

selena zhen

architecture work sample

citra - hoop house

Second Year | Fall 2016

GOAL: to design and build a portable greenhouse to extend the growing season of a raised planting bed in an urban garden.

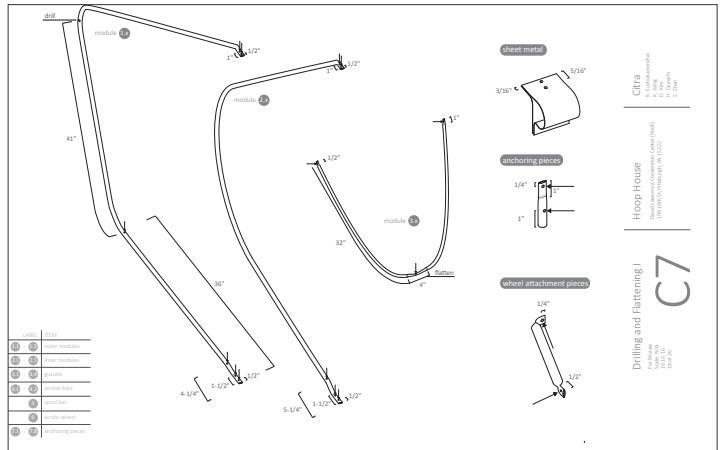
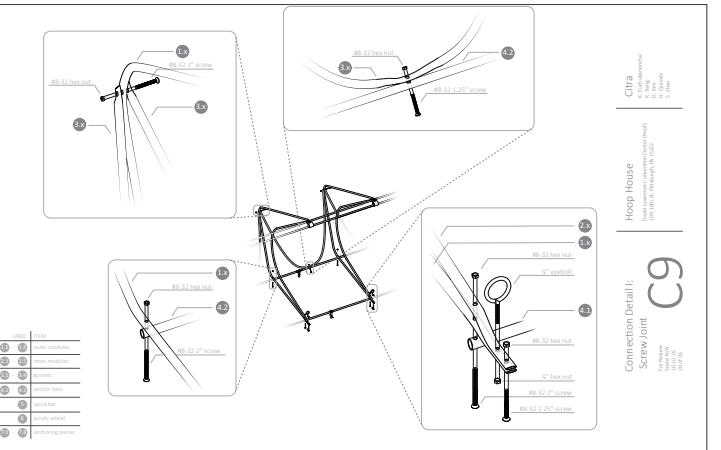
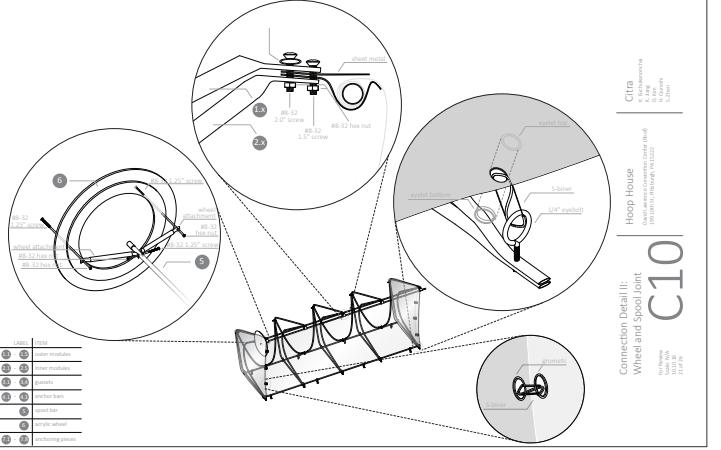
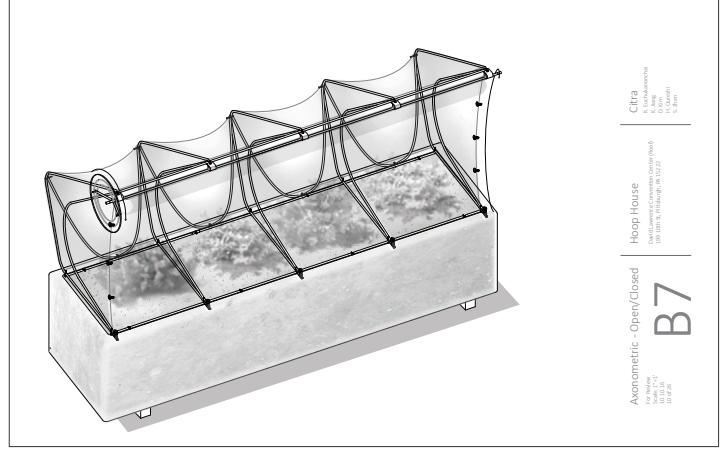
The word “CITRA”, of Latin origin, translates to “without,” which drove the creation of a collaborative hoop house project that emphasizes the importance of accessibility, removing unnecessary structure that could obstruct a user’s reach. CITRA uses a unique cantilever system to leave an entire side completely open at the user’s discretion. This design choice is complemented by a spooled system, which can unroll and clip together per the user’s purposes. The form mimics its contextual situation on the roof of the David L. Lawrence Convention Center in the Cultural District of Pittsburgh, PA, meeting the lower slope of the roof line and drawing forth the steep angle of the building. These systems work in tandem to create a hoop house that achieves ideal ventilation and enclosure, provides the most

accessibility possible, and interacts positively with the geometric patterns found in its context.

In collaboration with Kornrat Euchukanonchai, Kevin Jiang, David Kim, and Hamza Qureshi.



Citra: Final Structure and Installation



Construction Drawings

SCALE MODEL (2"=1')

Aluminum Tubing, Greenhouse Plastic, Galvanized Wire, Basswood



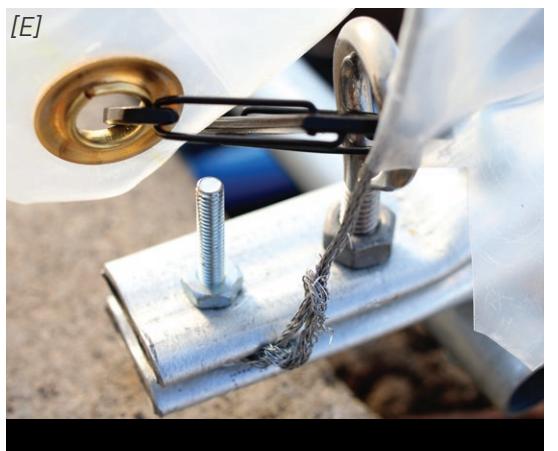
FINAL CONSTRUCTION AND INSTALLATION

Greenhouse Plastic, 1/2" Conduit

Final Construction Video
https://youtu.be/mjdTv_zwFyA



- [A] Construction of Frame
- [B] Heat Shrinking Greenhouse Plastic
- [C] Loading
- [D] On-Site Installation
- [E] Connection Detail



urban incubator + stimulator

Second Year | Spring 2017

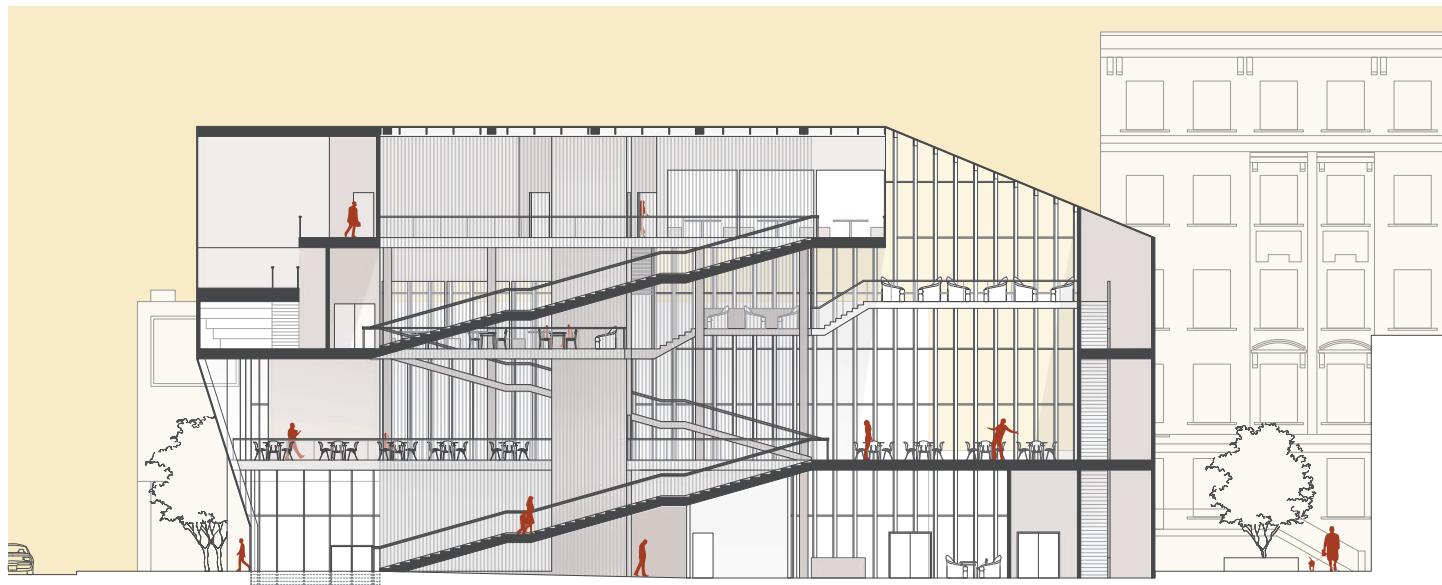
GOAL: to design a mixed-use project that will contribute to the business vitality of East Liberty's central business district while nurturing the creative culture of Pittsburgh's East End. Urban I+S activities and users are intentionally widespread to maximize utilization and impact throughout the day, evening, week and across seasons. The Urban I+S consists of three primary program components: (1) Technology Business (Incubator), (2) New Media Gallery and Event Space (Stimulator), (3) Café.

I approached this project by first focusing on the site context and creating ideas of community and public urban flow into the building. With the concept of community in mind, I designed a grand staircase that would serve as a way to vertically connect the exhibition and office spaces within the Urban I+S, and allow for large open areas for new media exhibition.

More about the Program:
Urban I+S complements the East Liberty Public Library and the Ace Hotel to expand the cultural and educational activities adjacent to the site. While encompassed within one structure, the three program components operate with a degree of autonomy, allowing independent operating hours. The Technology Business Incubator will award grants in the form of physical space resources and advising for small business start-ups for a duration of 6-9 months, through their business launch. The incubator will support up to three start-ups at any given time through flexible office and meeting spaces. The New Media Gallery and Event Space will support a diverse range of activities, including the display of immersive and interactive media art and the production of public events, including performances, lectures, films, and social gatherings. The Café will operate during morning and lunch hours to offer casual dining.



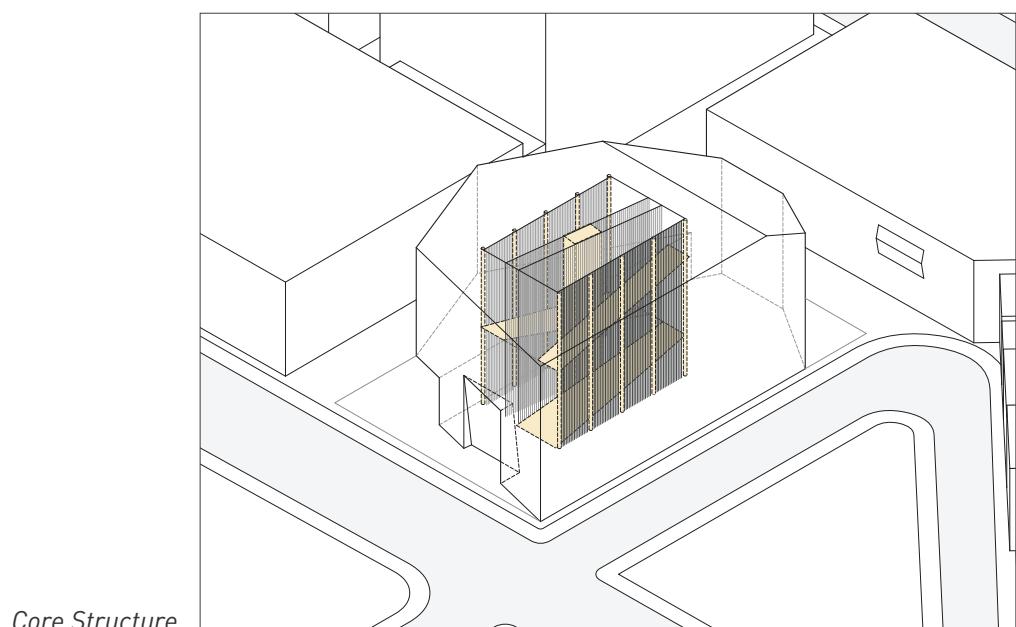
Spacial Model



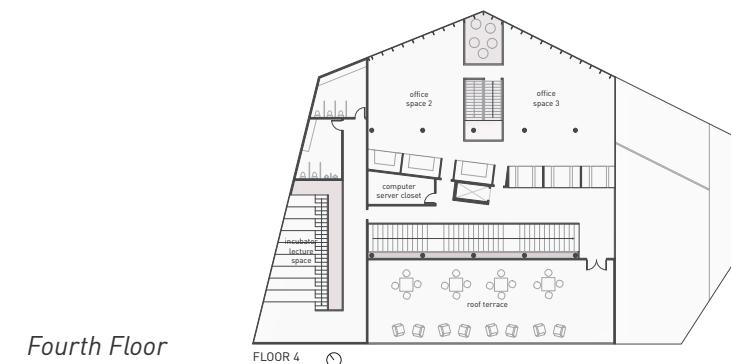
Longitudinal Section



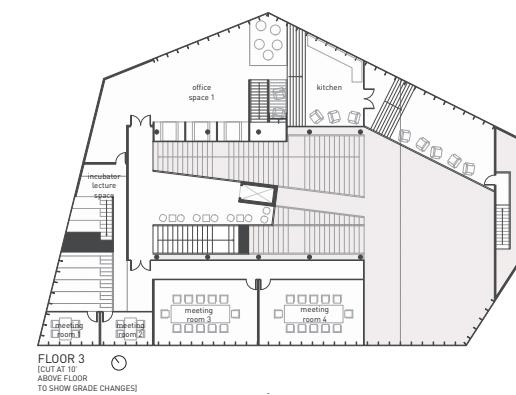
Interior



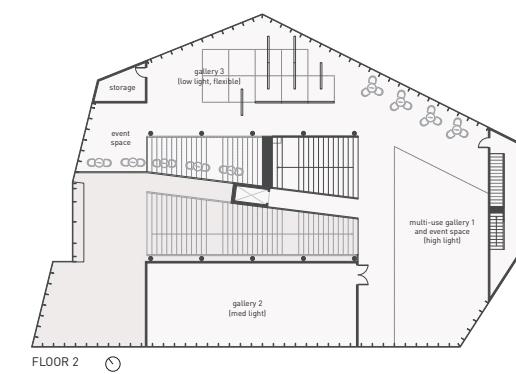
Core Structure



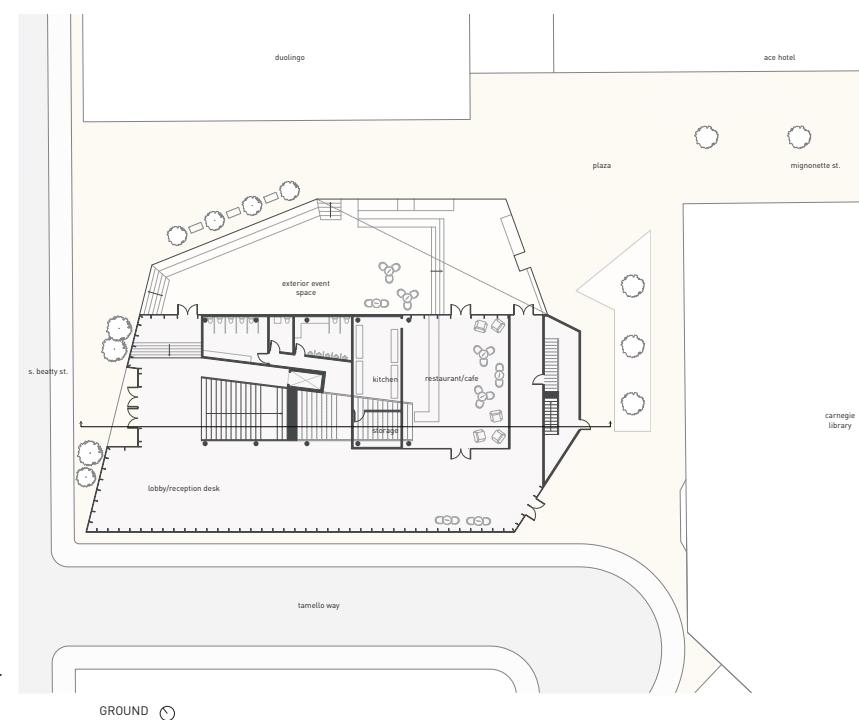
Fourth Floor



Third Floor



Second Floor



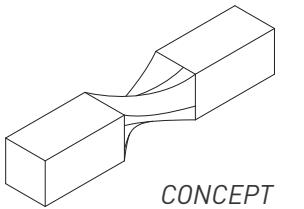
First Floor

environment, form + feedback

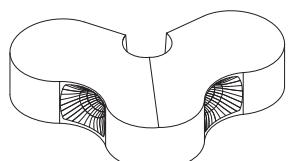
Third Year | Fall 2017

GOAL: An environmentally conscious design process that dares to engage the occupant in a sensorial way. Utilizing the power of wind not only as a tool to harvest energy and passively cool the housing complexes, but also as a means to alter the occupier's perspective of wind through the sculpting of the site along a series of wrapping pathways.

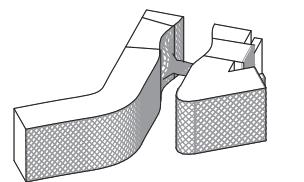
In collaboration with Michael Powell.



CONCEPT

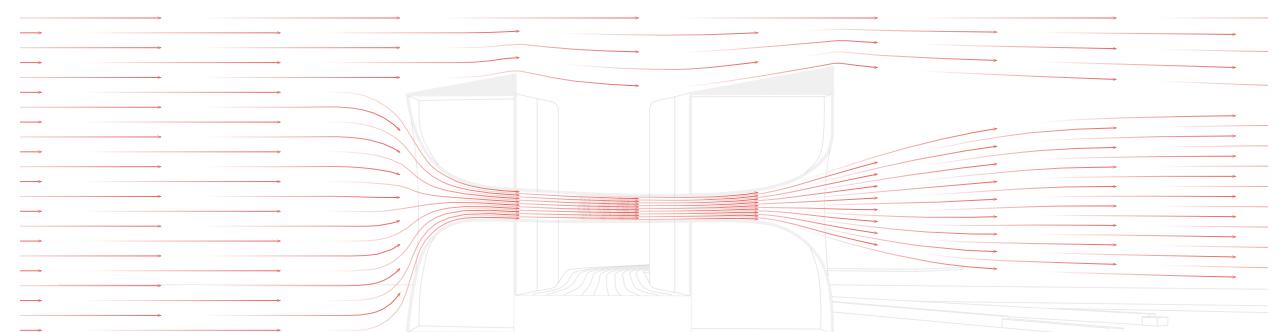


ITERATION

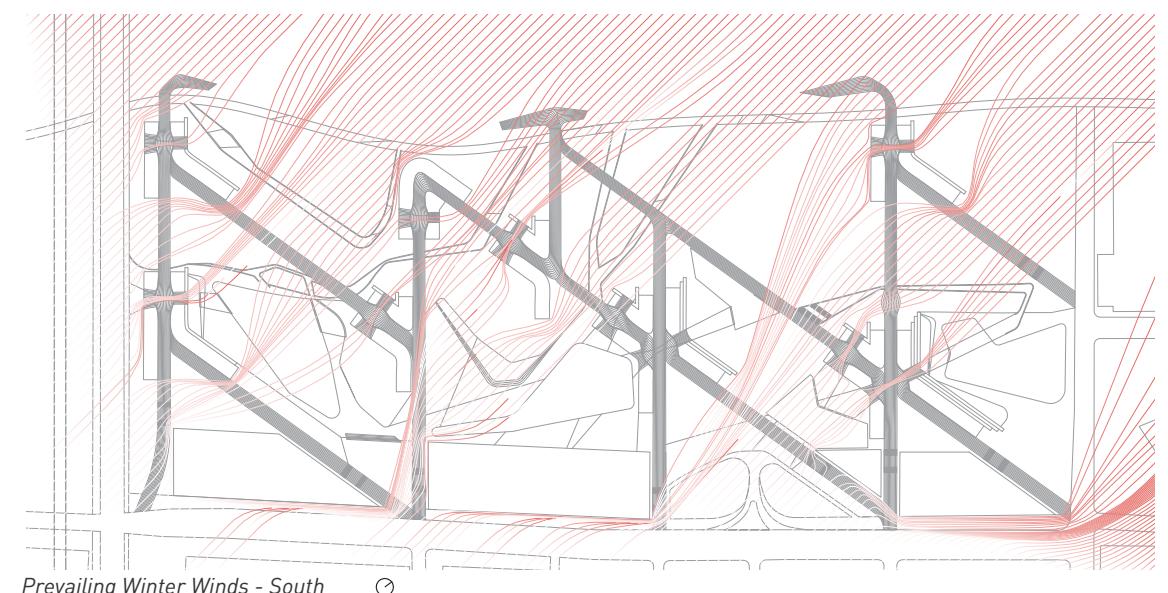
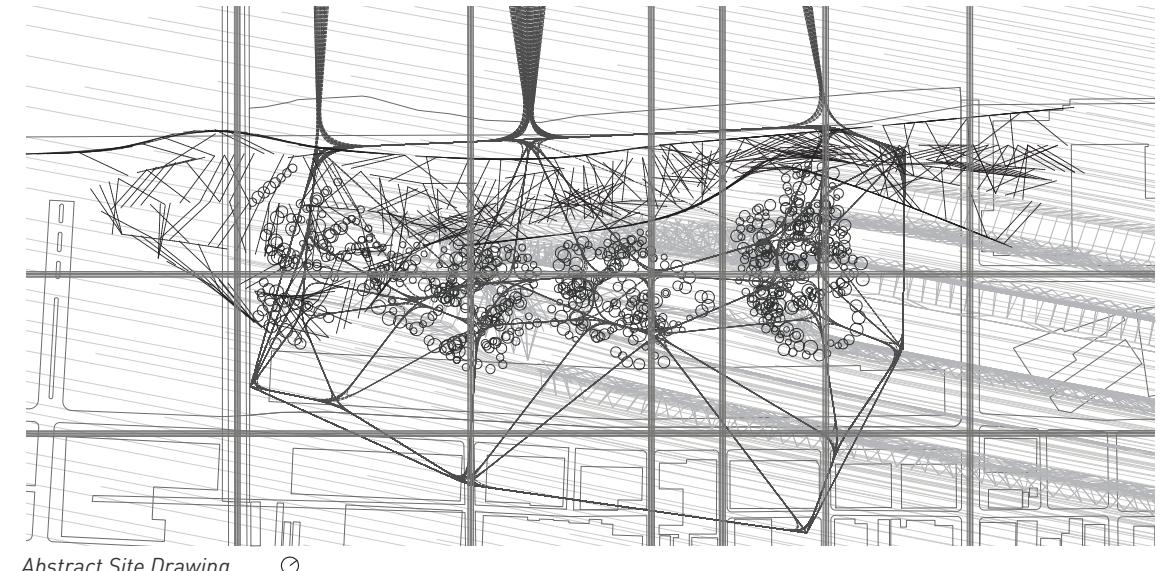
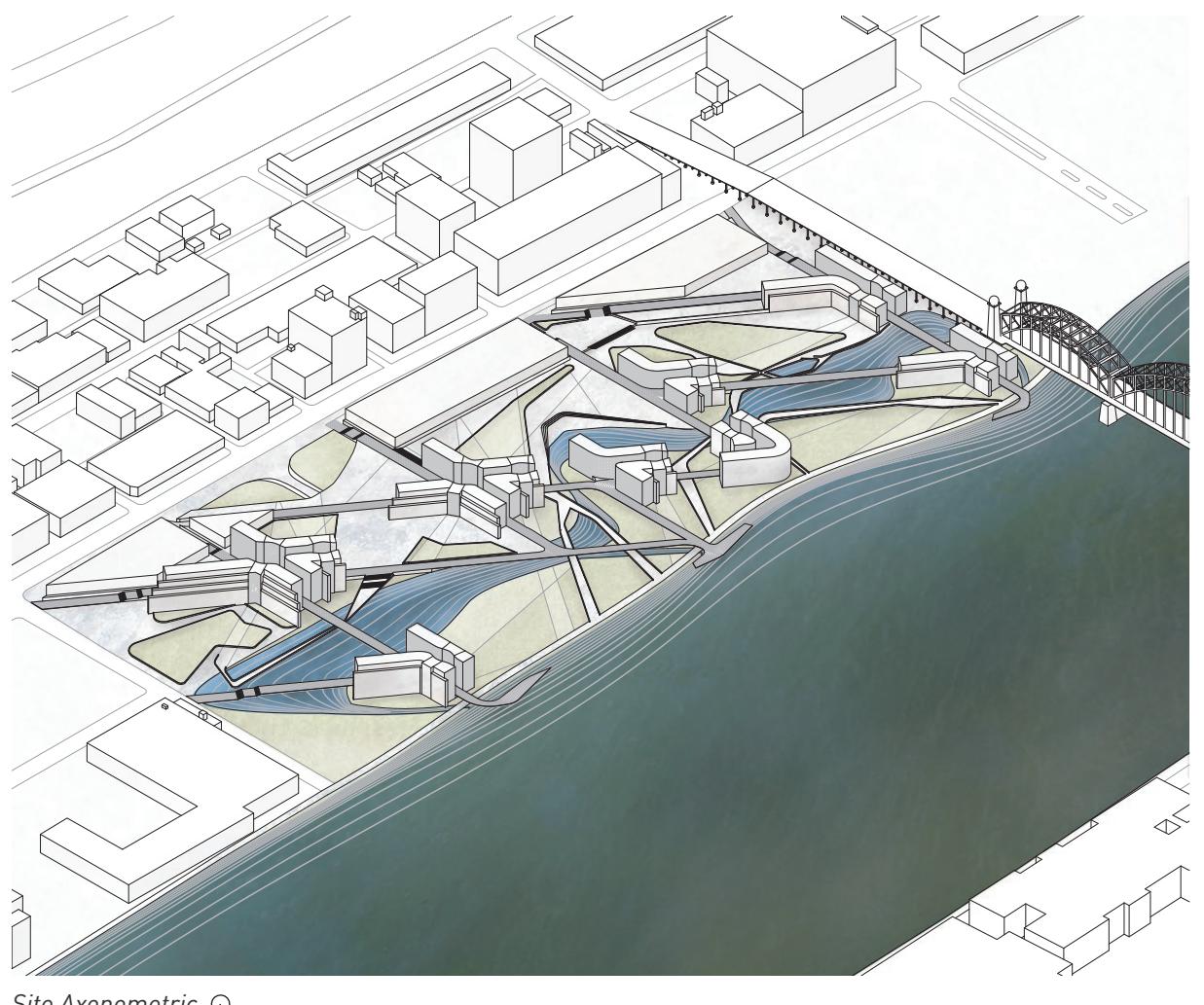
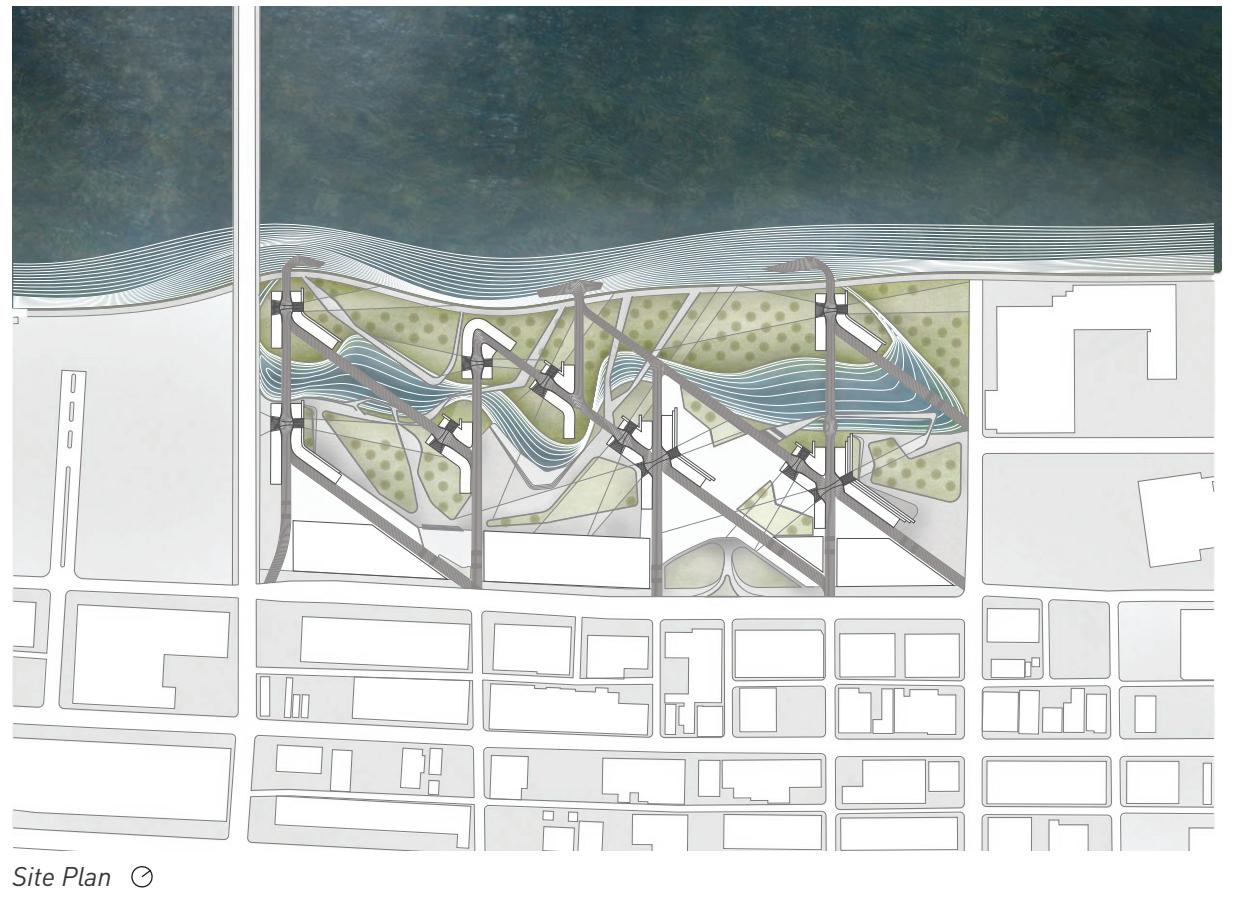


TRANSLATION

Wind Dam Flow Diagram



Exterior Render



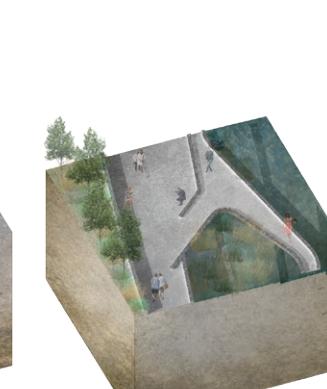
1. Site Entry
Moderate wind; low moisture; high solar exposure

Plant life:
Meadow favorite
Mugwort
Elephant's ear
Feathery fountain grass
Bailey's acacia



2. Atrium
High wind; moderate moisture; low solar exposure

Plant life:
Quaking aspen
Eupatorium
Miscanthus
Vernonia



3. Swale
Moderate wind; high moisture; moderate solar exposure

Plant life:
Water birch
Sea holly
Horsetail
Iris versicolor
Button bush



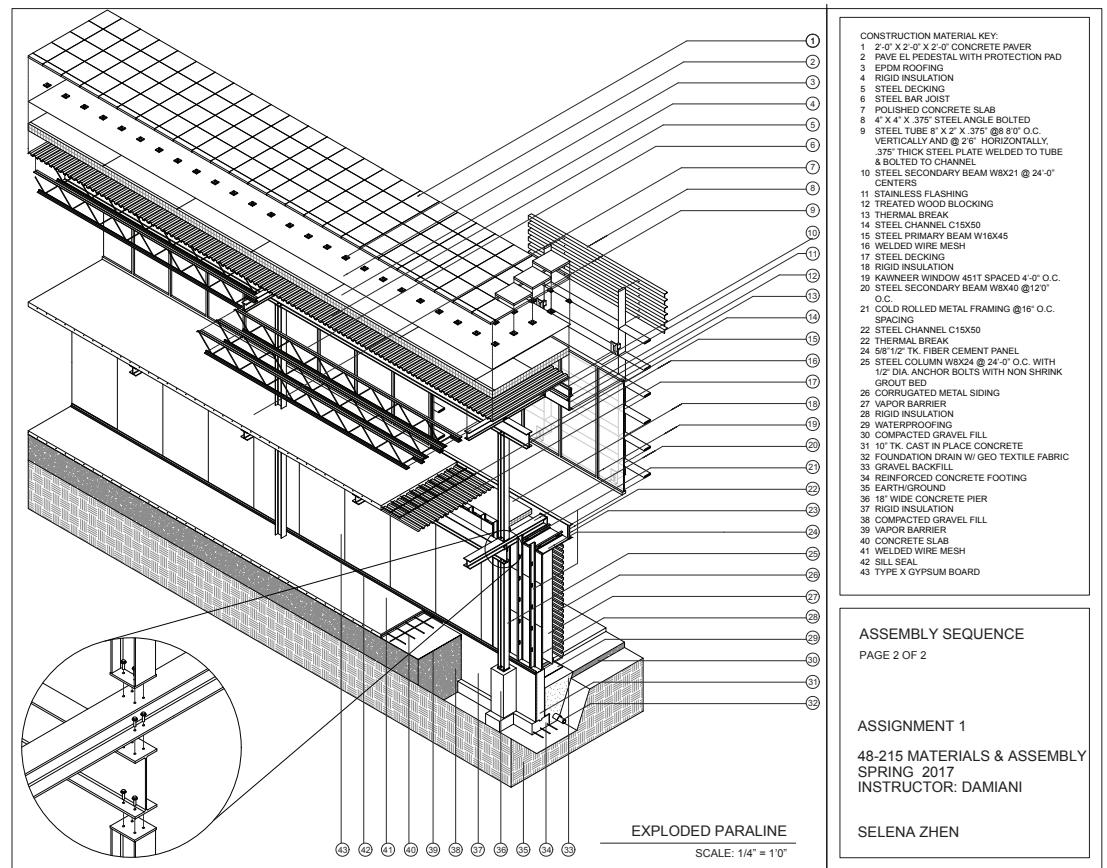
4. River's Edge
High wind; high moisture; moderate solar exposure

Plant life:
Bald cypress
Water birch
Iris versicolor
Button bush
Water iris

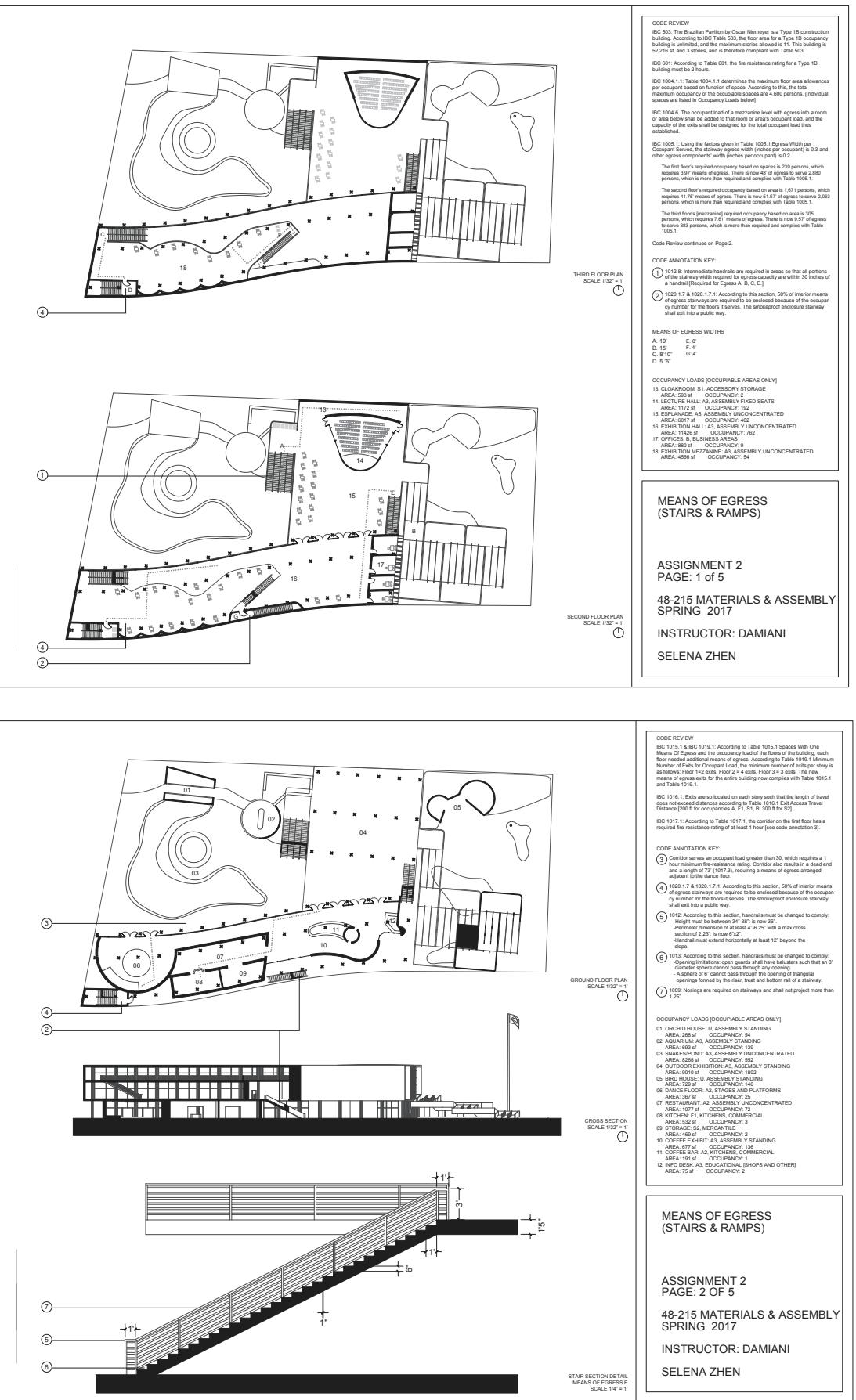
materials and assembly

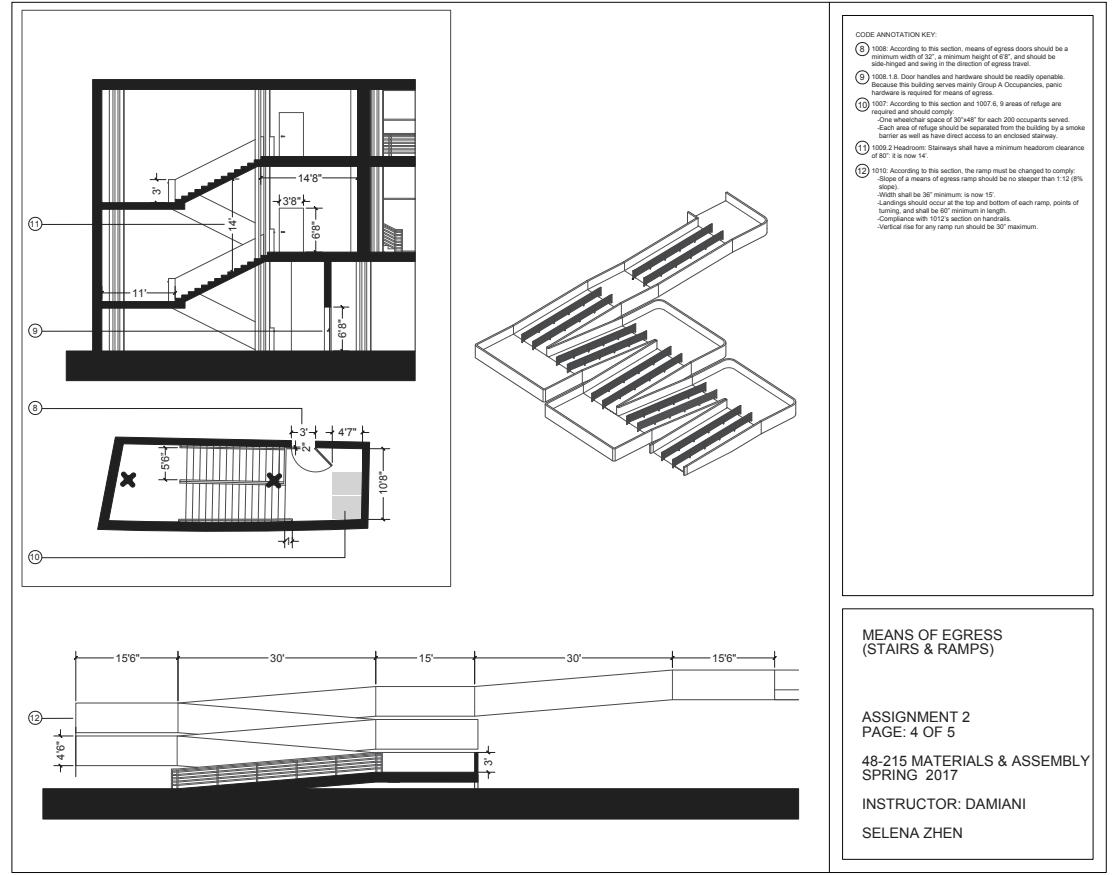
Second Year | Spring 2017

PROJECT 1: ASSEMBLY SEQUENCE AND MATERIAL STUDY

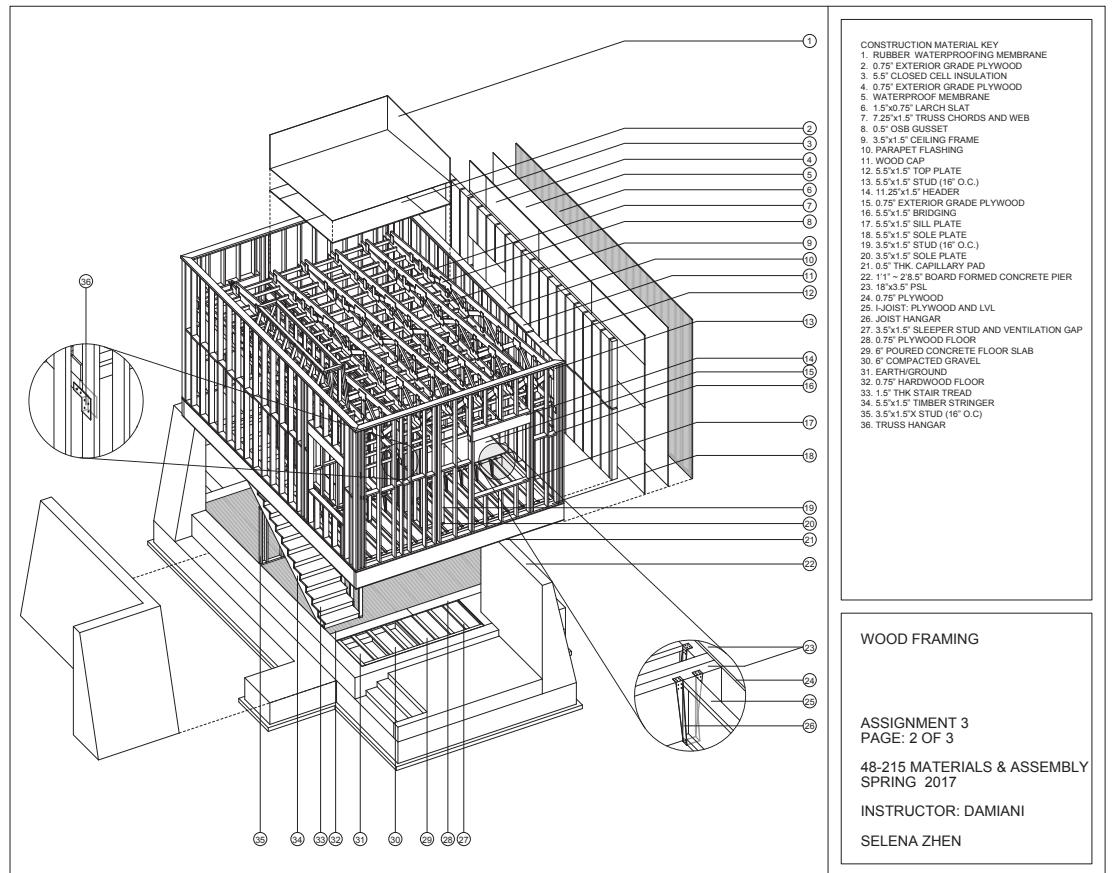


PROJECT 2: MEANS OF EGRESS AND CODE REVIEW [THE BRAZILIAN PAVILION]





PROJECT 3: WOOD FRAMING [CASA EL VIGILANTE]



lunar gala - surface

Third Year | Fall 2017-Spring 2018

SURFACE explores the issue of the distortion and trivialization of the human body into objects of desire. The veneer of mesh, overlayed with cut contours, is a constructed external appearance that illustrates areas of the socially ideal body, exposing those who wear it to appreciation and admiration, but also leaving them vulnerable to objectification. As the line progresses, the body becomes more clearly exposed than upon first impression. It is meant to represent an exaggerated set of physical attributes that emphasize the scrutiny of our bodies – conscious and subconscious, external and internal.

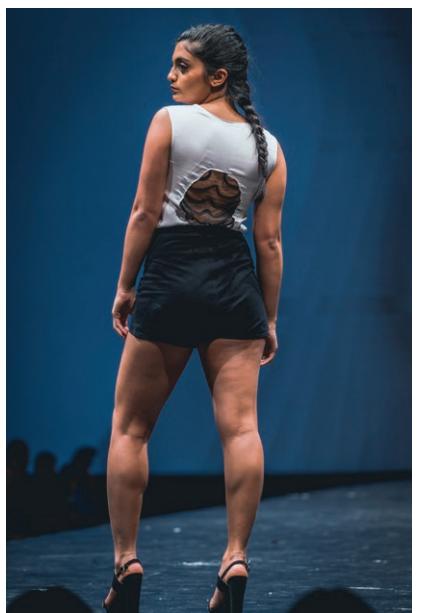
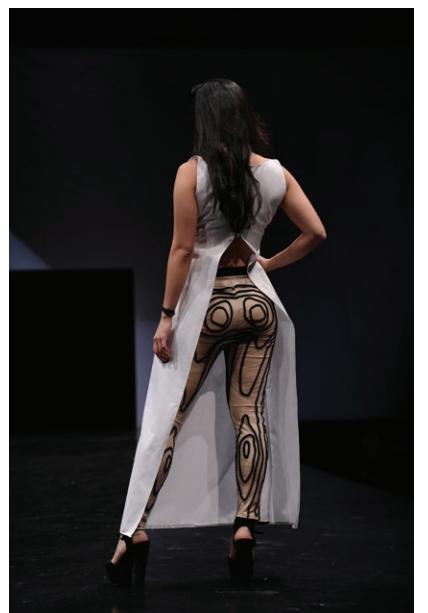
About Lunar Gala:

Originally created in 1997 to ring in the Chinese New Year, Lunar Gala has transformed into a highly anticipated event that hundreds hope to be part of and thousands hope to come see. While staying true to its original intent, it has developed into a much larger production and has become a more impactful organization to the CMU and Pittsburgh community. Every year, the theme of the show is centered around the Zodiac animal of the lunar calendar.

Now, Lunar Gala is arguably one of the largest fashion events in Pittsburgh, having sold out over 1200 seats each year with 140+ students involved in producing, designing, modeling, and dancing in the show. Students across all majors and cultures create original and creative lines, infusing technology and complex materials with wearable fashion.

In collaboration with Michael Powell.





Brian Tag Photography

