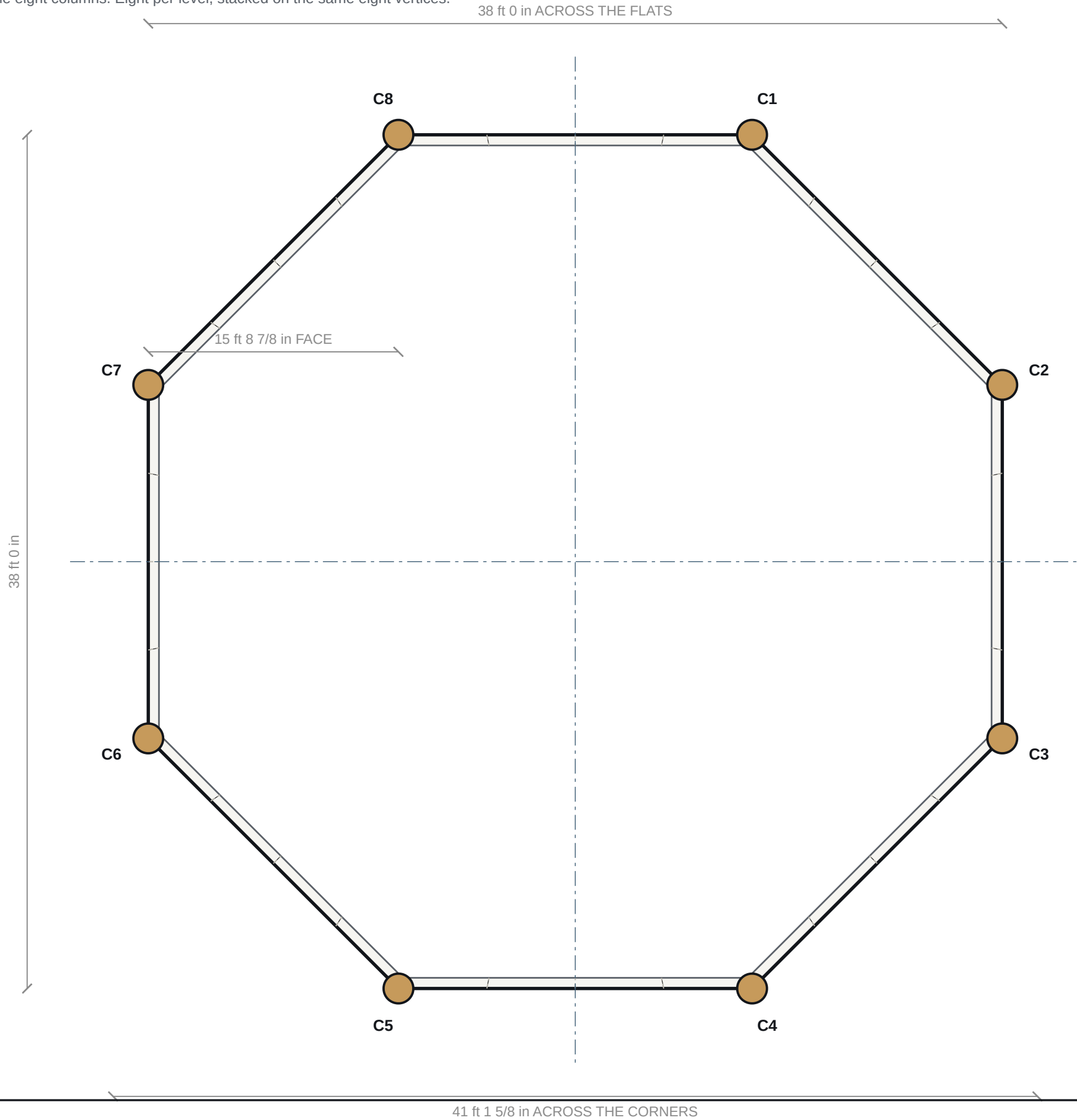


S1 · STRUCTURAL PLAN, LIVING STORY

The eight cages are the eight columns. Eight per level, stacked on the same eight vertices.



GEOMETRY

Regular octagon, flats to the cardinals.
Across the flats 38 ft 0 in
Across the corners 41 ft 1 5/8 in
Face, centreline 15 ft 8 7/8 in (4,797.6 mm)
Perimeter 125 ft 11 in
Area, to centreline 1,196 sf
Area, to inside face 1,187 sf the published figure
Wall height, living about 9 ft, BY PE

THE PANEL SPECIFICATION, DECIDED

Exterior wall 5 in core, 7 3/4 in, R-19.3
Centre wall 4 in core, 6 3/4 in
Partitions 2 in core, 4 3/4 in
Floor and roof 8 in core, 12 1/4 in, R-30.8

R value is the complete assembly at 70 F, including the concrete on both faces.
Core ASTM C578. Mesh 11 ga galvanized ASTM A1064, 115 ksi. Mortar over 2,500 psi.
One panel per application. No options.

THE PANEL MODULE

Four panels per face at the machine width.

4 x 1,200 mm = 4,800.0 mm
Face width = 4,797.6 mm
Difference = 2.4 mm over a whole face

The 38 ft dimension appears to have been chosen for this. CONFIRM the machine width before anything is dimensioned off it. If it is not 1,200 mm the across-the-flats dimension moves, not the module.

THE EIGHT CAGES, PER LEVEL

Eight at the garage level, eight at the living level. Sixteen in the building. This plan shows the living level set. They stack on the same eight vertices, so the load path is continuous even though the cage is not one piece.

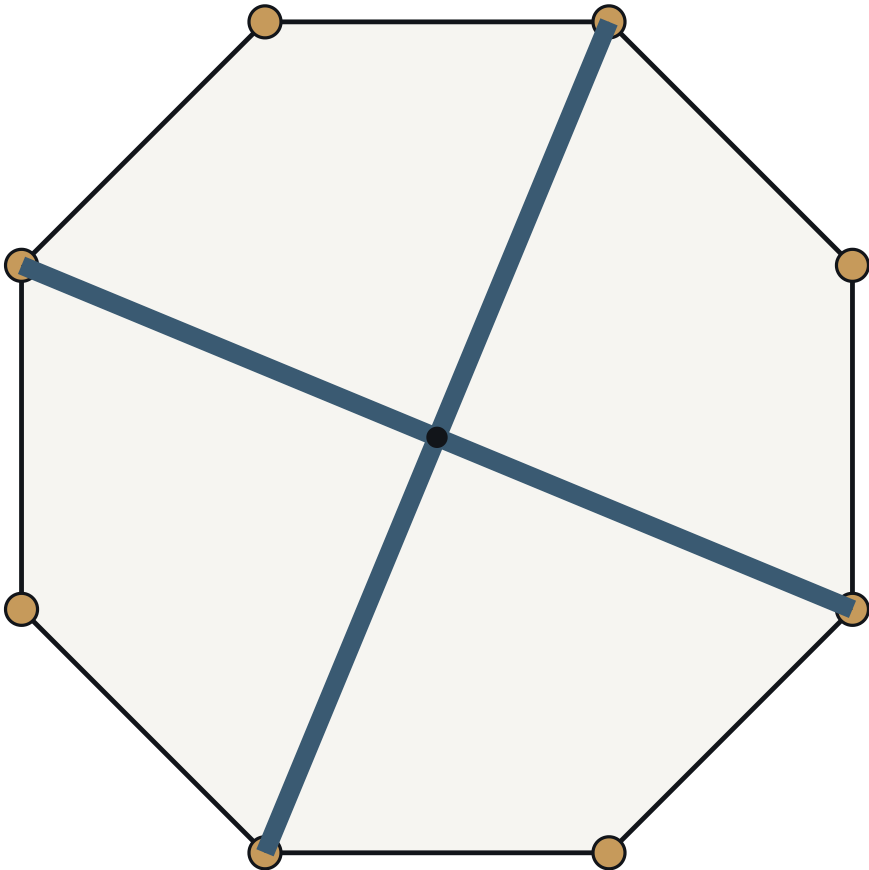
Cage size, bars, ties, cover, and the splice at the floor line are all BY PE. Base plate, see S4.

S2 · CENTRE WALLS, OPTION A AND OPTION B

We do not know which of these is right. This sheet is the question, not the answer.

OPTION A

Two walls crossing at the centre

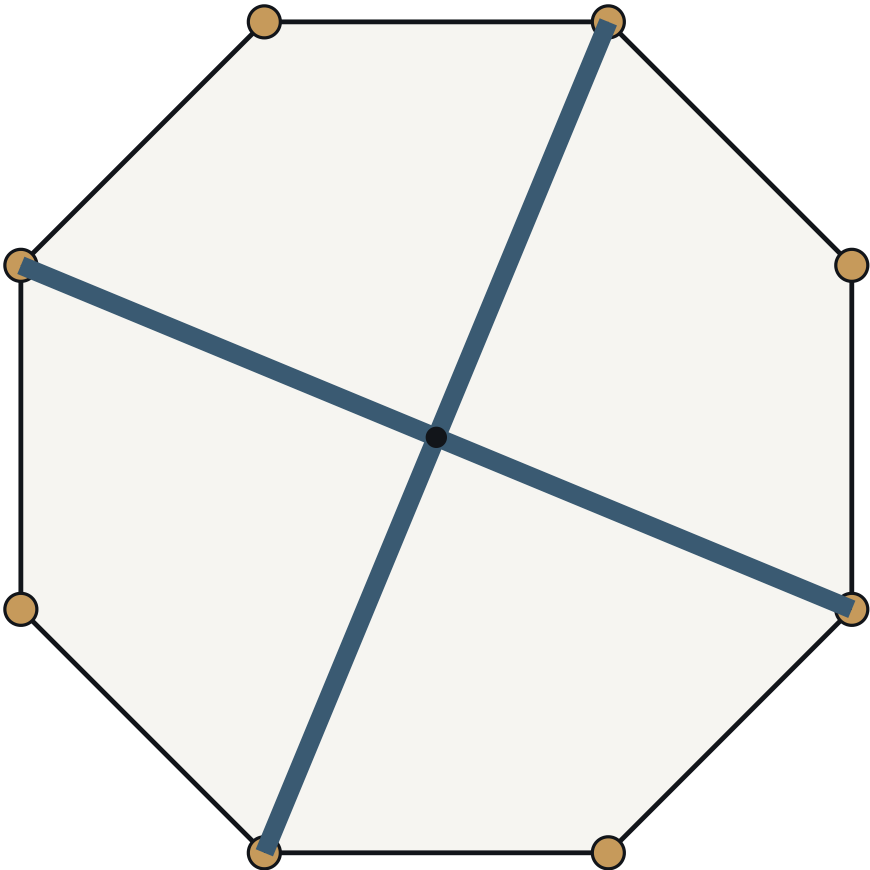


OPTION A, two crossing walls
Four quadrants. Ties into two opposite pairs of cages.
Simplest to build and simplest to plan a house inside.
Question: does it catch the inner end of all eight roof planes, or only four?

- WHAT THE CENTRE WALLS ARE FOR, in priority order
- 1 Catch the inner end of the roof so nothing free spans 38 ft.
 - 2 Carry the elevated floor at mid span.
 - 3 Be the lateral system on the living story, because the perimeter is mostly glass.
 - 4 Carry the MEP riser, one wet stack, one chase route.

OPTION B

Four radial walls to alternate vertices

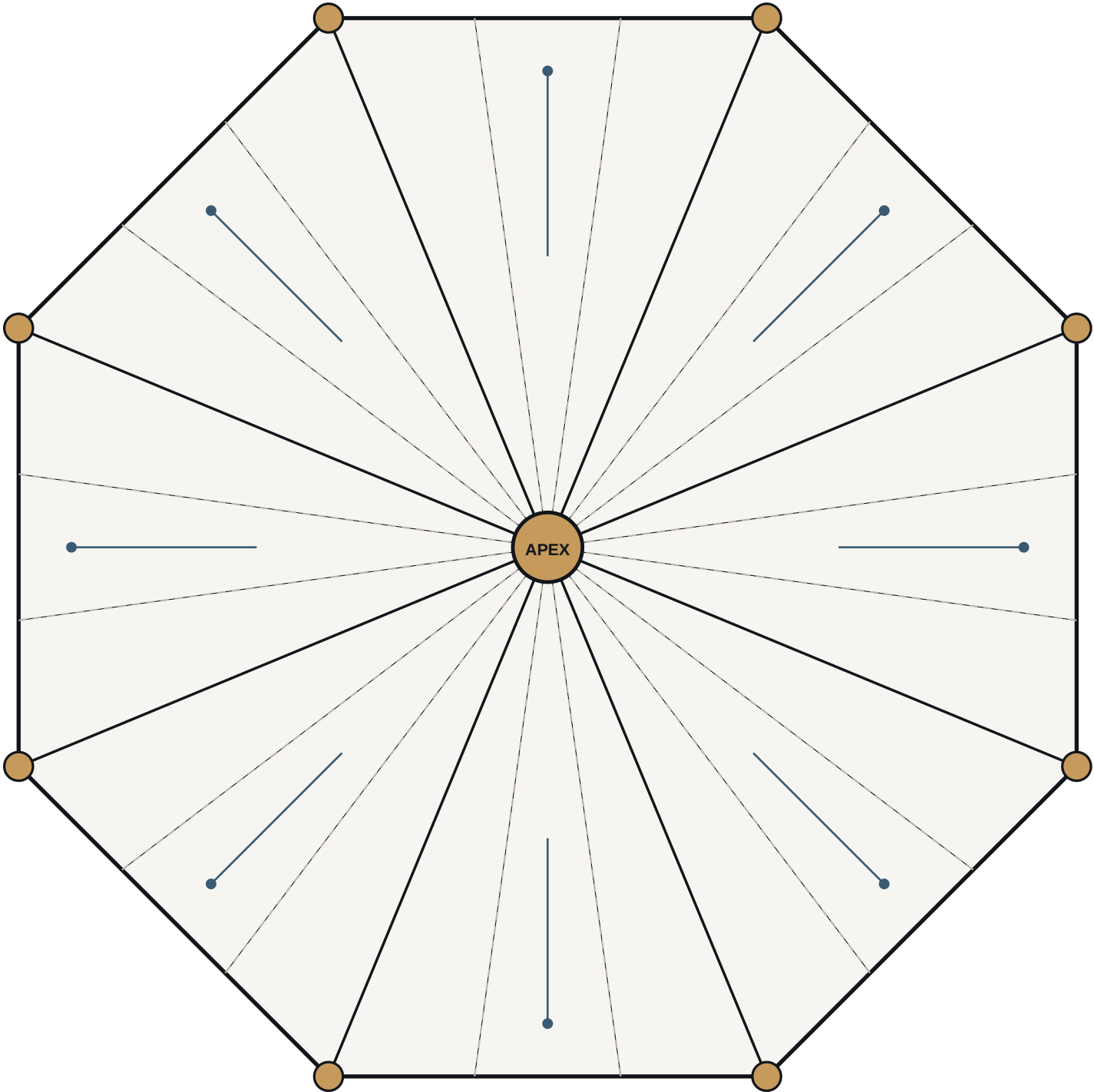


OPTION B, four radial walls
Ties directly into four of the eight cages, and puts a wall under four roof planes. Structurally this looks better and architecturally it is worse: it makes eight wedges out of a 1,187 sf house.

FOR THE PE
A or B, or something we have not drawn. To the vertices or to the face midpoints.
SCIP, CMU or cast in place. Minimum wall length that does the structural job, so we can plan the house to your number rather than ask you to plan around ours. And whether a continuous element at the eave is still required in addition to these.

S5 · ROOF PLAN

Eight planes. Three strips per plane, each running full length from eave to apex.



AS INTENDED

8 planes. 3 strips per plane. 24 roof panels.
Each strip runs the full length, eave to apex,
so there is no horizontal joint in the span.

Horizontal run, eave to apex 19 ft 0 in
Slope length at 6:12 21 ft 3 in
Panel: 8 in core, 12 1/4 in finished, R-30.8
Finished weight 46.29 lb per sq ft

Outer end bears at the top of the wall.
Inner end lands on the centre walls or the
apex, so no strip free spans the full width.

BY PE

Minimum pitch that works economically.
What the apex needs, if anything, and whether
the centre walls carry it.

Whether the centre walls pick up the inner end
of all eight planes or only some. This depends
on your answer on S2 and it changes the plan.

Strip width and span. Three is our guess from
the panel module, not a requirement.

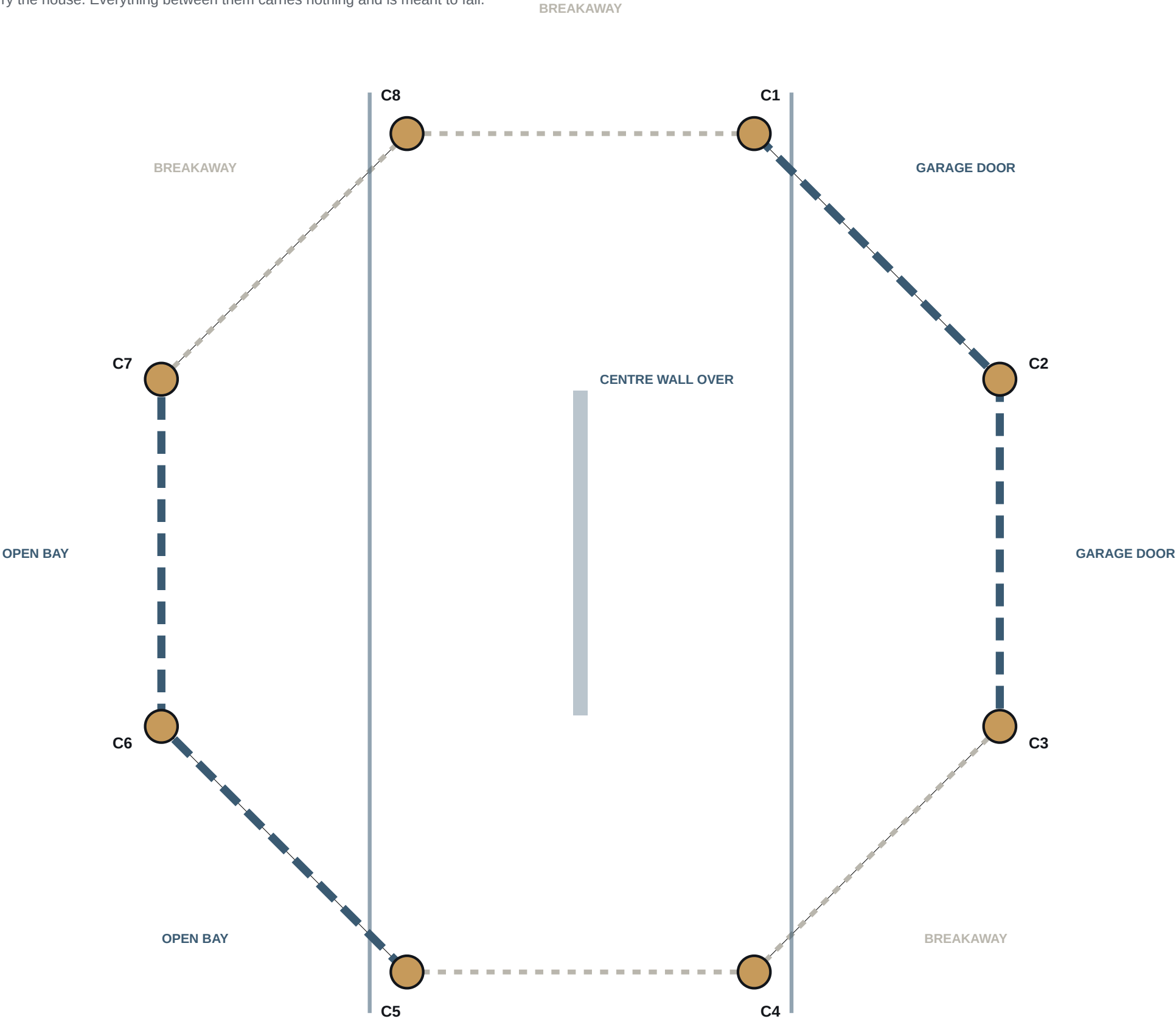
THE HARDEST THING IN THE SYSTEM

Overhead application on a sloped underside.
Voids behind mesh are the most common real
world SCIP defect, and on a roof they are both
structurally serious and invisible once finished.

Tell us the QA regime you require in order to
stamp it. Mock ups, core testing, third party
inspection. Then tell us what it costs per
house, because we have to price it and we
would rather price it than discover it.

S7 · GARAGE LEVEL PLAN

The eight cages carry the house. Everything between them carries nothing and is meant to fail.



WHAT CARRIES WHAT

CARRIES THE HOUSE
The eight cages. Nothing else.

CARRIES NOTHING
Every panel between the cages. Breakaway or flood vented per FEMA. If surge destroys all of it, the house above is untouched, because the house above was never resting on it.

This is the FEMA argument and it is the reason the cages are the primary system rather than the walls.

DOORS, AS INTENDED

Two large doors on the front, C8 to C2, for vehicles and storage.
Two open bays on the rear, C4 to C6, for covered outdoor space.

Opposite pairs, so opening both ends gives straight through flow rather than a pocket for surge to push against.

We considered eight and decided four. Tell us if four is wrong.

BY PE

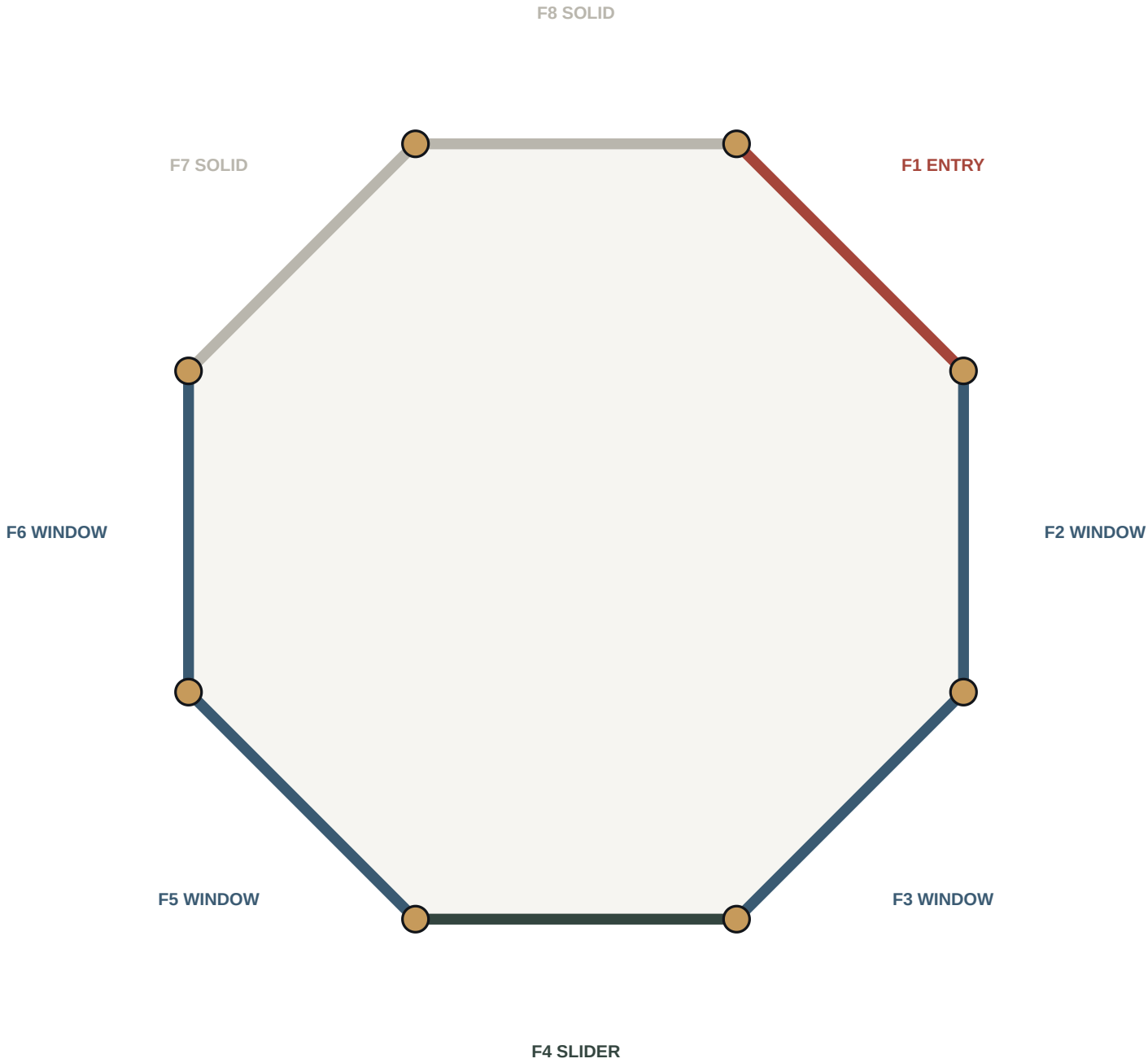
Confirm eight cages read as an open foundation for FEMA in the zones we build in.

Detail large operable doors and breakaway or vented infill so they coexist. These are slightly opposed goals and this is where the design gets argued with at the permit counter.

Nothing below BFE that cannot get wet. Every utility stays up on the living level.

S8 · OPENING SCHEDULE, LIVING LEVEL

Eight faces, eight assignments. Repeated sizes, not eight unique walls.



FACE	ROLE	OPENING
F1	FRONT	Double impact entry doors, sidelights optional
F2		Large impact picture window, type W1
F3		Large impact picture window, type W1
F4	VIEW	Wide impact slider to the porch, type D1
F5		Large impact picture window, type W1
F6		Large impact picture window, type W1
F7	BATH	Solid, plus one small high impact window, type W2
F8	BEDS	Solid, or one medium impact window, type W3

THE RULE THAT KEEPS THIS CHEAP

One picture window size used four times. One slider. One entry unit. Two small types. Five opening types across the whole house, not eight unique walls. Each type becomes an opening panel variant the factory makes, not a cut somebody makes on site.

IMPACT, NOT NEGOTIABLE

All glazing large missile impact rated. Laminated glass, impact frames, and anchorage into the panel and into the cages. The anchorage is what makes a whole wall rating real and it is the detail we need from you, not from the window supplier.

BY PE, AND WE WILL DESIGN TO YOUR NUMBER

Maximum glazed percentage per face.
How many faces may be glazed at once before the remaining faces are overstressed.
Header, jamb and sill reinforcement for every type. Sill pans and flashing.

Four glazed faces and one glazed entry is what we want. If the lateral system will not carry it, tell us the number it will carry and which faces have to stay solid, and we will move the floor plan rather than argue with you.

Openings must be prescriptive and repeatable, not designed per project. These ship to strangers who will not call us before they build.