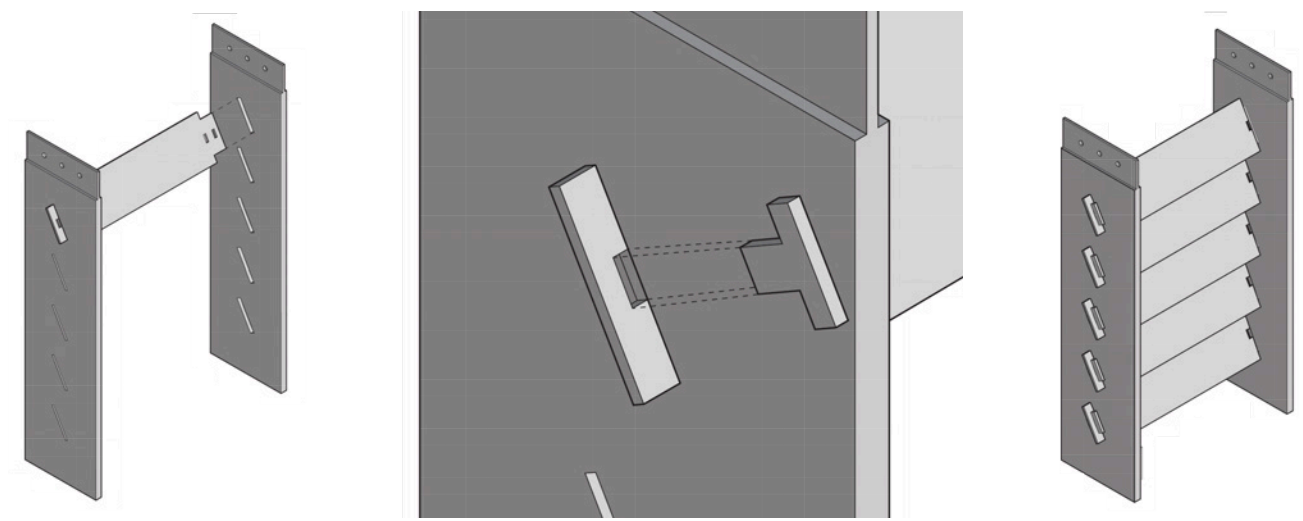
CONNECTIONS

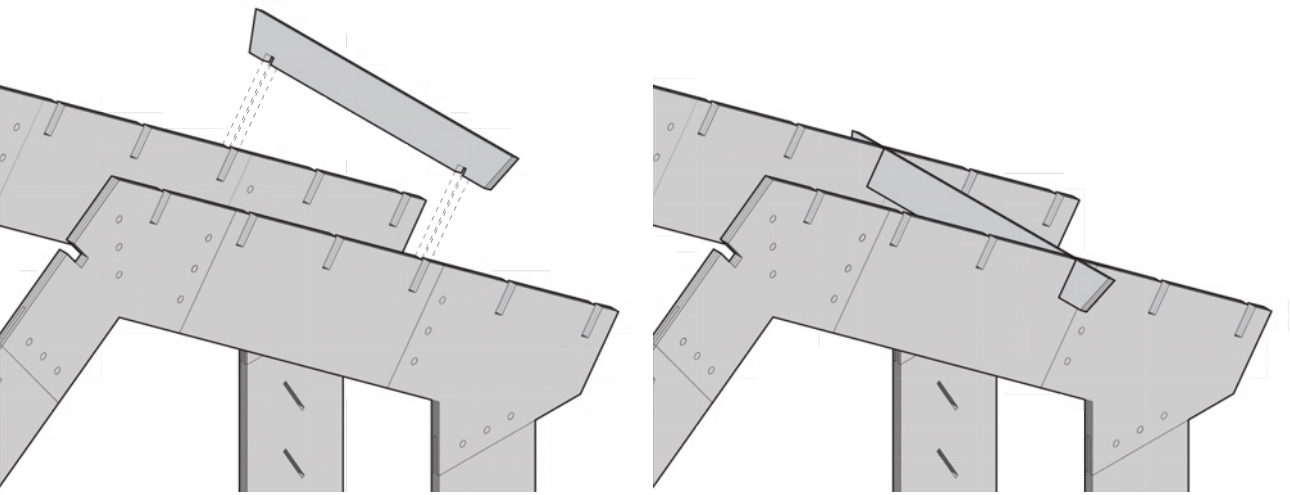
The final connections underwent several iterative phases as we balanced various aspects of design, fabrication, and assembly. Initial concepts were more focused on finding a universal connection type that could work for all types of enclosures and purposes, but this approach was soon discarded in favor of more specialized pieces that were easier to manufacture and assemble. Other connection iterations were disregarded for being too complex to assemble, structurally unstable, or difficult to manufacture using the CNC. The culmination of our iterations were the slats with t-pin, purlin slots, dowel joints, and angle brackets. These connections were chosen for their balance of matching design intent, highlighting wood-to-wood connections, and their ease of assembly and manufacturing.

Various scrapped connections developed by connections team and studio

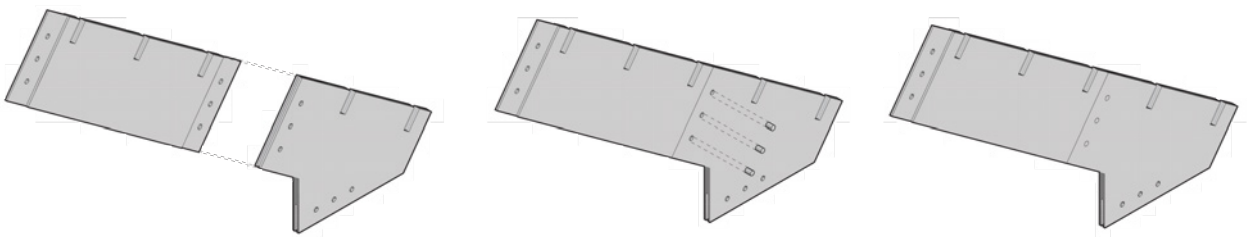


Final slat-column with t-pin connection

FINAL CONNECTIONS

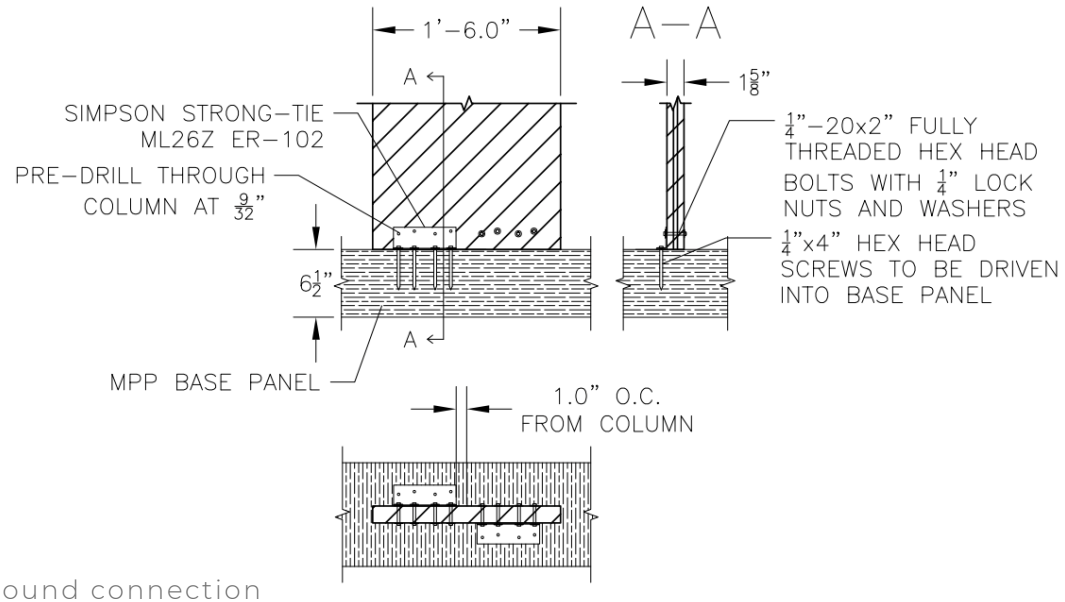


Final rafter-purlin slot connection



Final dowel connection

FINAL CONNECTIONS



Final ground connection

The dowel connection and slat connection received the most feedback during the final review. Regarding the dowel connection, most comments were concerned about why a dowel was chosen instead of a screw and how a dowel may withstand long-term exposure to the elements. This was further supported during the final assembly when screws were still required to secure the connections together. Future projects may want to consider entirely replacing the dowels with screws instead, which provide a quicker assembly that is more secure. Comments over the slat connection largely revolved around the t-pin and its necessity. Upon building the structure, the t-pins were not as structurally significant since the tolerances for openings of the slats were larger, causing the connection to not be as rigid as expected. This caused the t-pins to be possibly entirely removed with little to no effort. Last, for the ground connection, there was a discussion about the accessibility of the structure due to the prototype being built on top of an MPP base panel. To ensure accessibility, investing in a wider concrete footing that remains above the ground instead can support the width of columns while individuals move through the structure.