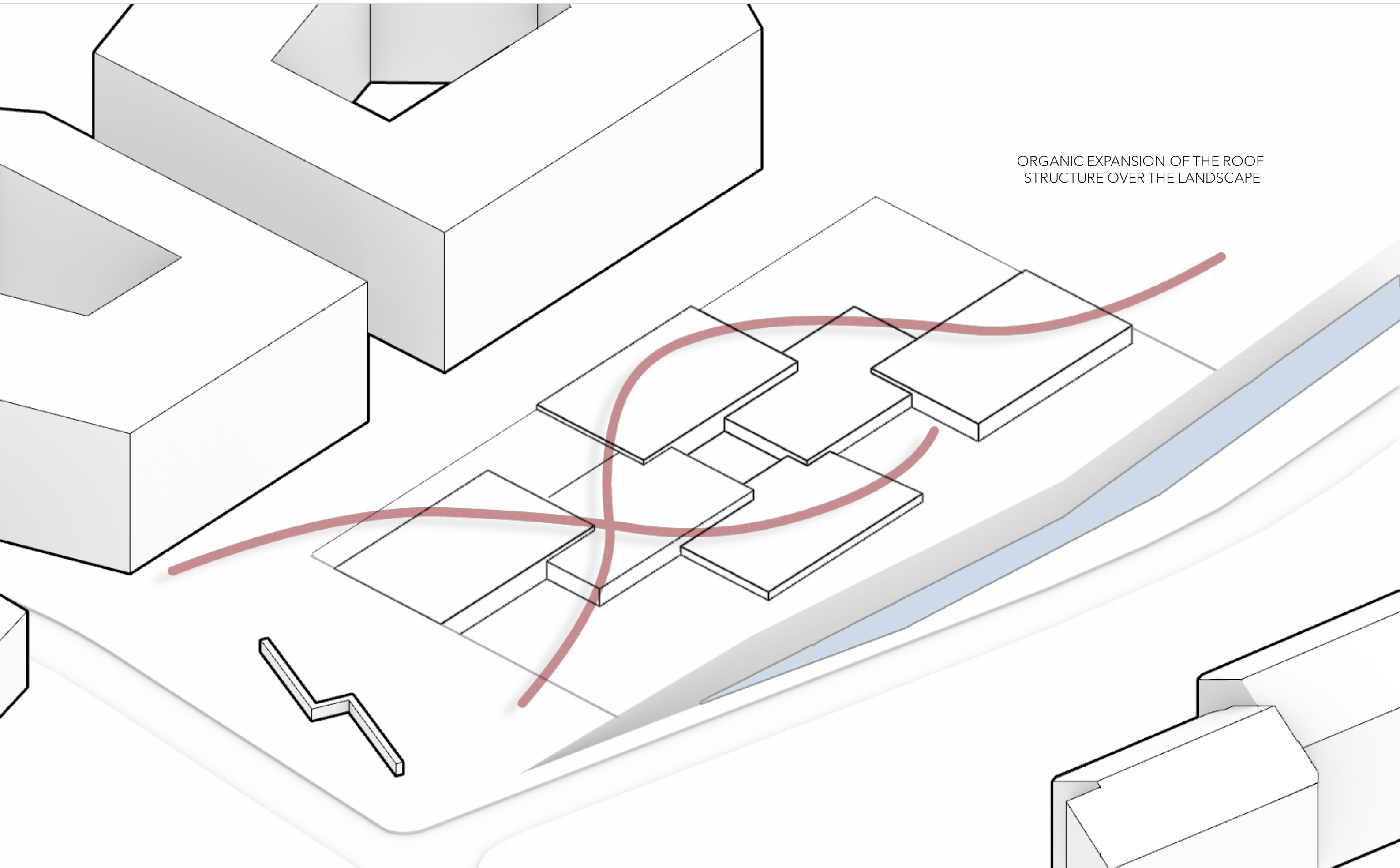


CONVERSION OF THE  
SYSTEM BUILDINGS CURRENTLY  
PLACED ON THE SIDE

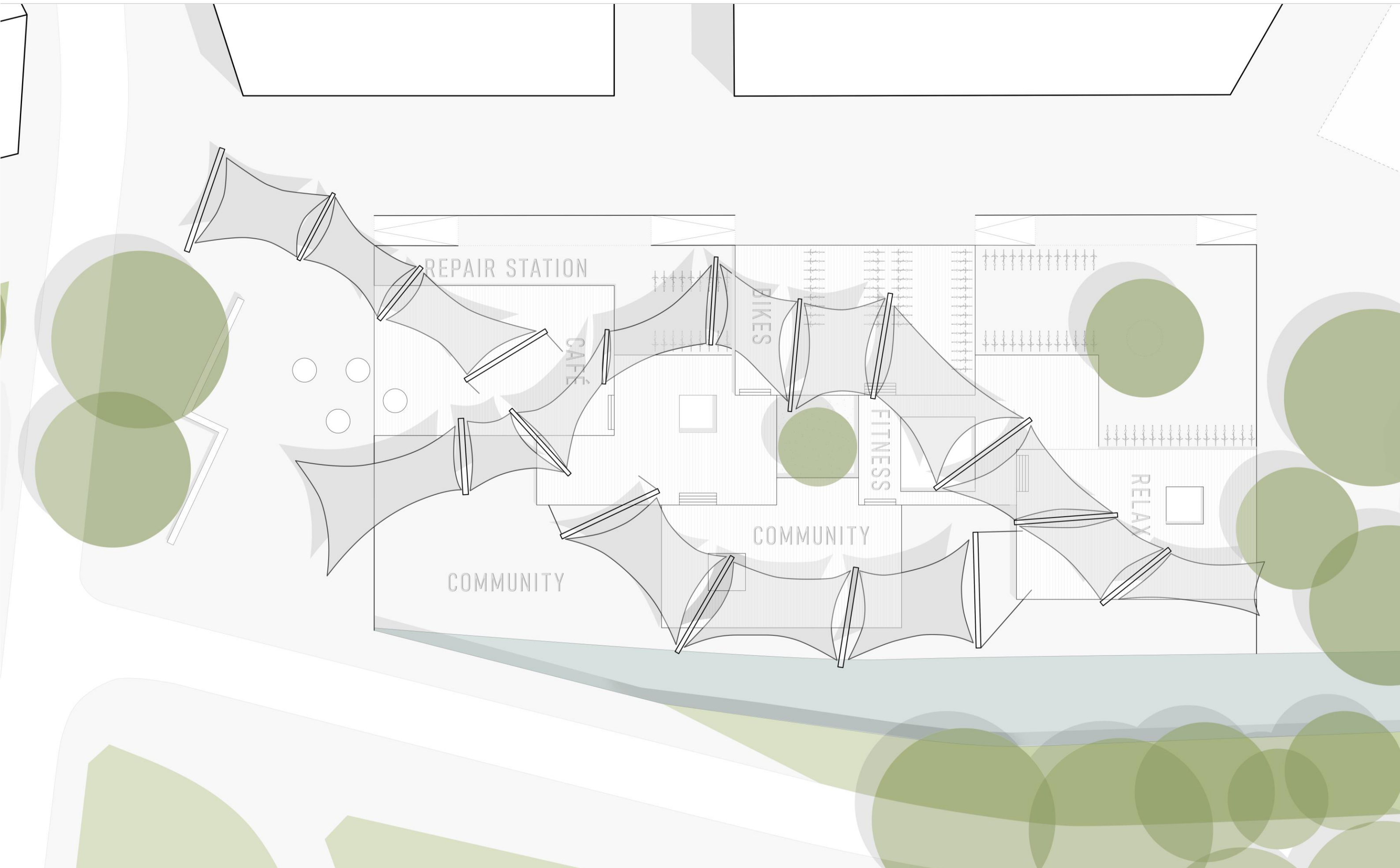


OPENING OF THE LANDSCAPE TOWARDS THE RIVER

PLATEAUS CREATE DIFFRENT SPACES FOR THE PEOPLE  
AND FUNCTION AS A BASE FOR THE ROOFDESIGN

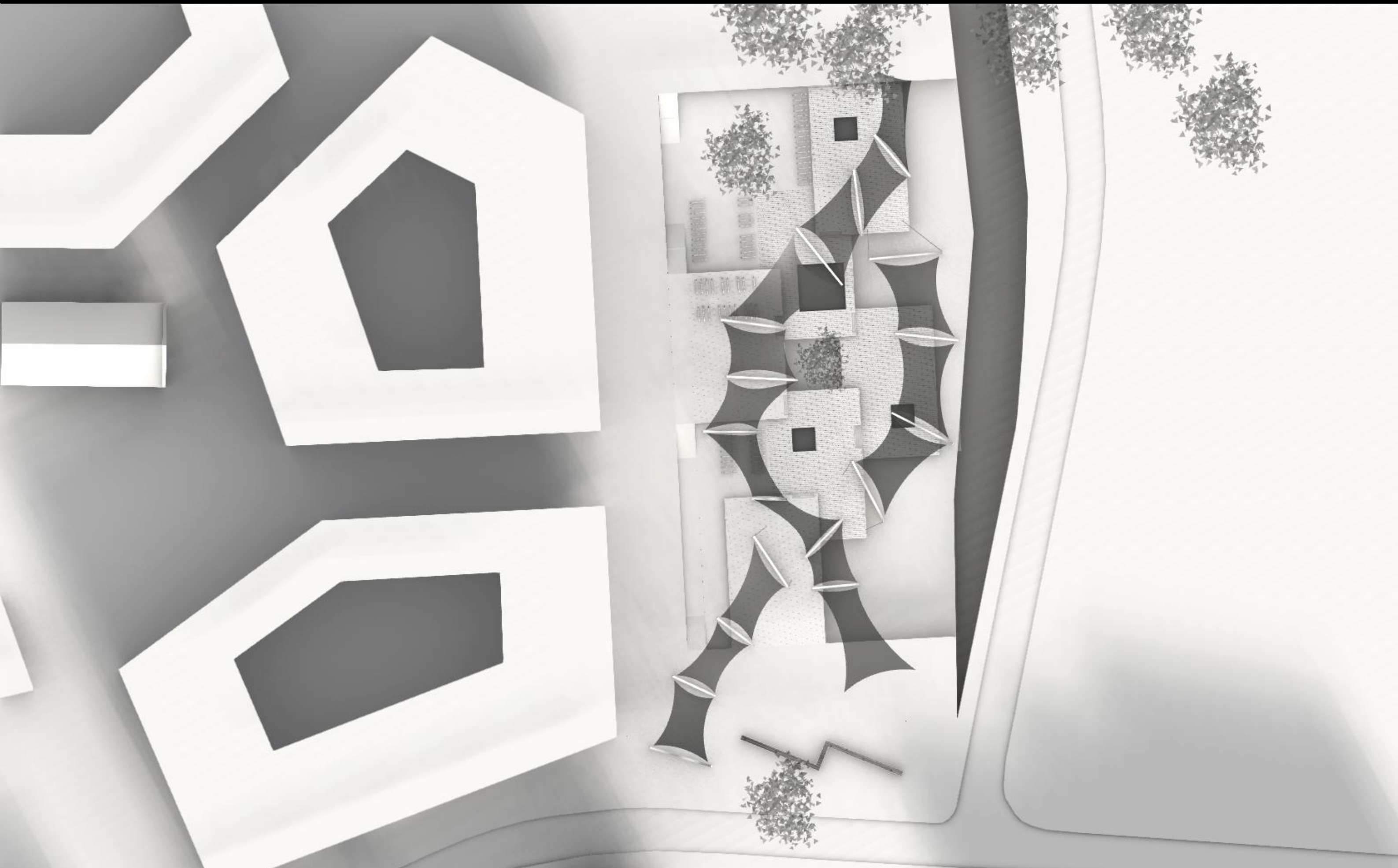


ORGANIC EXPANSION OF THE ROOF  
STRUCTURE OVER THE LANDSCAPE



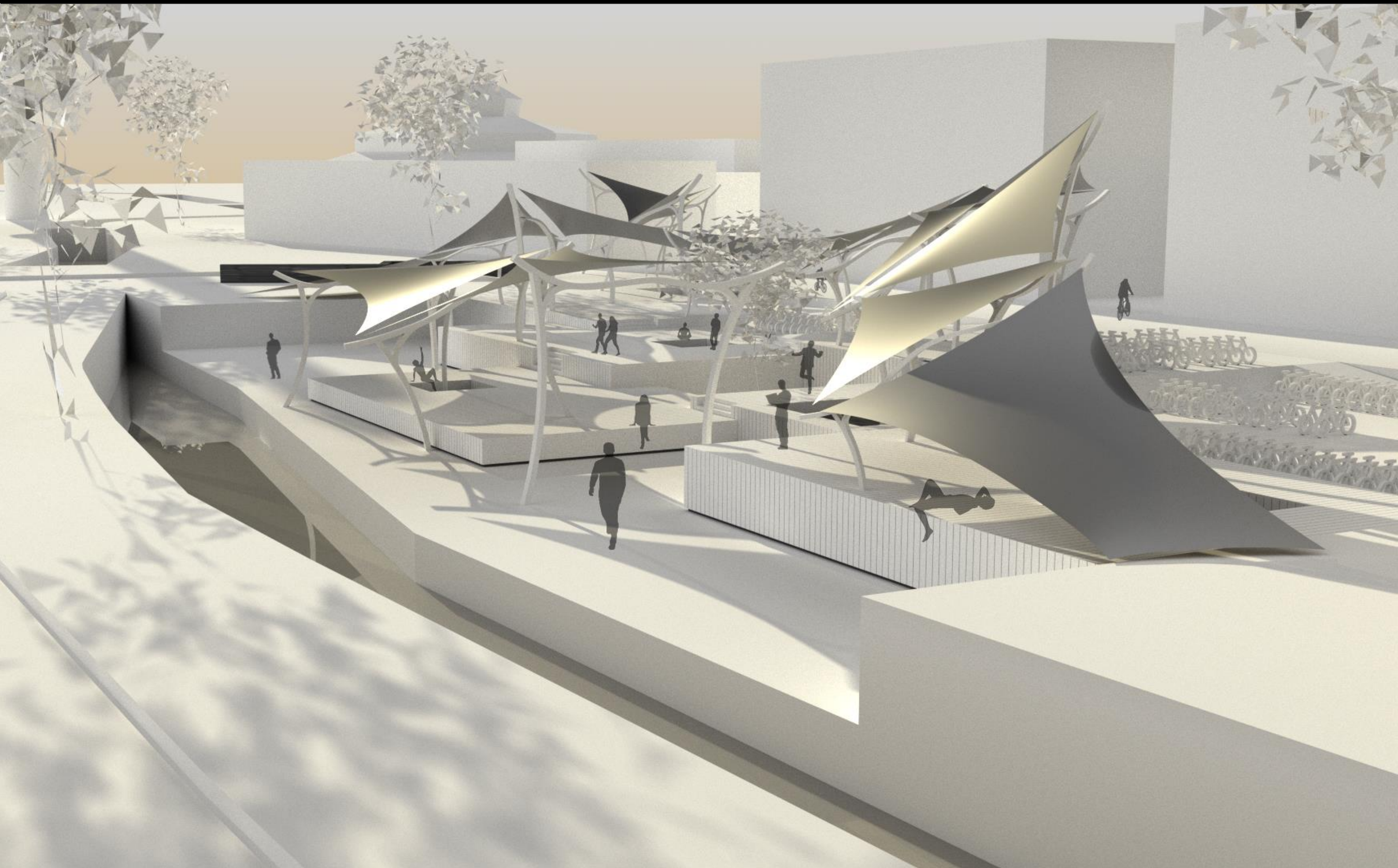
THE DESIGN | KOMOREBI 木漏れ日







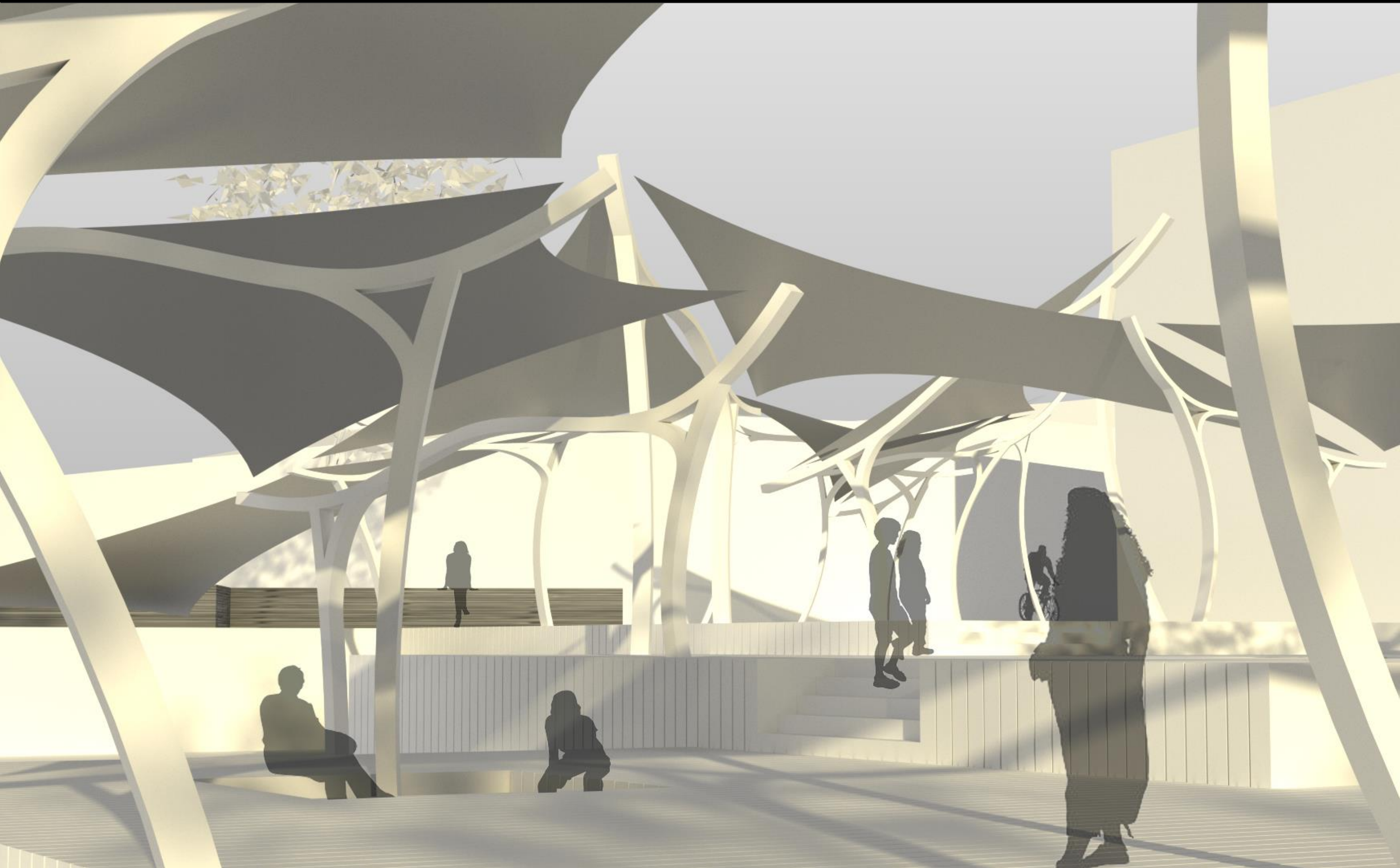


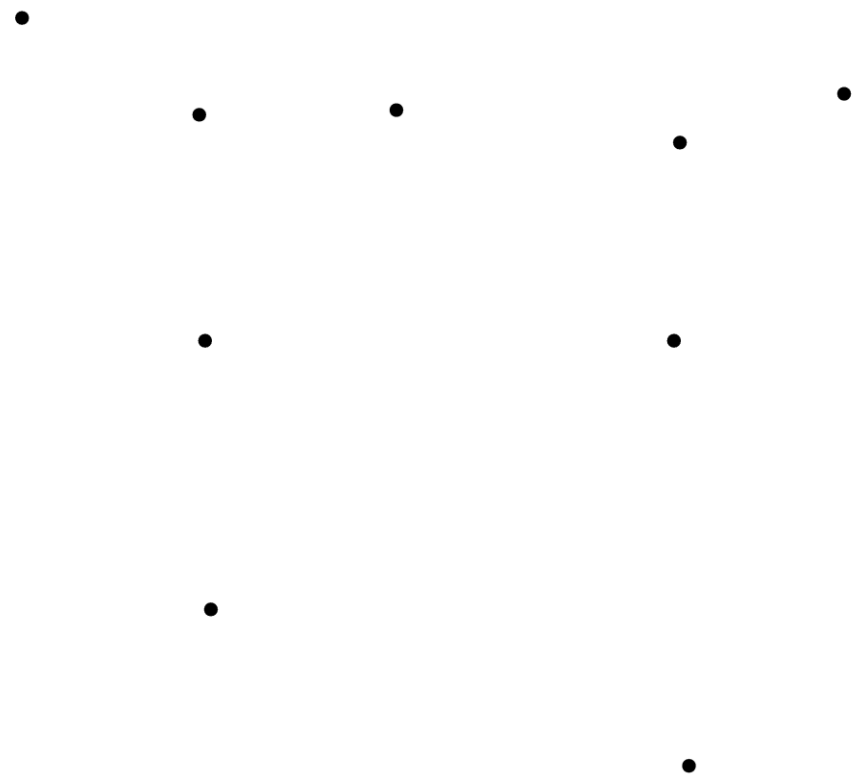




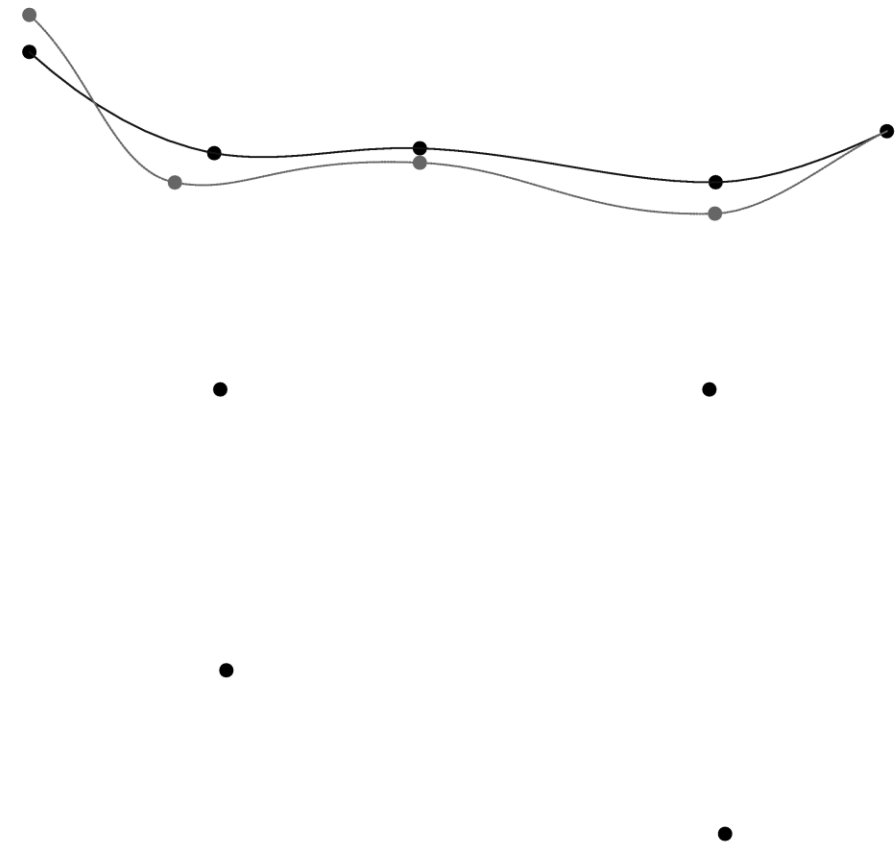




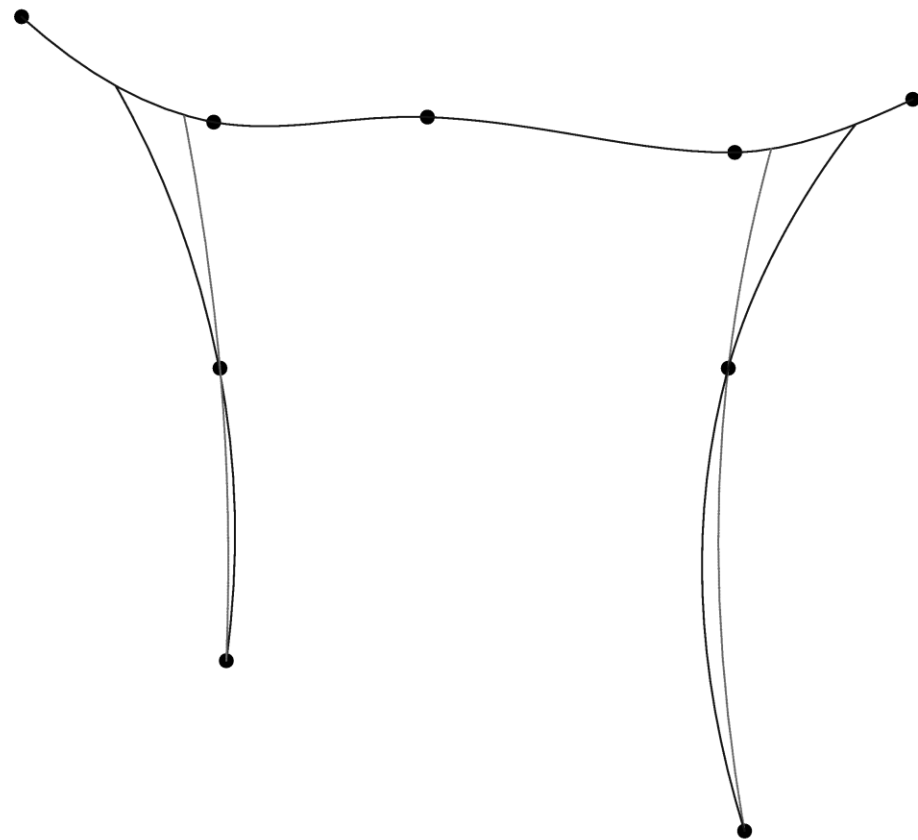




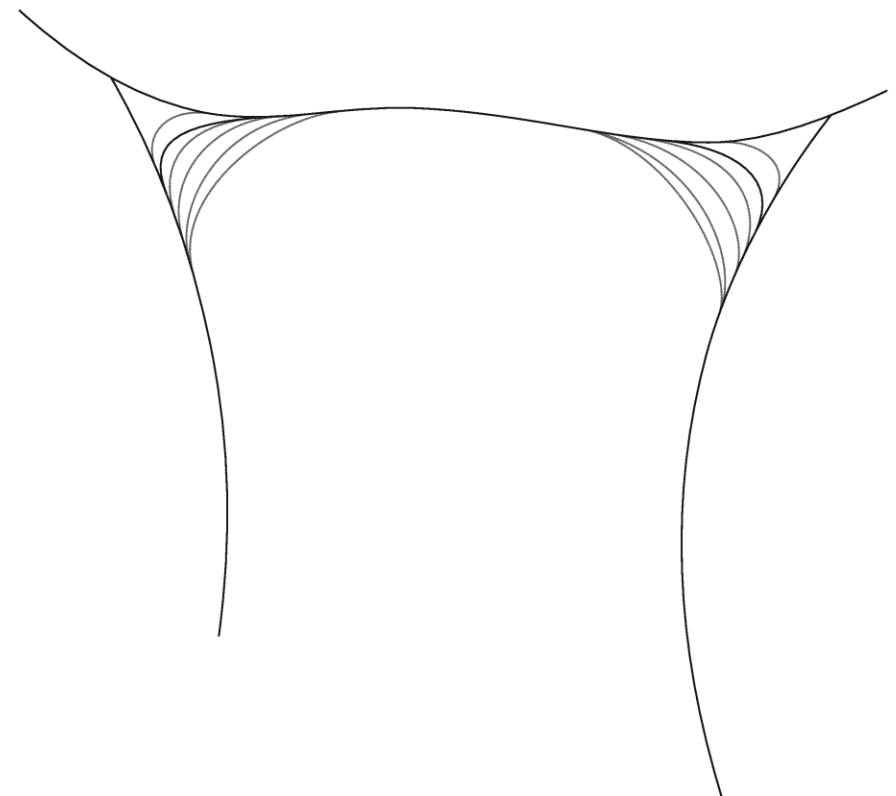
STEP 1 CUSTOMIZABLE POINTS CREATE THE BASE FOR OUR PARAMETRIC BOWS



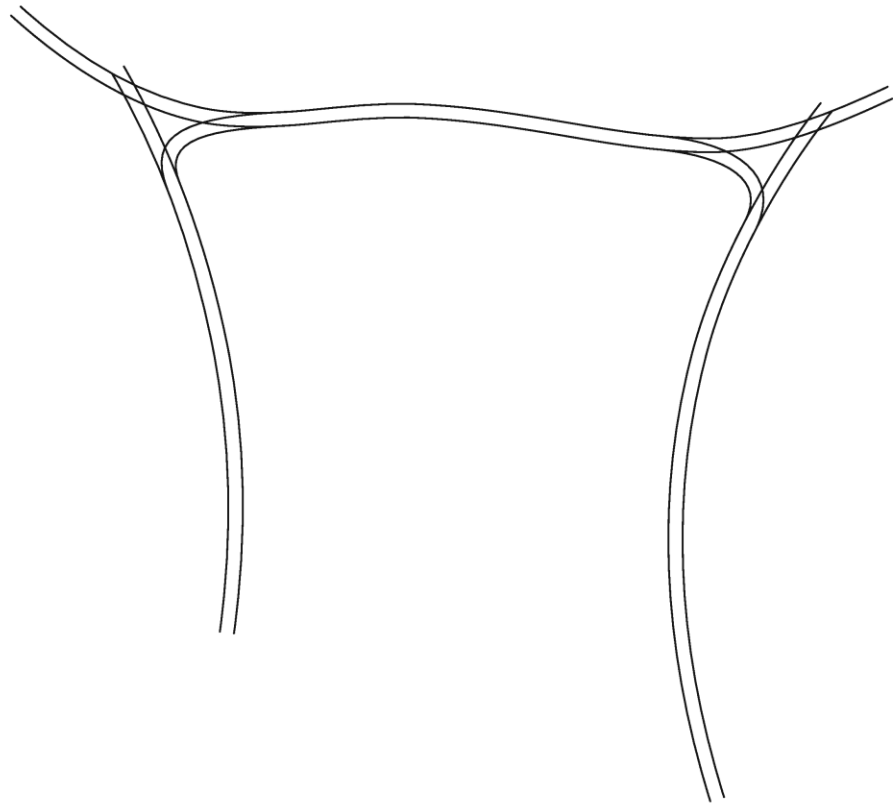
STEP 2 INTERPOLATING CURVES GO THROUGH THE TOP POINTS



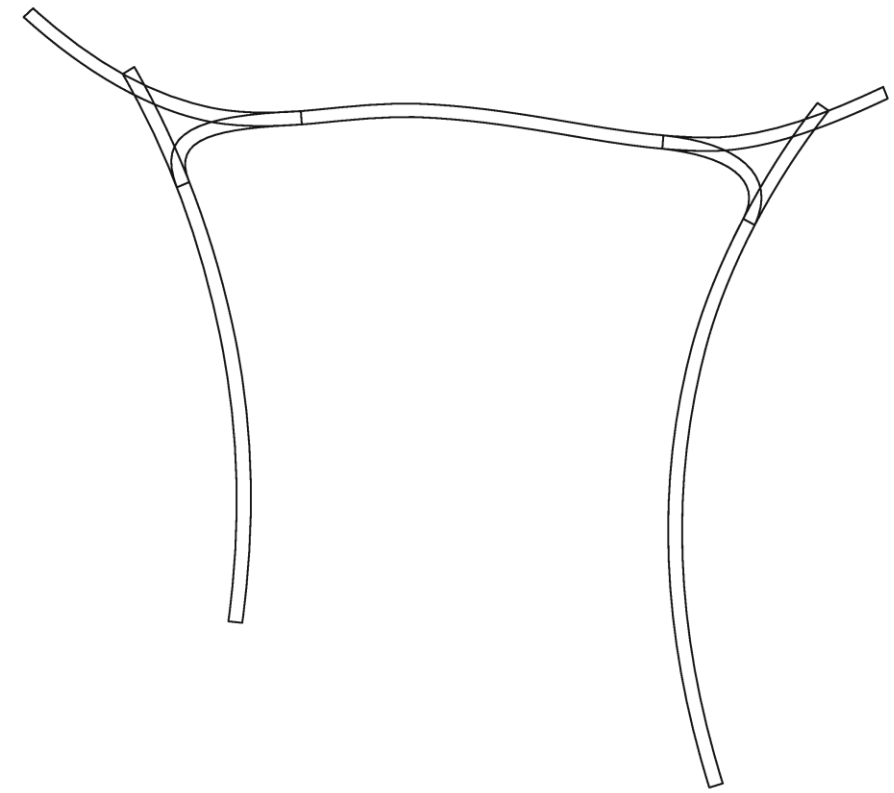
STEP 3 THREE-POINT ARCS ARE DEFINED BY USING THE EXISTING POINTS AND A CUSTOMIZABLE POINT ON THE ALREADY EXISTING CURVE



STEP 4 REINFORCED CORNERS ARE CREATED BY USING THE TANGENTS OF THE EXISTING LINES, THE LENGTH OF THE TANGENTS AND THE START AND END POINTS AT THE TWO INTERSECTING CURVES



STEP 5 ALL LINES ARE OFFSET BY A VARIABLE AMOUNT

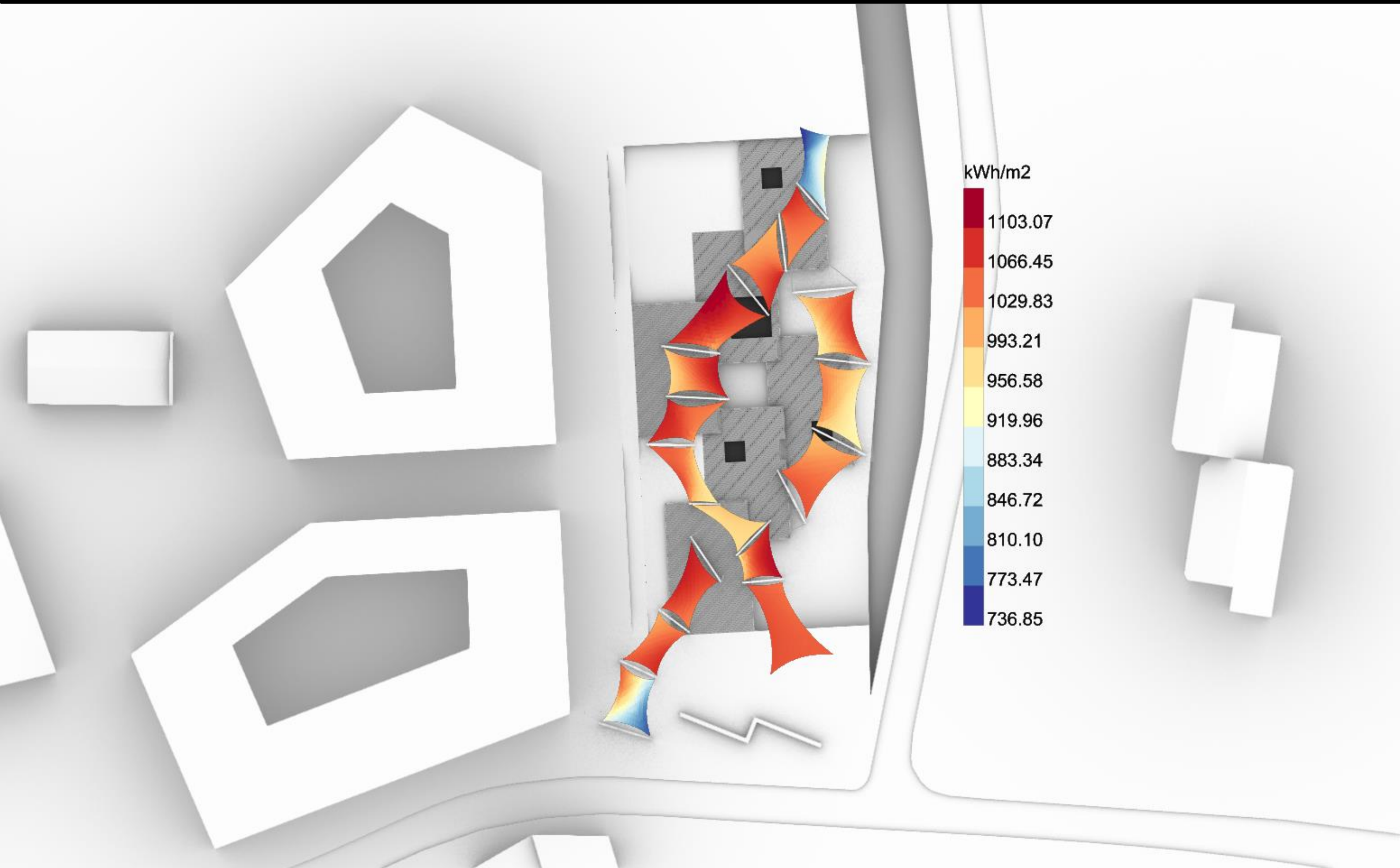


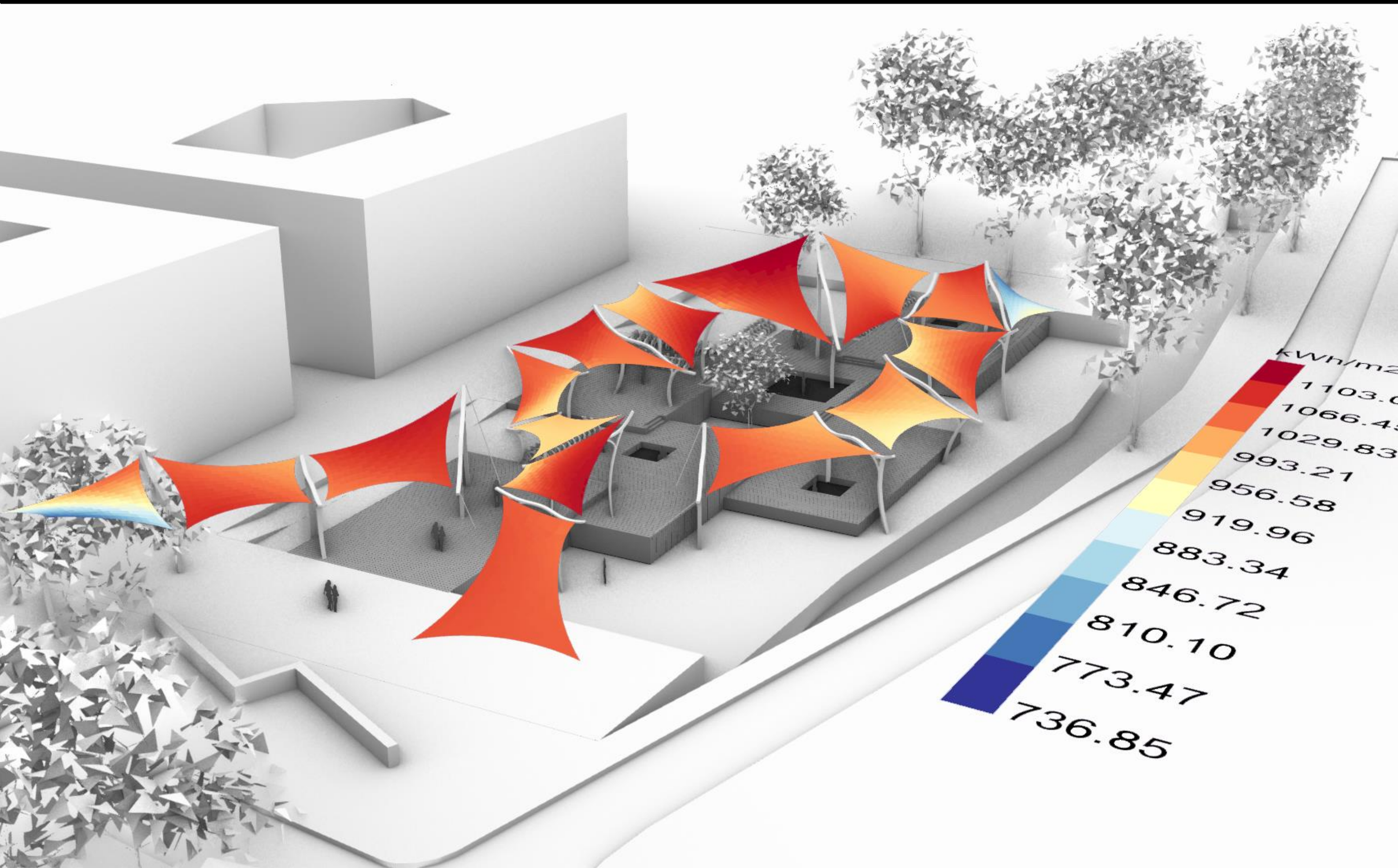
STEP 2 THE ORIGINAL LINES GET CONNECTED WITH THE NEW LINE TO CREATE ONE CLOSED POLYLINE

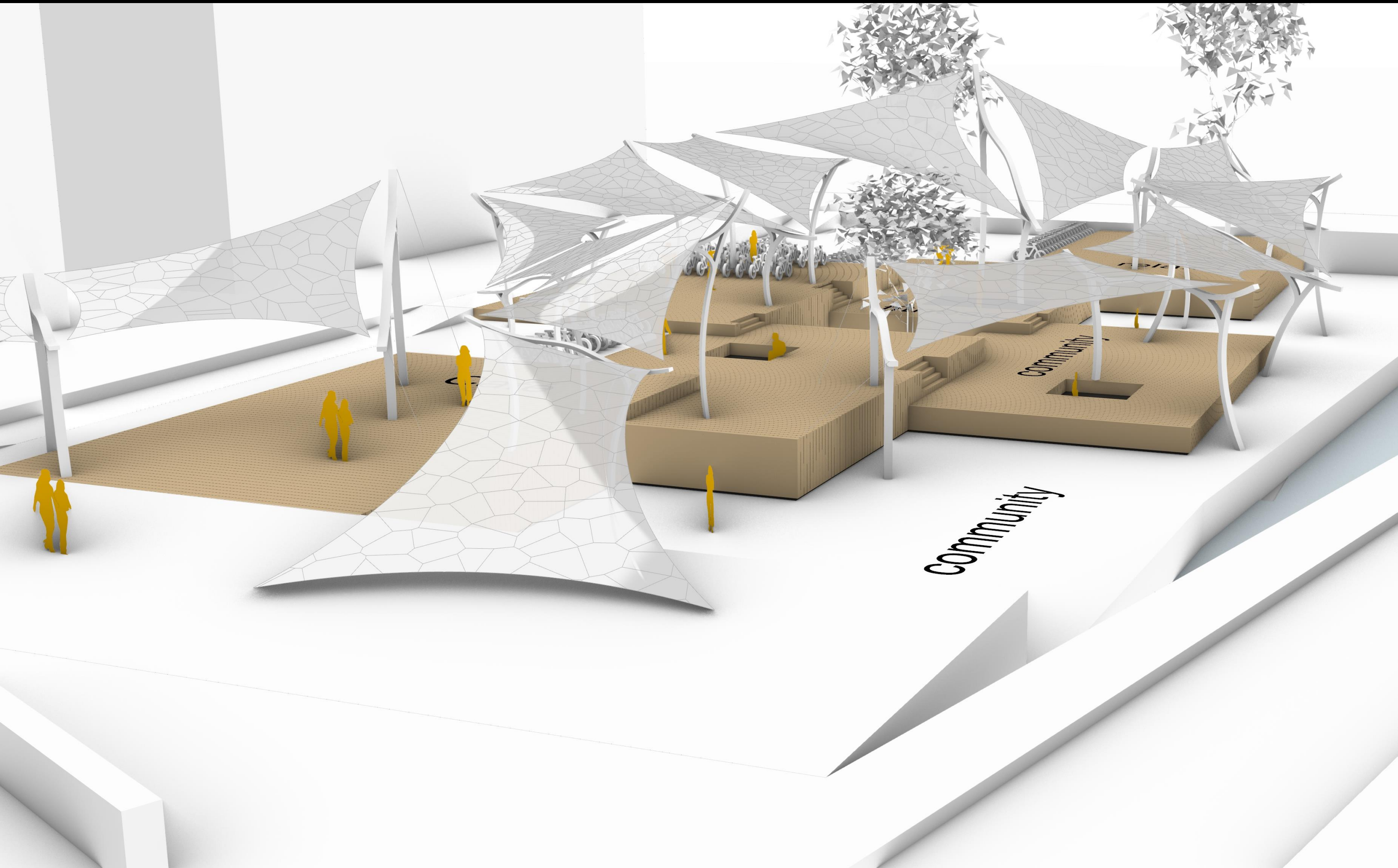


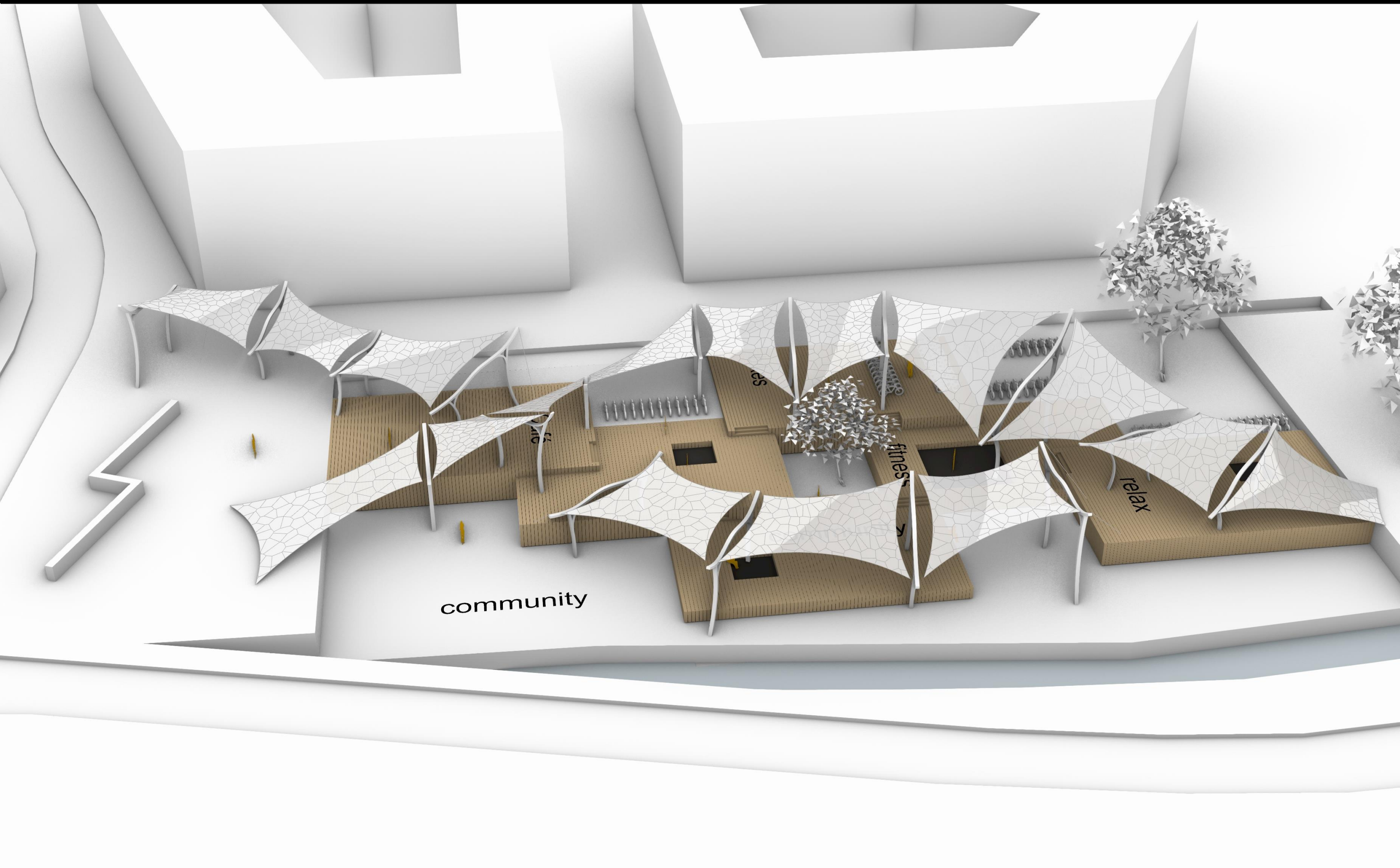
STEP 3 THE LINES GET EXTRUDED A VARIABLE AMOUNT AND OVERHANGS GET TRIMMED AWAY

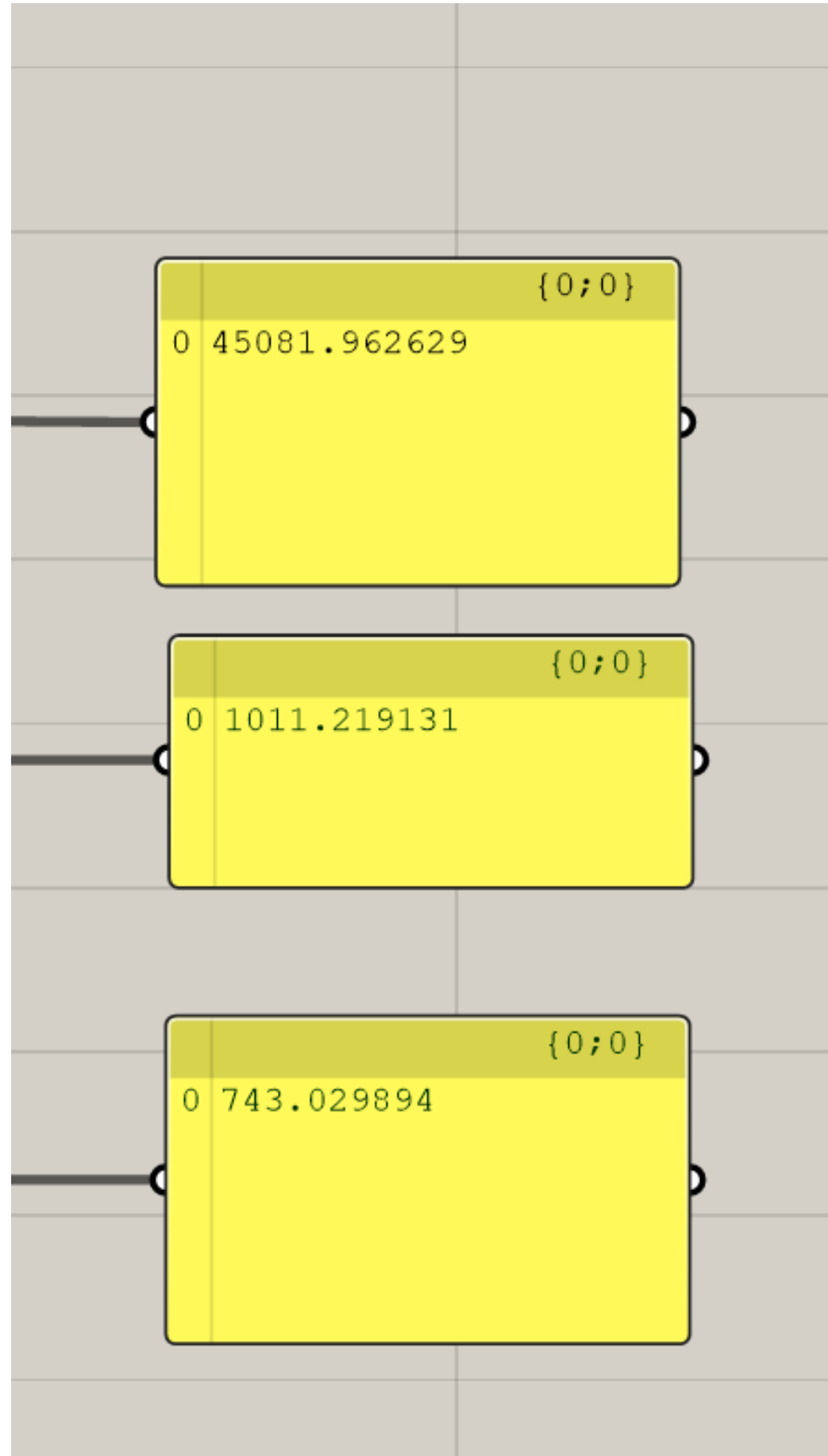








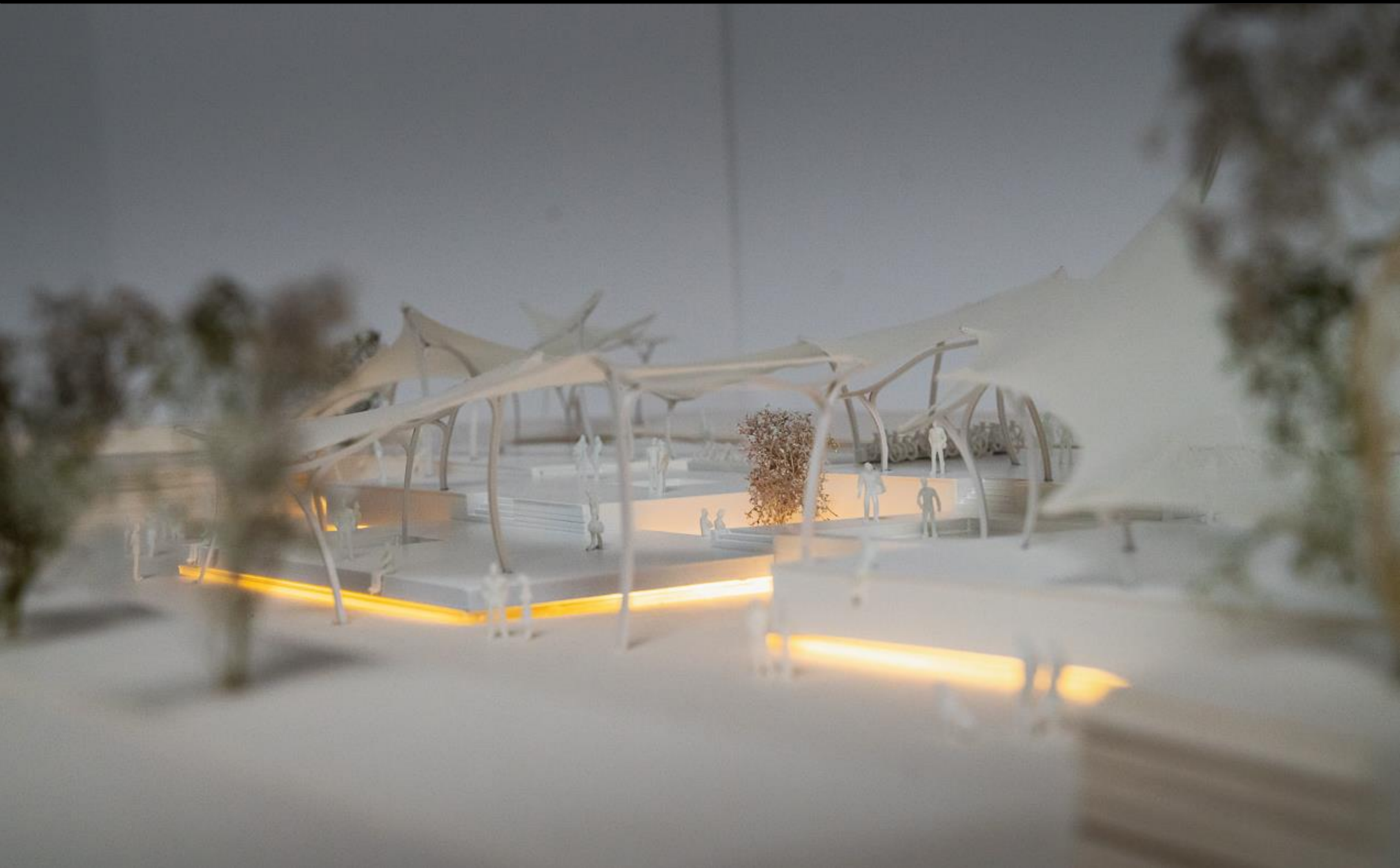




PRODUCED ENERGY IN ONE YEAR FROM THE OPV-CELLS WITH 6% EFFICIENCY (UNIT kWh)

RADIATION ENERGY PER SQUARE METER IN ONE YEAR (UNIT kWh/m<sup>2</sup>)

ROOF AREA (UNIT m<sup>2</sup>)













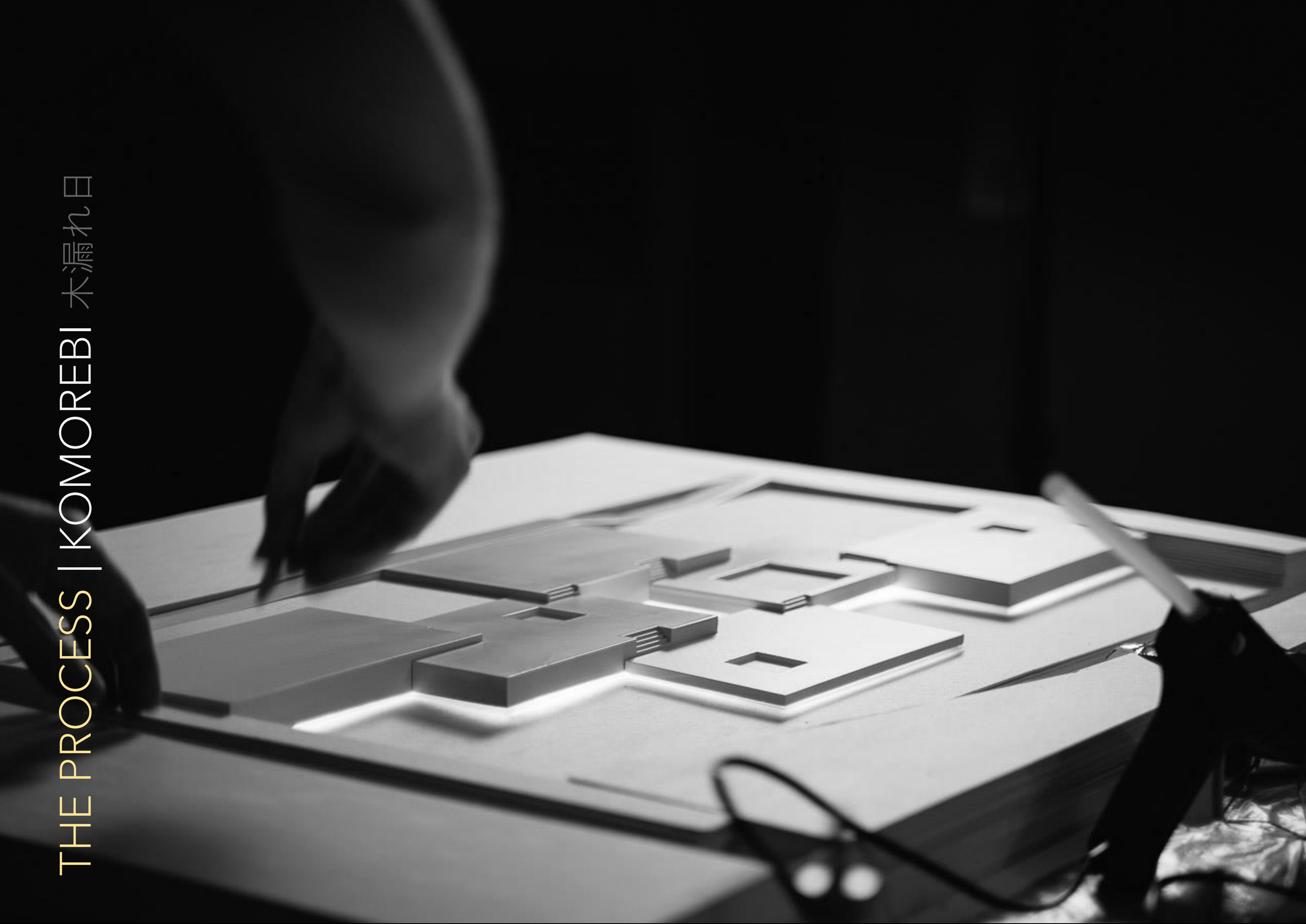




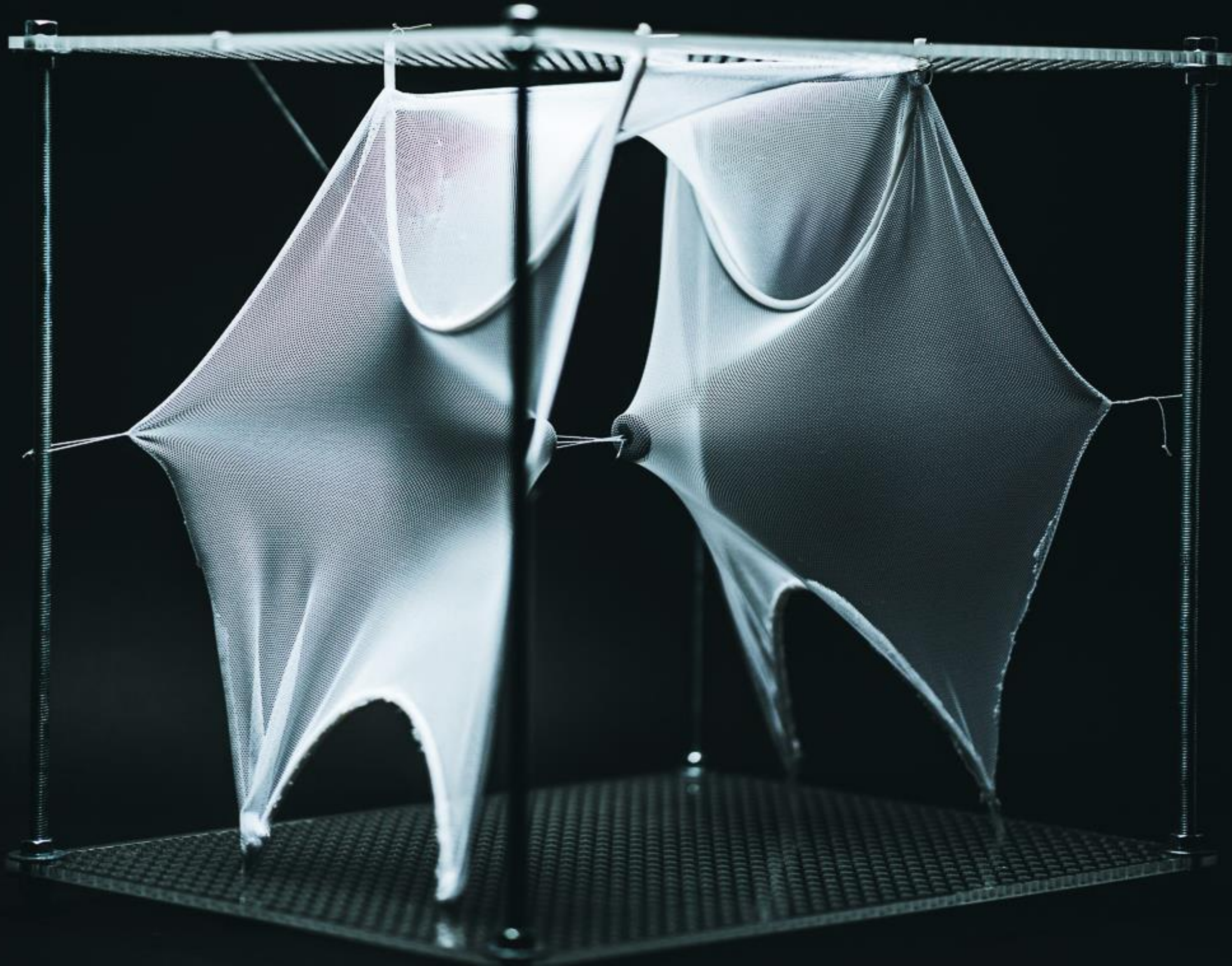




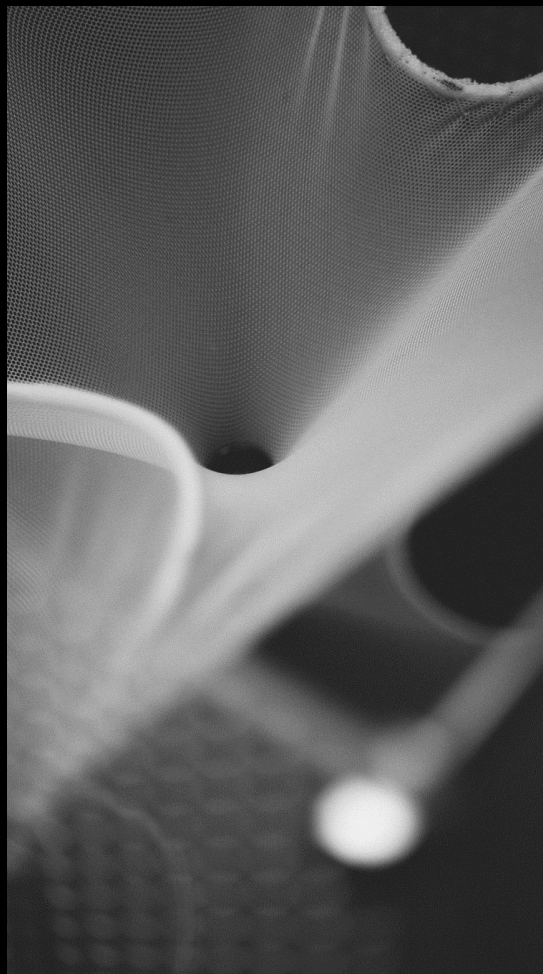
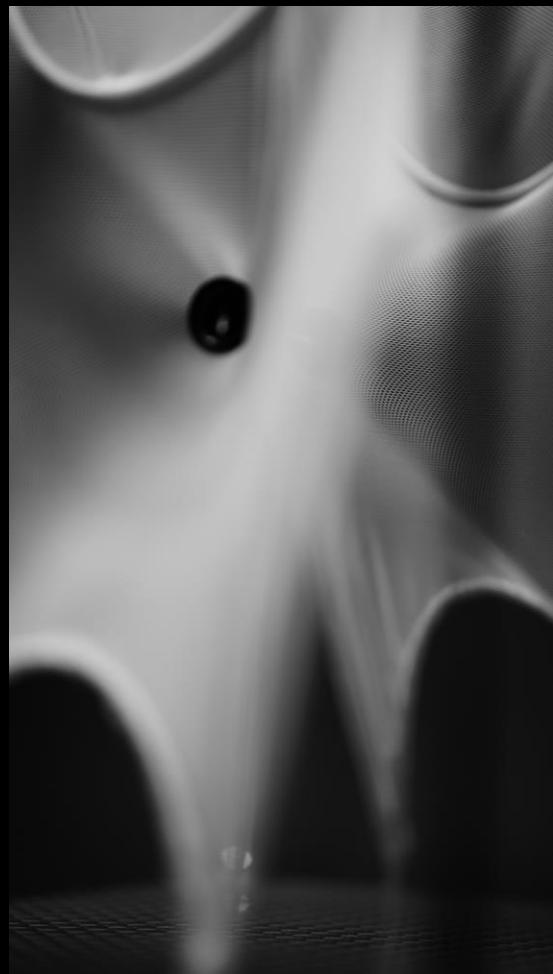
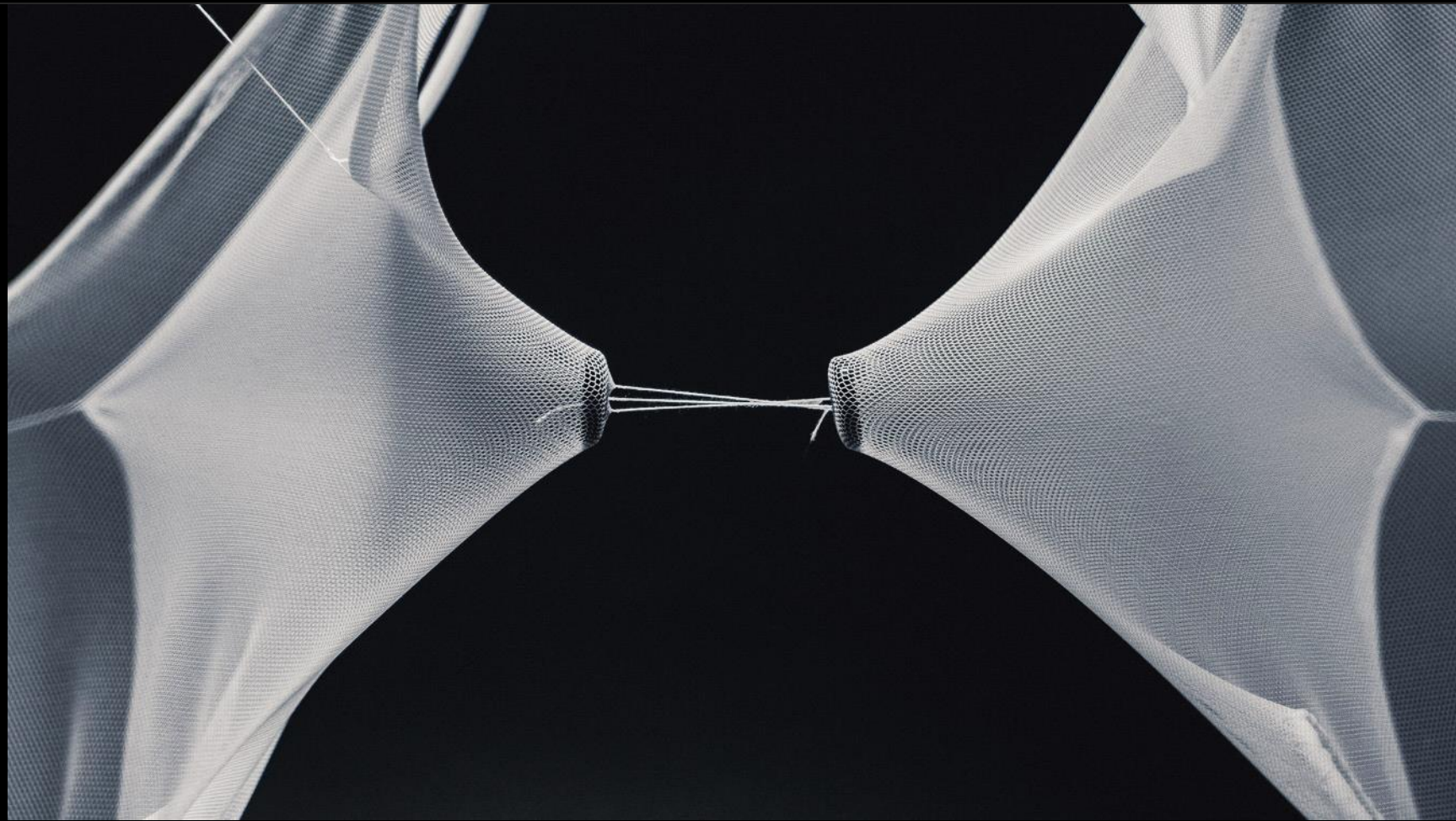
THE PROCESS | KOMOREBI 木漏れ日



CAGEMODEL 1 | FORM STUDIES

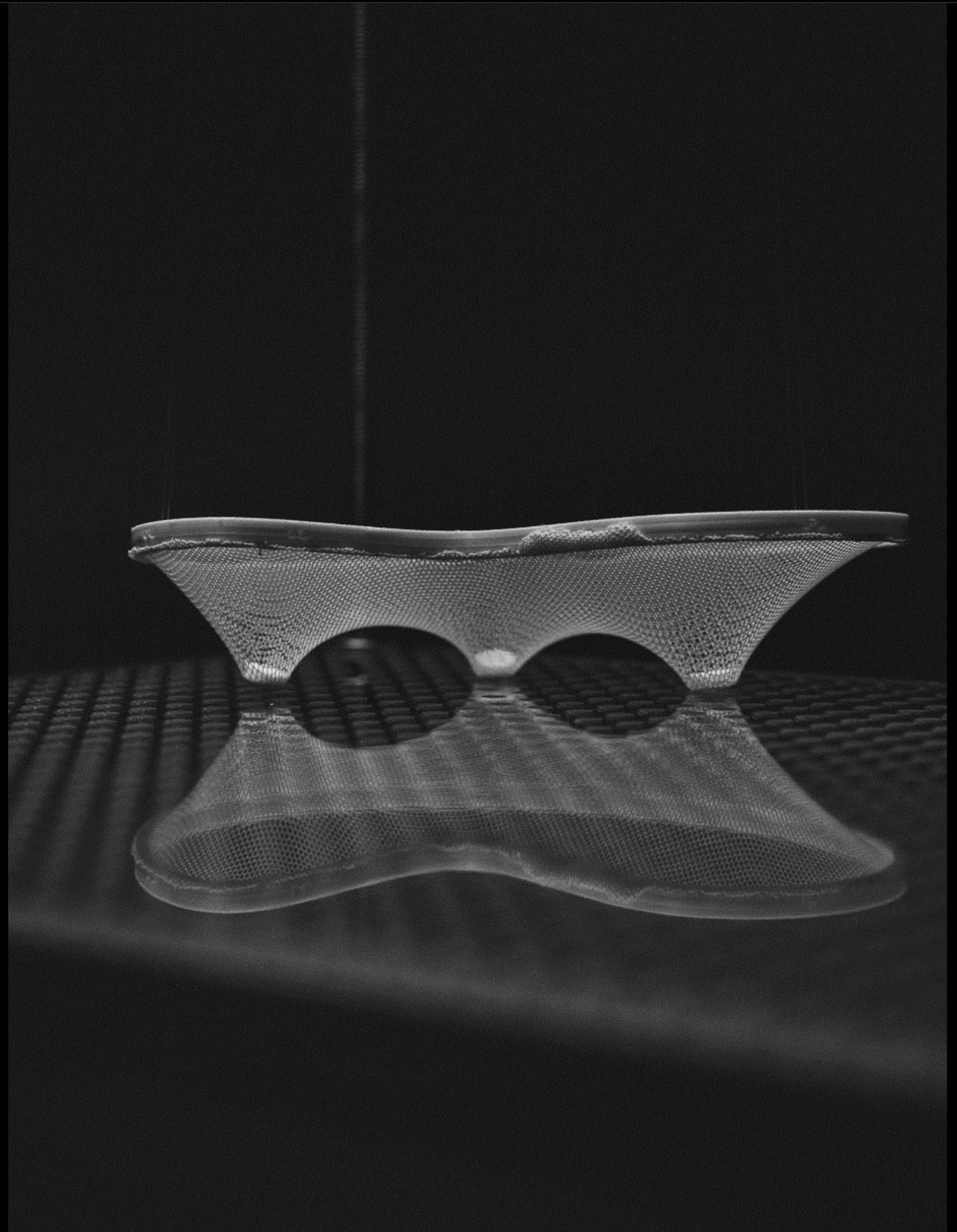
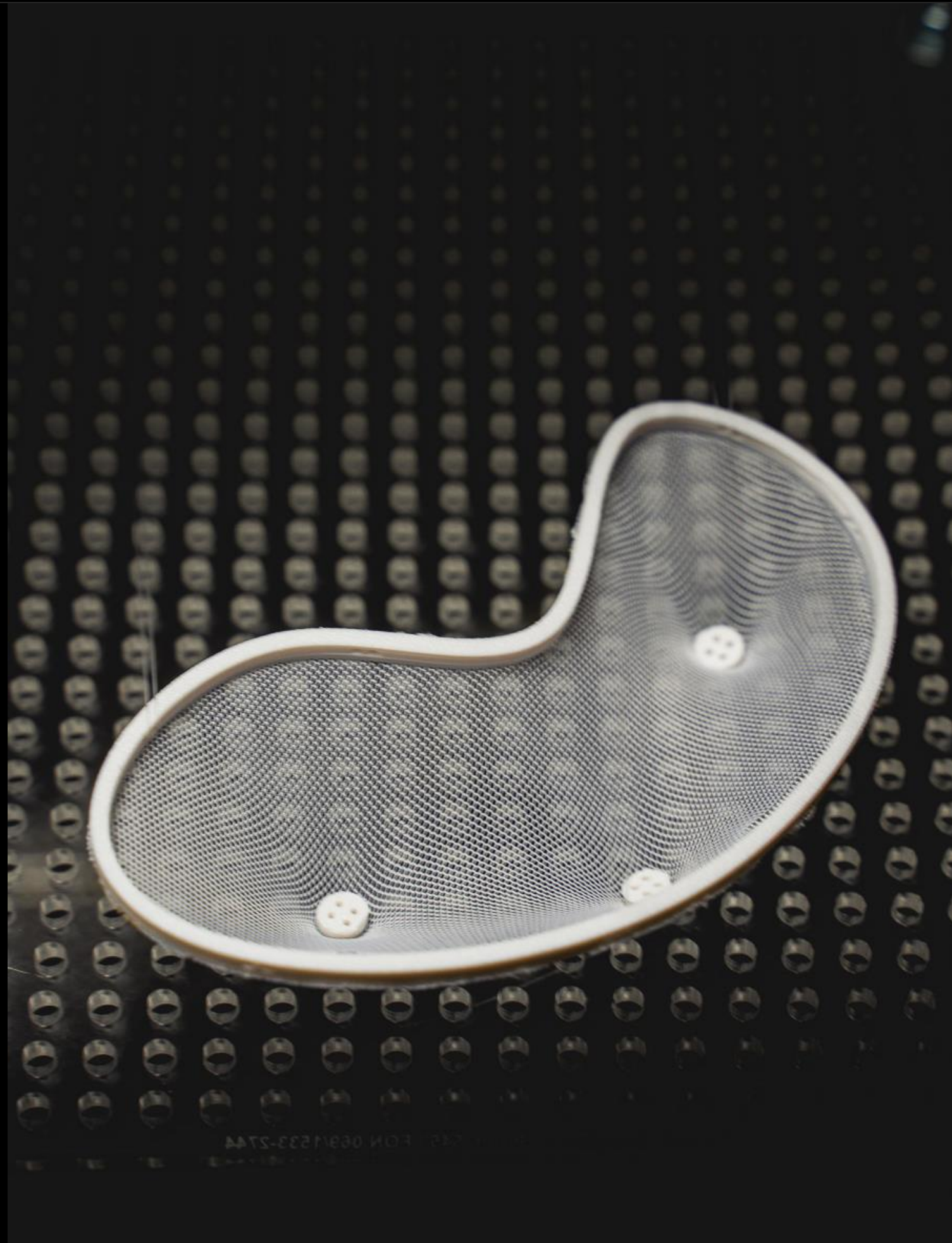




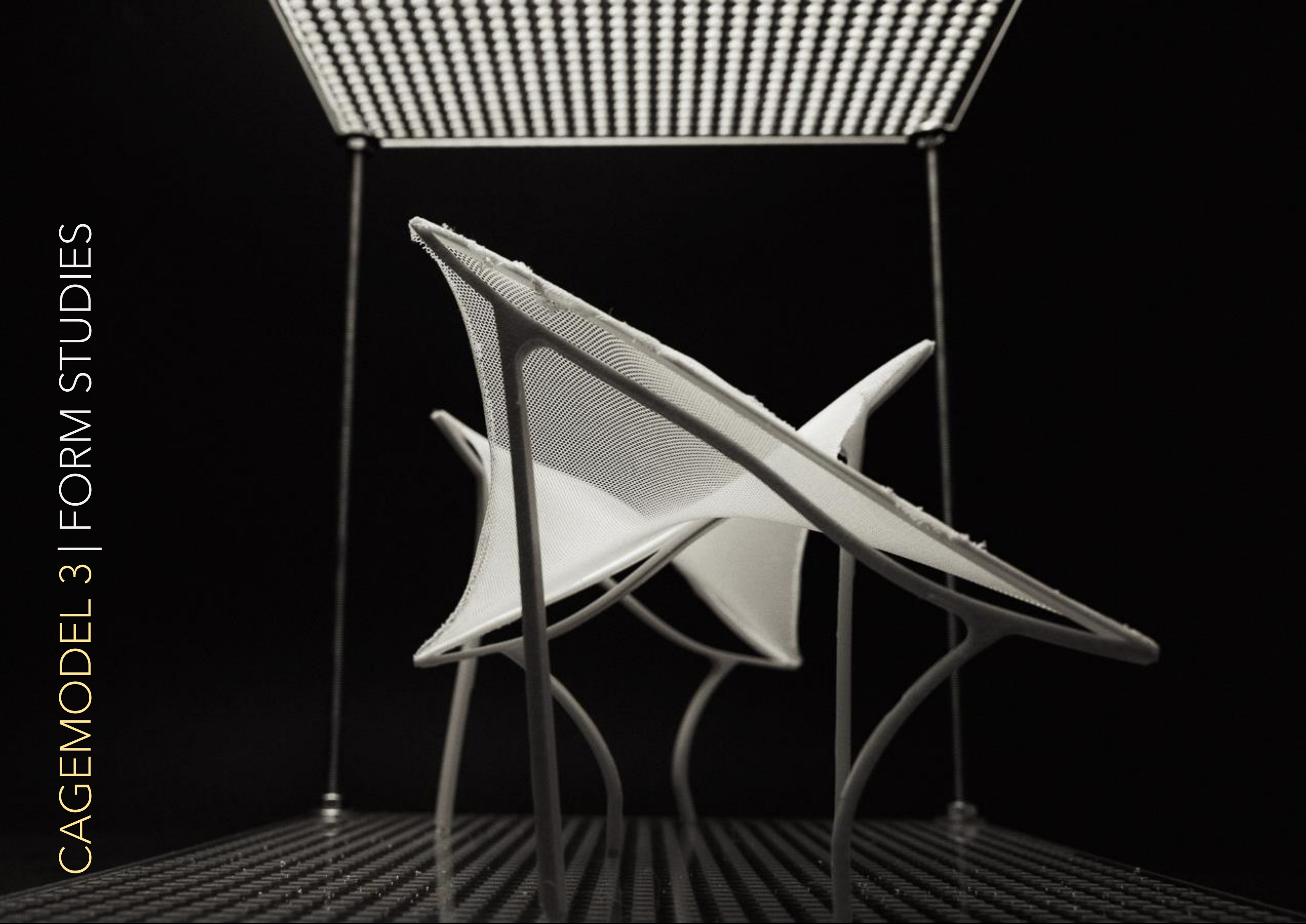


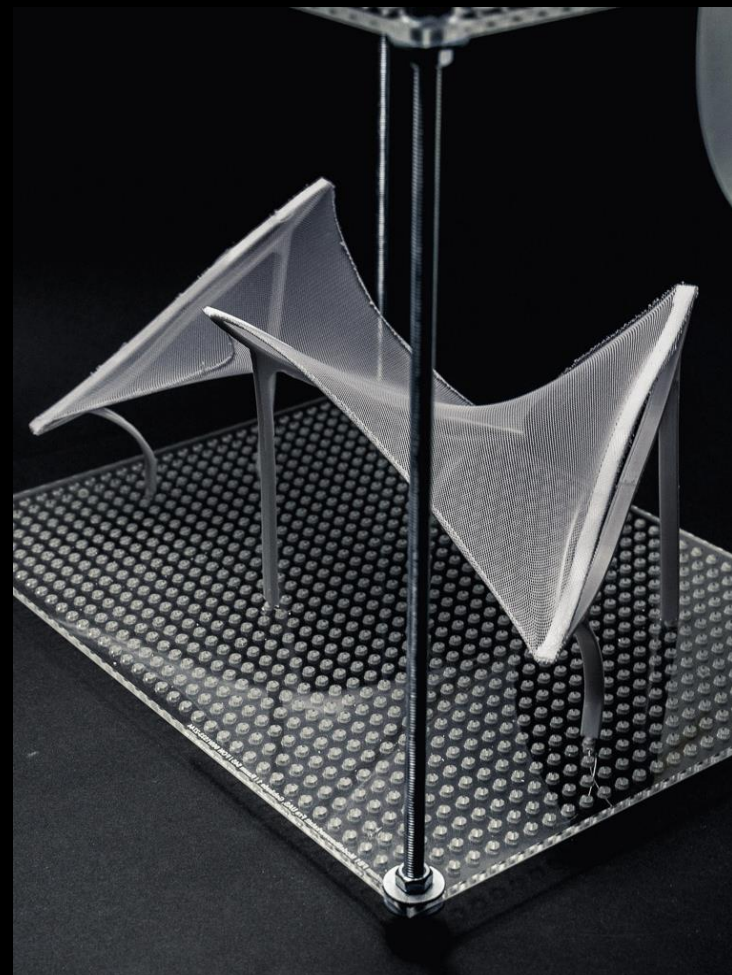
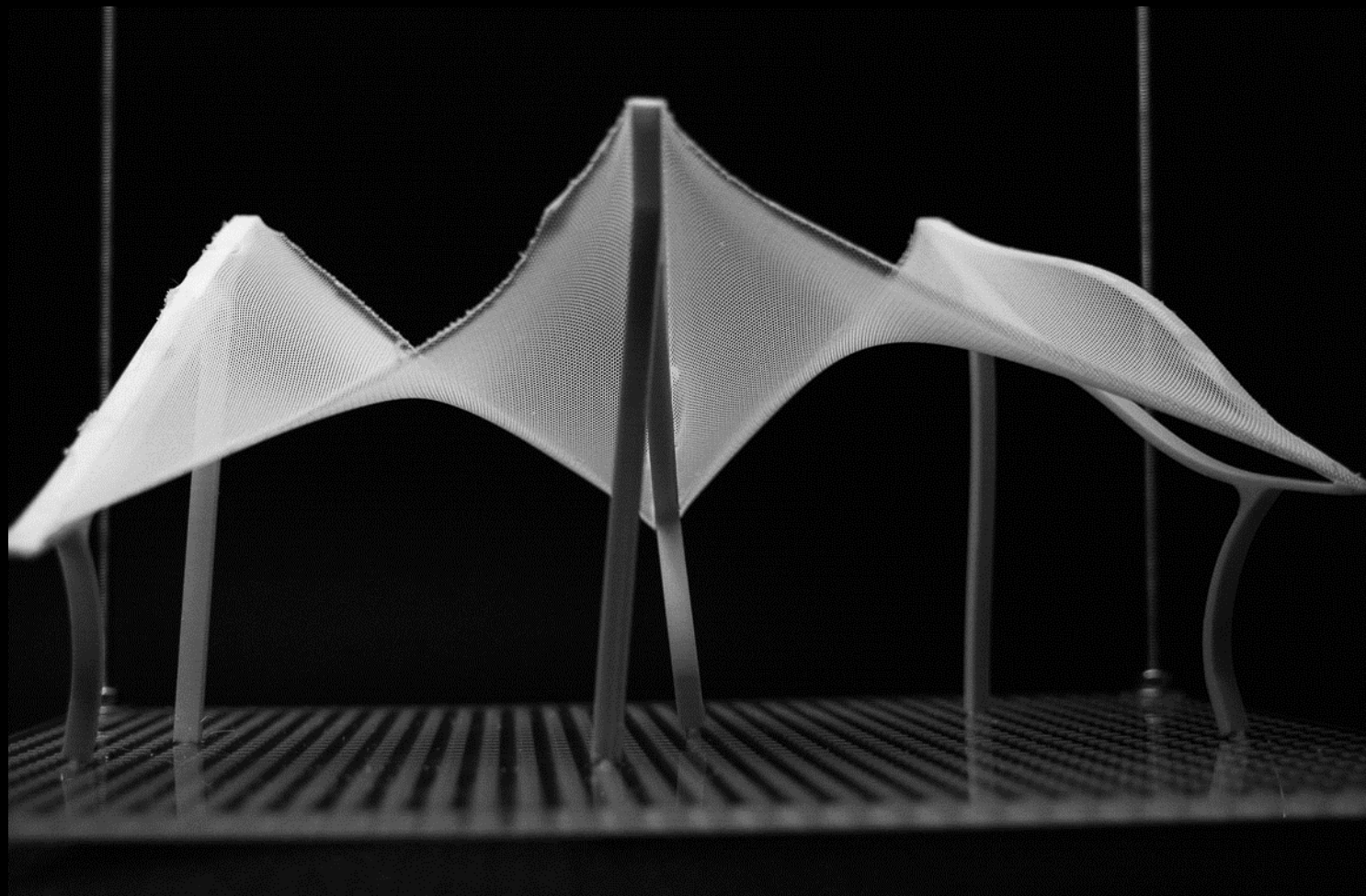
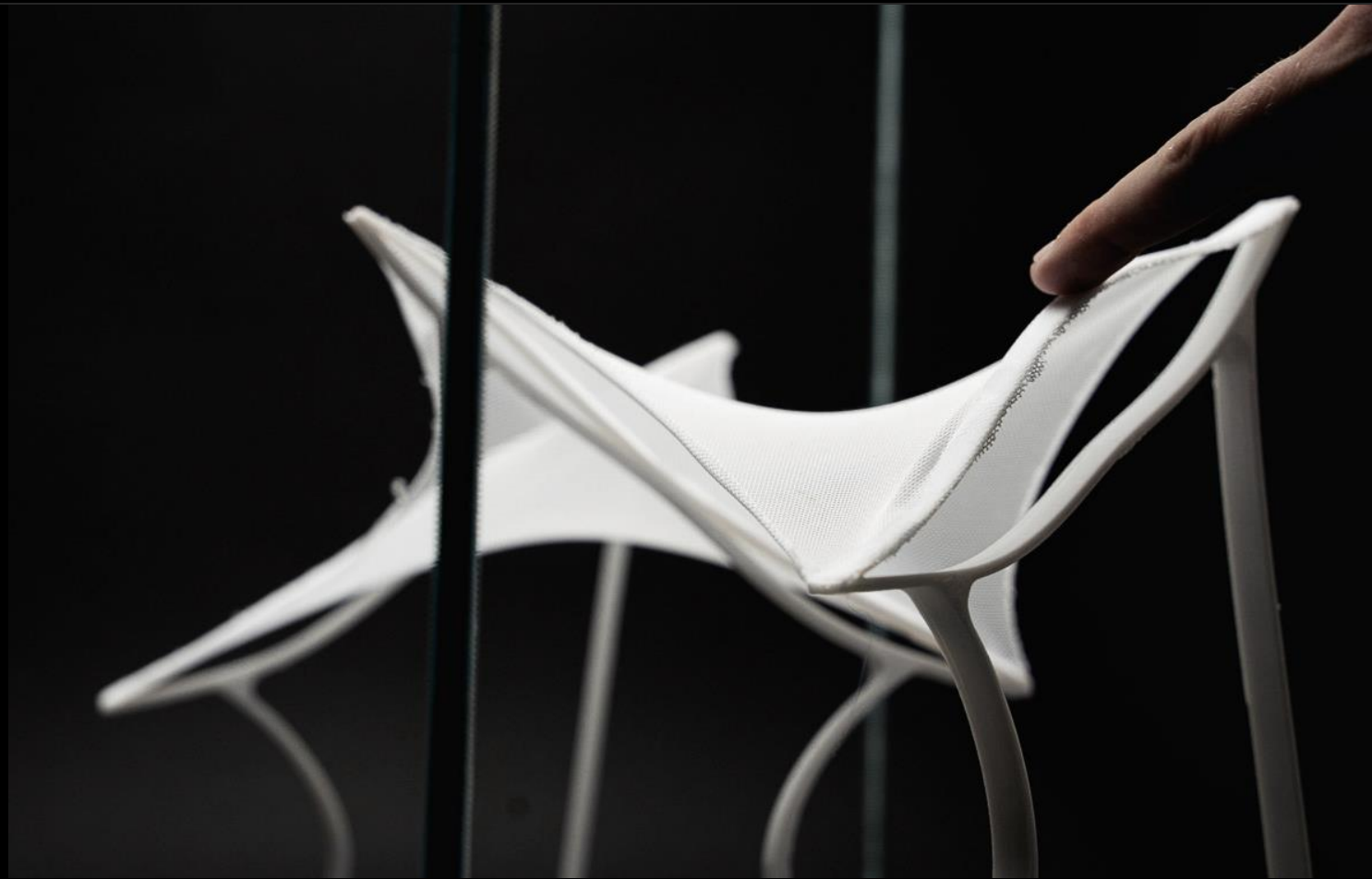
CAGEMODEL 2 | FORM STUDIES

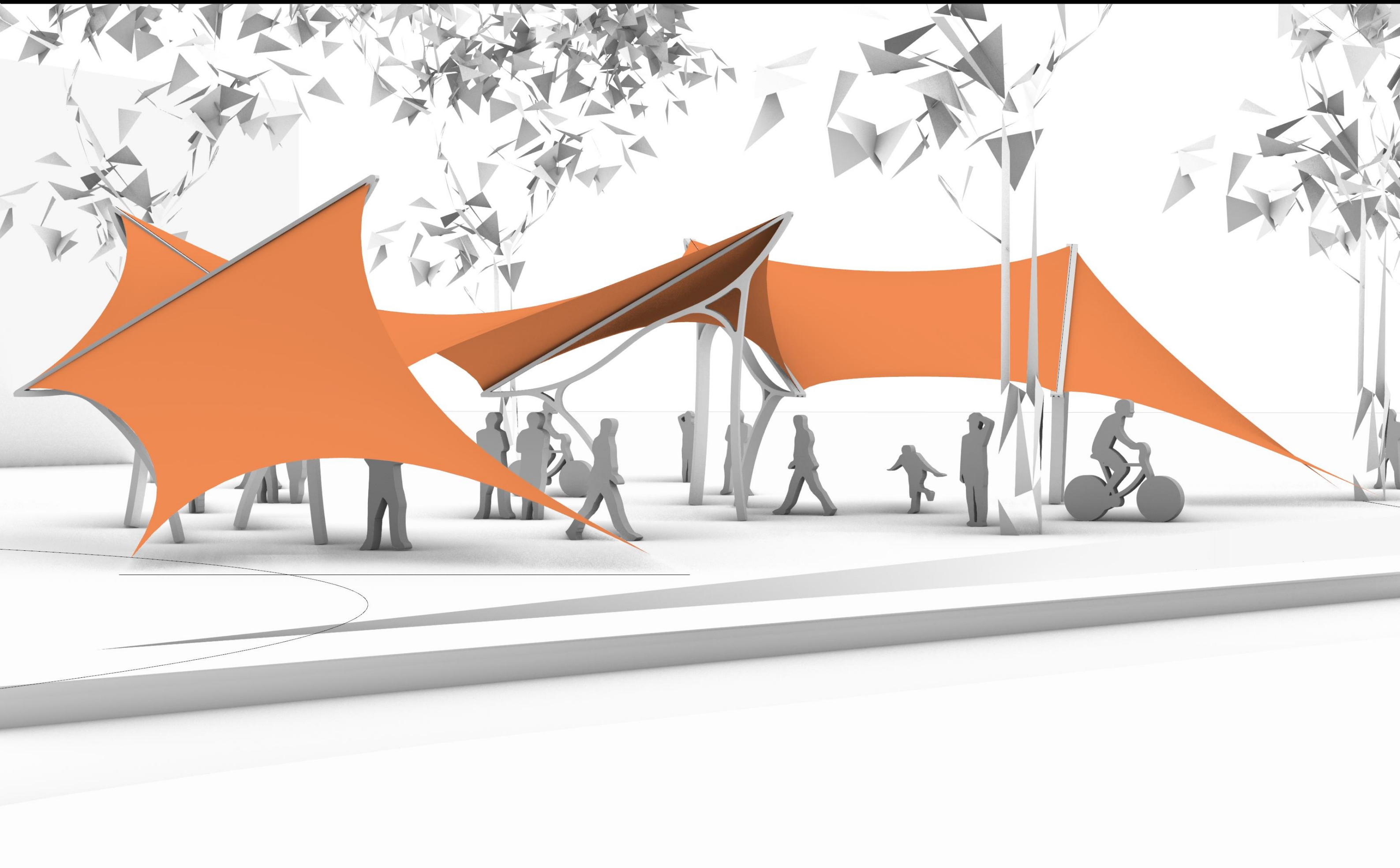


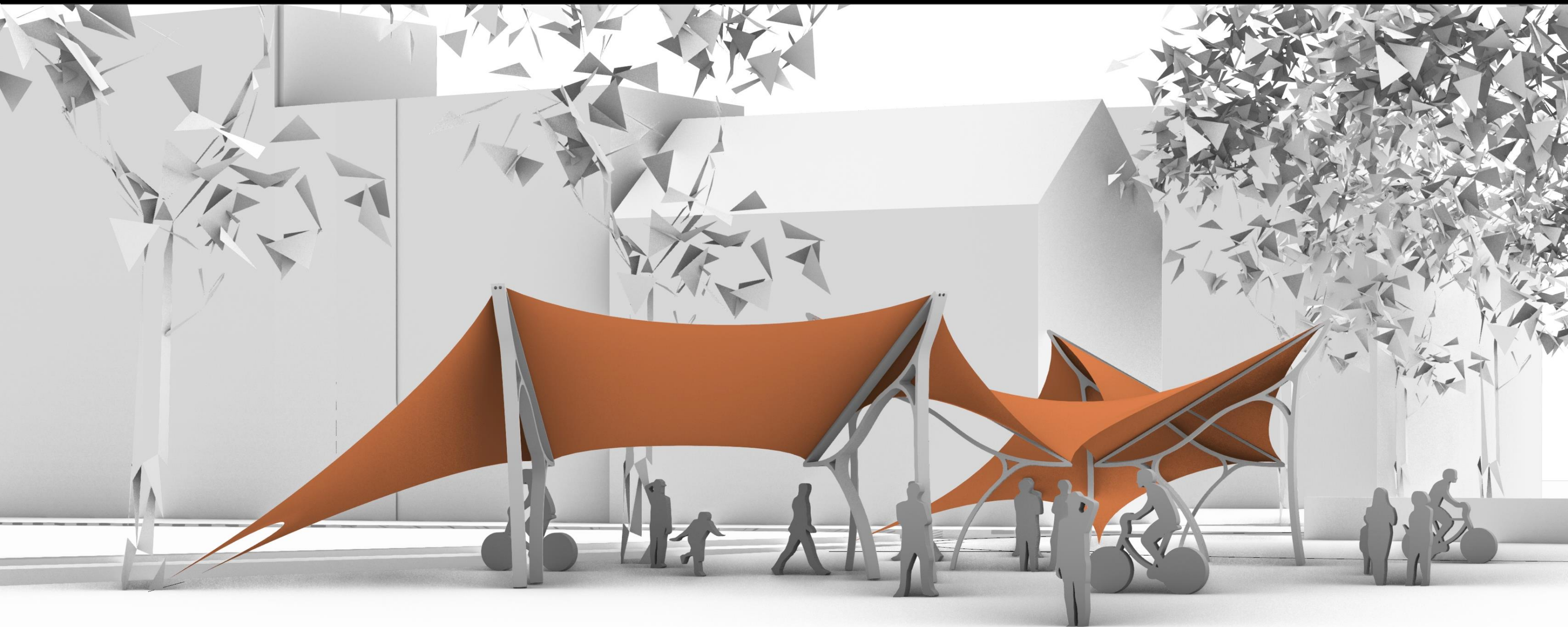


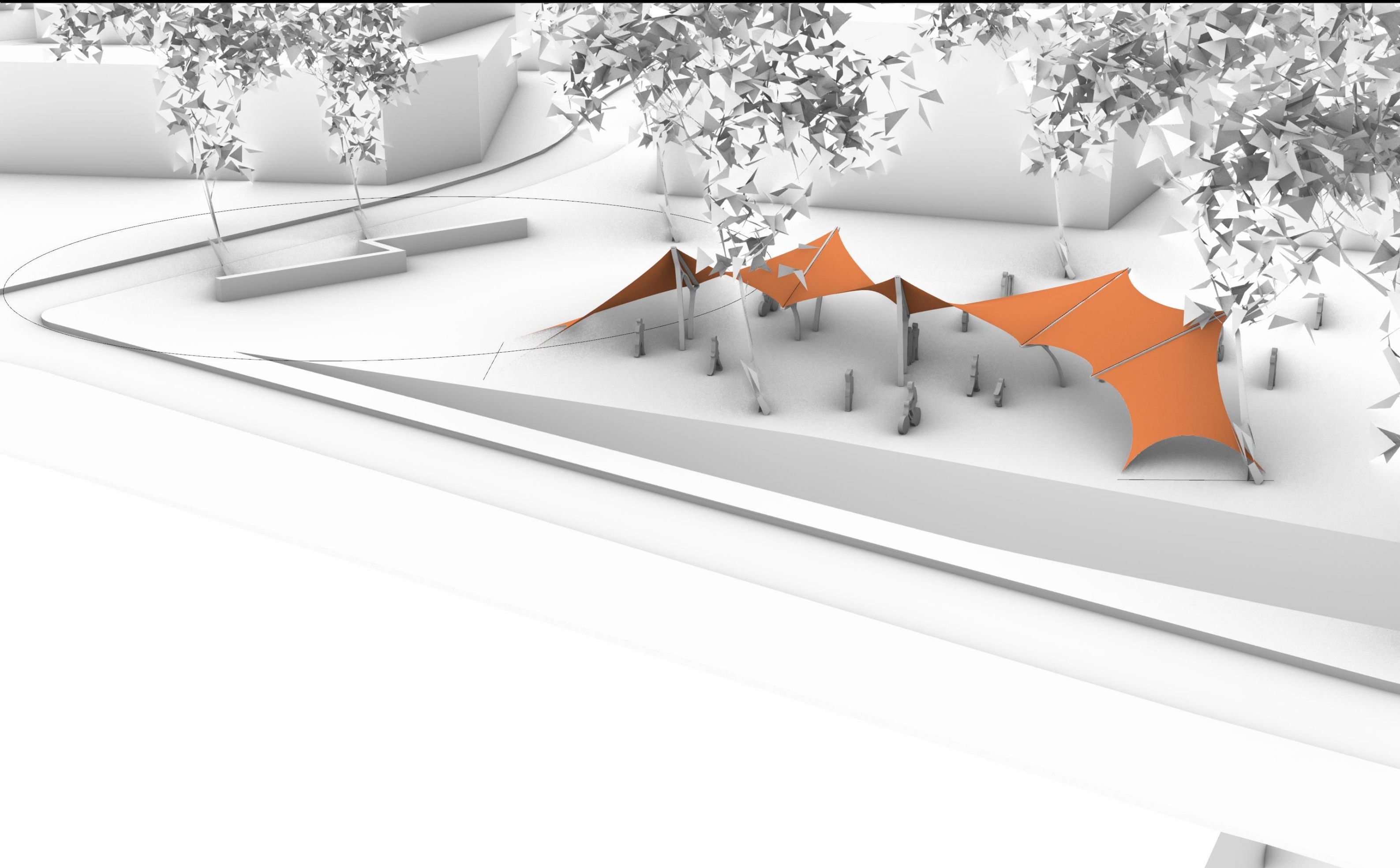
CAGEMODEL 3 | FORM STUDIES





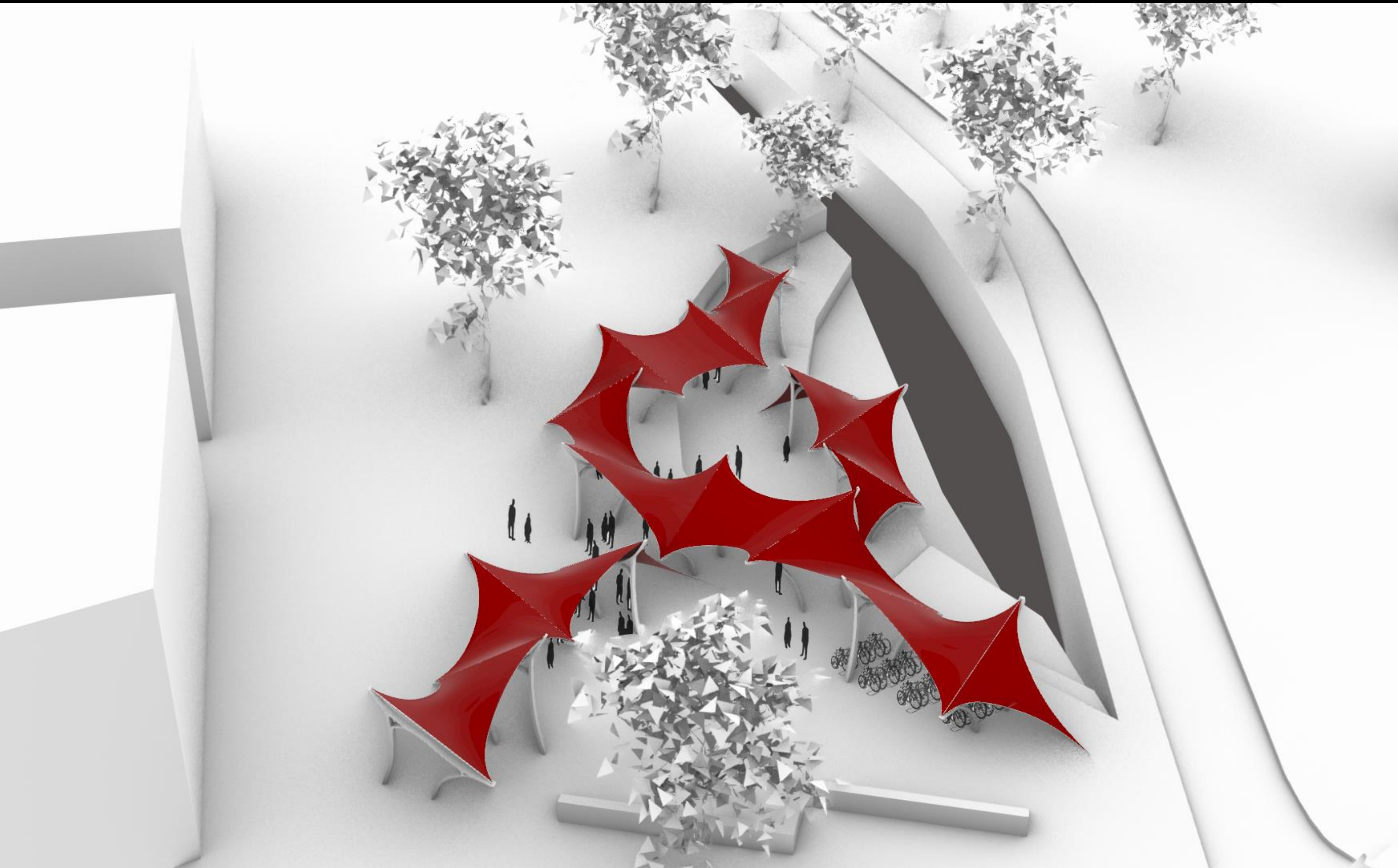


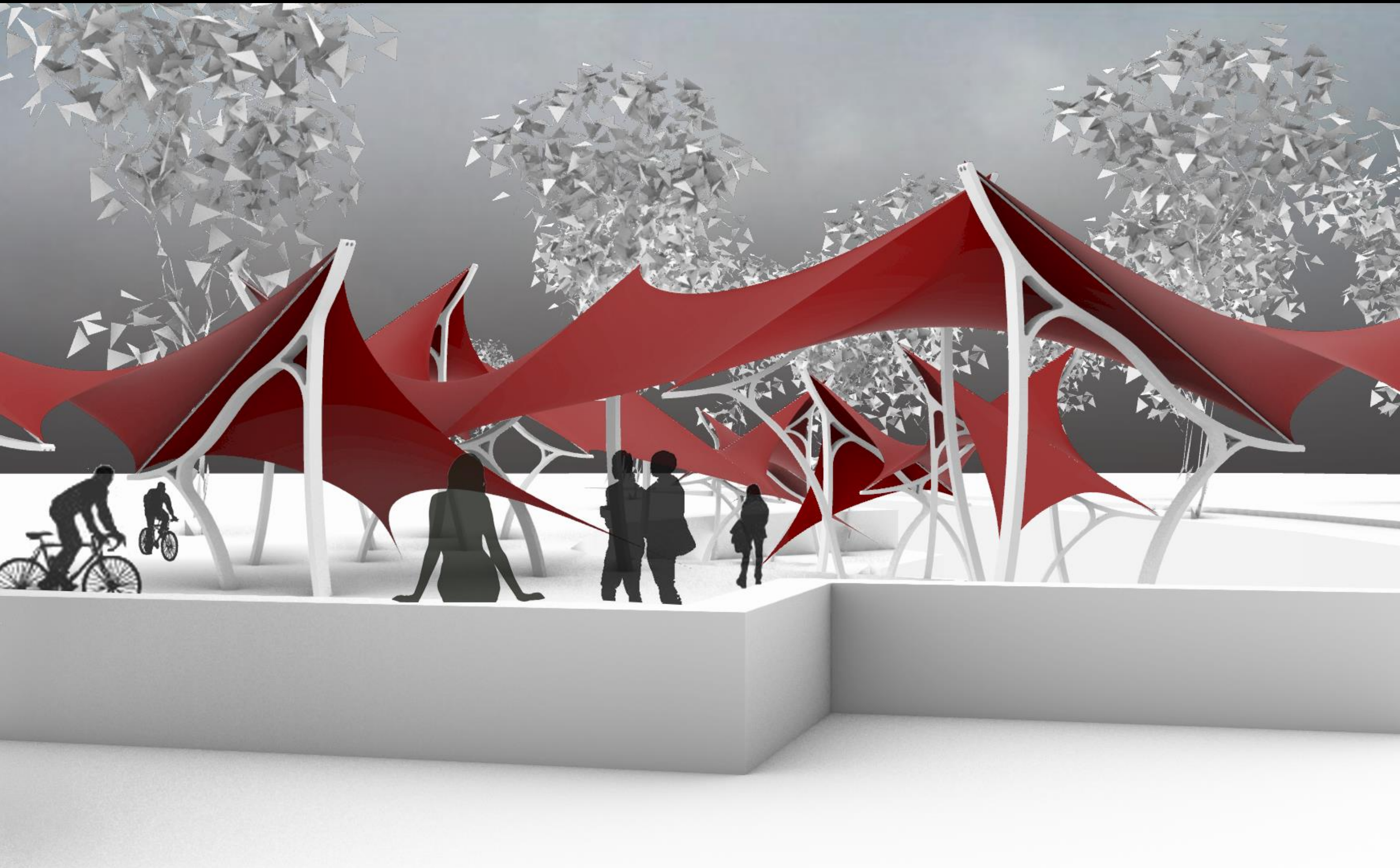


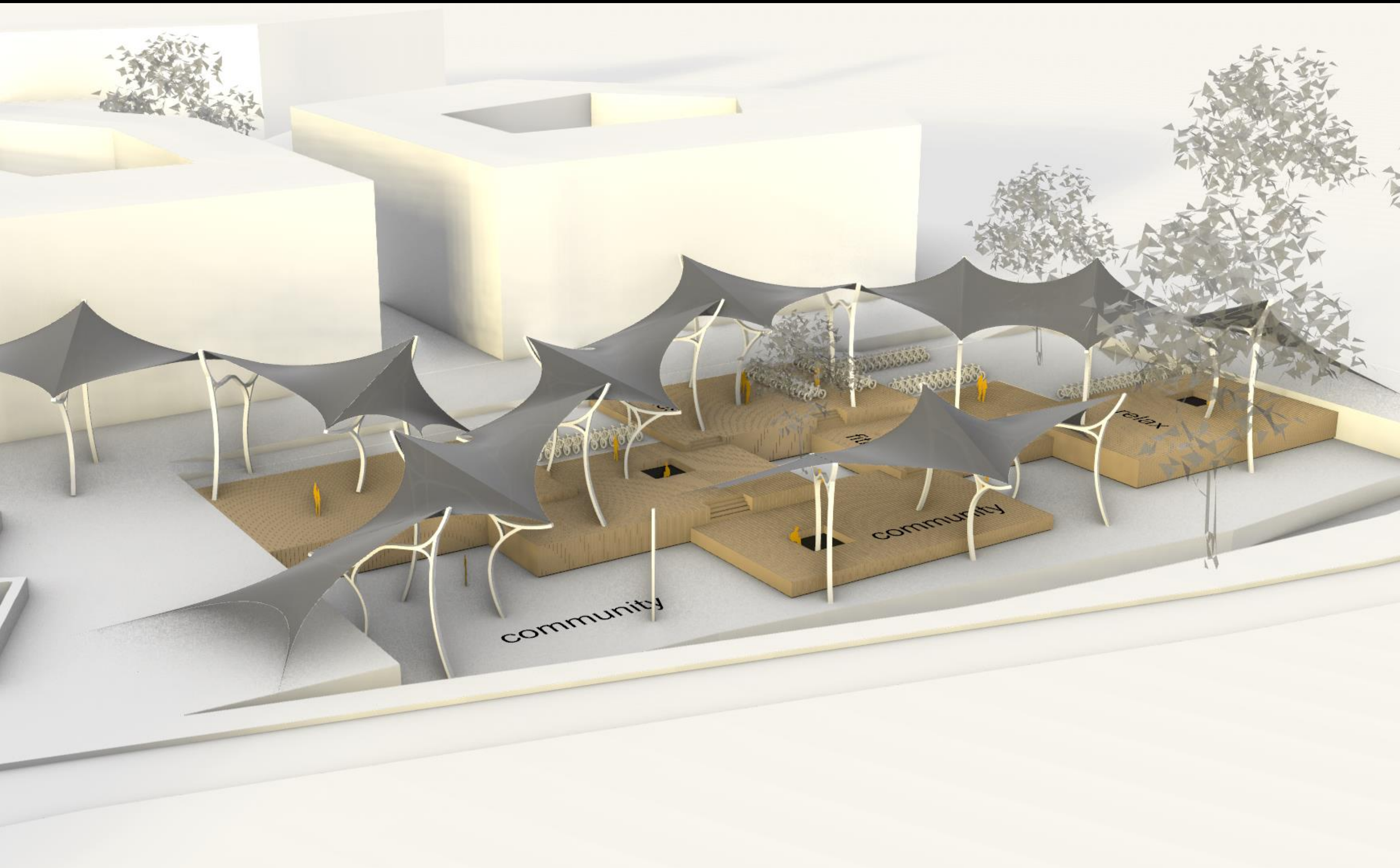






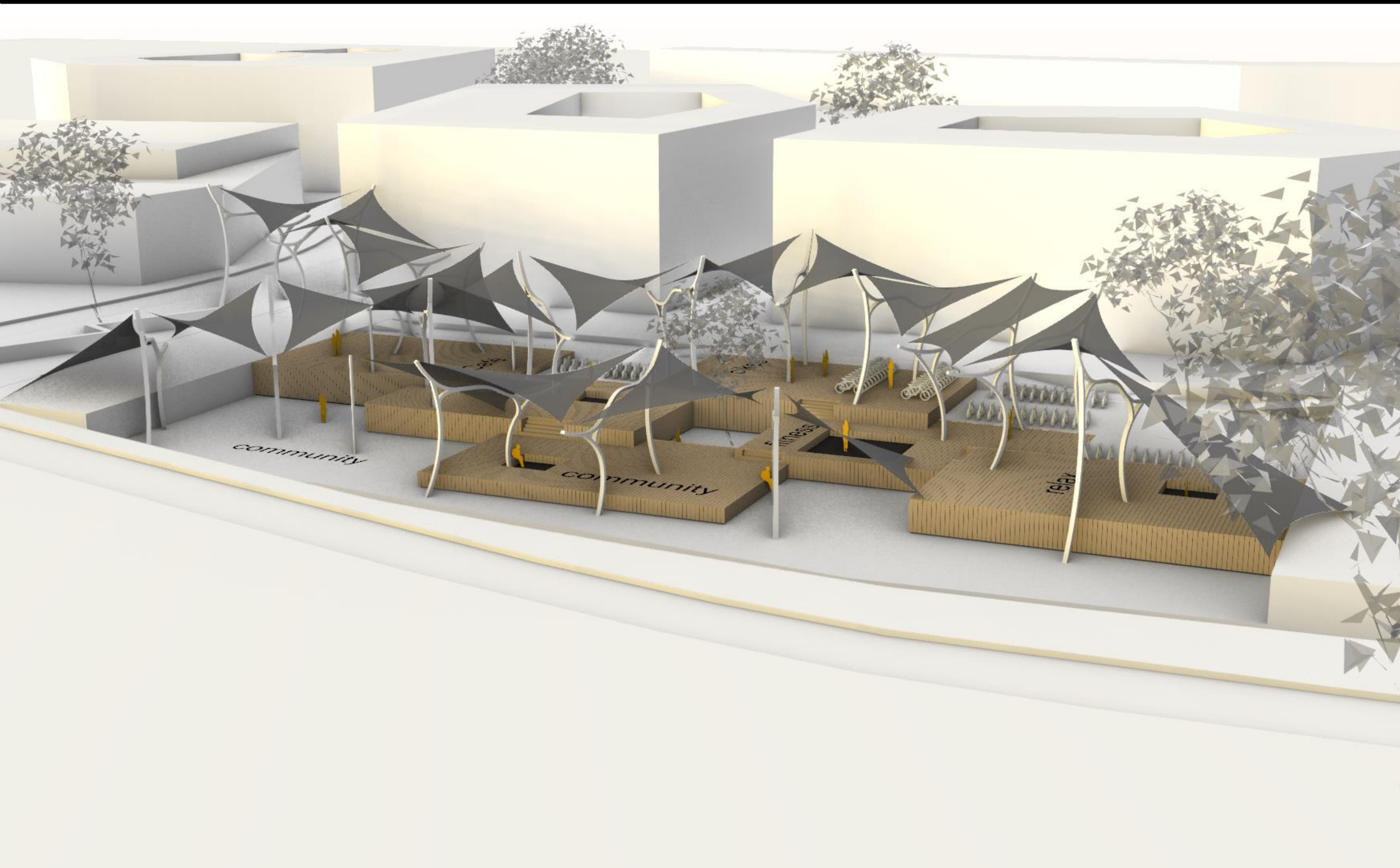


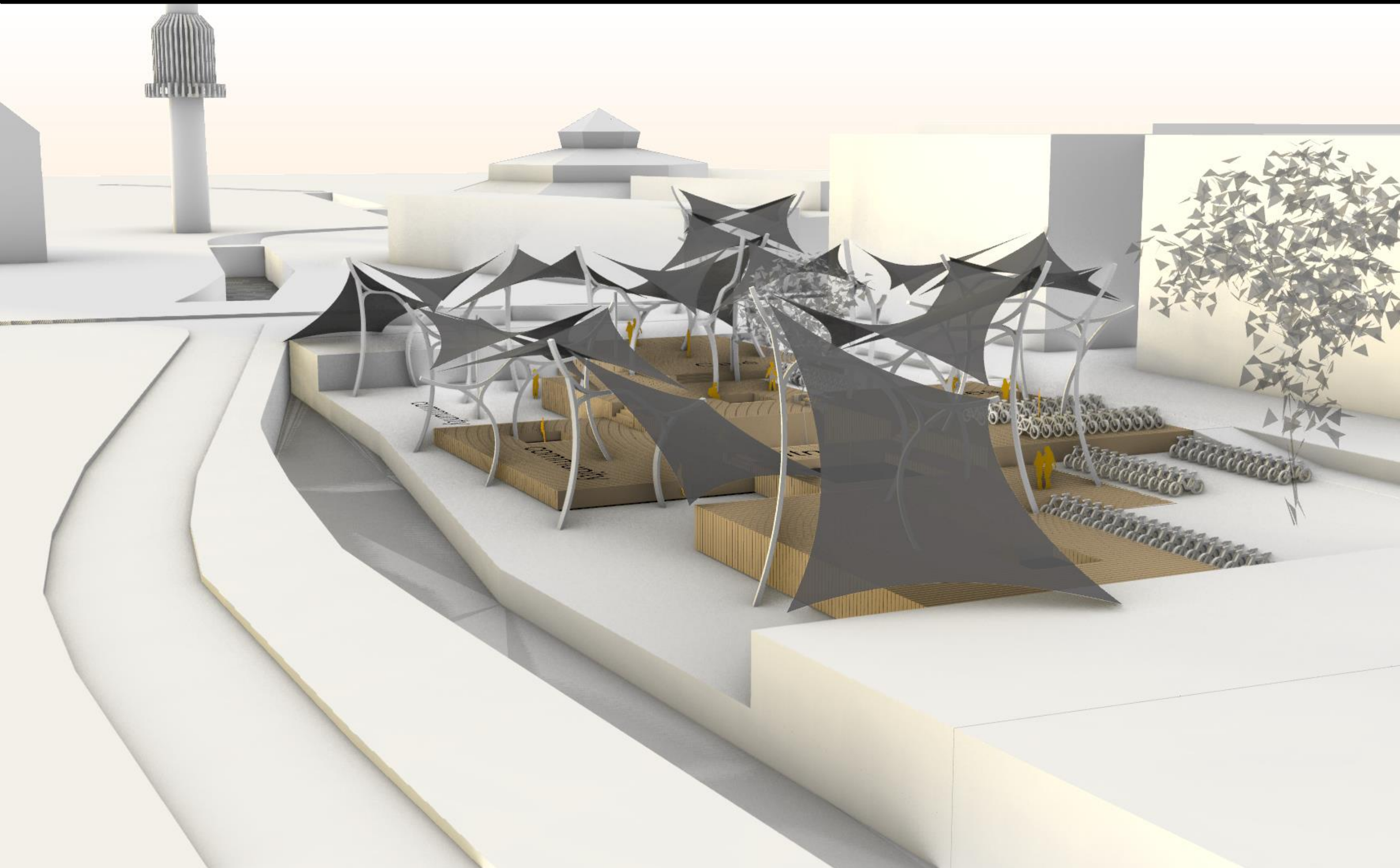










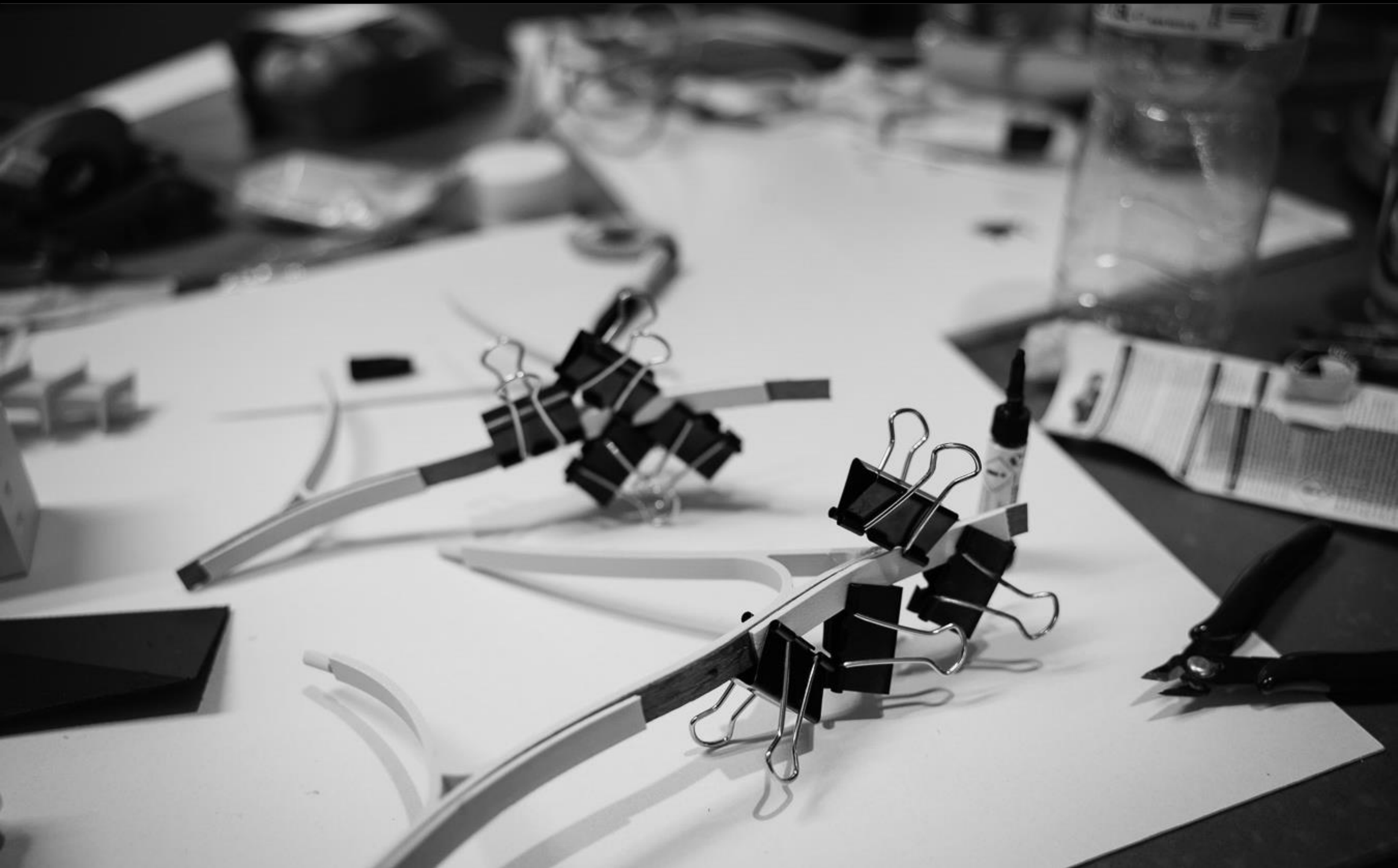














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