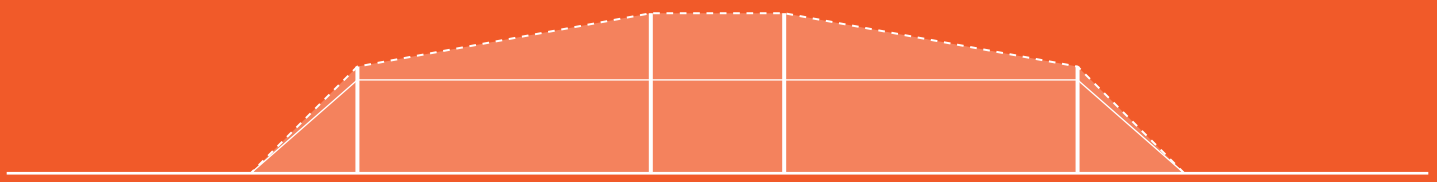
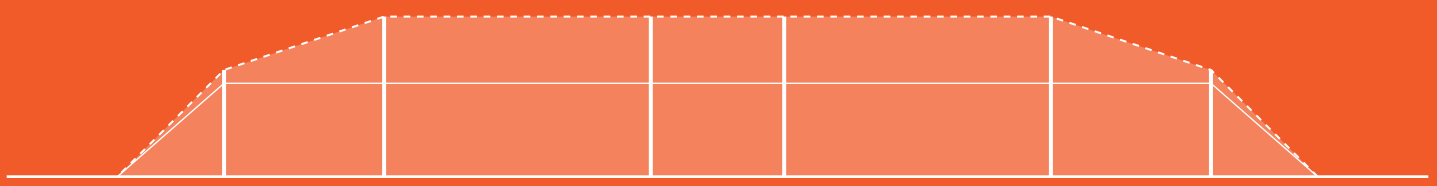
SUSPENDED ANIMATION

CONDO 18

Draft 1.2

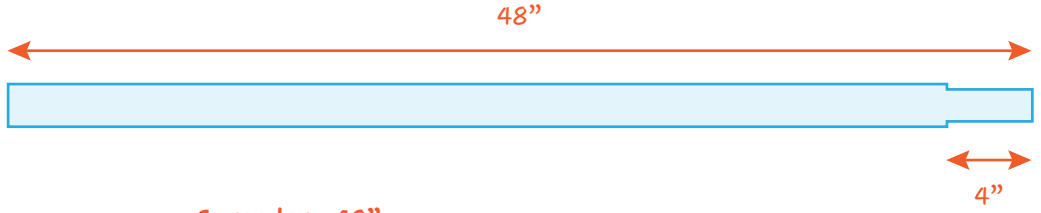


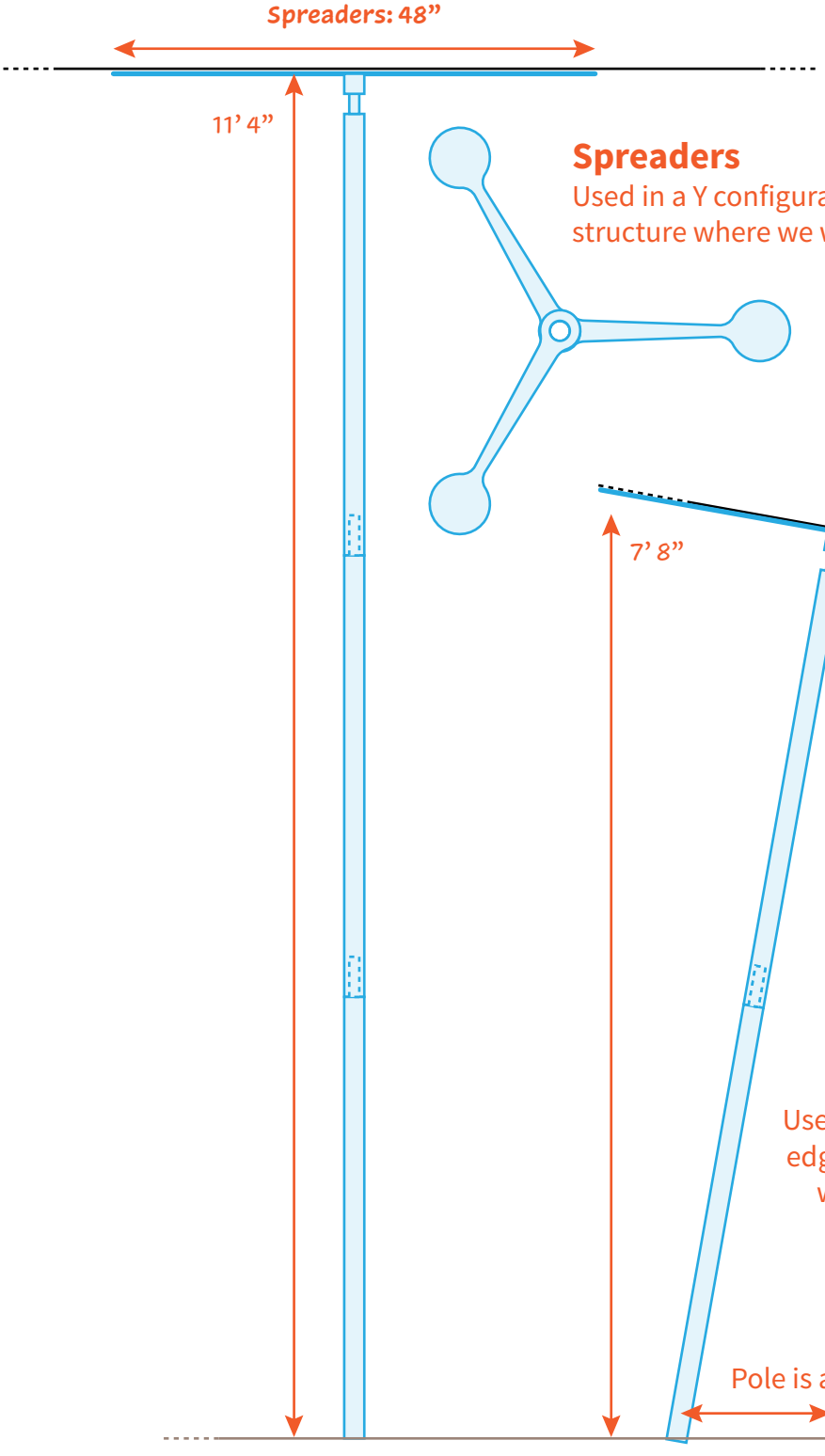


Support poles

Sleeving aluminum poles

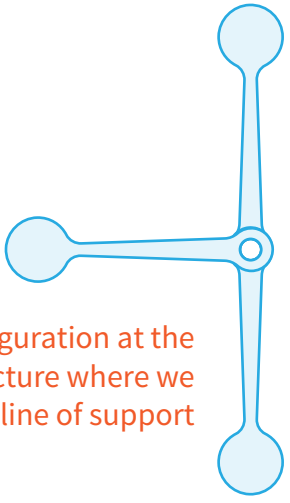
Poles will be built from lightweight components, allowing us to use tall and short poles in the structures.





Spreaders

Used in a Y configuration at the center of the structure where we want more surface area



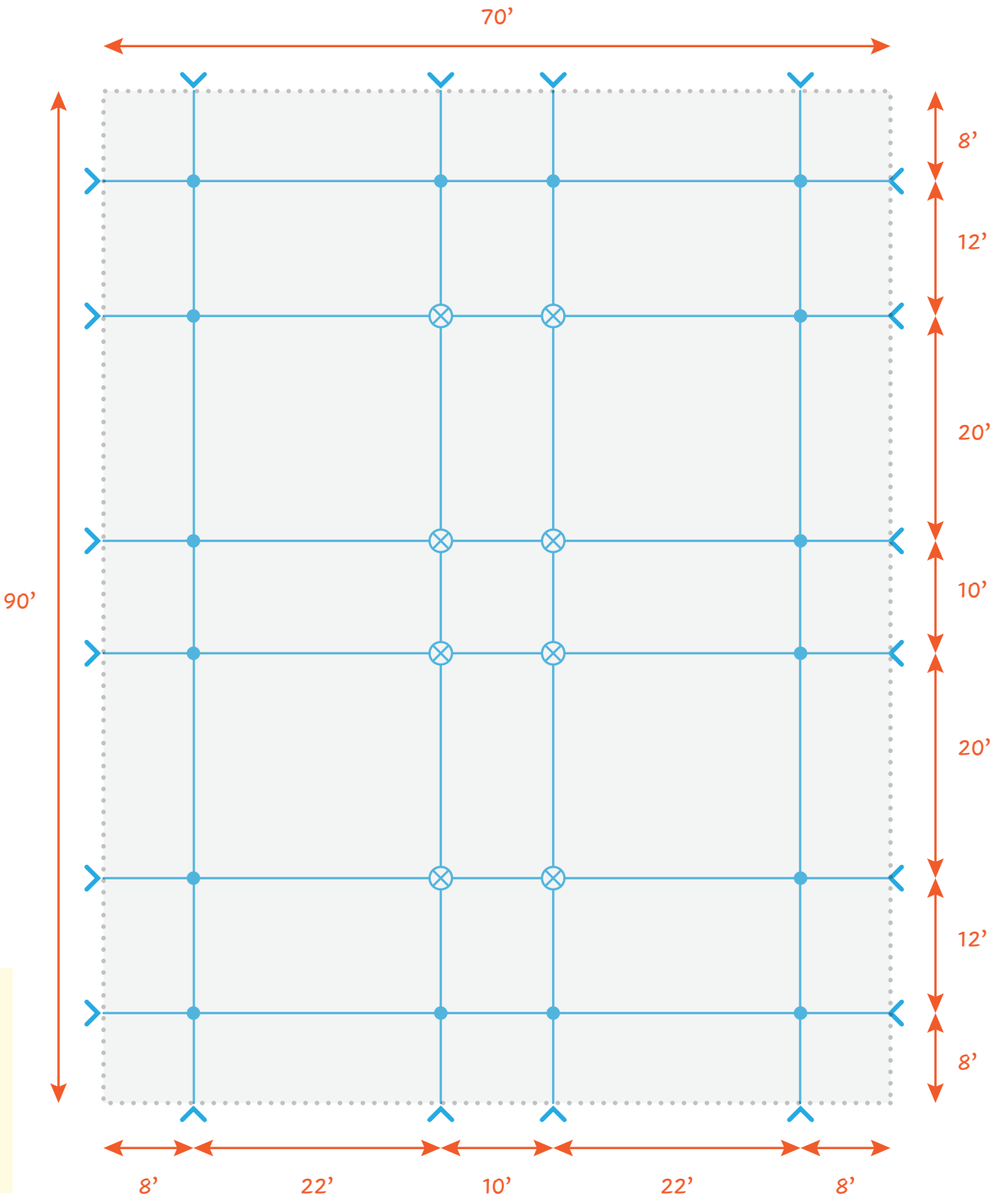
Used in a T configuration at the edge of the structure where we want an even line of support

Pole is angled after rigging is complete.

Structural plan

KEY

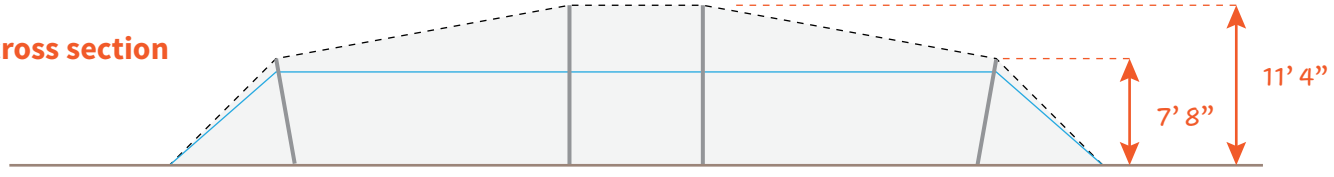
- ⊗ 12’ pole
- ● 8’ pole
- — Guy line
- › Earth anchor



We will need a new measure-o-tron for this structure. The good news is that it will be bilaterally symmetrical, meaning that the measure-o-tron cannot be upside down or backwards.

Note that the rigging is at about 7 feet. This means we may be able to do our structural rigging without ladders.

Front cross section

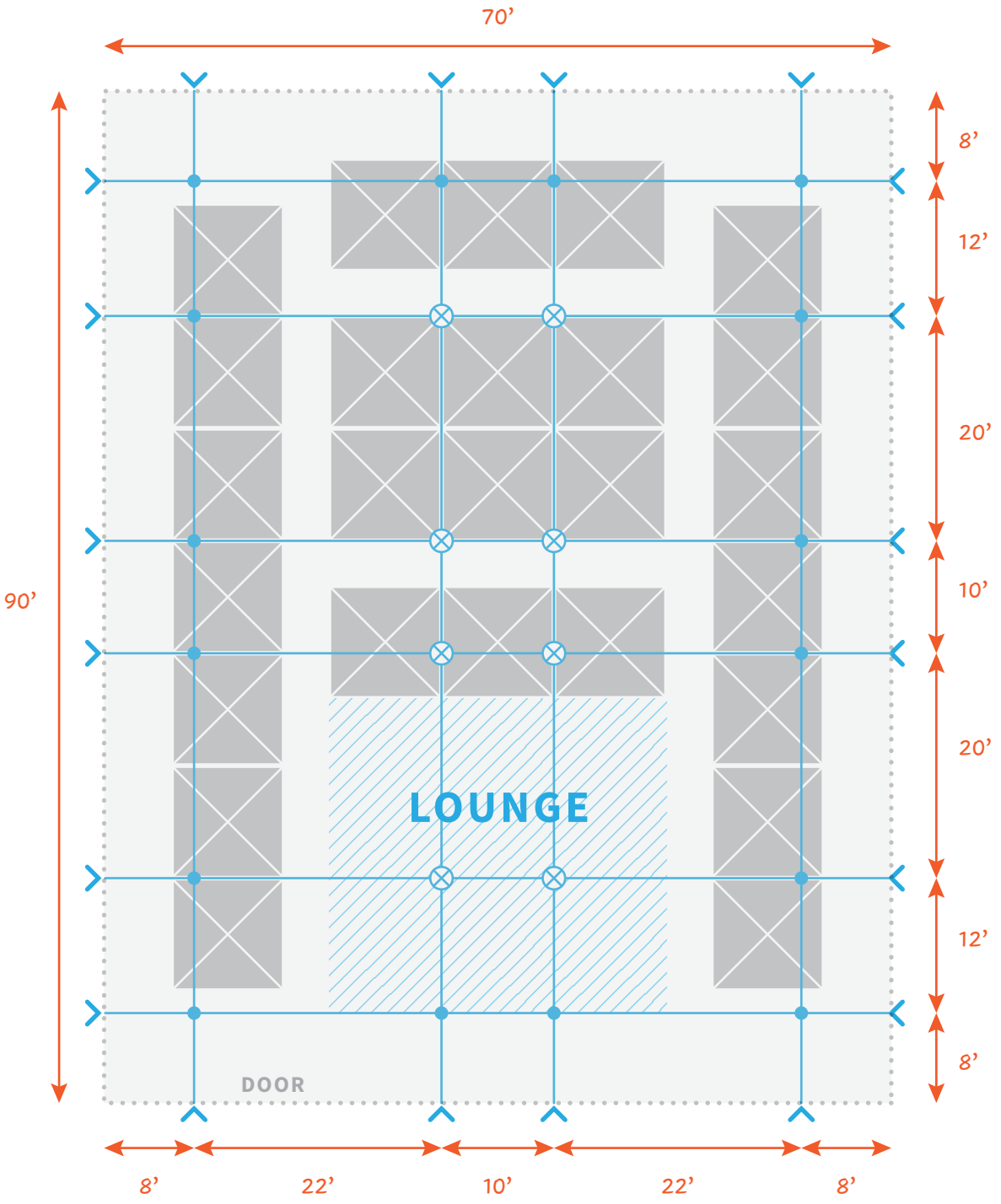


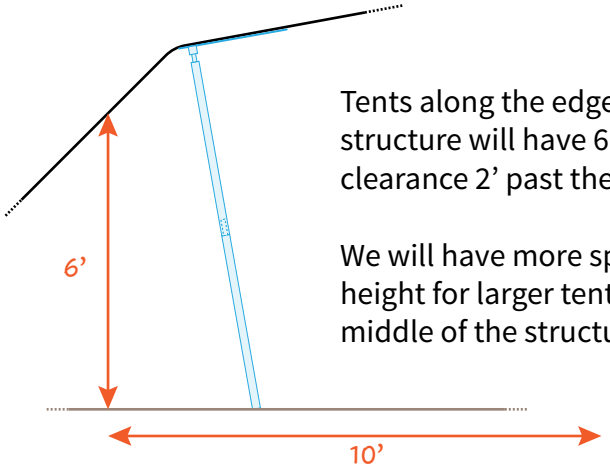
Side cross section

Tents and lounge layout

The idiosyncratic spacing of guy lines allows us to keep the tents on a 10’ grid. Poles do not block the doorways of any tent, nor do they land in the middle of an aisle.

Assuming we can use gear tents to reduce the total number of tents to 26 (shown), our lounge space will once again be 30’ x 30’. For comparison, this is exactly the layout we had in 2015.





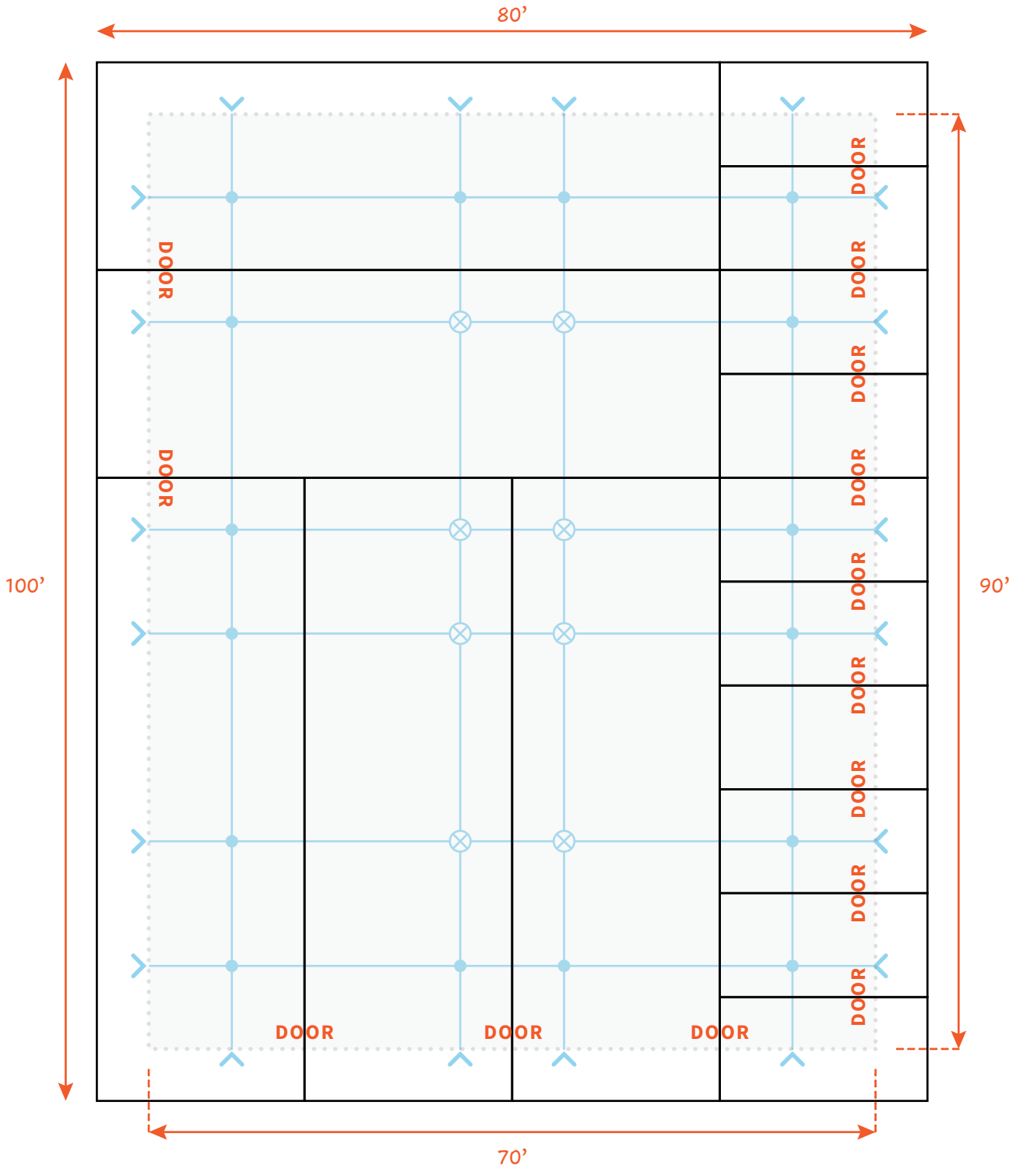
Tents along the edge of the structure will have 6’ of clearance 2’ past the poles.

We will have more space and height for larger tents in the middle of the structure.

KEY

- 12’ pole
- 8’ pole
- Guy line
- Earth anchor

Shade cloth panels



Using the power of zip ties, we will connect our existing five 20’ x 60’ panels plus ten of our 10’ x 20’ panels into a single 80’ x 100’ unit.

Joins between the panels will provide the ability to create doors. The asymmetry of the panels will make this slightly picky to construct, though the good news is this will not have an “inside” or “outside.”

The seams of the cloth will make centering of the cloth easy to spot, and none of the seams intersect with a support pole.

Comparison

COMPARISON	CLASSIC	MODULAR	NEW	NOTES
Frame weight (pounds)	839	2135	390	Single biggest argument for the new structure: 1,113 less pounds to load into trucks, unload from trucks, assemble, disassemble, load back into trucks, and then unload into the storage unit. Also 1,113 less pounds of cargo — roughly 12% of our entire camp cargo capacity.
Familiarity	Same construction method between pavilion and condo is a plus.			
Structural strength	Hard to say which structure is more stable. The new structure does not have a flat top, which reduces of of the negative pressure that has caused heaving waves in the past.			
Shade cloth resilience	The modular structure probably does the best for shade cloth resilience, since there are no support pressing against it. That said, the new supports are a clear upgrade from the previous salad bowl technology.			
Effort (short estimate) (total person minutes)	3,245	5,482		Built from a high-detail survey from many people who have constructed both structures. Bottom line: the "classic" structure takes less time to build, and the "new" structure should be significantly faster. Let me know if you want to see the detailed breakdown of time.
Effort (long estimate) (total person minutes)	5,280	8,466		
Number of guy lines	14	n/a	10	Nearly 33% reduction in guy line rigging.
Number of footing stakes	44	24	0	I believe we can get away without any footing stakes.
Number of earth anchors	59	0	51	A slight reduction in earth anchors. I'm currently assuming we will continue to use those for stretchers.
Number of vertical EMT	31	63	24	The new structure doesn't actually use EMT, but uses similar-weight modular fiberglass tent poles, specifically made for this purpose.
Number of horizontal EMT	0	136	0	
Number of vertical sched 40	13	24	0	
Total number of poles	44	223	24	
Skilled labor	This is a wash. One way or another, all versions of the shade structure go up most easily when there are about 10 people who have already rehearsed their jobs, and 2-4 people who fully understand how the structure works.			

Comparison

COMPARISON	CLASSIC	MODULAR	NEW	NOTES
Time to shade	4h	1h	4h	The modular structure clearly wins this. I think we can devise a way to provide temporary shade, though.
Scalability	None	Low	None	The “modular" structure is theoretically scalable, but in reality it can only be changed in 20’ x 60’ blocks. This is not useful for structural layout, and it’s difficult to imagine why we would want to reduce or expand the structure by 1200 square feet (unless we go with 25 people).
Pre-playa work (ongoing)	Big win for the new structure: the support poles will cease to be a maintenance issue. We’re also completely ditching the salad bowls and hex keys, MacGyver stakes, color-coded parachord running rigging, pipe fittings, and cross bracing.			
Maintenance cost	Certainly some savings on replacing EMT, that's for sure. We may be stressing the shade cloth; on the other hand, the first shade cloth lasted for it full expected service life. We have some risk of military surplus poles not being as readily obtainable as EMT conduit.			
Storage	Big win for the new structure: eliminating 199 EMT plus 24 sched 40 poles, and replacing them with modular poles that break down into 4’ lengths and store in canvas carry bags. We also eliminate tubs for: pipe fittings, parachord running rigging, salad bowls, MacGyver stakes. Slight loss: the shade cloth will now be monolithic.			
Transport	Big wins for shedding 1,113 pounds, plus not having to stow around 200 EMT and 24 sched 40 poles, plus several tubs.			
Stability (early build)	Small win for the new structure. The modular system isn’t truly storm-ready until cross-bracing is in place, and in the early stages could be extremely susceptible to high winds.			
Stability (late build)	Small loss for the new structure, as we deal with the inherent susceptibility to high winds between shade pull and stretchers.			
Ease of strike	Big win, probably second biggest advantage: the new structure can likely be struck in about an hour. We end up dedicating the full crew to the shade pull and fold for a bit, but after that it’s literally minutes from being done.			
Security	Marginal security improvement, in that we can easily close and zip tie the doors on the new structure. (That said, we will be losing the great big 10’ wide doors on from the modular structure.)			