

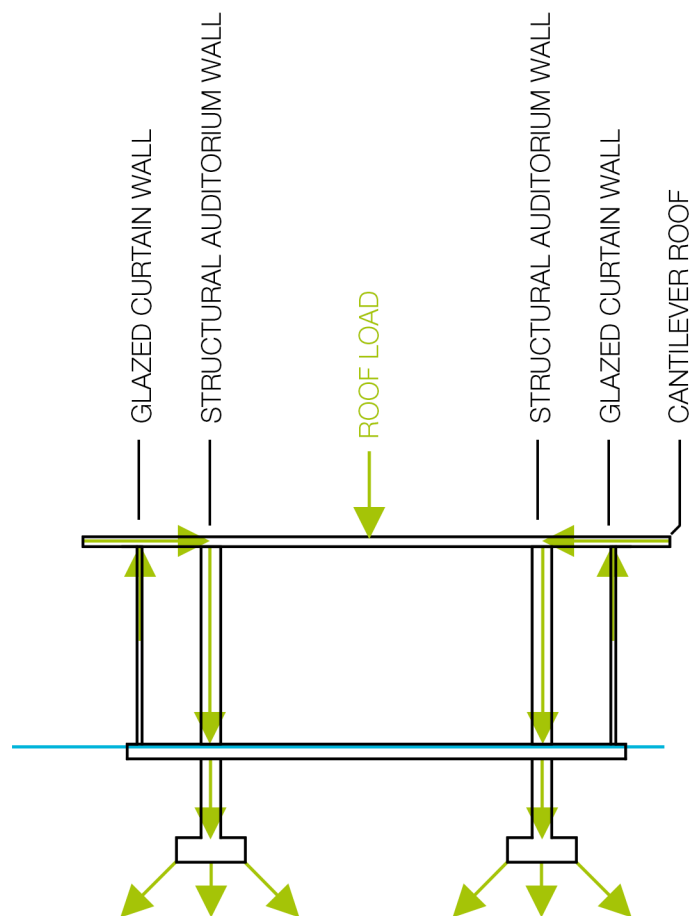
**Sunlight Analysis from January: Australian Summer.**

The sun heats up the building in the morning through the north east side.

during the warmer part of the day, the sun is blocked by the solar shading.

In the cooler evening, the sun shines in the building again. this reduces the need for air conditioning during the day.



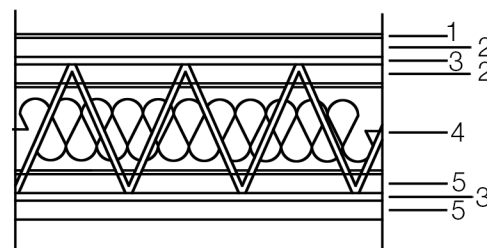
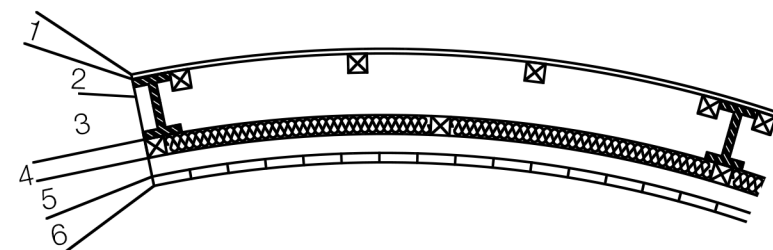


## STRUCTURAL EXPLANATION

The outer most, glazed curtain walls are not structural. The loads are transferred to the formed concrete roof which is cantilevered over the North, East and South sides. The roof transfers its load to the steel column structural walls of the auditorium below and to two columns in the lobby. From here the load of the building is transferred into a concrete isolated spread footings foundation under the auditorium - with a more lightweight raft foundation underneath the walkways and rehearsal room as shown in the drawing to the right.

## EXTERIOR WALL DETAIL [1:20]

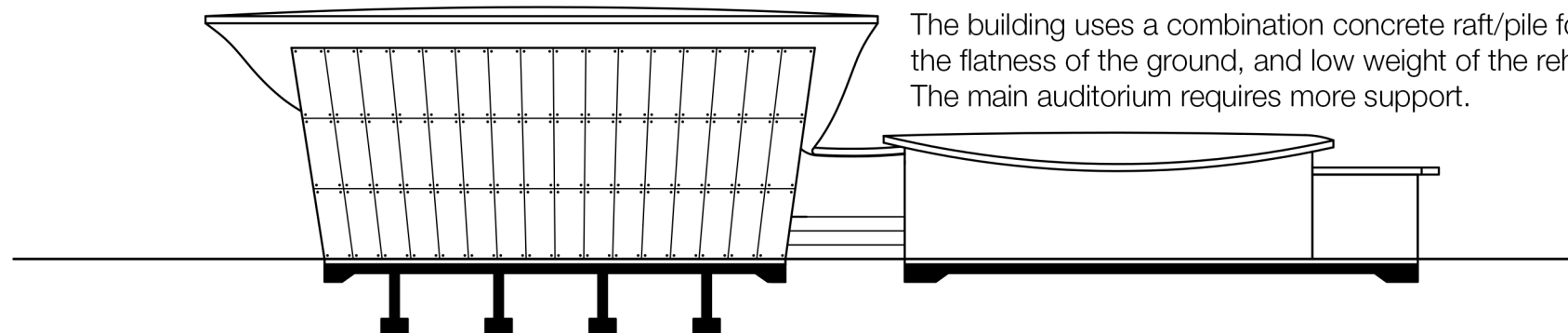
- 1: Flexible Plasterboard
- 2: Flexiboard Framework
- 3: Structural Steel
- 4: Vertical Timber Frame
- 5: Horizontal Timber Frame
- 6: Vertical Timber Cladding



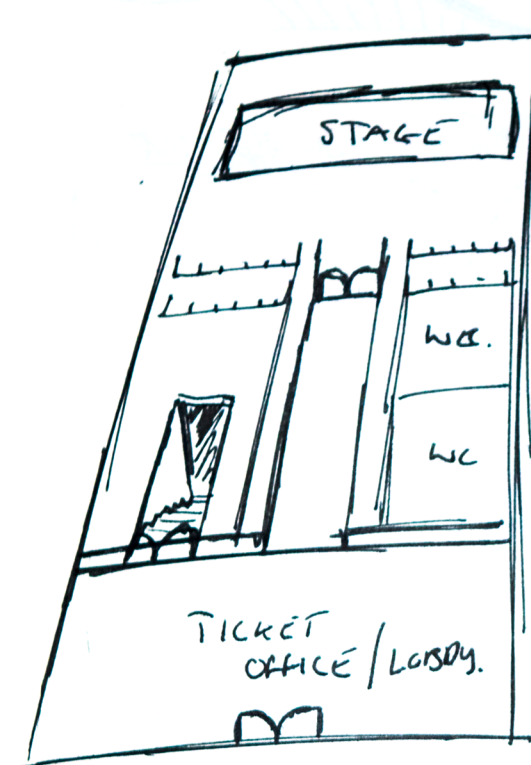
## ROOF DETAILS

- 1: Waterproof Membrane
- 2: Outer Concrete Skin
- 3: Steel Reinforcement Truss
- 4: Rigid Foam Insulation
- 5: Inner Concrete Skin

Concrete was chosen for the roof material for two reasons, despite not being the most sustainable. Concrete acts as a thermal mass which will be essential in keeping the building passively cooled. It is also structurally appropriate for the cantilevers and shapes that are so prominent in the roof design.

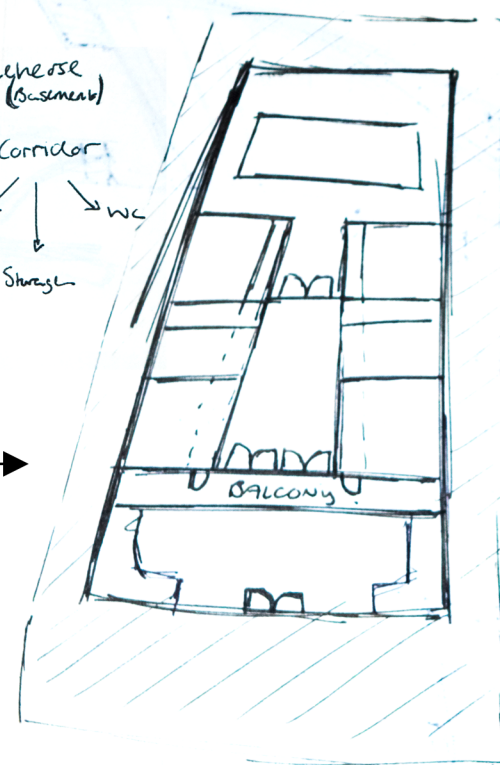


The building uses a combination concrete raft/pile foundation due to the flatness of the ground, and low weight of the rehearsal room side. The main auditorium requires more support.

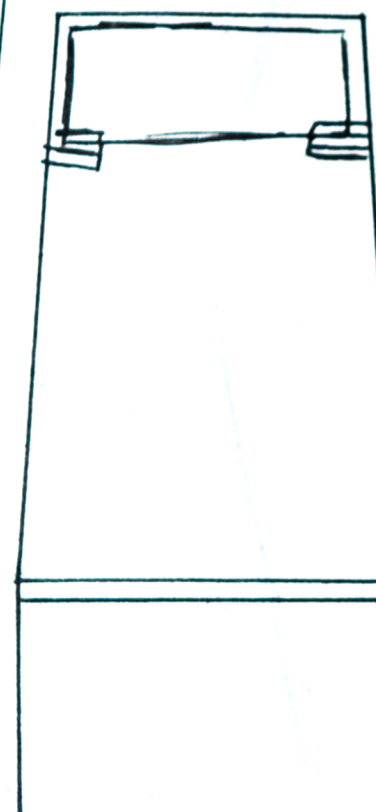


INITIAL PLAN IDEAS

ENTRANCE → TICKET OFFICE → Restroom (Basement)  
 → Corridor → WC  
 → Auditorium  
 → Storage  
 Balcony Seats

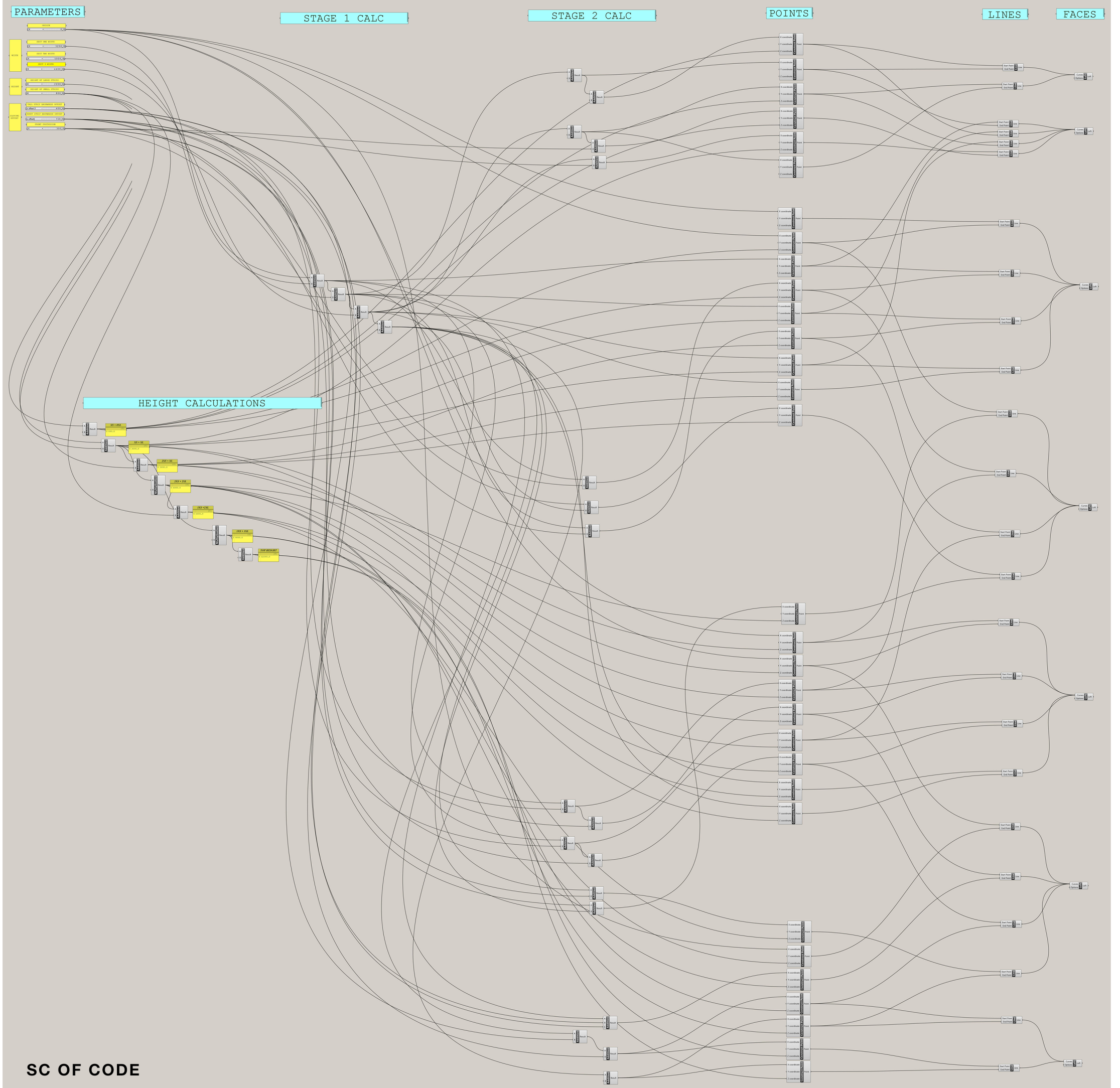
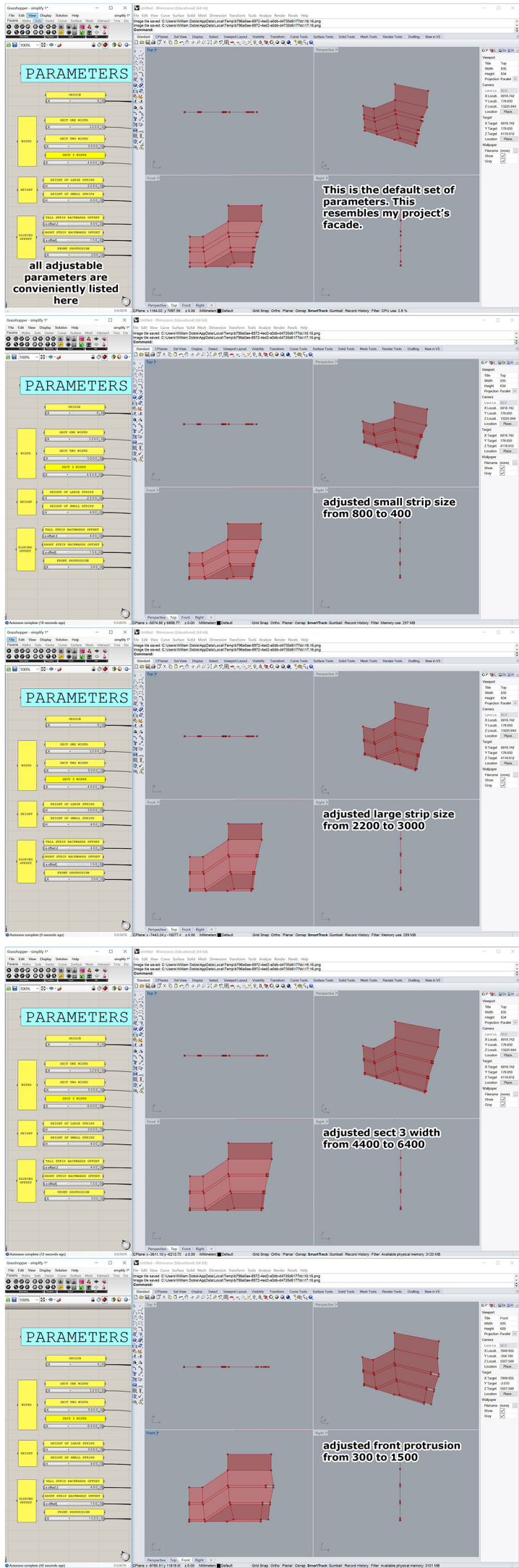


FIGURING OUT AUDITORIUM

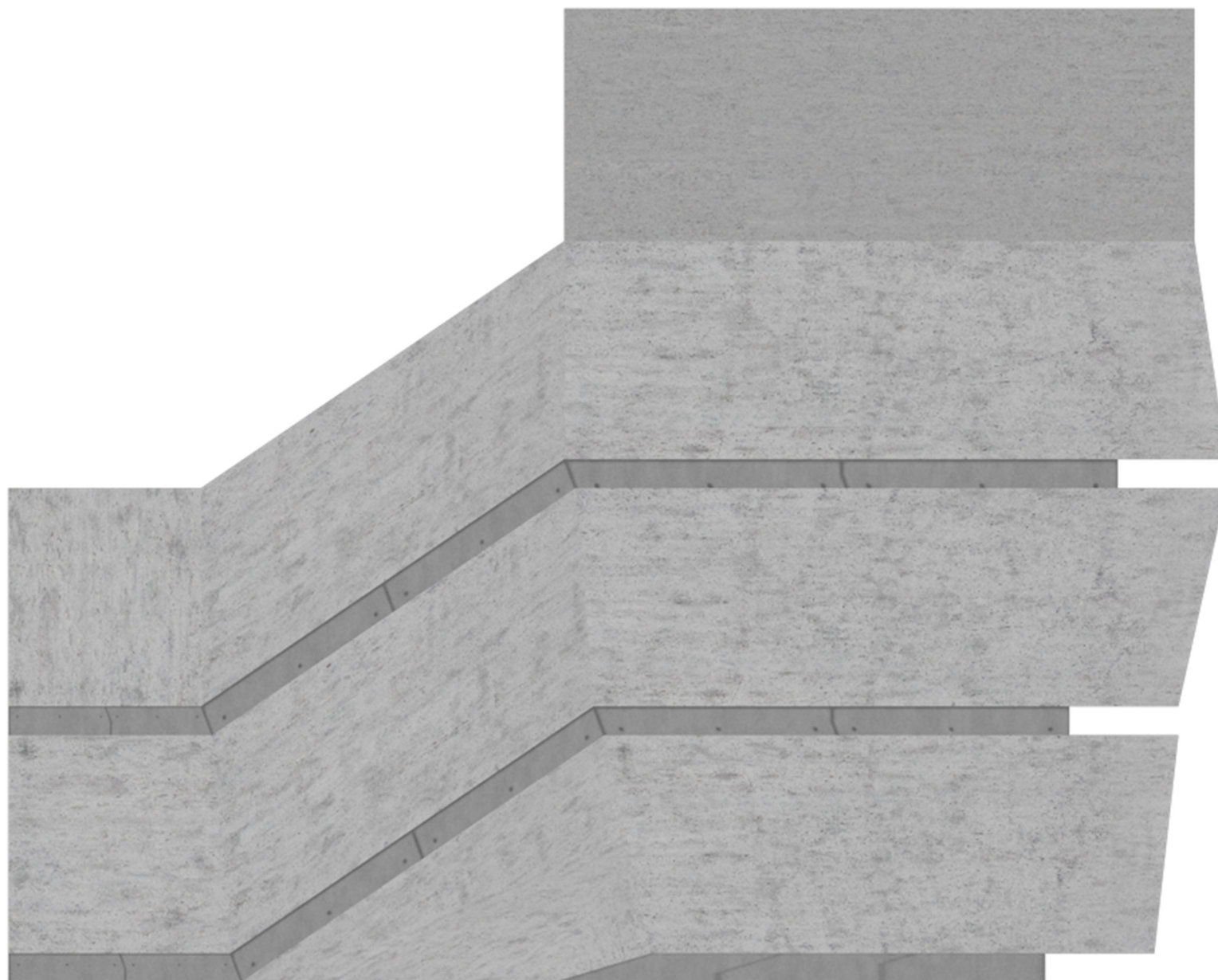


FINALISING SHAPE









**GEOMETRY FROM GRASSHOPPER, RENDERED IN CINEMA 4D**