When Steel meets Height

Adventuring into “ASCENT”

2024-2025 CISC Student Design Competition

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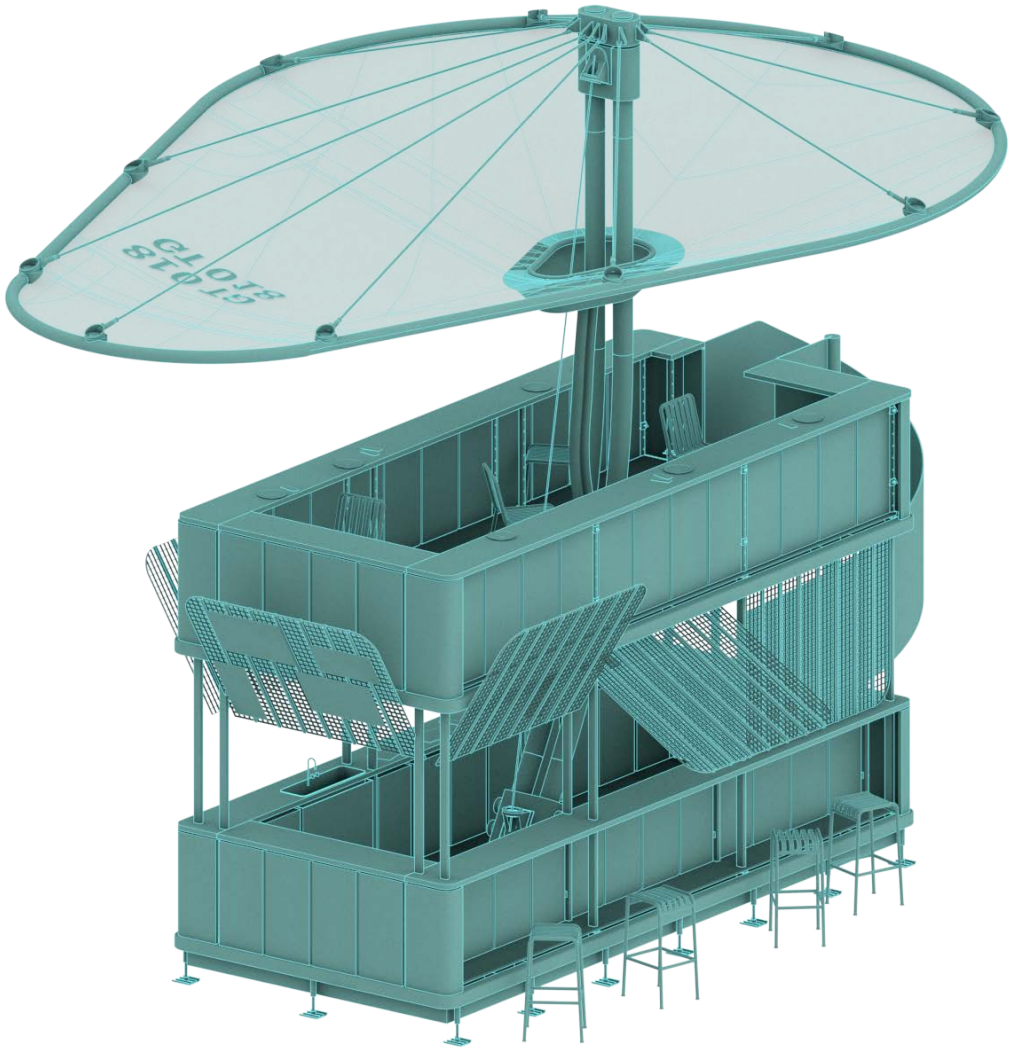
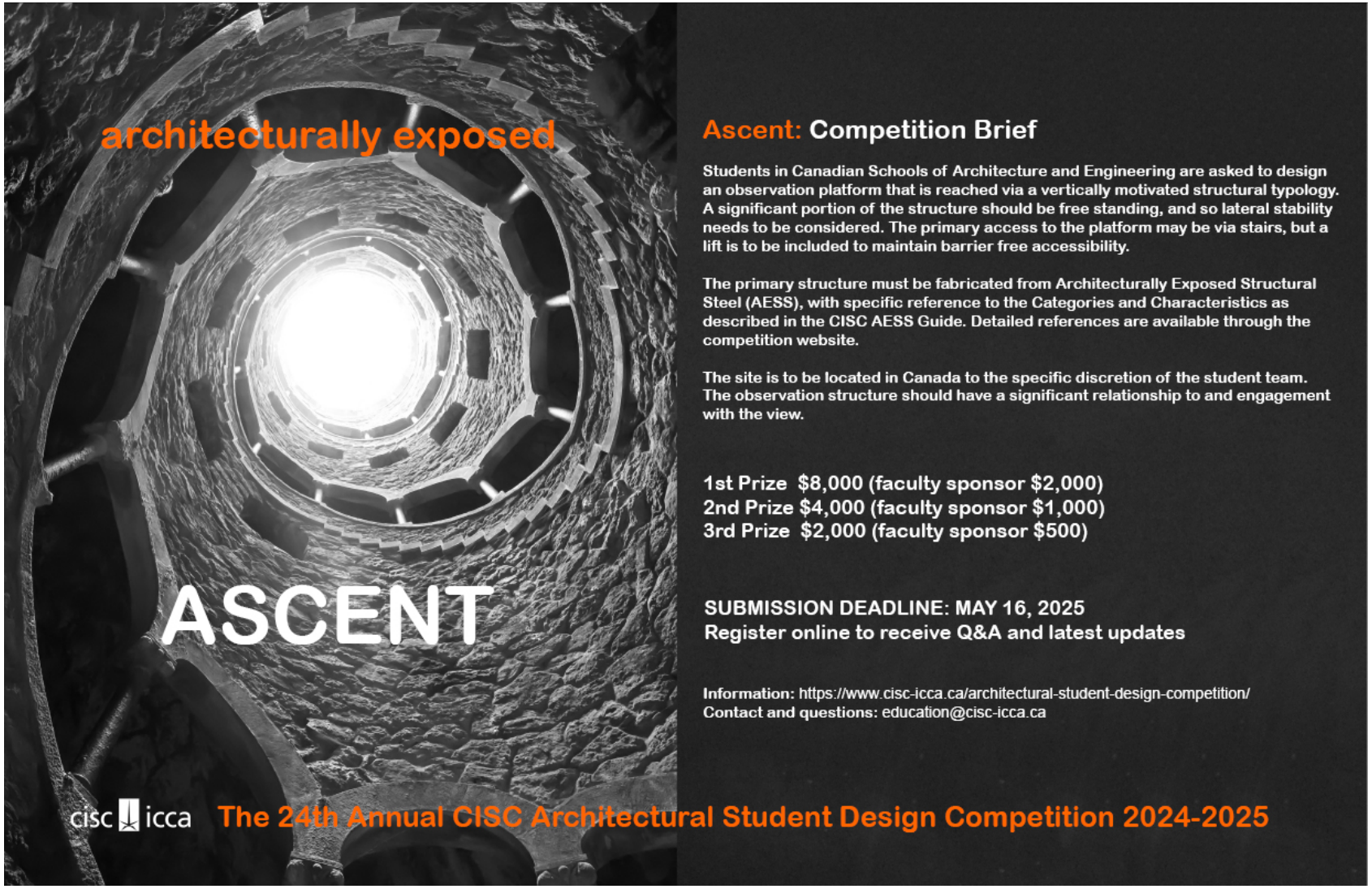
CISC Education and Research Committee

Topics to be covered:

- About the current competition
- Using Architecturally Exposed Structural Steel in your design projects
- Unpacking previous competition winners
- What does it mean to build tall with steel?



2024-2025 Competition – “ASCENT”



Eligibility and Jury

cisc icca
CANADIAN INSTITUTE OF STEEL CONSTRUCTION
INSTITUT CANADIEN DE LA CONSTRUCTION EN ACIER

Eligibility

The competition is open to all full-time students (individually or in teams of a maximum of 3) registered in a Canadian school that offers an accredited or non-accredited program of architecture or architecture / engineering of at least 3 years.

The competition may be conducted as part of a design studio project under the direction of the faculty sponsor or as an independent extracurricular self-directed project.

Winning entries and their faculty sponsor will receive stipulated prizes. Prizes will be divided evenly between group members.

Winning entries will be published on the CISC website and announced in our Advantage Steel publication. The projects will be displayed at the CISC Annual Conference.

Jury

The jury is composed of Architects, Engineers and Fabricators who have been past CISC winners for their outstanding achievements in steel construction or whose work.

Jury President
Sylvie Boulanger, ing./P.Eng., Ph.D.
Senior Engineer
MTB Consulting, Montreal

Jury Members

Andrew Voth, P.Eng., Ph.D.
Associate
Read Jones Christoffersen Ltd., Toronto

Nicolas Demers-Stoddart, Lead Designer, Partner
Architect, OAQ, OAA, MRAIC, RIBA, B.Eng.
Provencher_Roy, Montreal

Andy Metten, P.Eng., Struct.Eng.
Partner & Structural Engineer
Bush, Bohlman & Partners LLP, Vancouver

Loraine Dearstyne Fowlow, Associate Professor,
School of Architecture, Planning and Landscape
University of Calgary

Owen Rose, Principal Architect, PA LEED
rose architecture, Montreal

Marc Gasparetto, Project Director
Cherubini Group, Dartmouth

Competition Sponsors

GERDAU
Shape the future

Atlas Tube

CWB cwbwelding foundation
building the future of welding in Canada

The jury includes people from all parts of the industry: architects, engineers, fabricators and educators

They know steel.

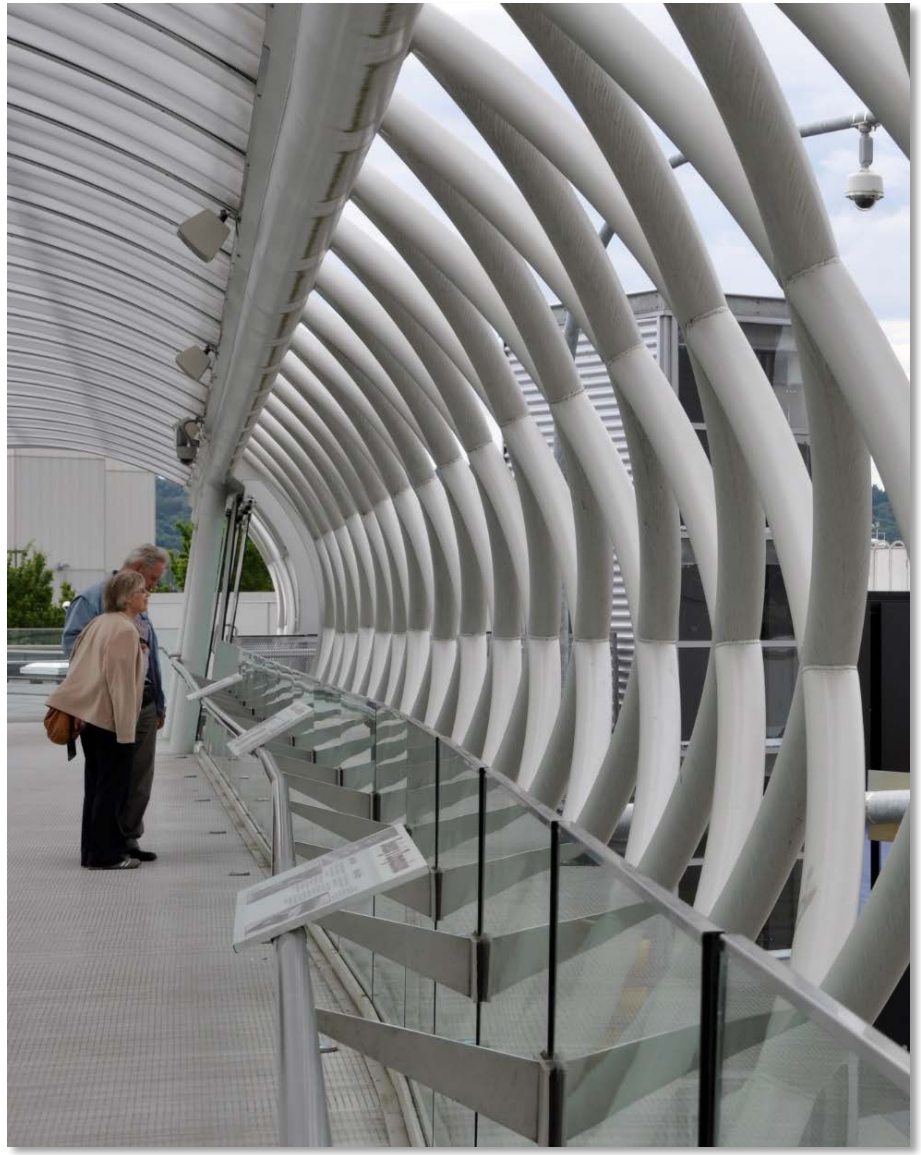
And they all have particular aspects of the competition that they are keenly interested to see.

You need to show them that you know steel too, and that you are adept at designing and pushing the limits with it, and maybe even love it.

BE SURE NOT TO INCLUDE YOUR NAMES ON THE PANELS OR YOU WILL BE DISQUALIFIED

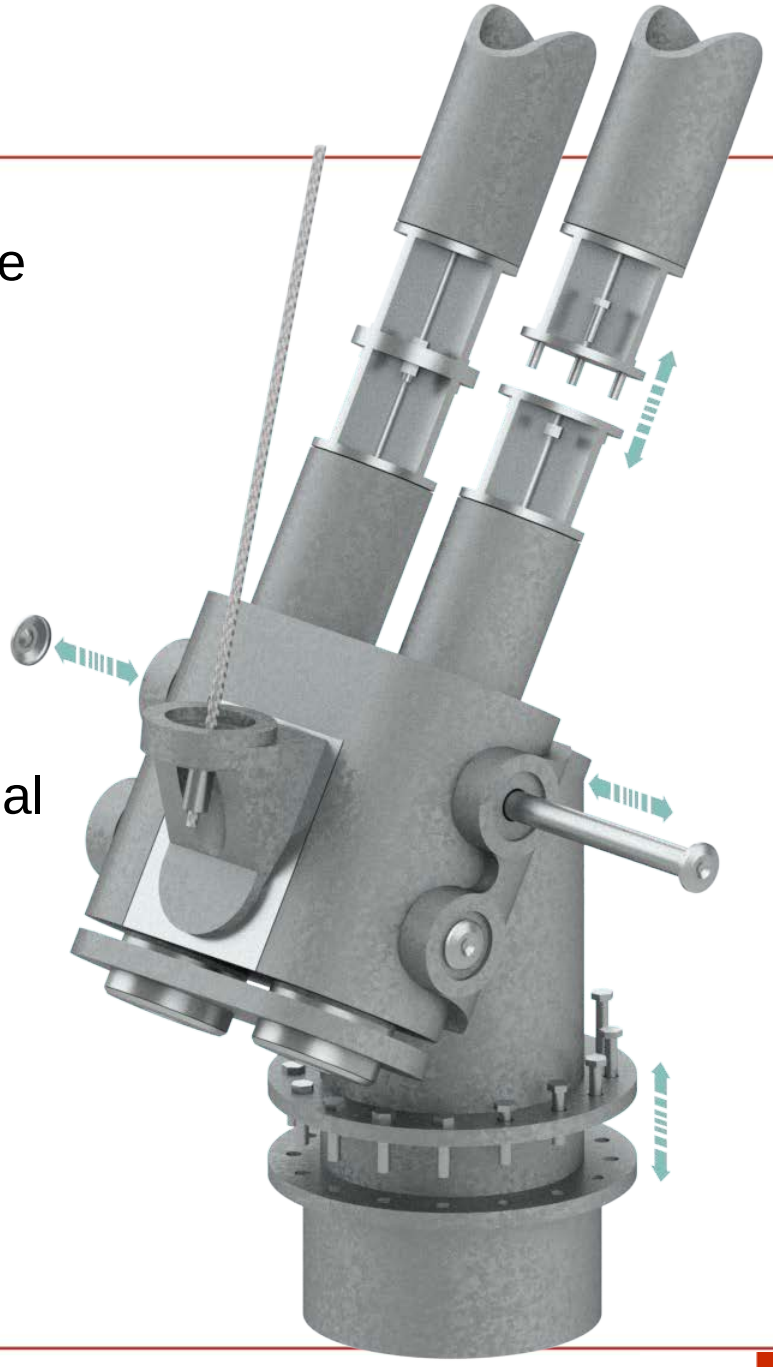
ARCHITECTURALLY EXPOSED STRUCTURAL STEEL

- This is a steel competition and the steel will predominantly be expected to be featured, therefore exposed
- Please review the presentations on the competition website for a full explanation of the CISC AESS Specification method so that you can note it on your presentation boards and it can influence your designs
- The jury will want to see clear connection detailing (bolts or welds, member types, etc.)
- The Architectural jurors may be more interested in the experience and the aesthetics
- The fabricators/erectors will be looking at the credibility of your details and how it will go together
- The engineer may be looking at stability and structural integrity



Creating a Winning set of Boards

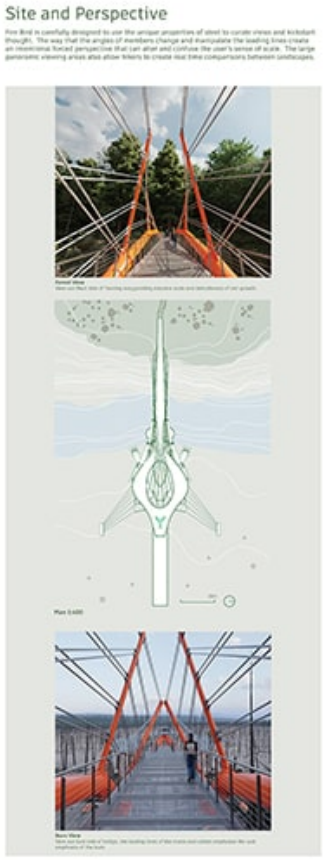
- All of the following projects received an Award of Excellence in the past 10 years
- Range of entrants from Year one in an undergraduate architecture program through to Master of Architecture students
- Projects undertaken independent of a design studio
- These were final projects for a half credit technical course
- The work was largely done independently and without formal critiques from the faculty advisors (varies by institution and advisor)
- They all use a complete range of drawings and include credible details

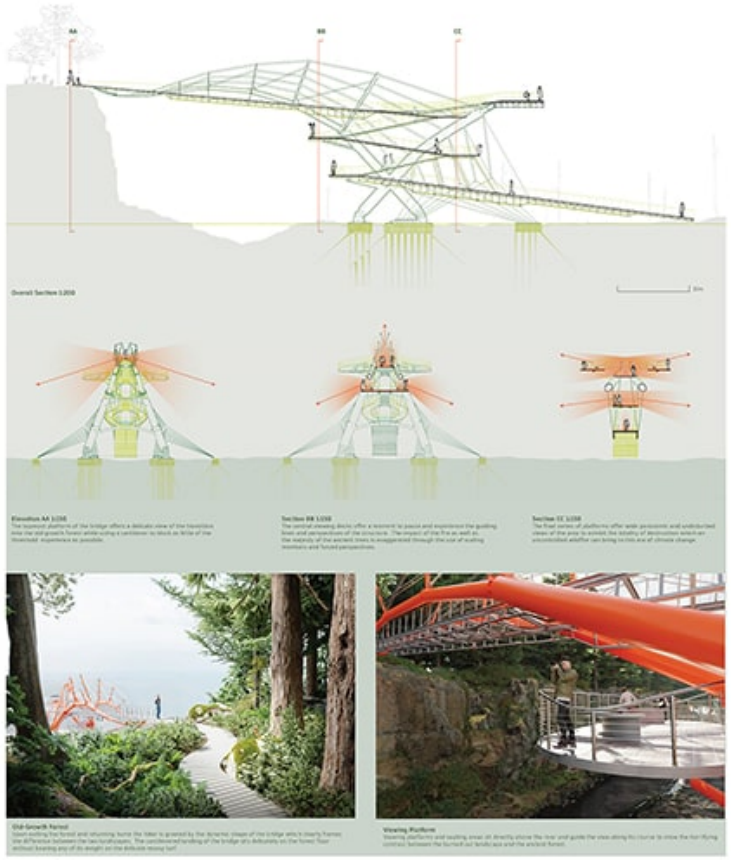


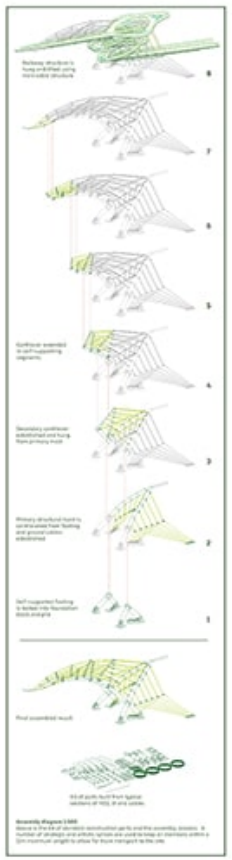
Board 1: Make an impression

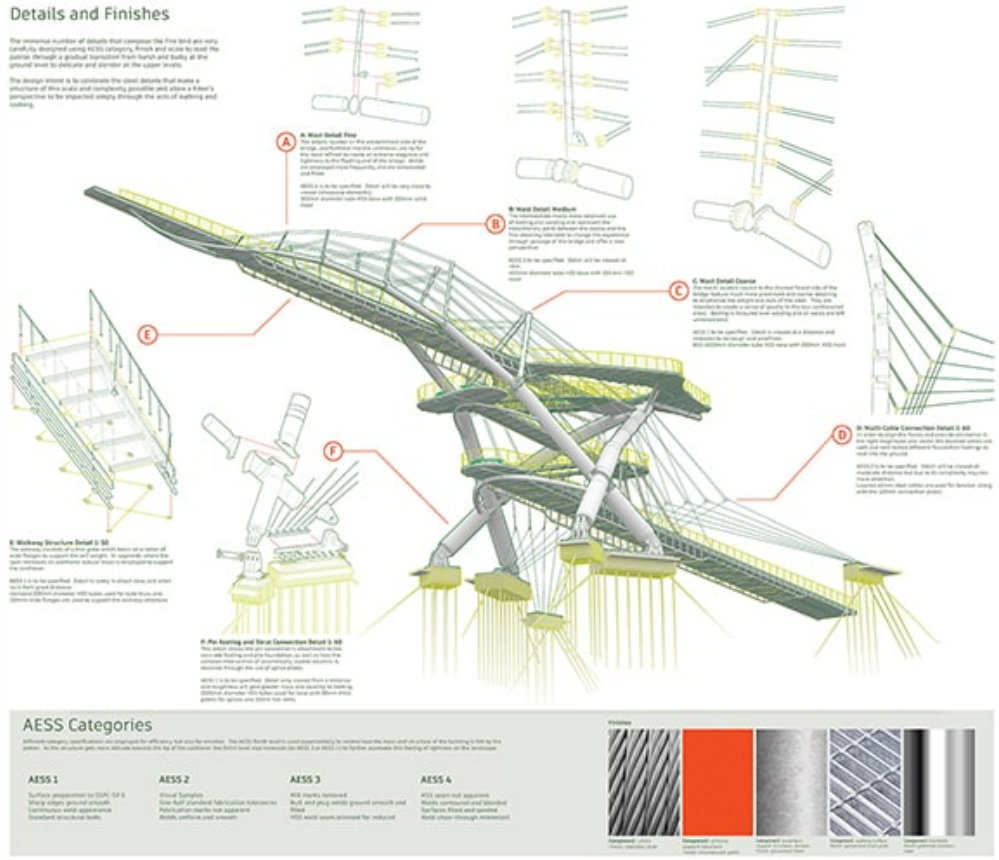
The review of the boards happens in an online environment, so be sure that everything you include is very clear and able to be read on a screen.

Some of the descriptive text on this board is very small so unlikely to be read.





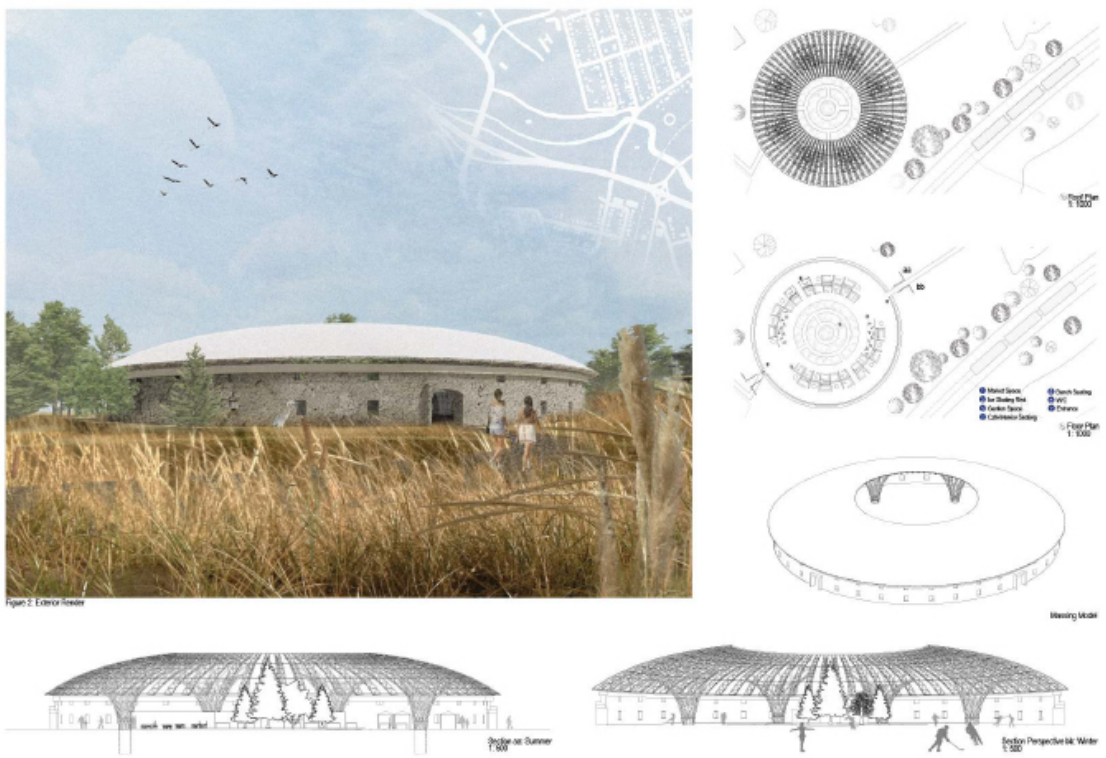


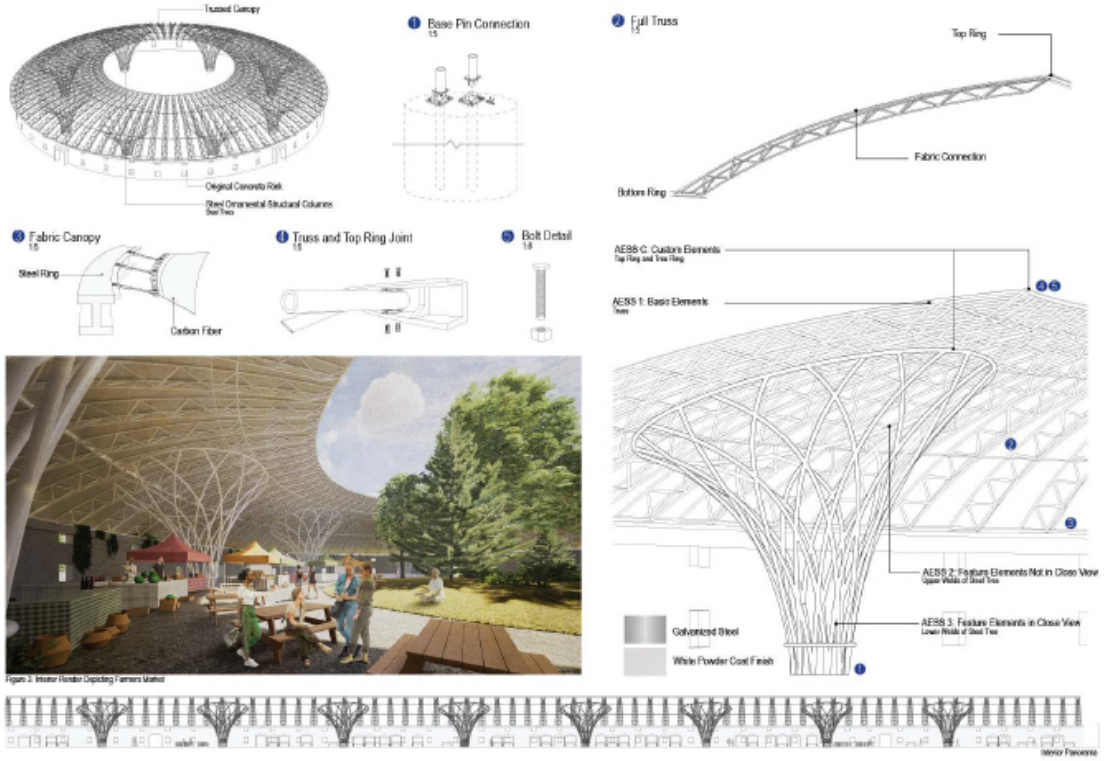


Boards 2 and 3: Complete the picture

- Renders, the feeling of the structure, *experience of the spaces – draw in the judges to look more closely*
- Details that clearly show that you understand how steel works and that it is a critical feature of your design.

Board 1: What can you add that maximizes the impact or versatility of the design?

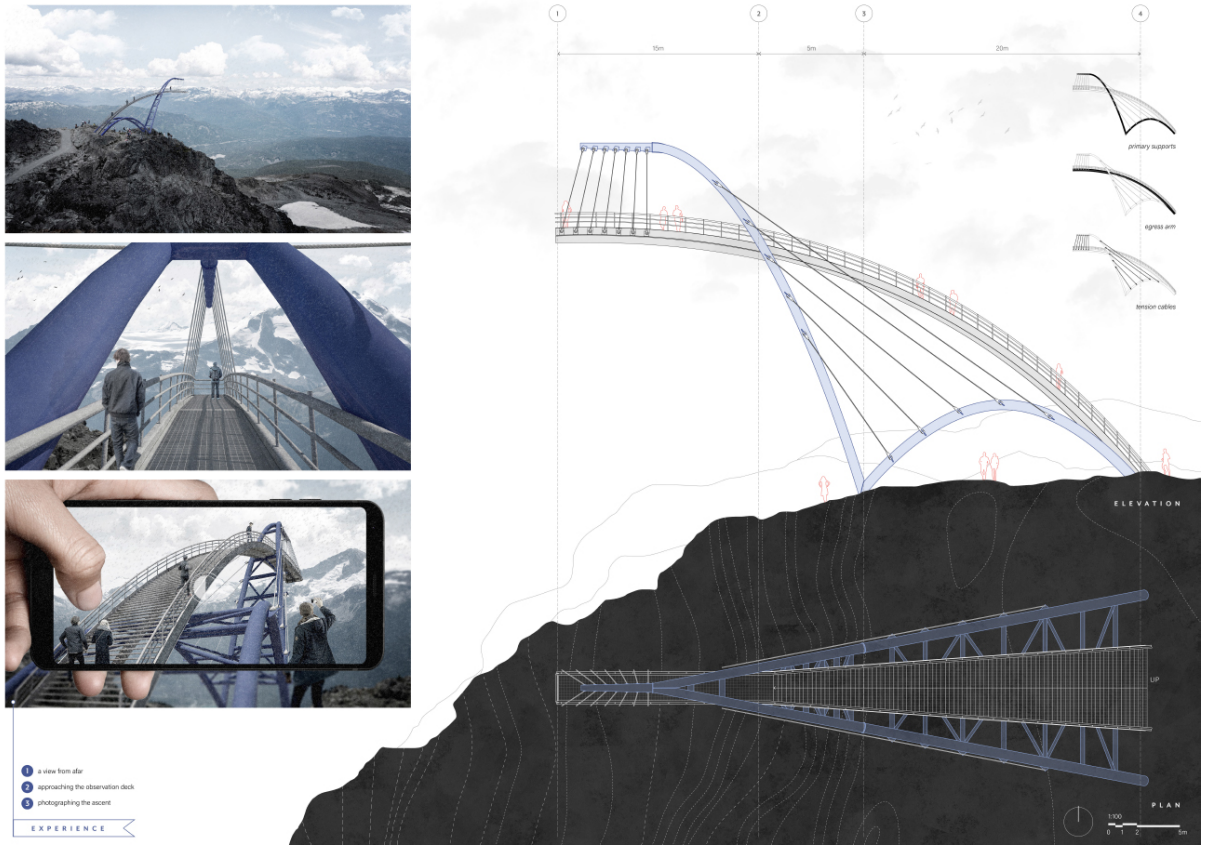


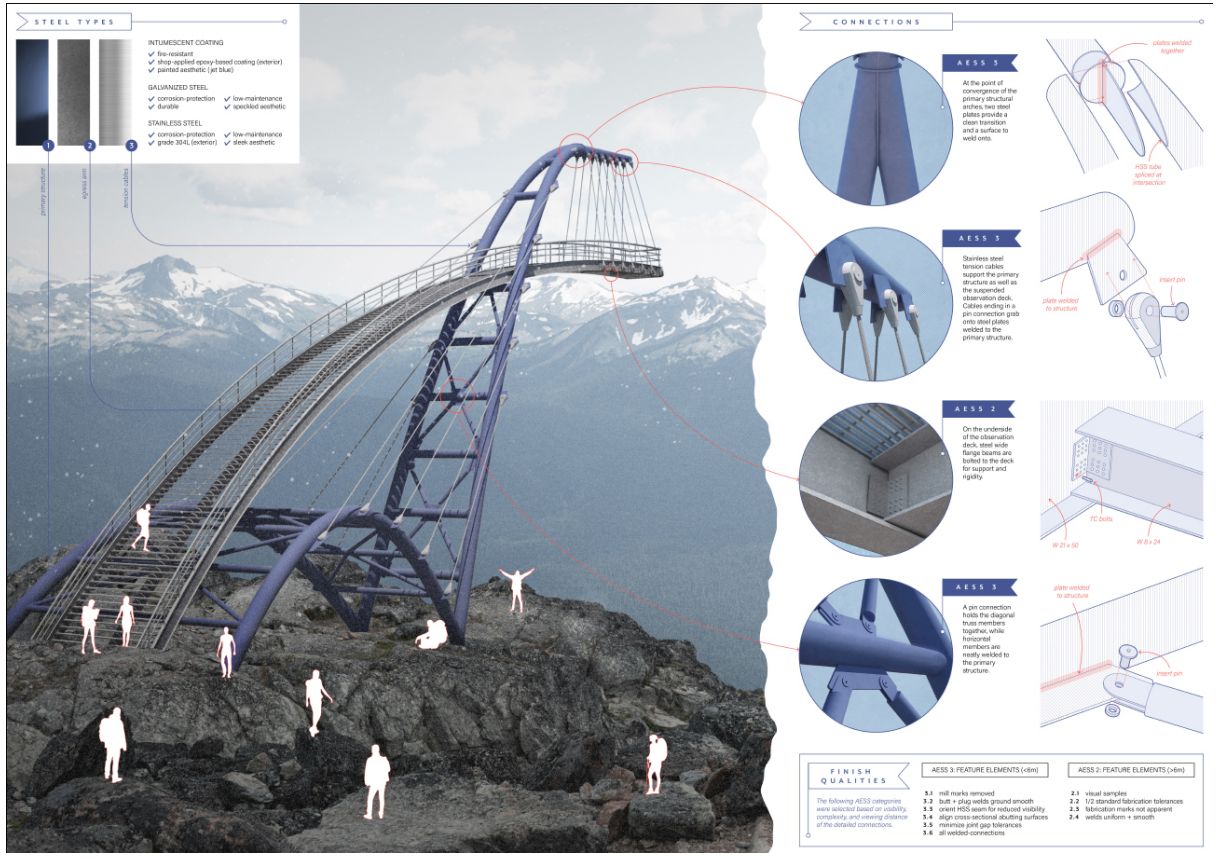


Boards 2 and 3: Make a coherent set

- Include the full orthographic set as required
- Intermix with renders and details to create a compelling and balanced presentation
- Make the idea of the structure and its stability very clear
- Annotate sufficiently to explain the use of the steel.

Board 1: Takes you into the project and clearly makes a connection with the theme



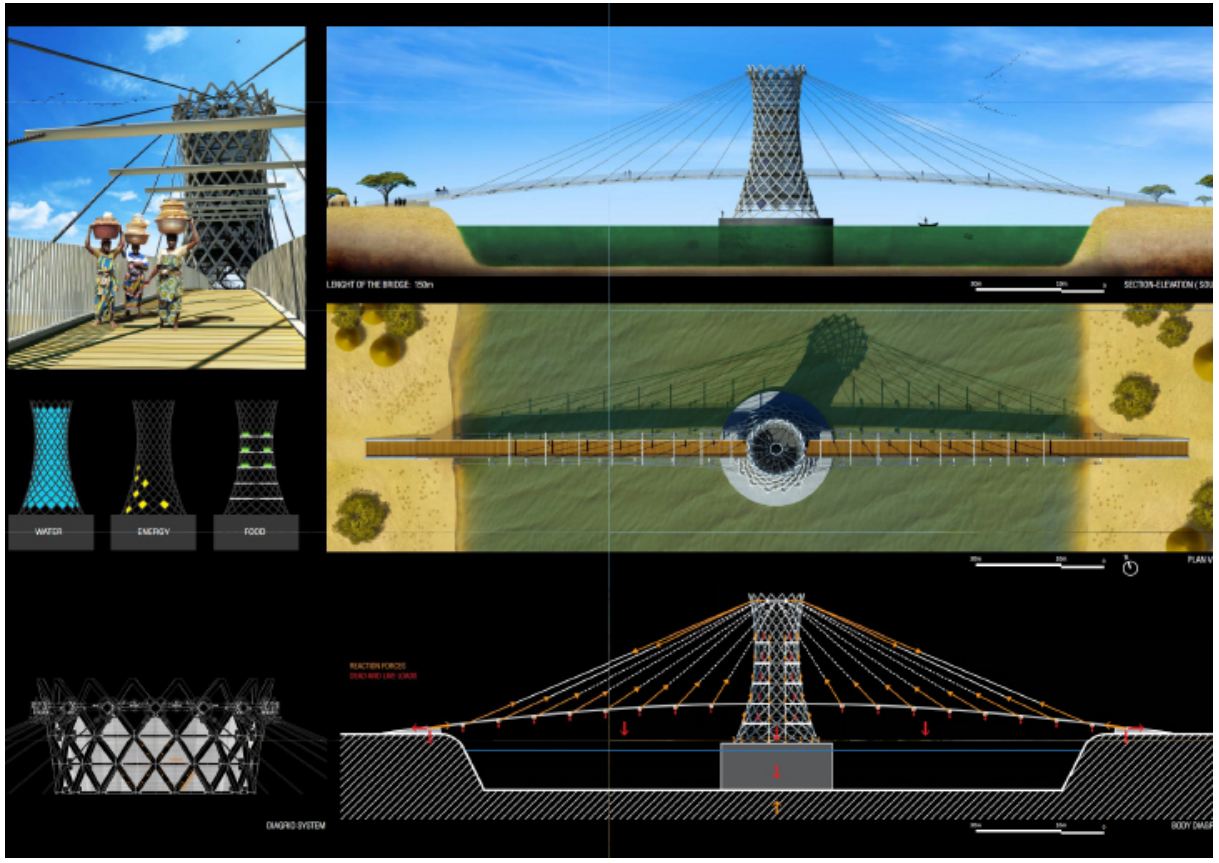


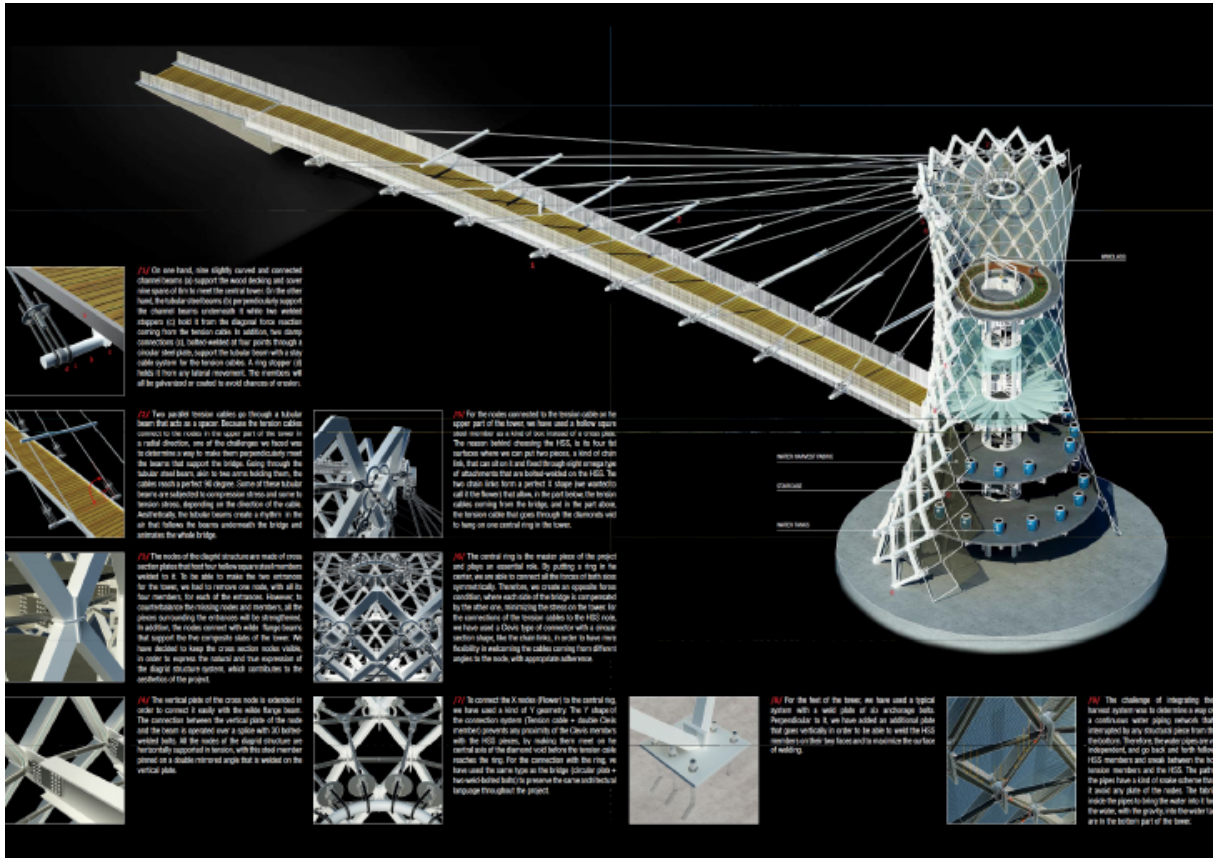
Boards 2 and 3: Complete the set

- Make sure the views are all different – inside, outside, top view, experiential view
- Details should be large and clearly show how the steel is connected (including AESS designations)

Board 1: compelling image and a clear and concise explanation

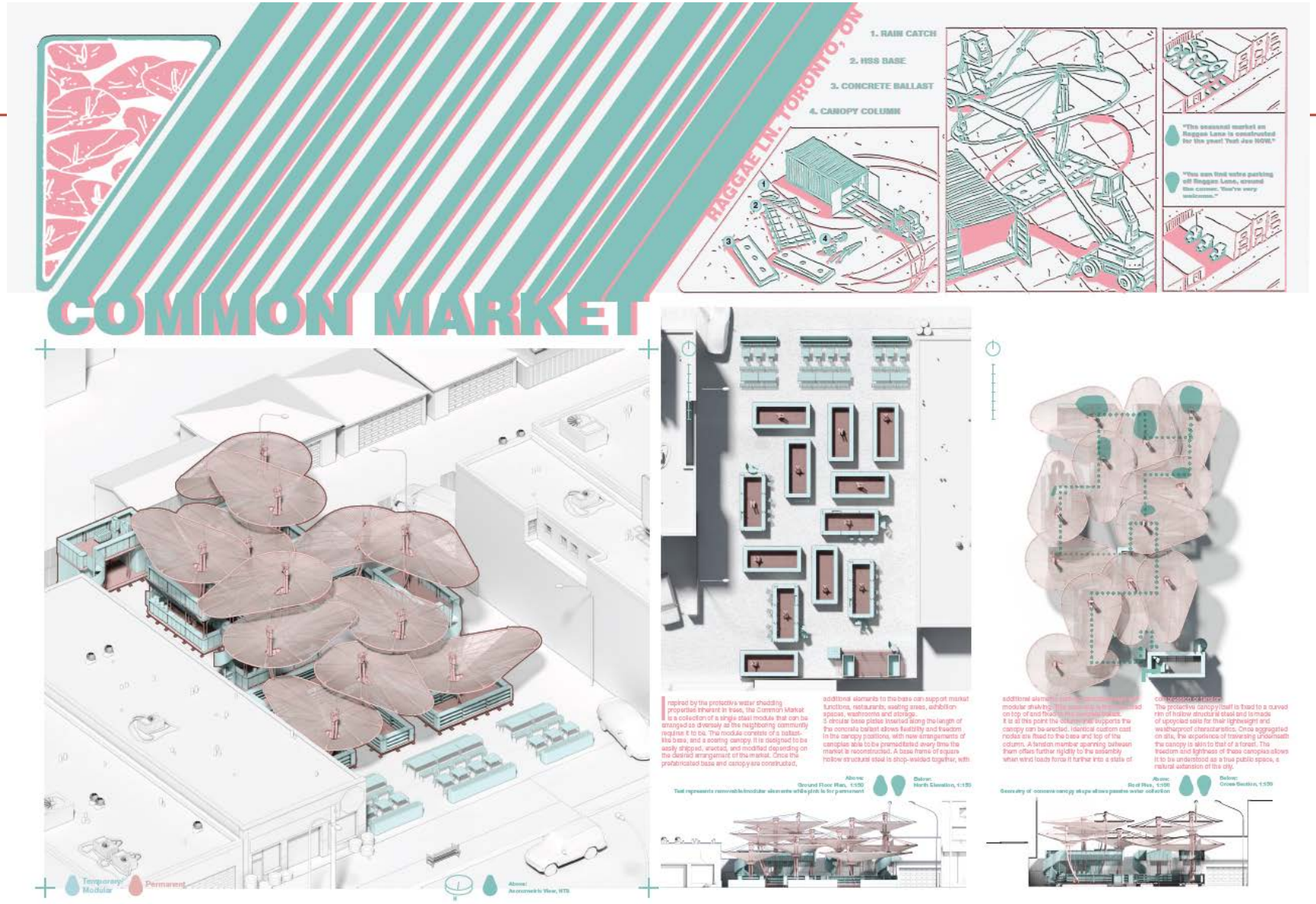
- Did you add any extra special value to your program that will set yours apart and above the other entries?





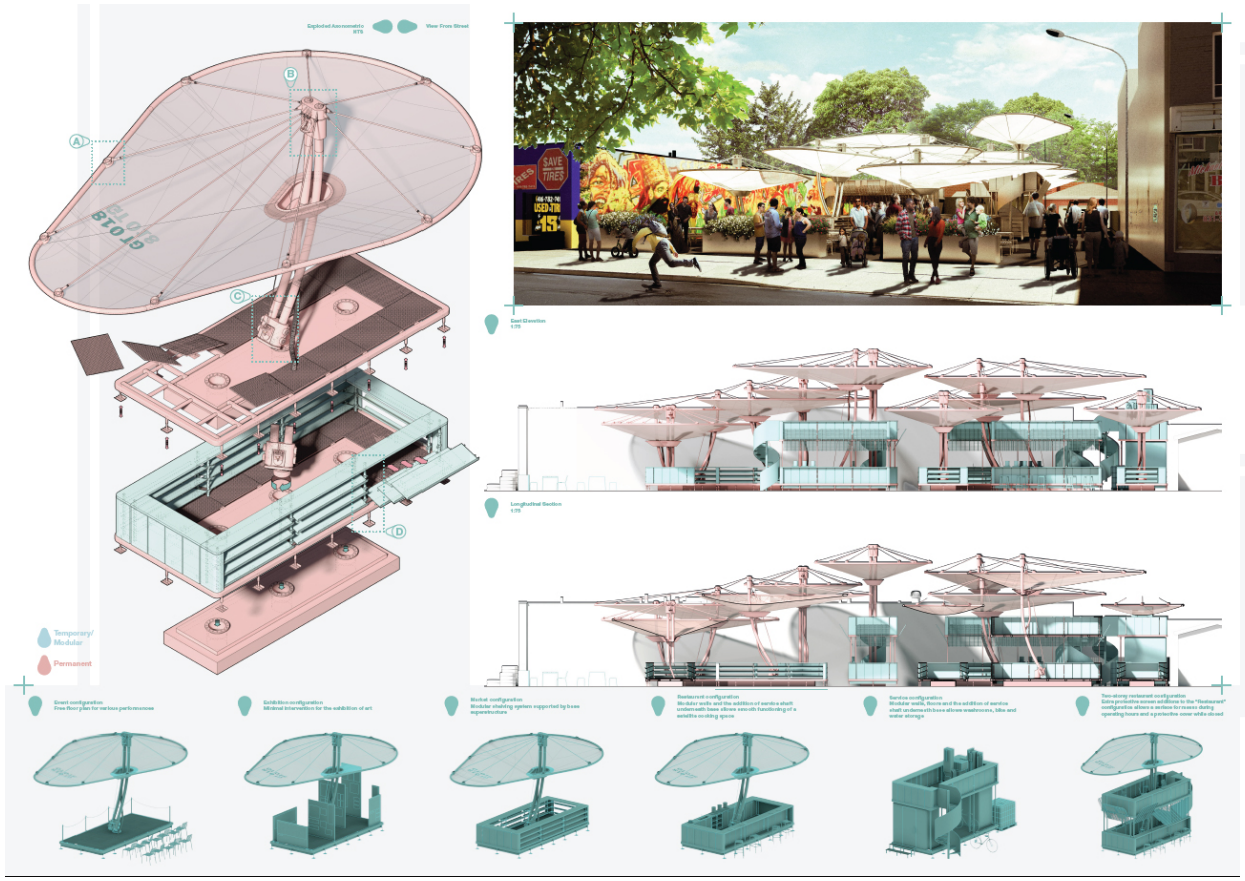
Boards 2 and 3: Complete the set

- Details clearly show the steel connections.
- Orthographics can also be used to animate the explanation
- The added program was explained



Board 1:

- This one chooses to make a more complete statement on the front vs a singular “money shot”



Boards 2 and 3:

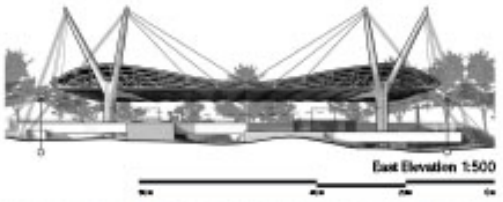
- This project involved a lot of custom design for pre fabrication so the group devoted the boards to explaining the assembly in detail

Cloudscape Canopy

An adaptive regeneration of the historic "Place Des Nations"

Project Description

Located in the heart of Montreal, Place Des Nations was once a large-scale outdoor amphitheater built for the World Expo in 1967 but has since fallen into near abandonment. The Cloudscape Canopy intends to restore public excitement into the existing historic amphitheater by transforming it into a vibrant performance and community space. Taking advantage of the lightness of steel, the proposal features a large-scale steel space truss supported by four sculptural steel columns, giving it the appearance of floating. The canopy is then equipped to improve the current conditions of the park through its various integrated systems. Performances are created through lighting and sound systems which are focused on large scale theatre. Community space is created through a series of fountains embedded in the steel structure, and thermal comfort is created through its fritted ETFE cladding. With new public programming, performance, and comfort systems injected into the amphitheater, The Cloudscape Canopy aims to create a landmark in Montreal which not only embraces its historical space - but regenerates it for community use.

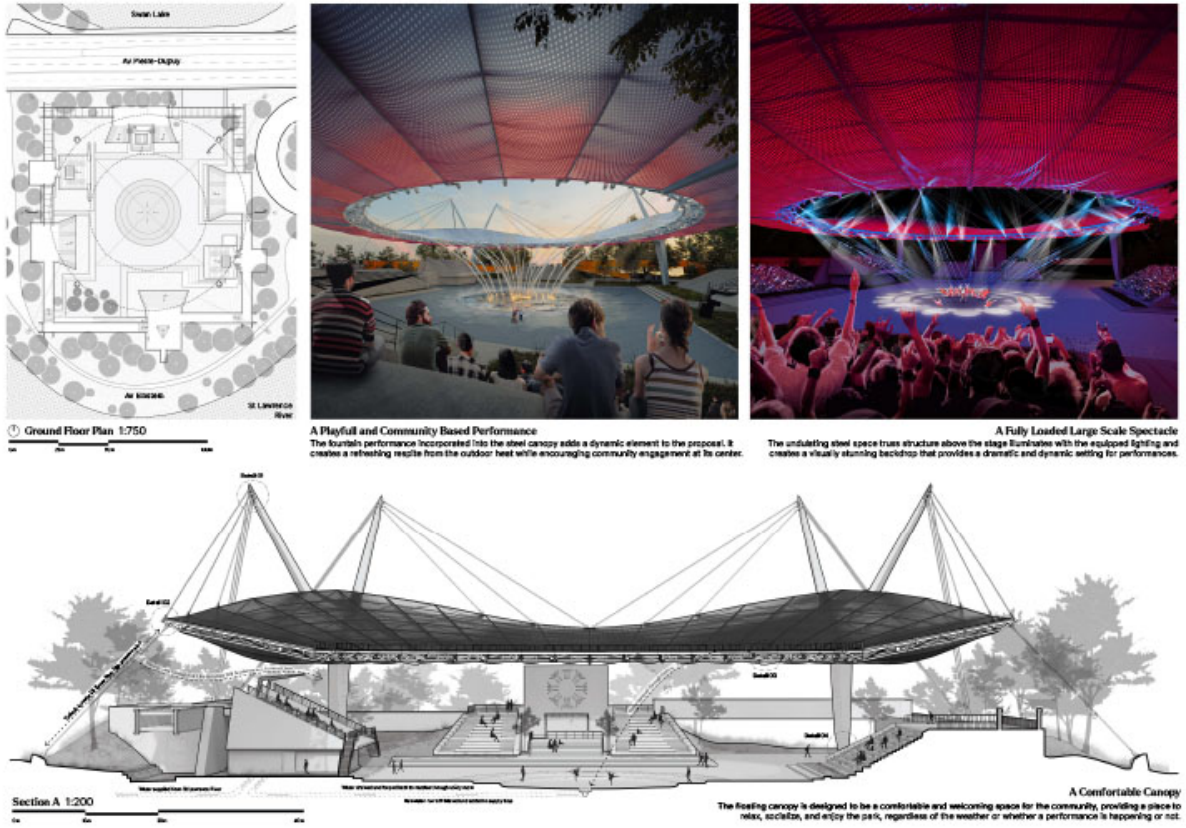


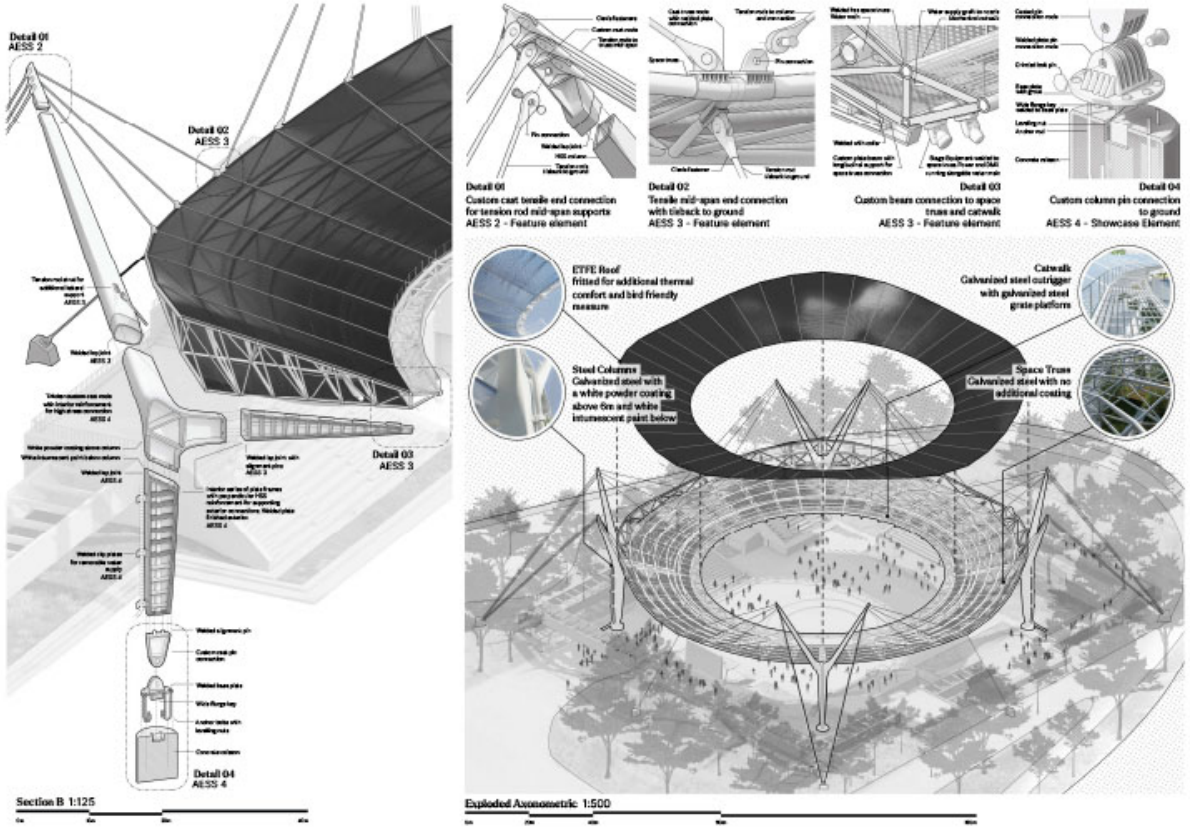
East Elevation 1:500

Siteplan 1:2500

Board 1:

- Includes the “money shot” as well as an explanation and some of the line drawings.



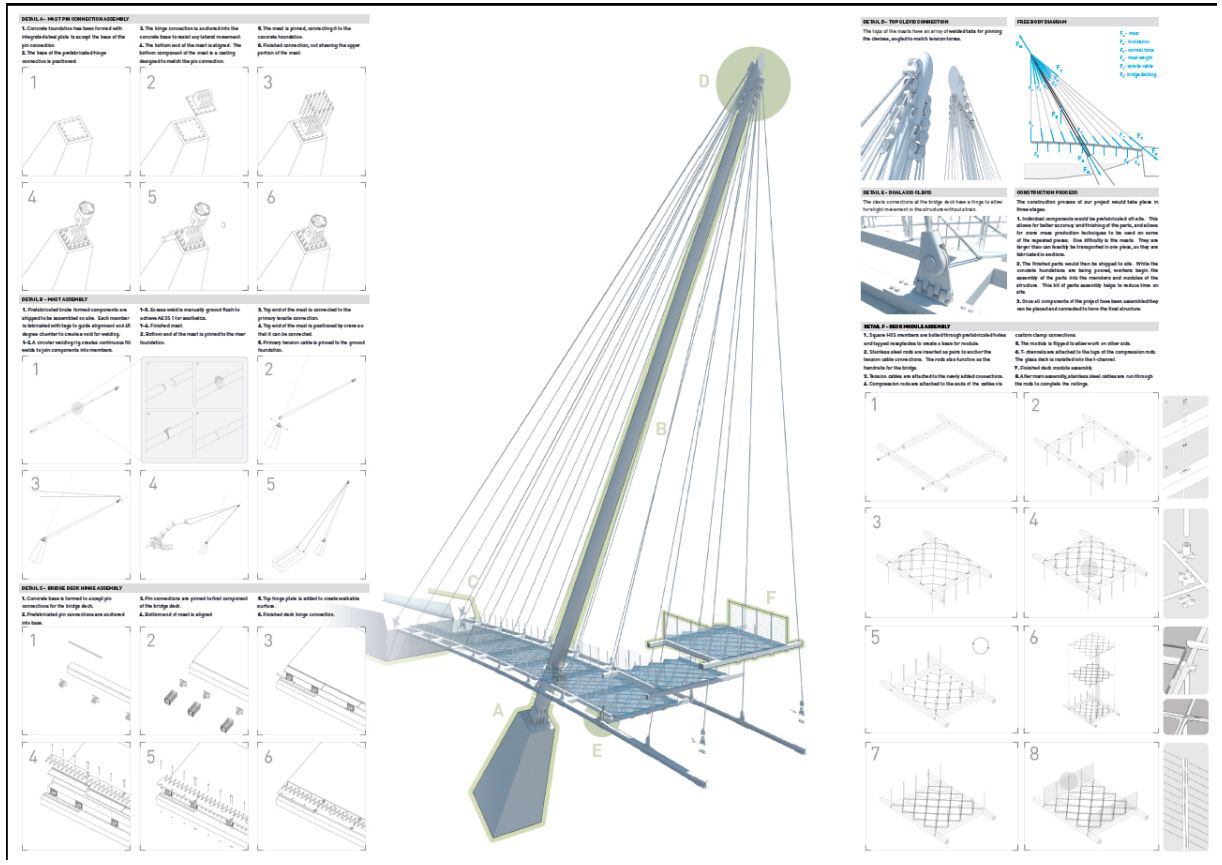


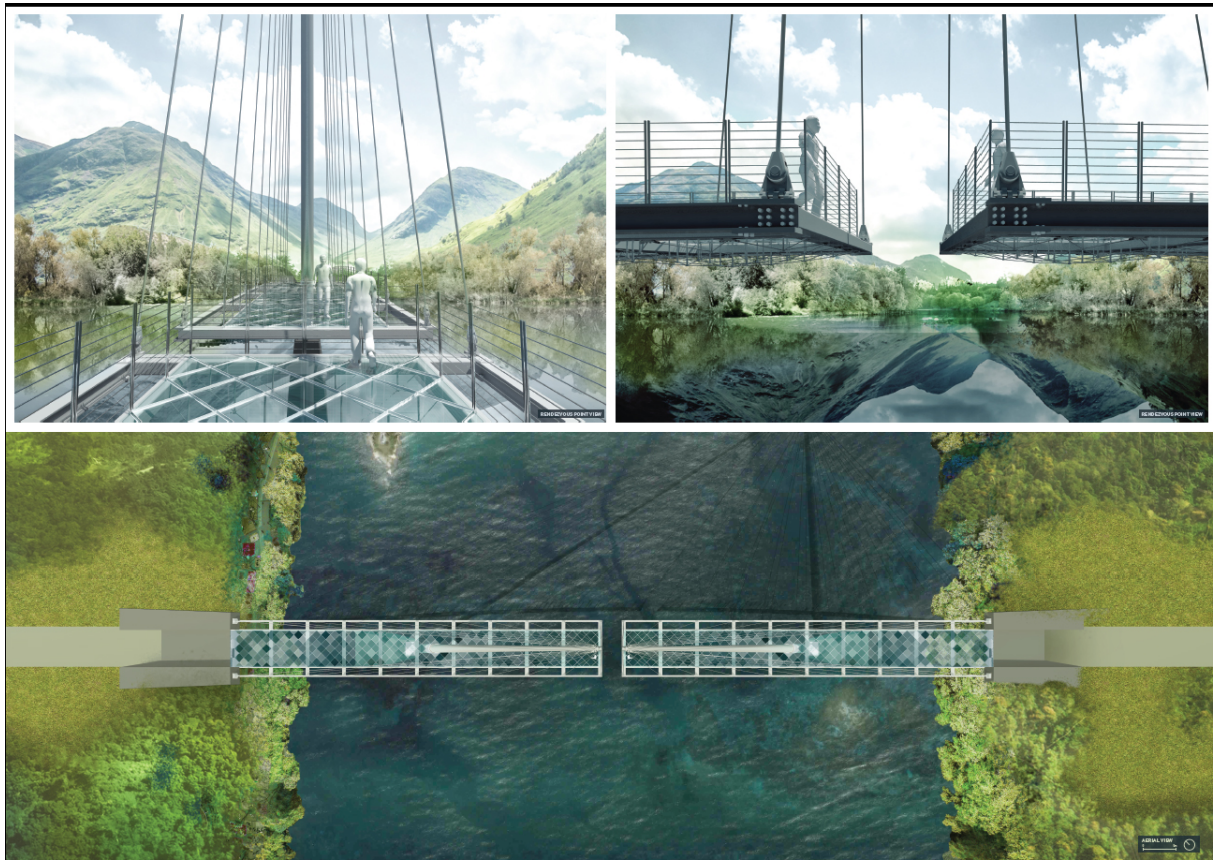
Boards 2 and 3:

- Show the jury how it is made, how the connections work
- Include experiential views, day vs night, lighting. Draw them into the project so that they feel it

Board 1:

- The “money shot” and an explanation of this student’s take on the theme of bridge



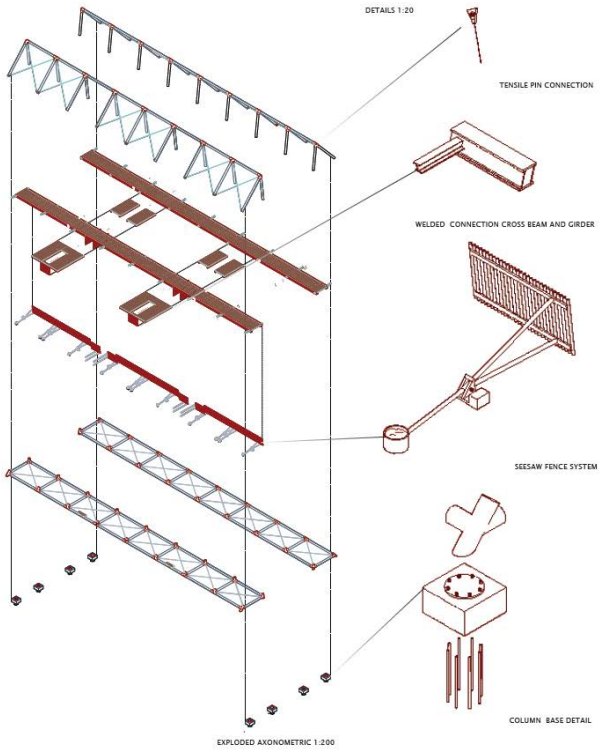


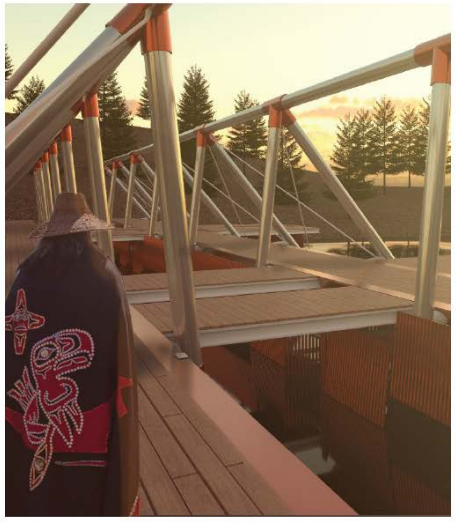
Boards 2 and 3:

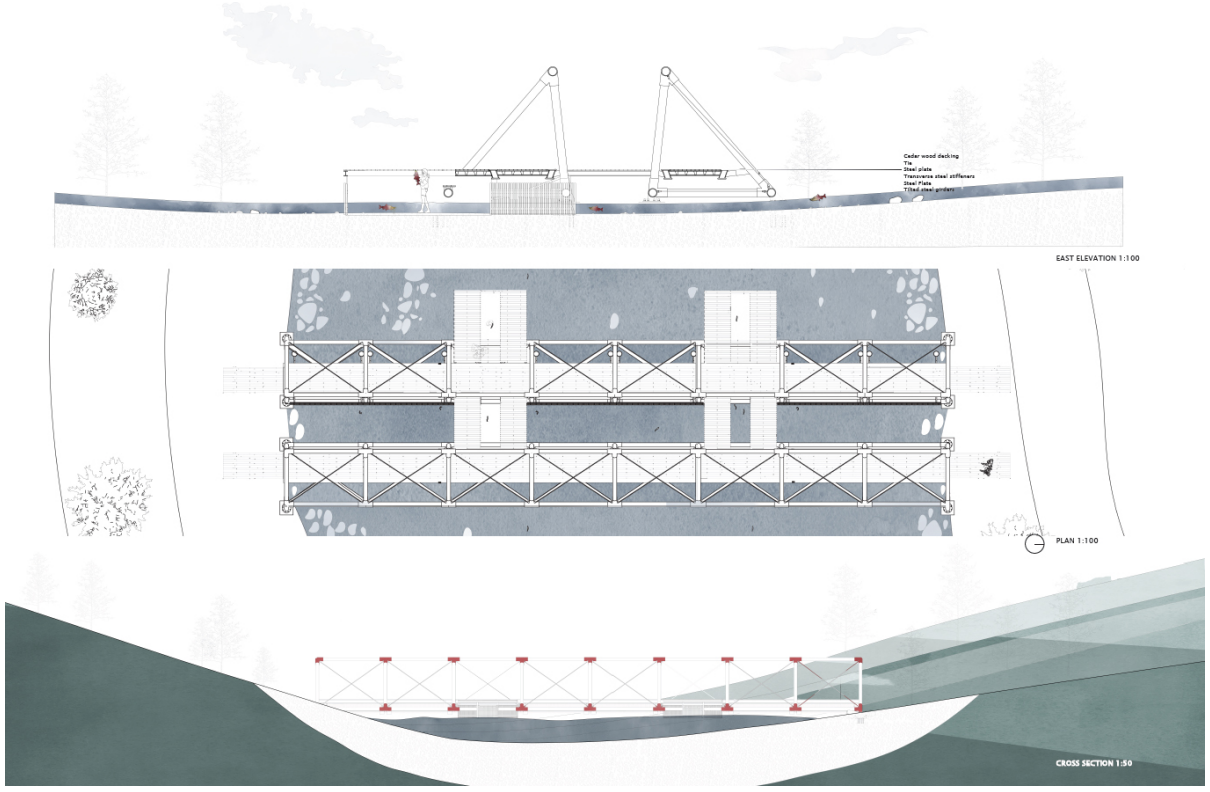
- Provide full details and convince the jury of the stability of the structure
- Explain the experience of the project

Board 1:

- Award of Merit winner, first year undergrad students





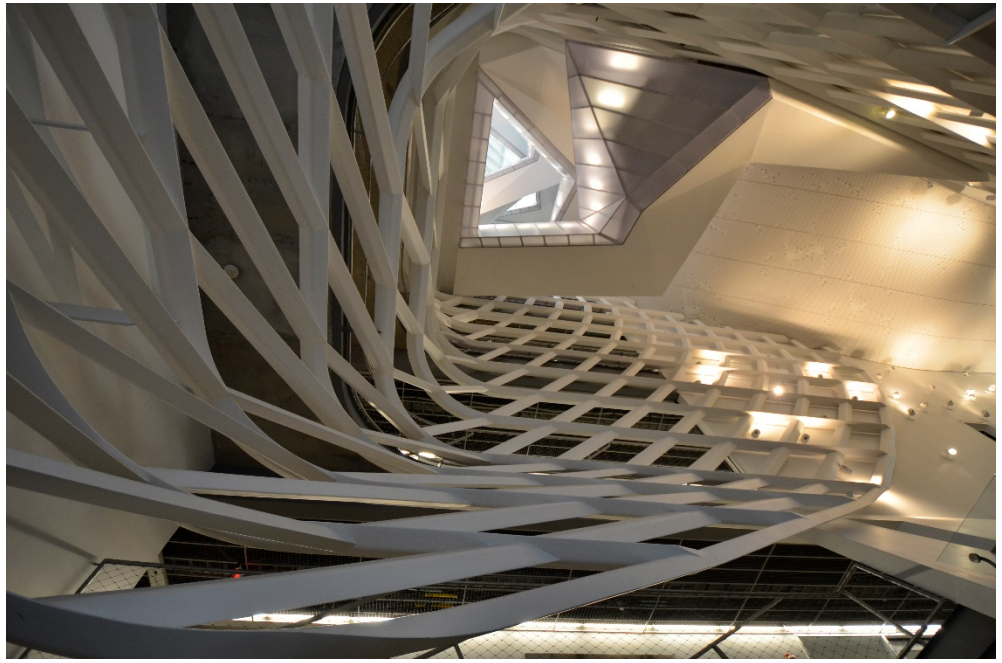


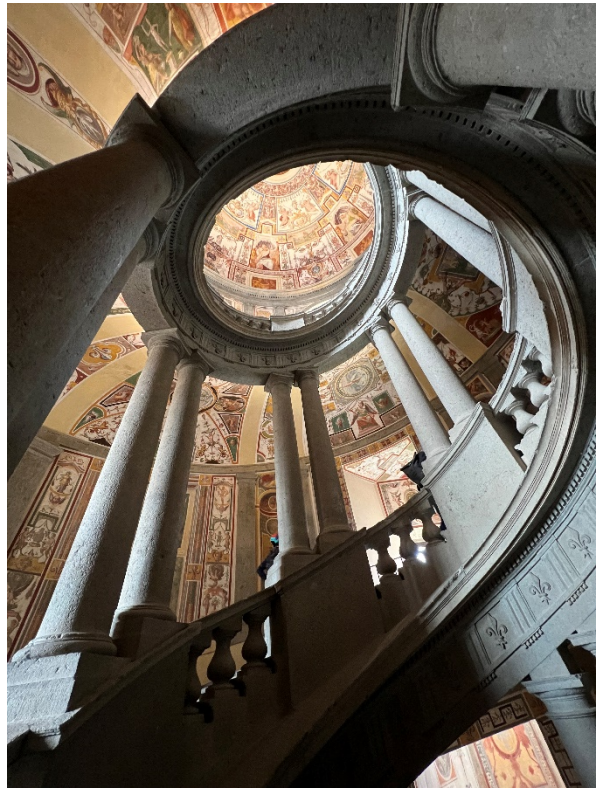
Boards 2 and 3:

- Provide full details and convince the jury of the stability of the structure
- Explain the experience of the project

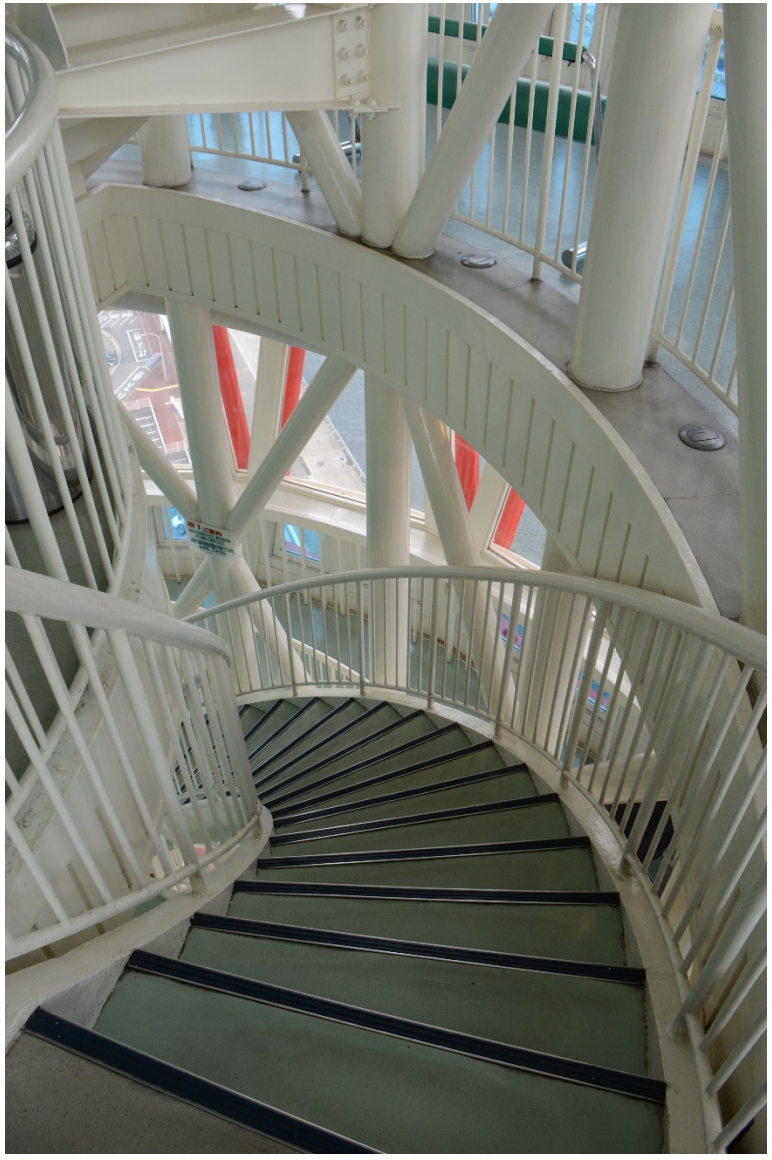
ASCENT – The Competition Theme

- Ascent - a climb or walk to the summit of a mountain or hill.
- The theme is an experiential action and not necessarily a building type
- It infers a destination, maybe with a view
- Intentionally pretty open





Ascent is experiential – about the climb



But the ascent must be “inclusive”

- Experiences are not just for the able bodied
- You must provide an alternate and equally interesting means of “ascent” that can accommodate the mobility challenged – including wheelchairs, strollers, scooters

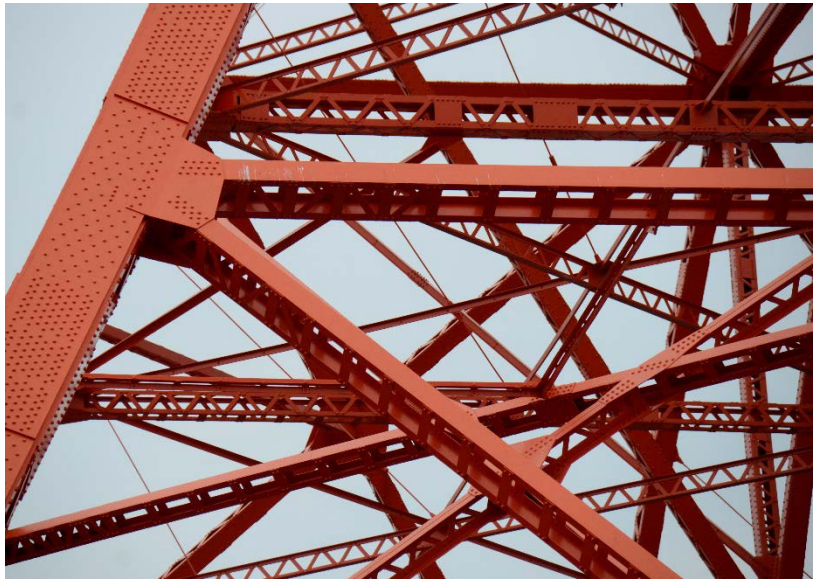
Vertical Transportation


View up the elevator shaft

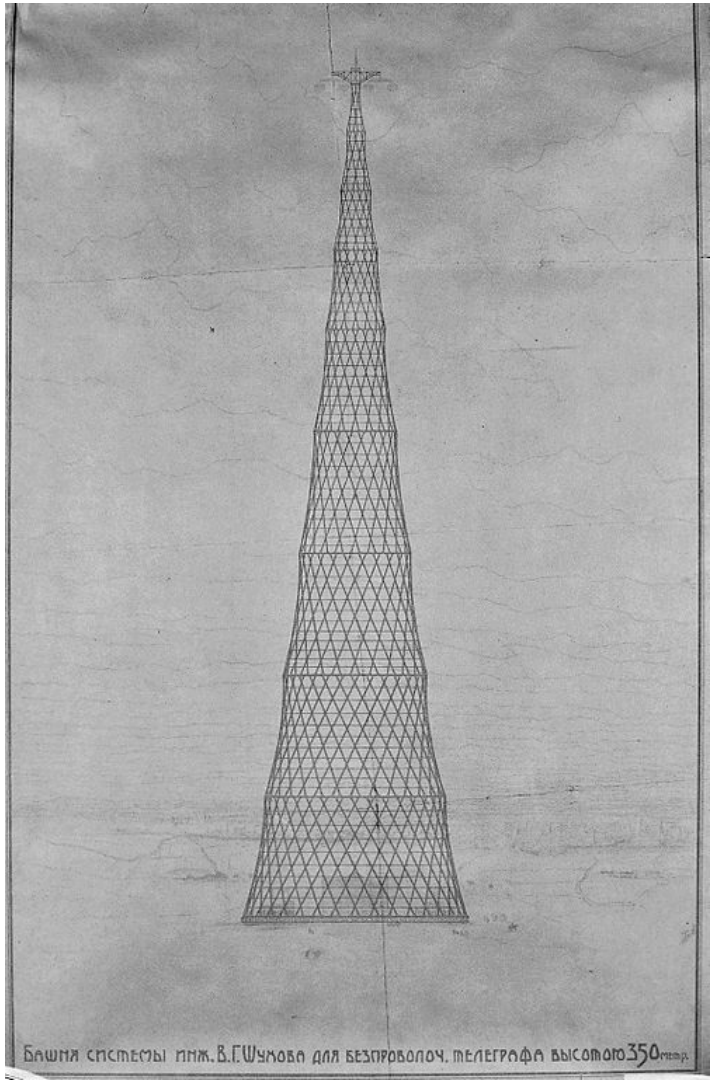
It is suggested that competition entrants explore the integration of vertical transportation as a potential method of providing inclusivity and engagement.


View through the elevator and out through the steel

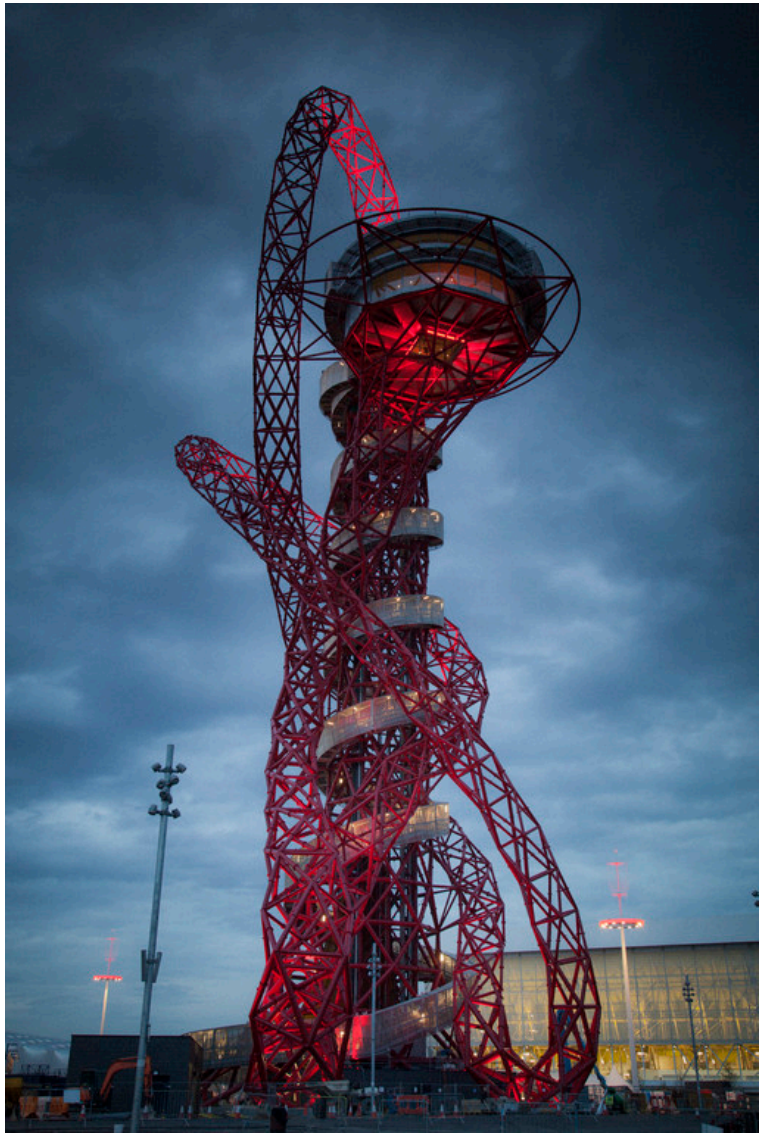
Experience the steel itself!

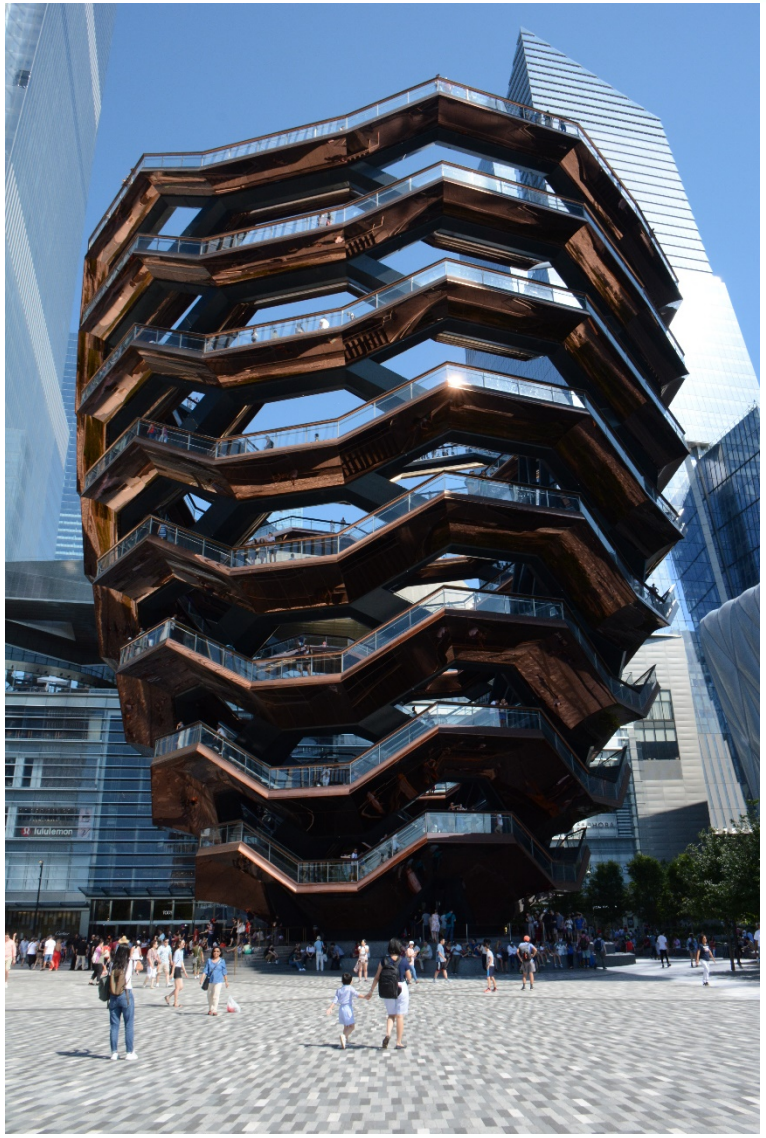


Stability - traditional



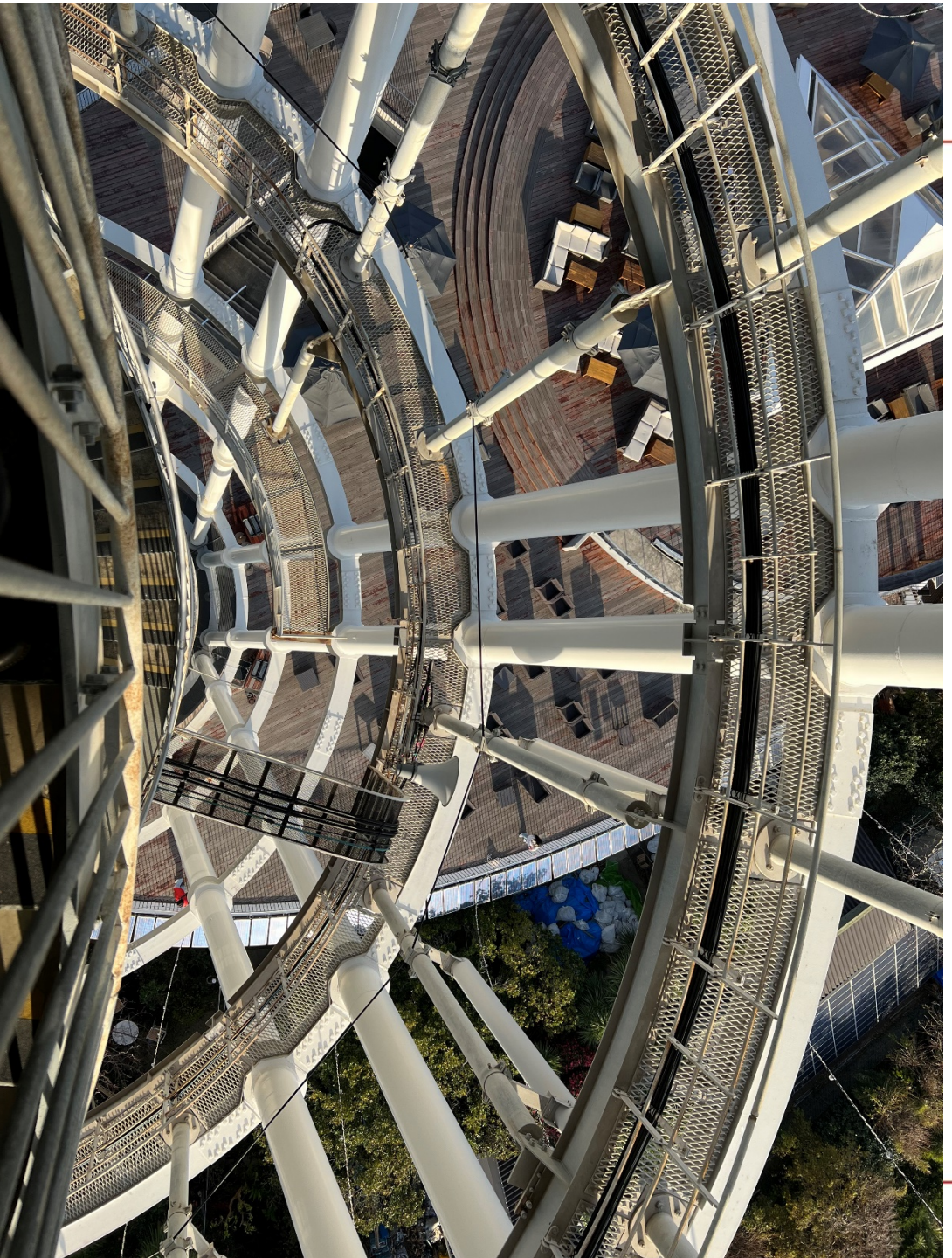
Stability – more challenging

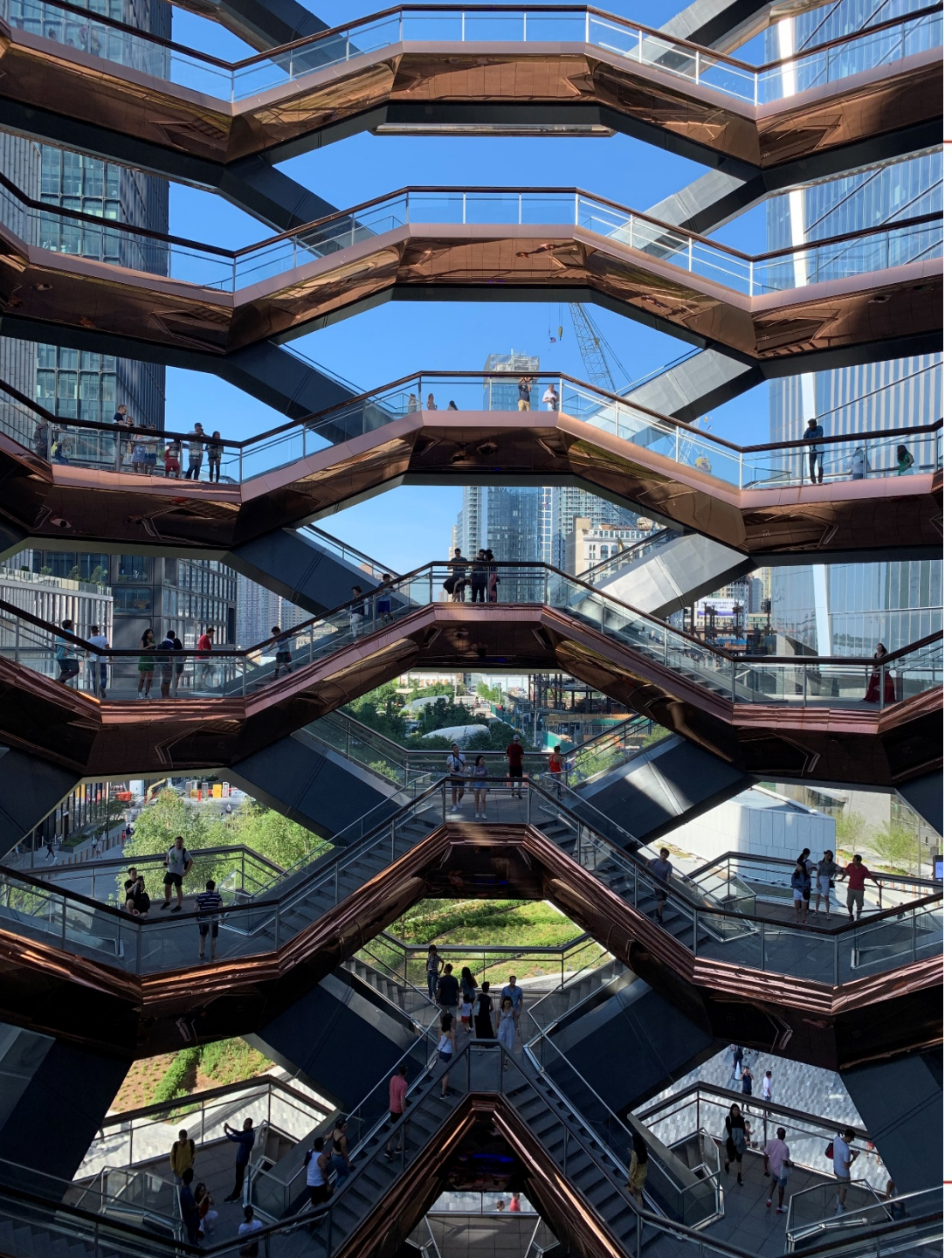




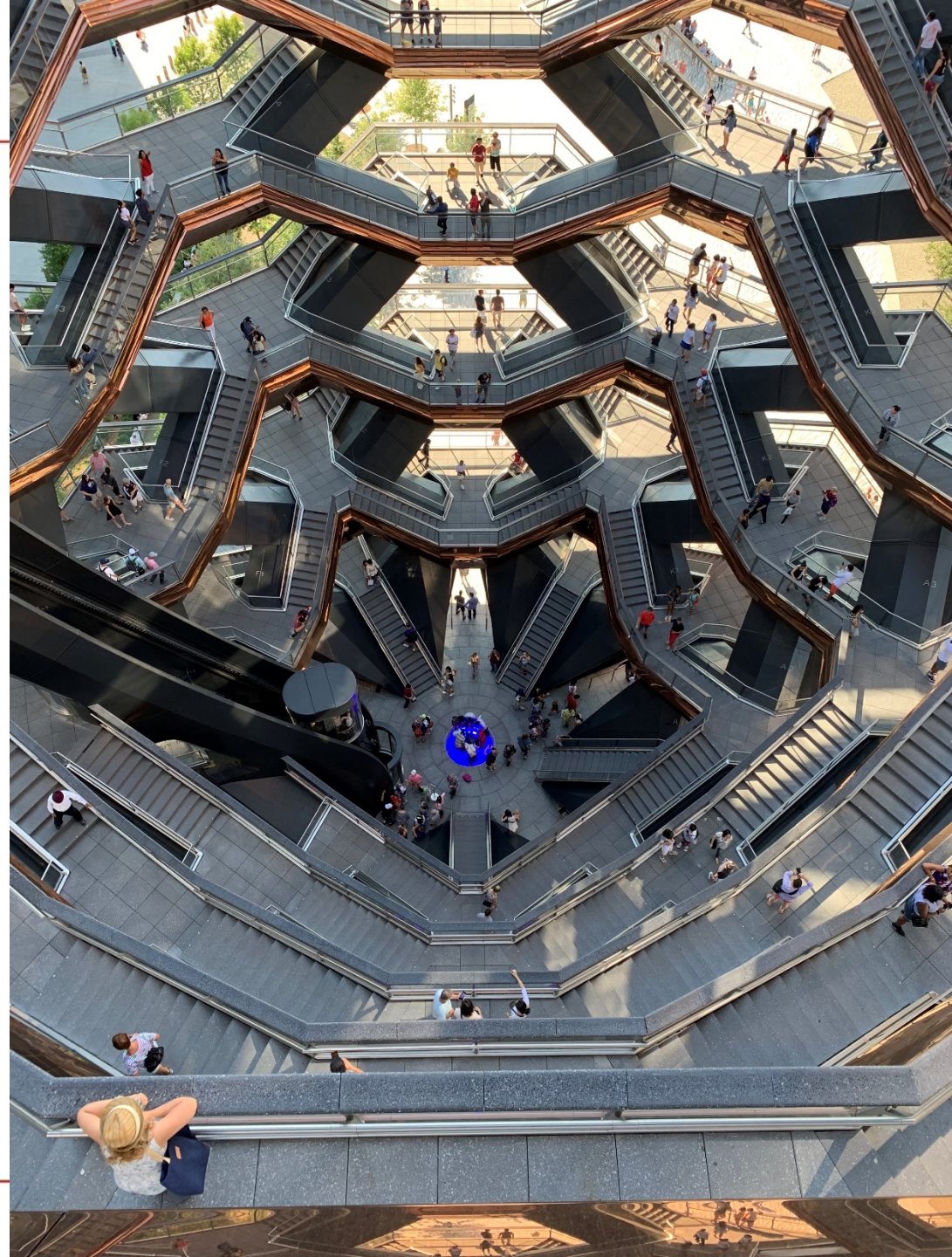
Toshima City Green Tower
Tokyo, Japan

Enoshima Sea Candle
Japan





The Vessel
New York City



Ultimately, the ascent is really about the view!

Site and location may be selected by the team

QUESTIONS AND ADDITIONAL INFORMATION

Full competition details are available at https://www.cisc-icca.ca/architectural-student-design-competition/

Be sure to check out all of the resources to help in better understanding how to make the best use of steel in your projects!

Youtube educational videos:
https://www.youtube.com/playlist?list=PLQFKq2fmhuuDylcuJkLXbFZ7E_Ju-7VxZ

Fun is in the Details website:
http://tboake.com/SSEF1/index.shtml