Masonry Lab Team 5

masonry design project:

Team Number 5

Patrick Rand Fall 2020

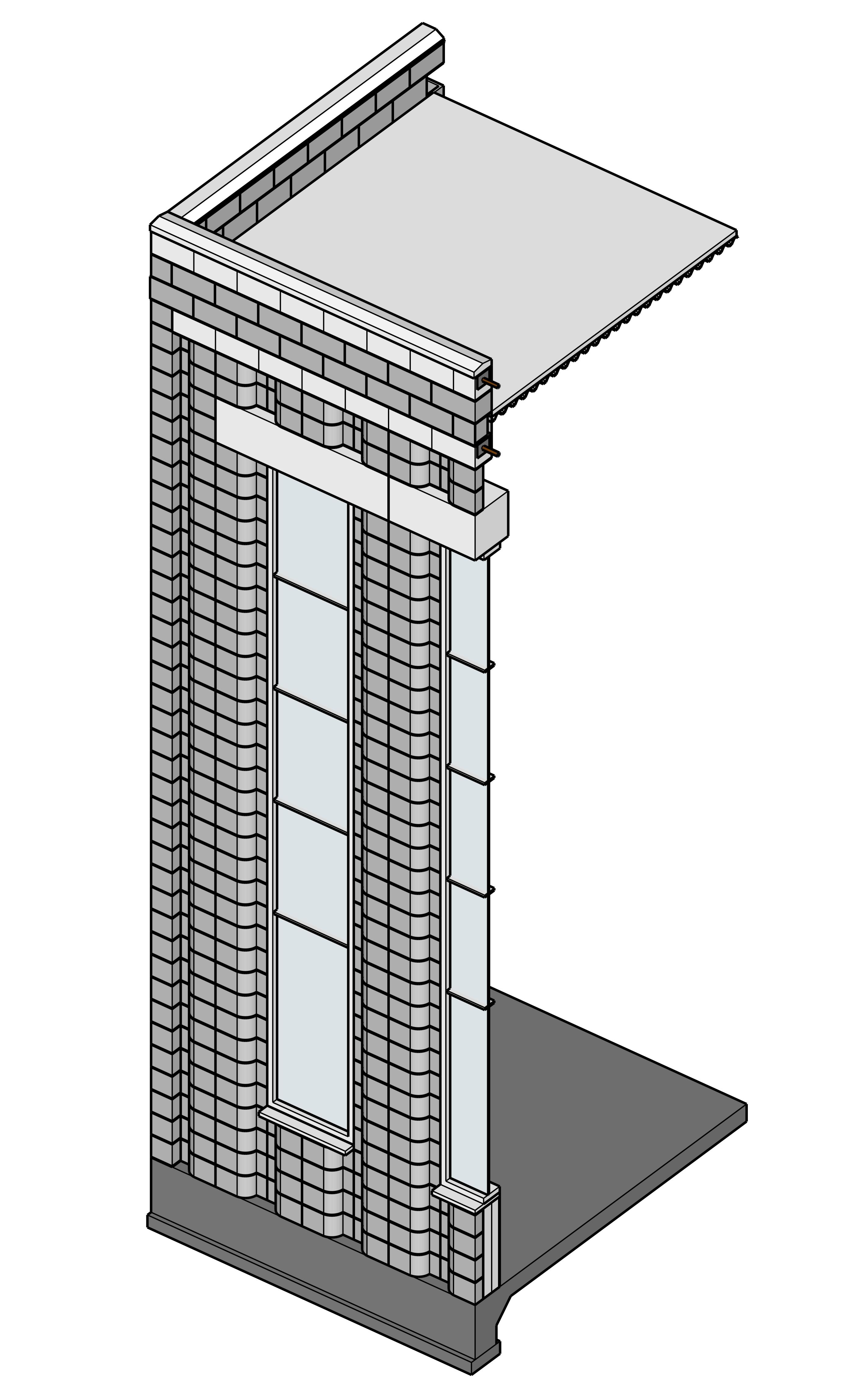
Seiya Furukawa Ryan Fluharty Micah Holdsworth Mairead Maley

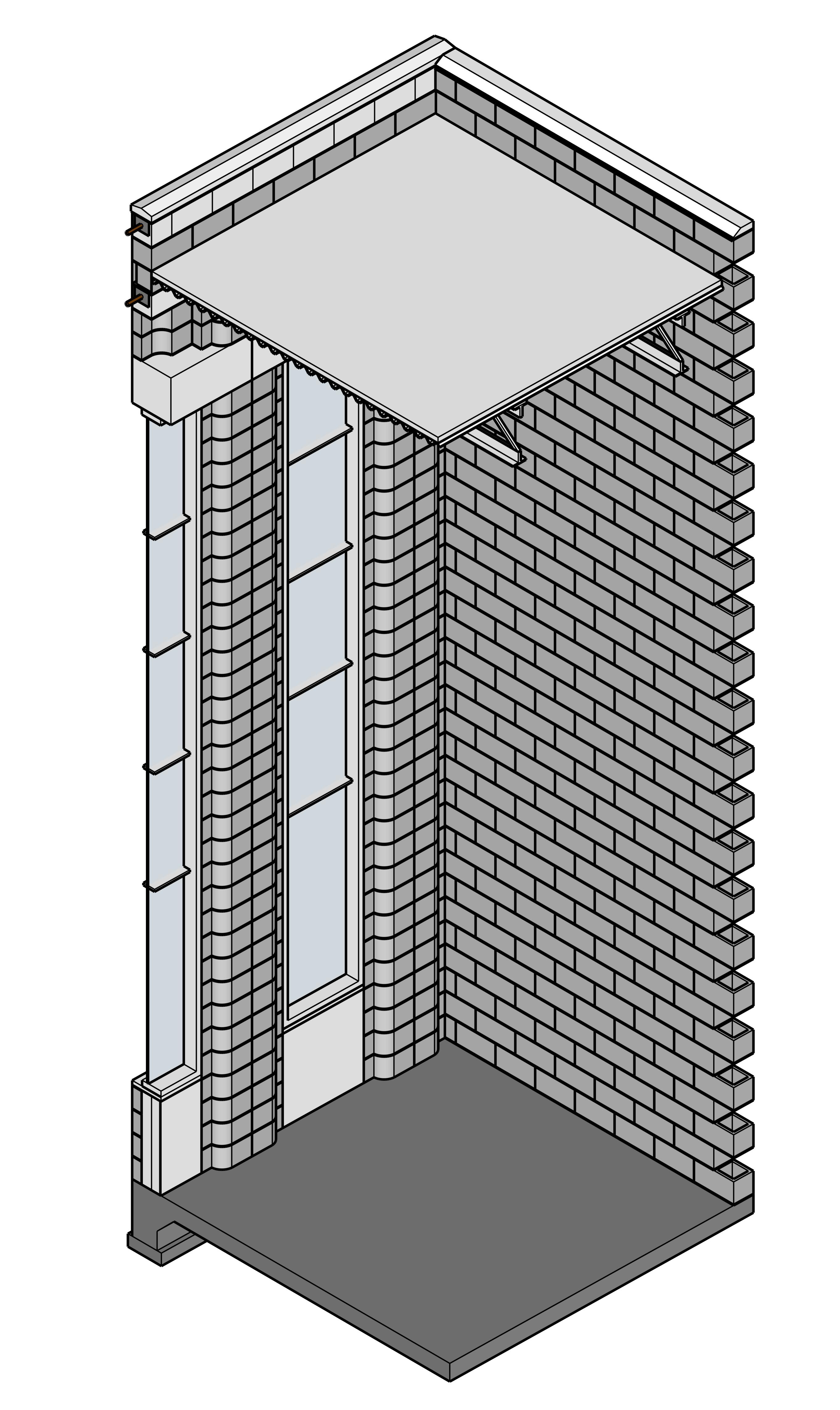
Our design is heavily based off of a concrete masonry unit that was designed by Seiya and his partner last semester. This unit is load bearing, insulating, and visually interesting, hence why we chose it; the variation in depth also adds lateral strength to the facade. Our concept utilizes simple materials, and we wanted to emphasize the natural verticality of the masonry unit with tall window openings and an unbroken double-height facade. We chose the connecting structures for their simplicity and stabilty, therefore making the facade the most important element of the building.



pend

C- concrete masonry unit





concrete cap block 1" steel cap flashing top 4 rows: standard 7 7 cmu blocks 3" inch (#3) rebar in bond beam unit foamed-in-place spray insulation filled core bond beam concrete cmu block mortarjoint with ladder type horizontal joint reinforcement roofing membrane, 2" rigid foam insulation, perimeter wrapped in air control membrane, 1 13" corrugated roof decking 20" deep open web steel joist bolted into cmu via anchor bolts 7 7" custom cmu blocks with foamed-in-place spray insulation filled cells 1' 3 3" deep stone lintel/ 2 3 aluminum window frame with thermal break double-glazed glass window, 13" horizontal aluminum mullion/ 7 3" custom cmu block with foamed-in-place spray insulation filled cells 16" air and water proofing membrane 3" rigid foam insulation ½" gypsum board 6" steel anchor bolts tying foundation edge to cmu blocks steel floor slab flashing concrete floor slab edge and shallow pad foundation

concrete cap block

if steel cap flashing

entire side wall made up of standard 7 % cmu blocks with mortar joints with ladder type horizontal joint reinforcements

Note: All non-grouted cmu cores are filled with foamed-in-place spray insulation.