

responsive frameworks

polyfunctional space for dynamic stimulus

problem statement

how does a building respond to dynamic stimulus?

claim

a diverse program informs flexible patterns of organization that can be modified as needs change over time.

typology

performing arts

premises

performing arts requires various lighting, spatial qualities and diverse programming to be created and recreated within the same space. (tisi paredes)

premises

similarities and differences between program elements inform combined design solutions.

premises

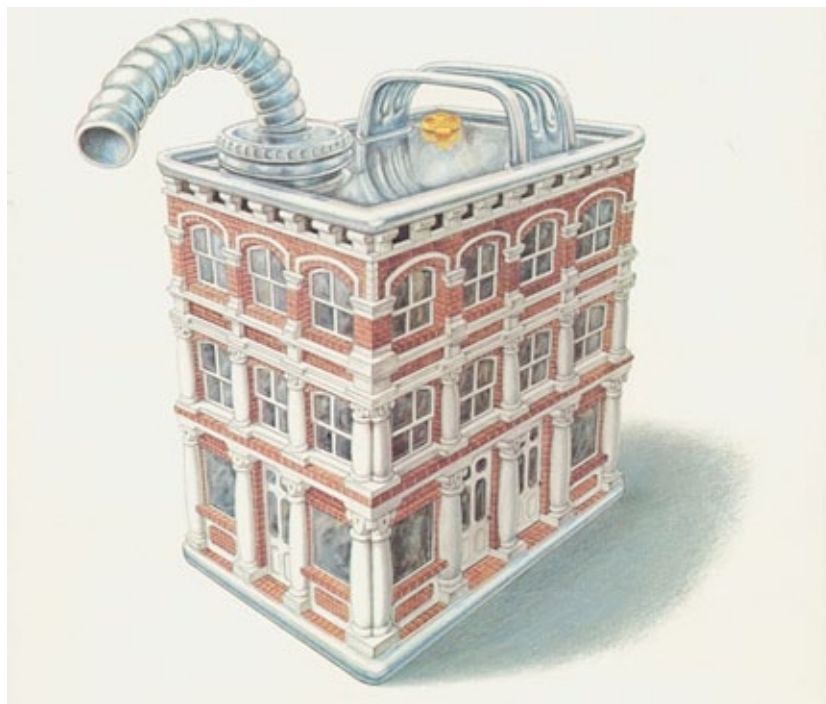
a flexible framework yields space
that can adapt to user modification.

unifying idea

creating polyfunctional space through the use of kinetic components and flexible design solutions.

project justification

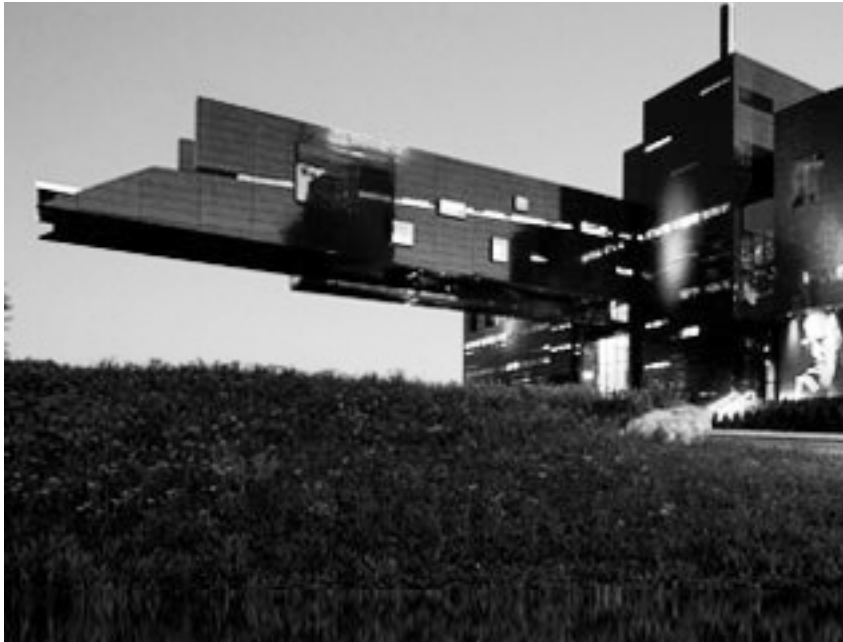
conserving the embodied energy of the built environment by maximizing the effectiveness of space.



embodied energy



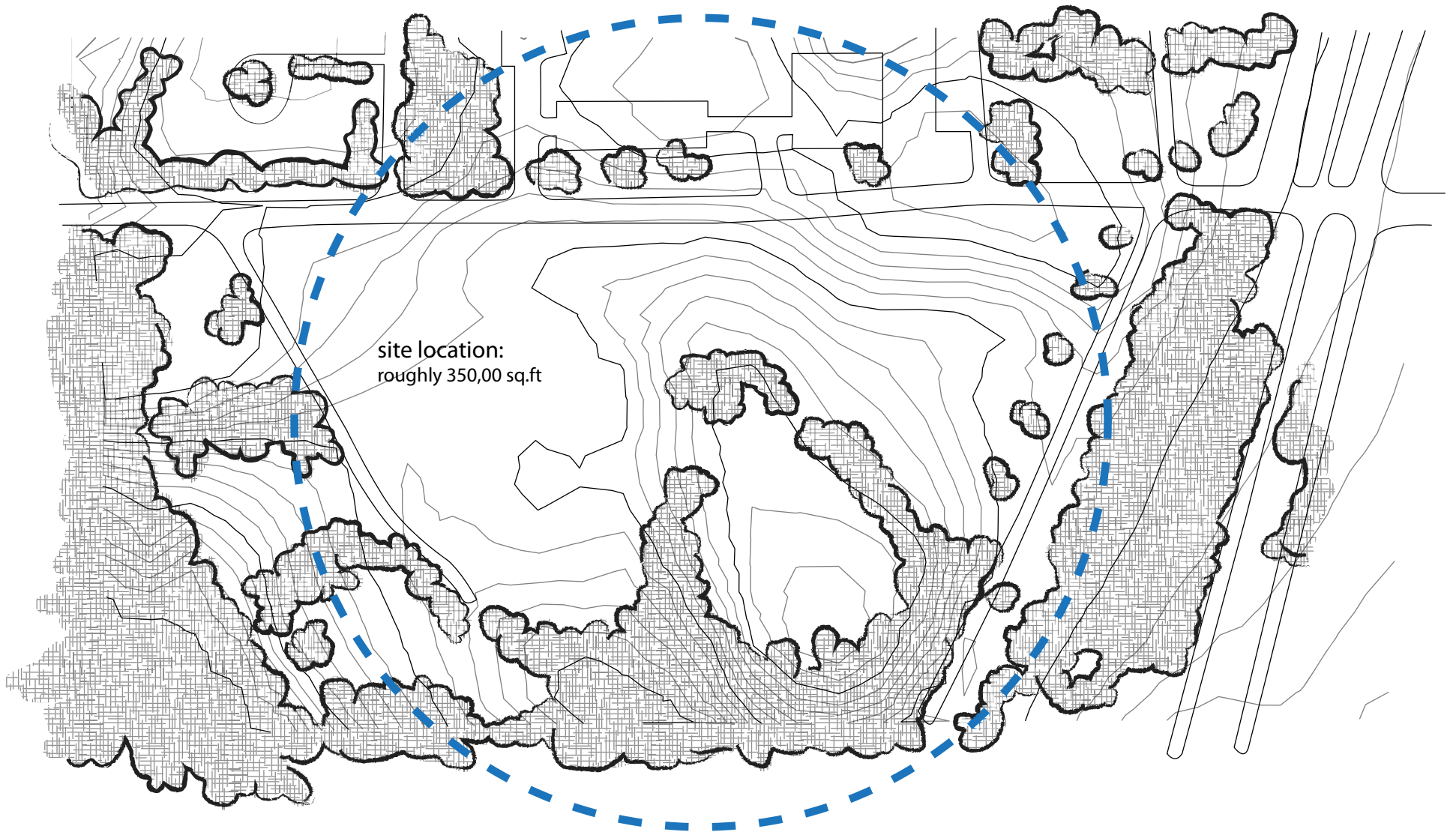
design recycling

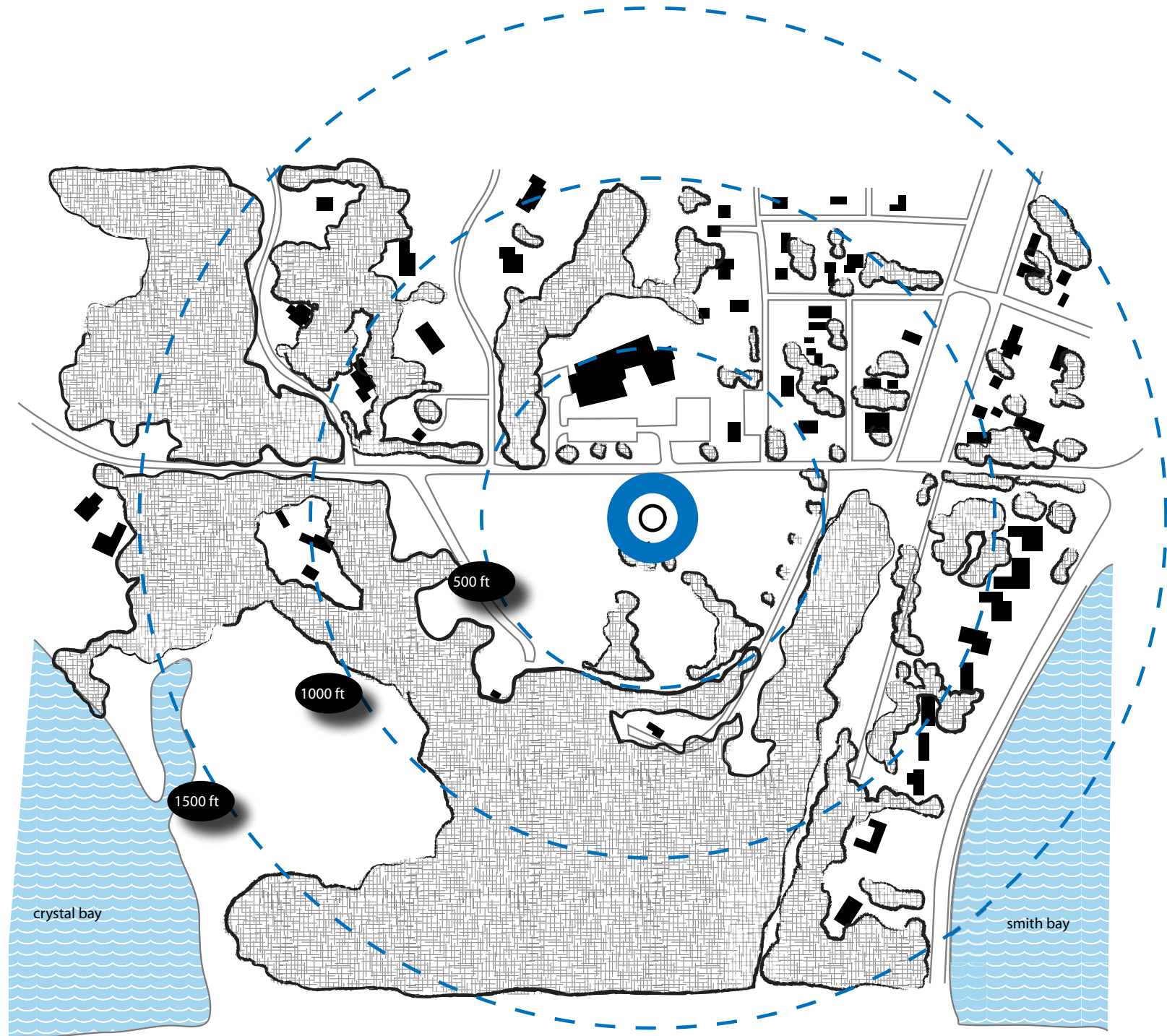


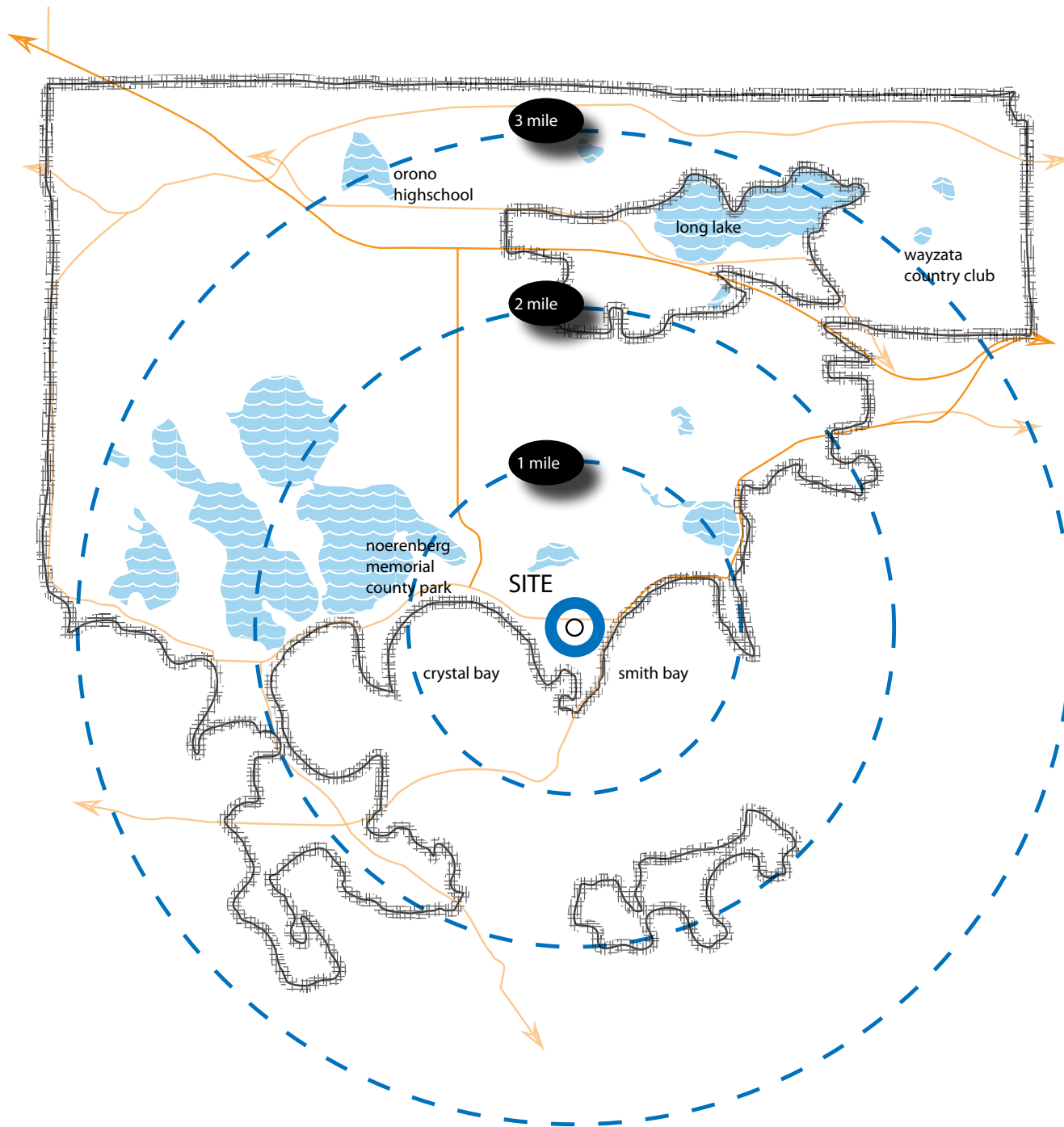
effectiveness?

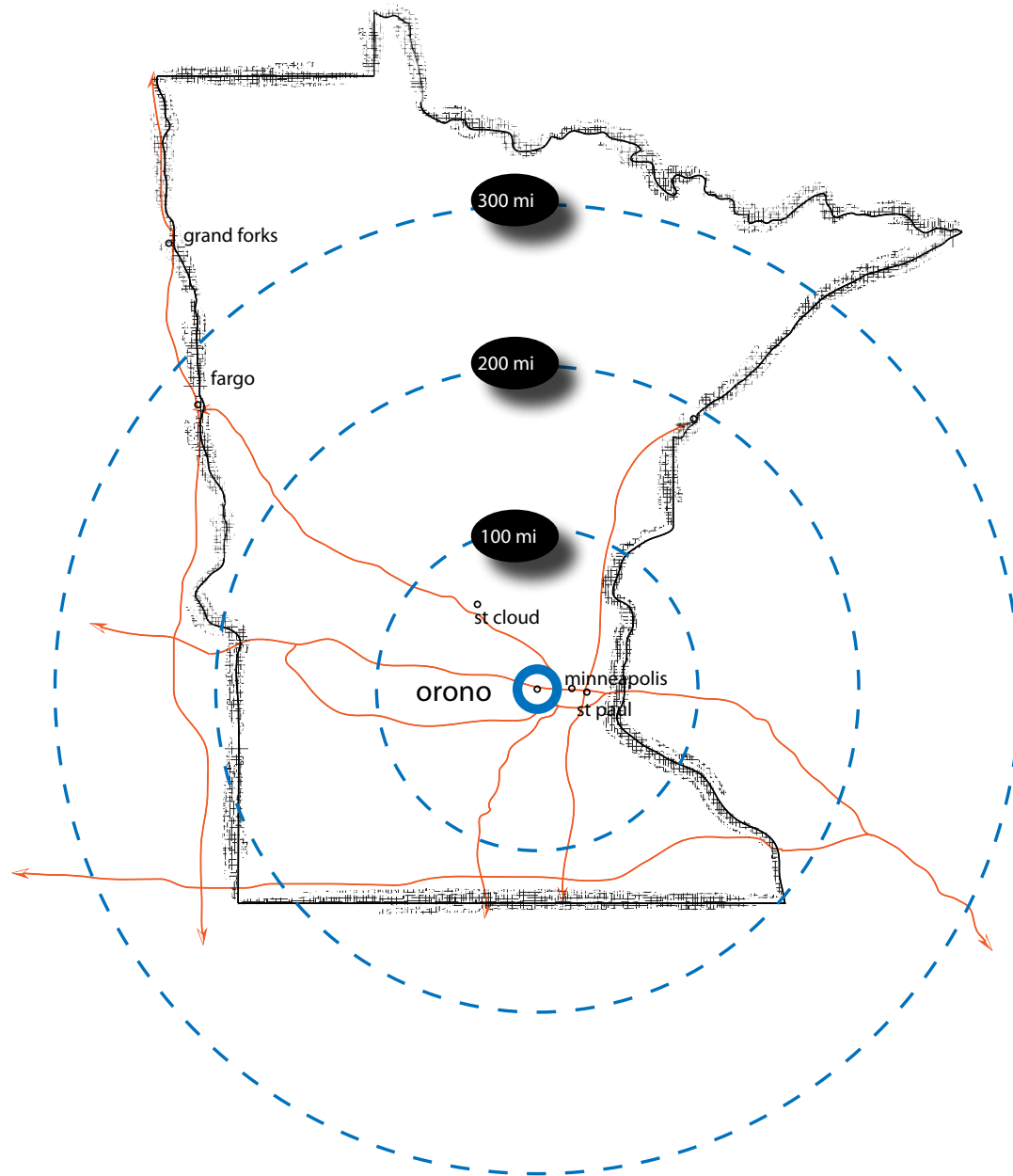


client minnetonka center for arts
site orono, mn









live performance

“music, dance and the spoken word” (weathersby)

history of live performance

1919 - bauhaus movement

1930 - beatniks

1970 - song and dance / performance art

1980 to present - new media

performing arts architecture

“performing arts architecture is like storytelling, a text with a dramatic effect that contributes to the goal of heightening the imagination of theatergoers” (kolleeny)

economic precedents

“few cities besides washington, new york, and los angeles can support the single purpose, shoebox theater...the dollars are astronomical.” (russell cooper)

economic precedents

“cities attuned to the benefits of the arts look for landmark architecture to make maximum impact”(russell cooper). this approach to architectural design, although credited for their economic benefit made famous by architect frank gehry (the bilbao effect) does not belong to theatrical design amidst current the economic status.

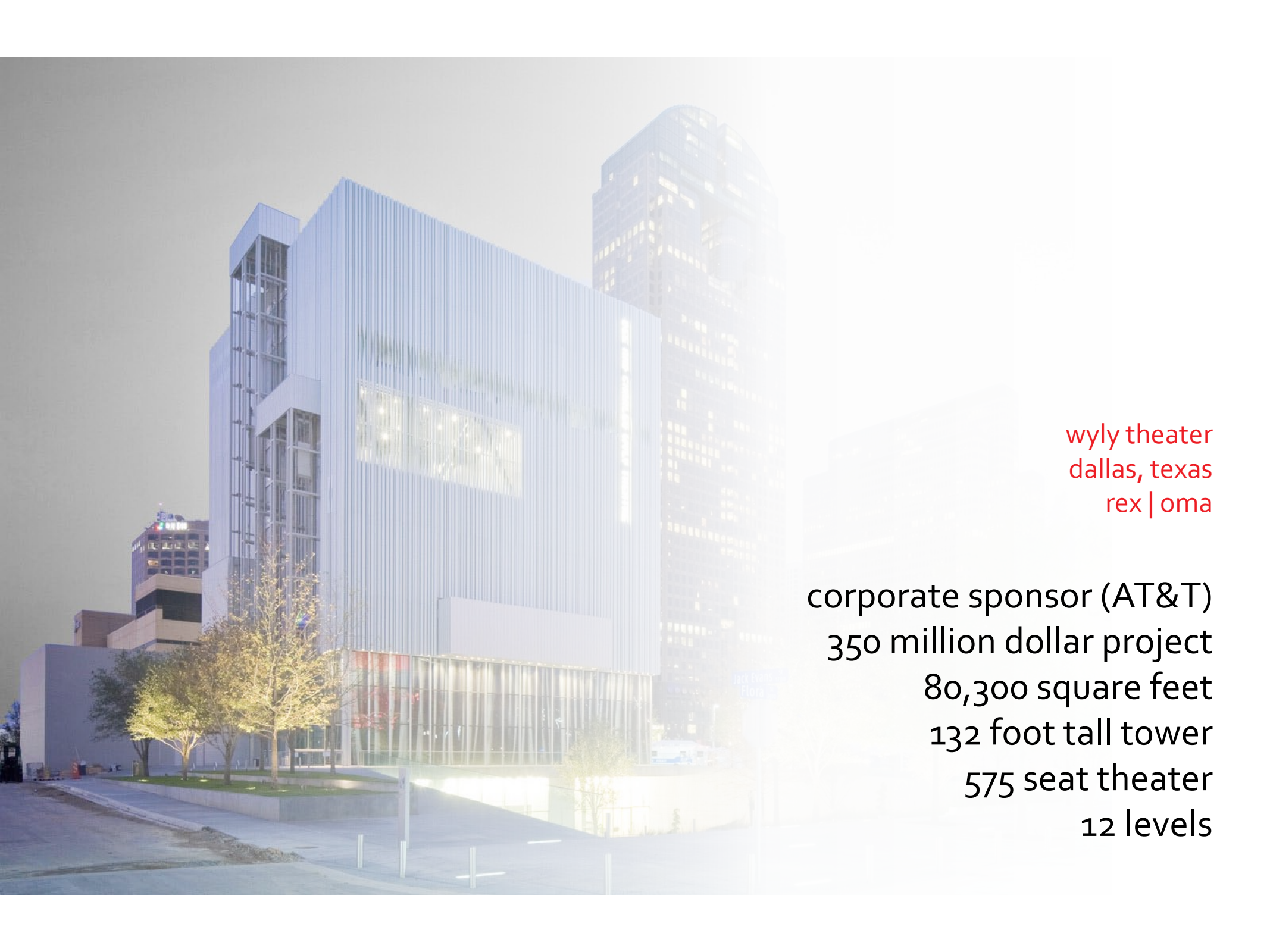
financial support

“for smaller cities that can’t afford to build stand alone facilities, universities can successfully merge town and gown.” (russell cooper)

so where does that leave us?

not here...



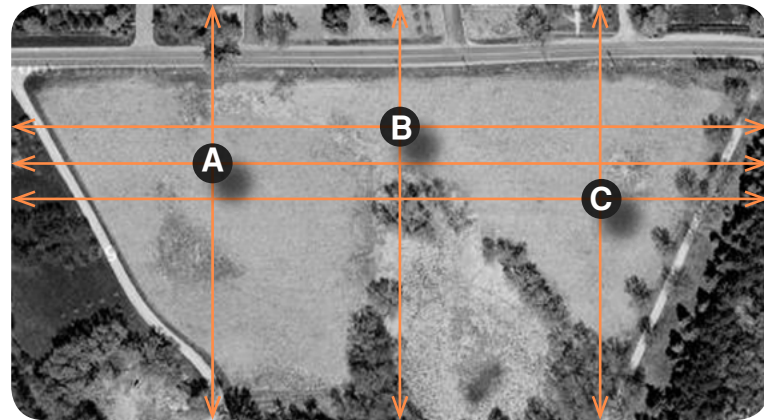


wyle theater
dallas, texas
rex | oma

corporate sponsor (AT&T)
350 million dollar project
80,300 square feet
132 foot tall tower
575 seat theater
12 levels

research summary

- intimate and versatile design
- non-profit & education clients
- dynamic program requirements



site reconnaissance



above - location b view north

below - location a view south

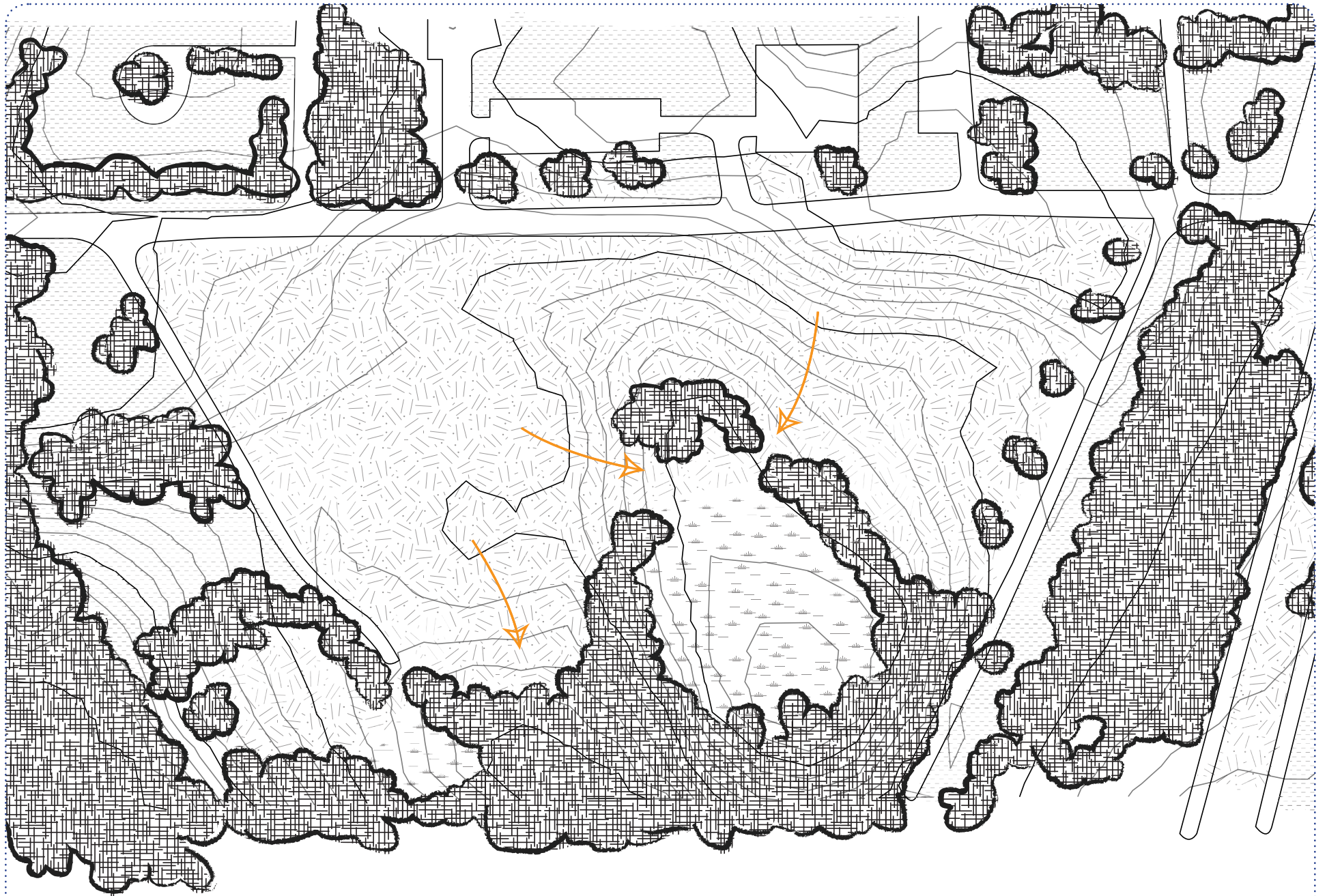




above - location c view east

below - location a view west

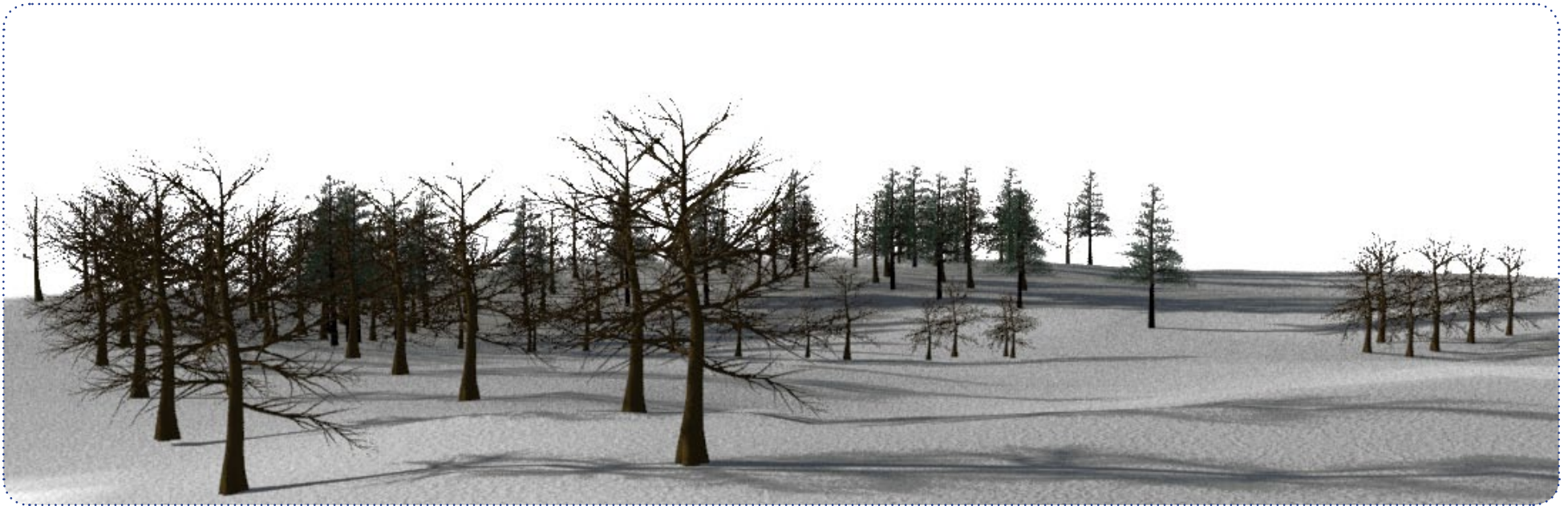




dense tree cover - tall grass - mowed grass - swamp conditions - drainage

slope calculation:
slopes across the site never exceed 12 percent grade. a majority of the site, nearly 73% has a slope between 0-6 percent. this is an easy grade to build on, and fine for casual pedestrian movement





above - winter solstice

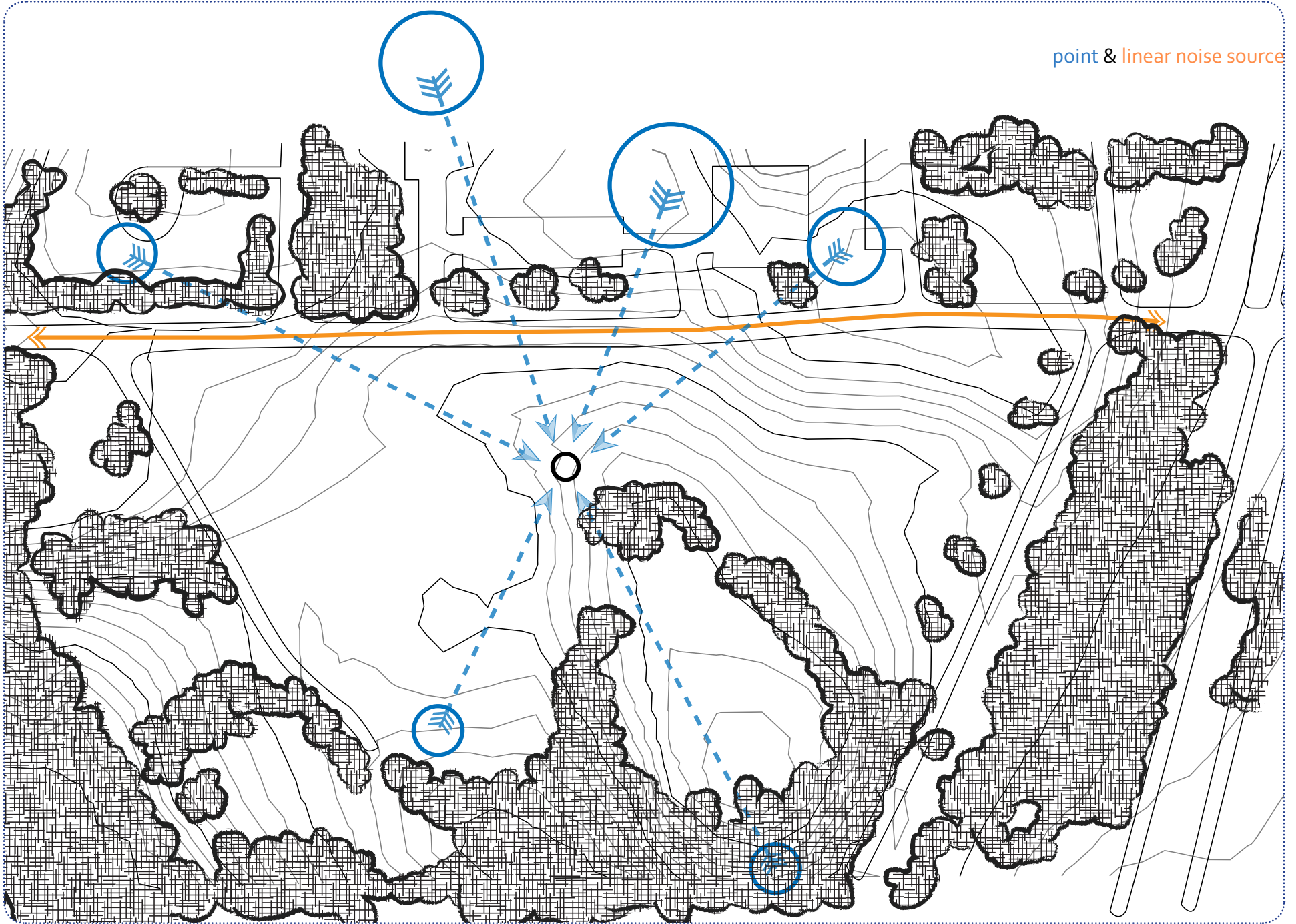
below - summer solstice

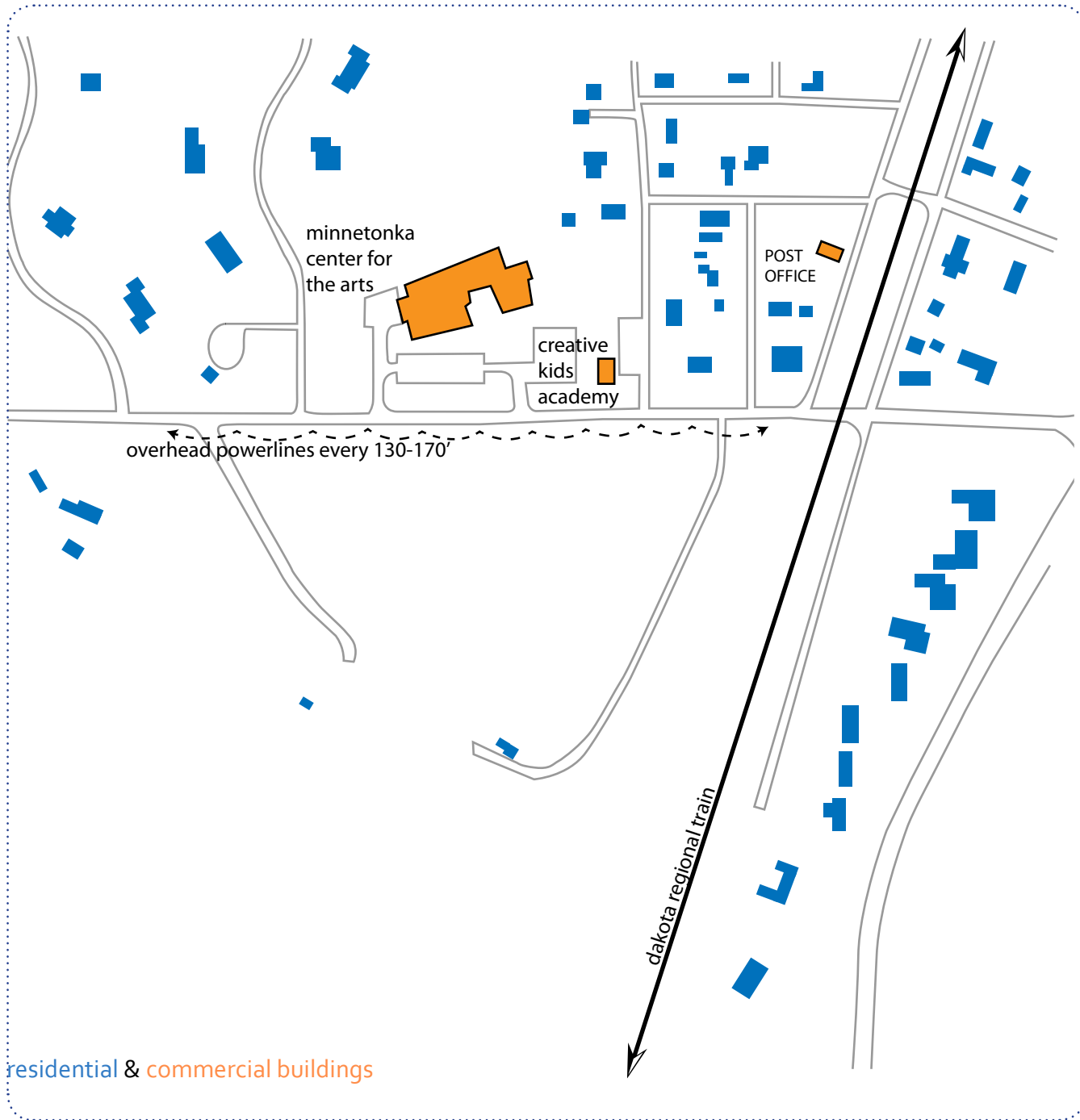




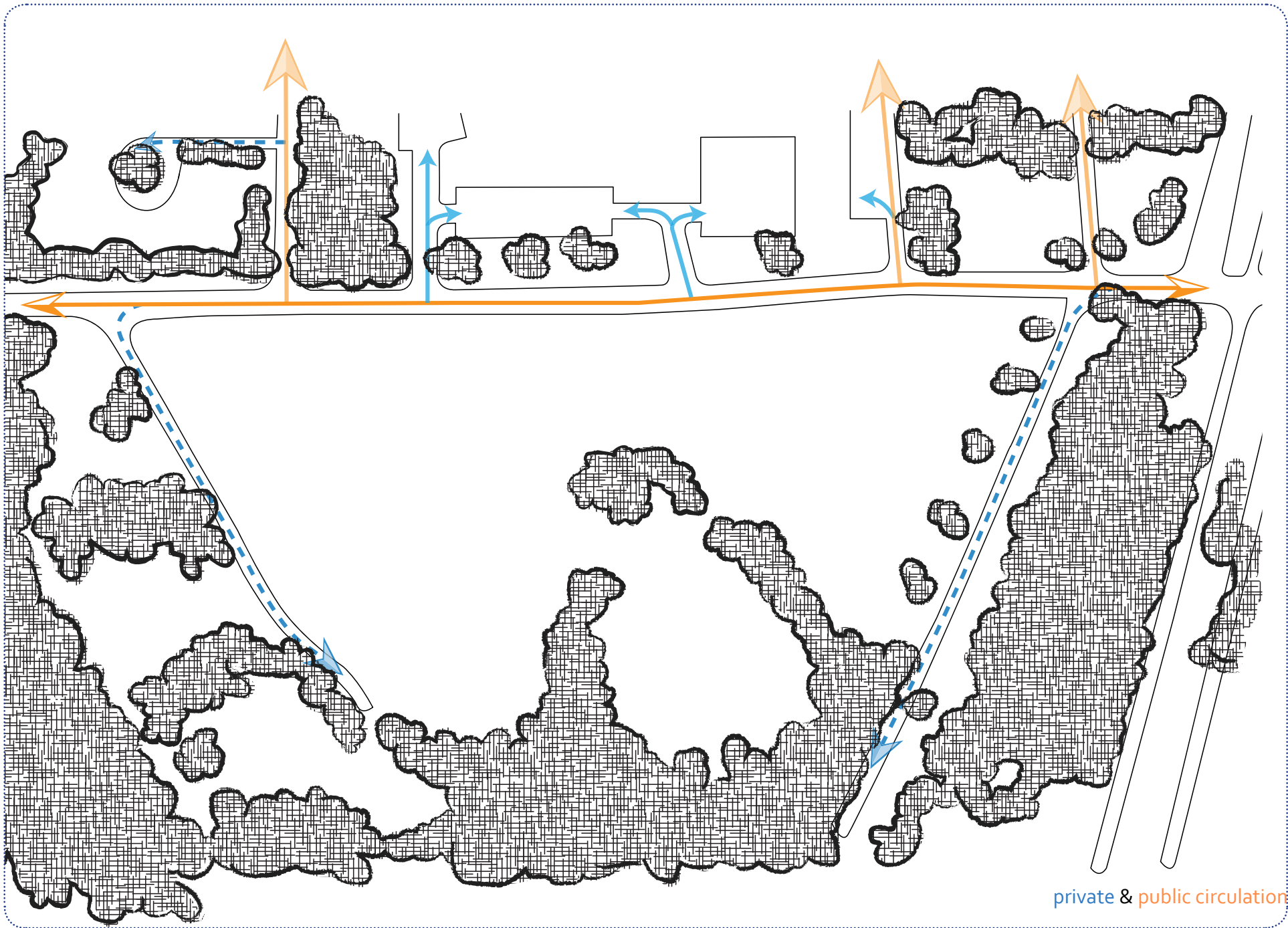
figure & ground study

point & linear noise source

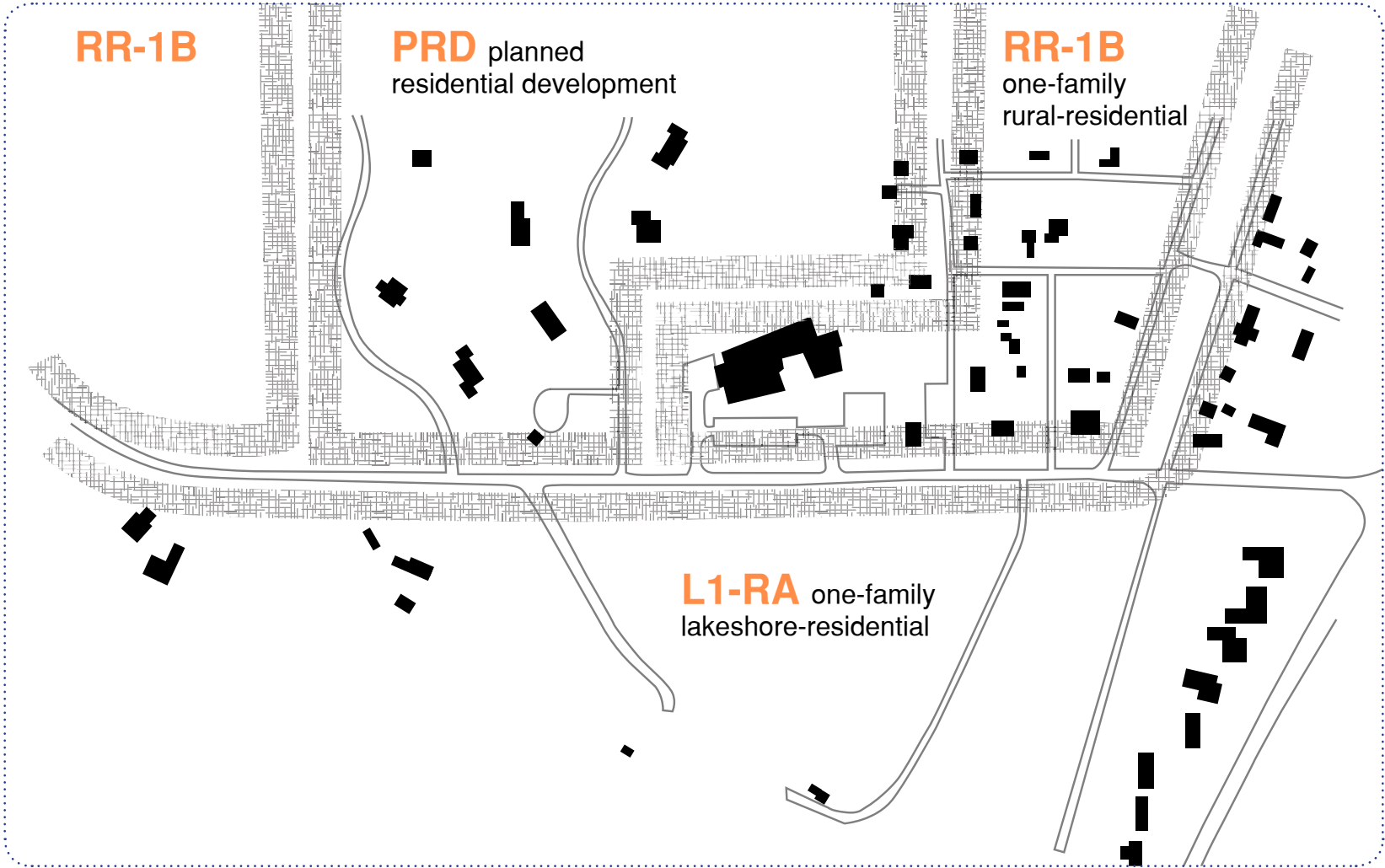


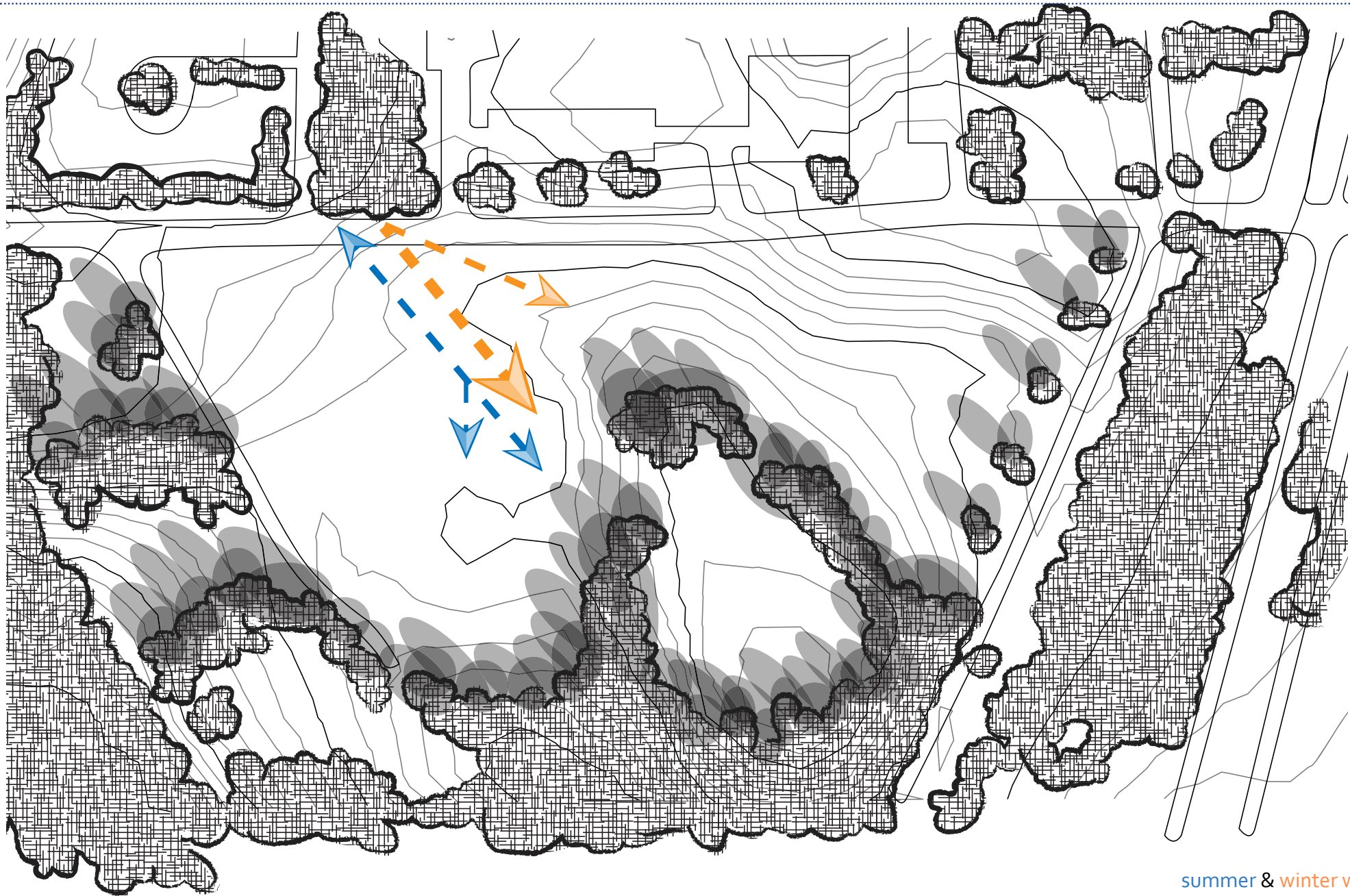


residential & commercial buildings



private & public circulation



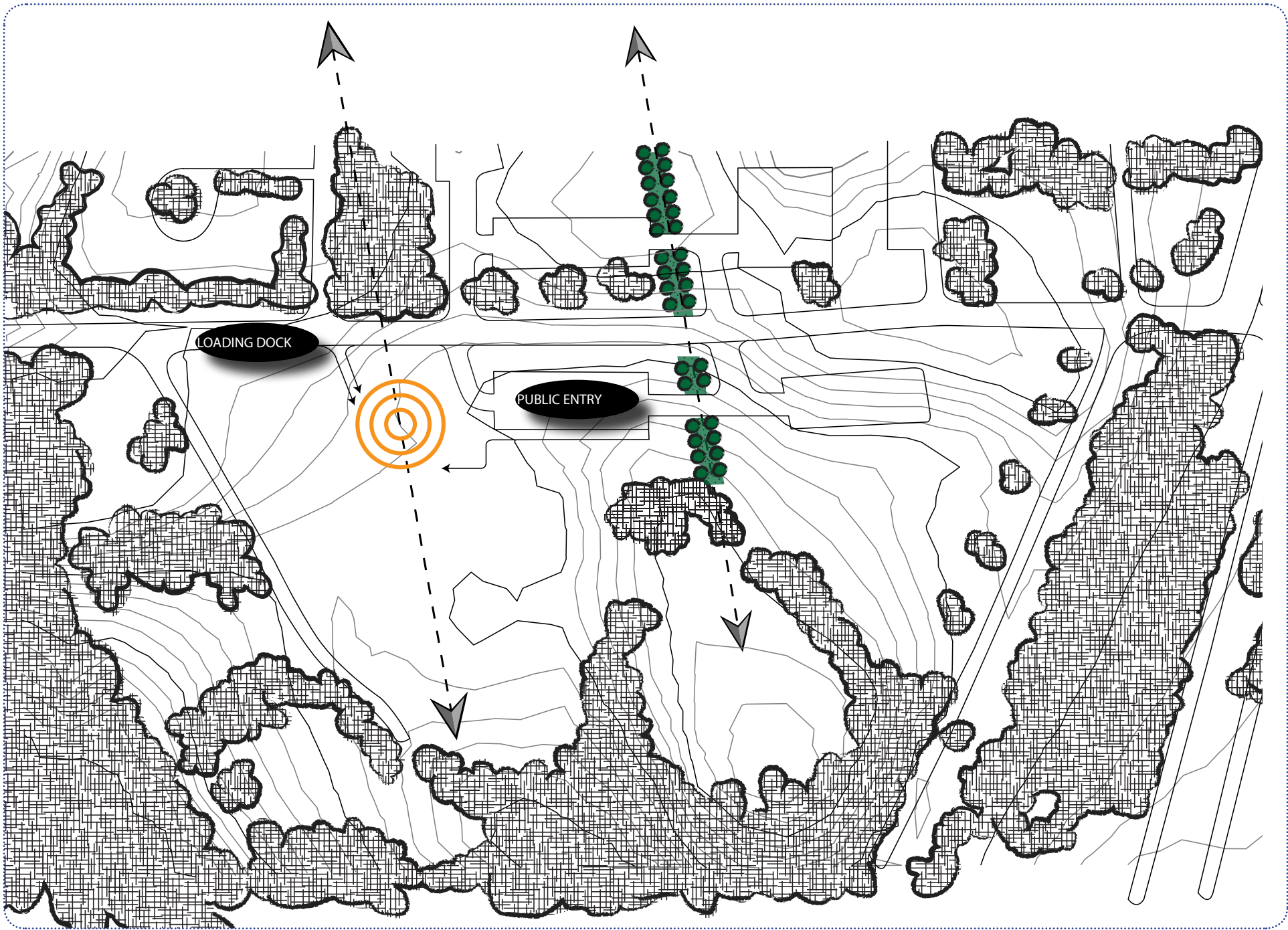


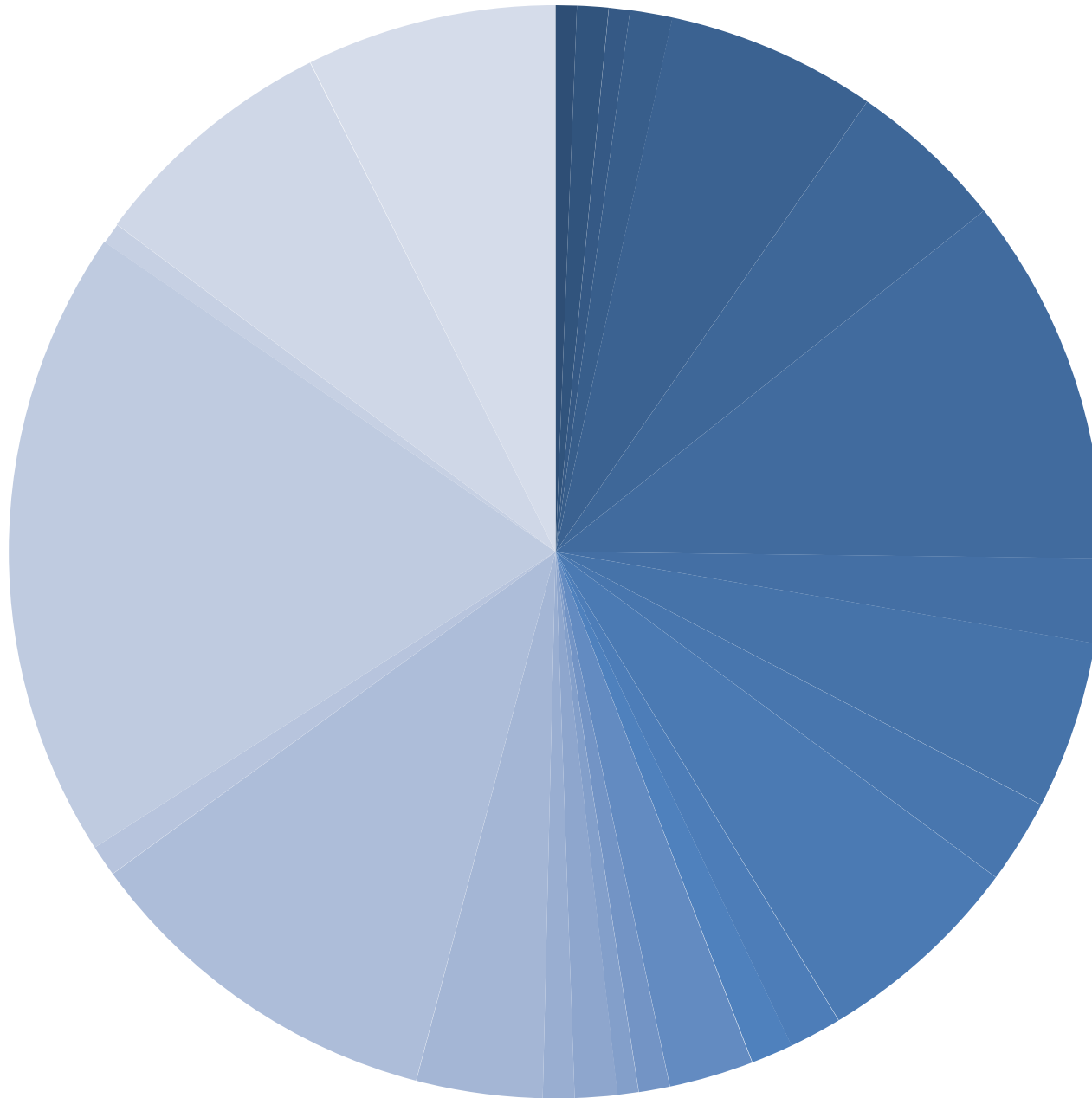
summer & winter winds
shadow coverage



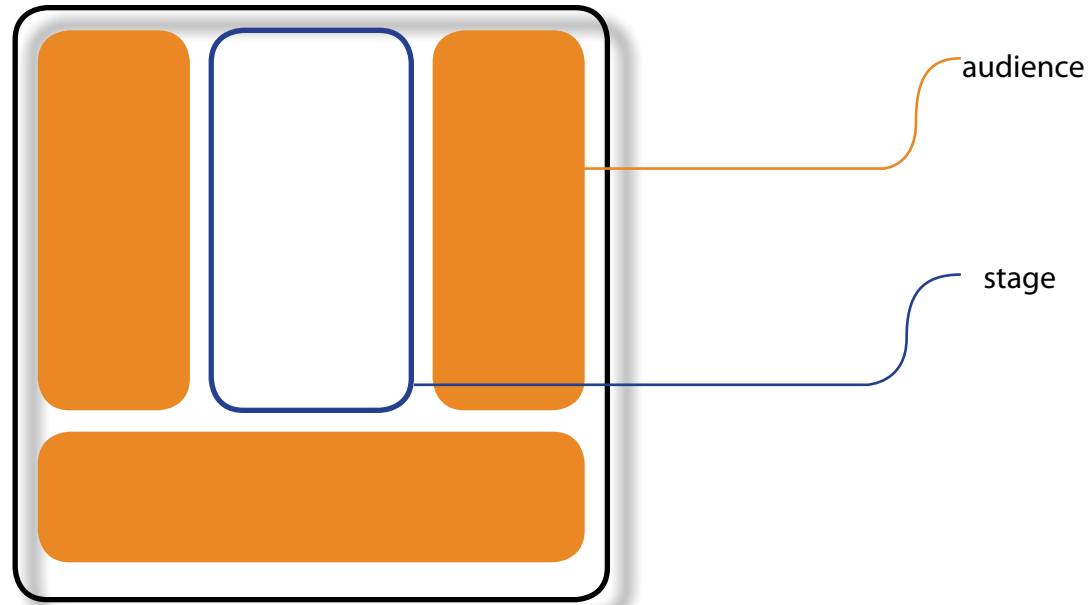
point of interest - rain garden this element found across the street from the site location is a rain garden collecting runoff from the parking lots at the minnetonka center for the arts. Its strong visual axis will play a strong role in the identity and site design of the the performing arts center.



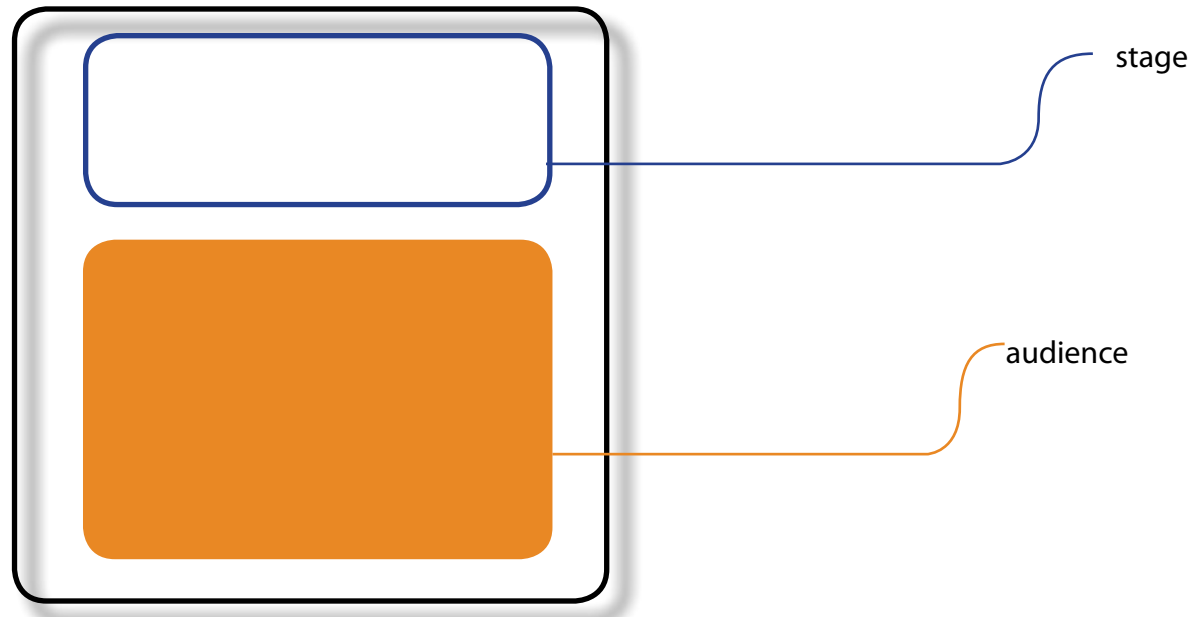




- projection
- sound and light
- video
- electrical closet
- stage
- backstage
- audience
- changing rooms
- locker rooms
- rehearsal studio
- set & storage
- maintenance
- loading dock
- teachers office
- conference room
- breakroom
- employee bathroom
- mail
- public bathroom
- lobby
- receptionist
- courtyard
- vestibule
- mechanical



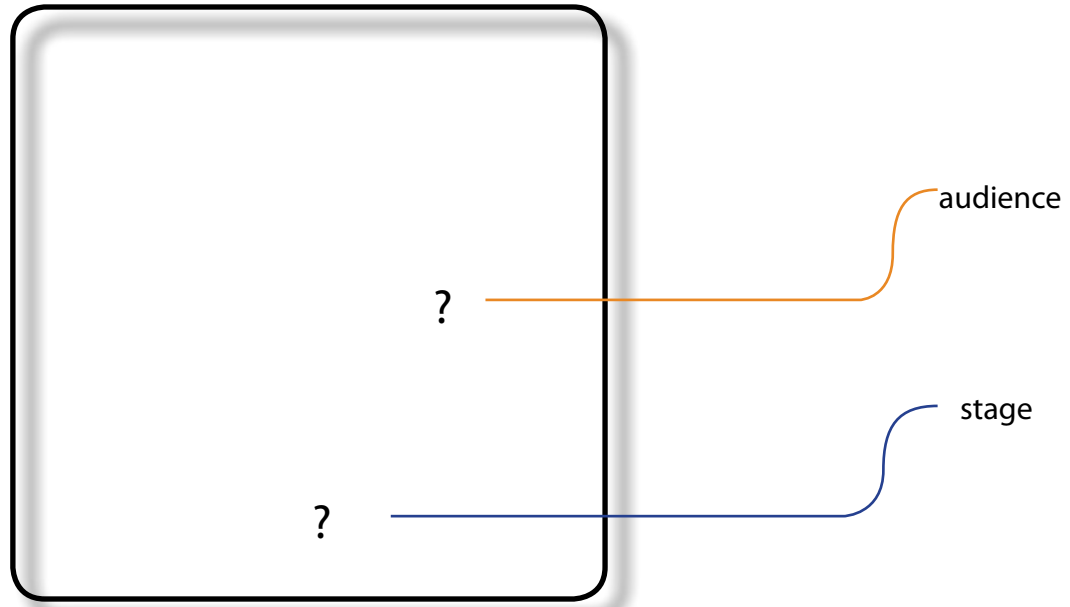
THRUST STAGE



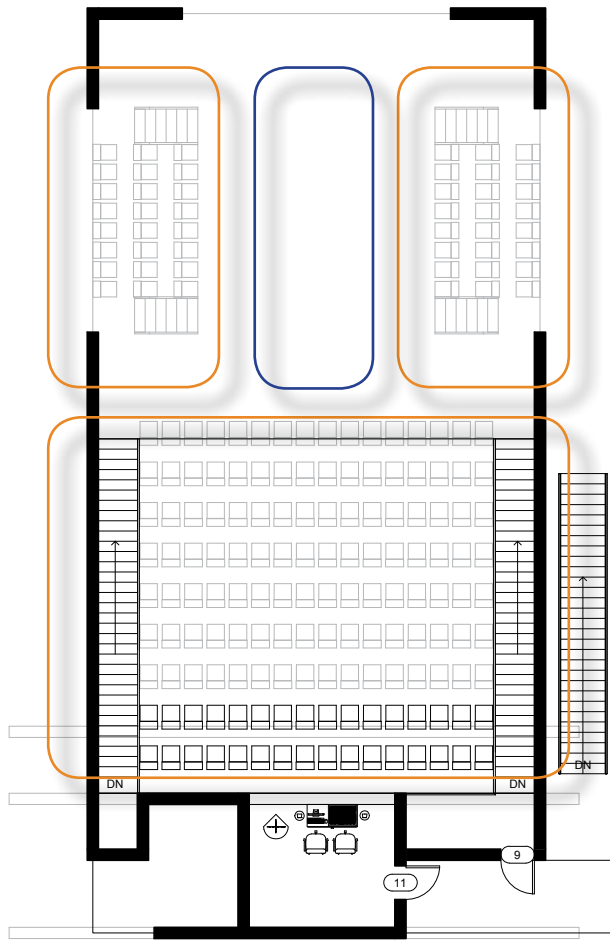
stage

audience

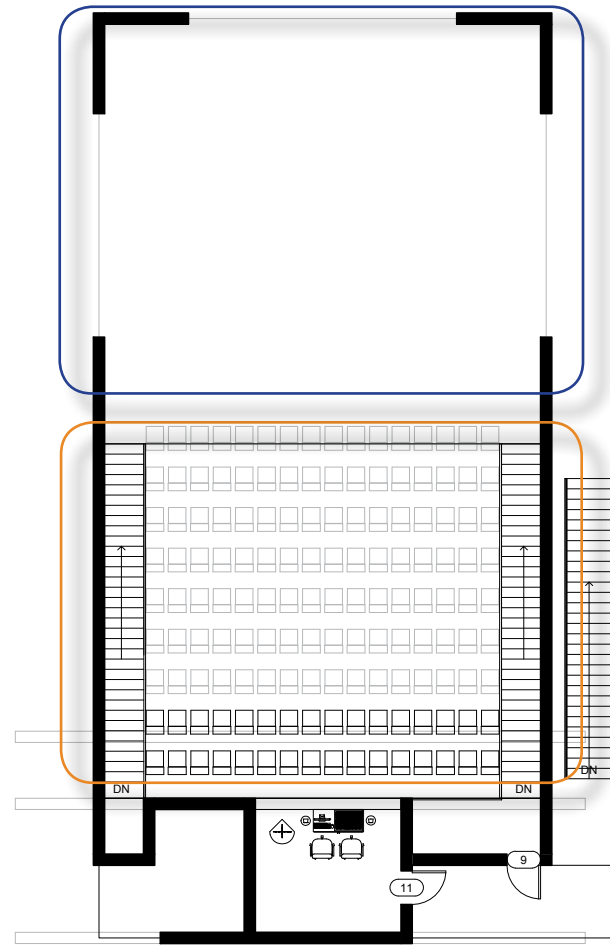
PROSCENIUM STAGE



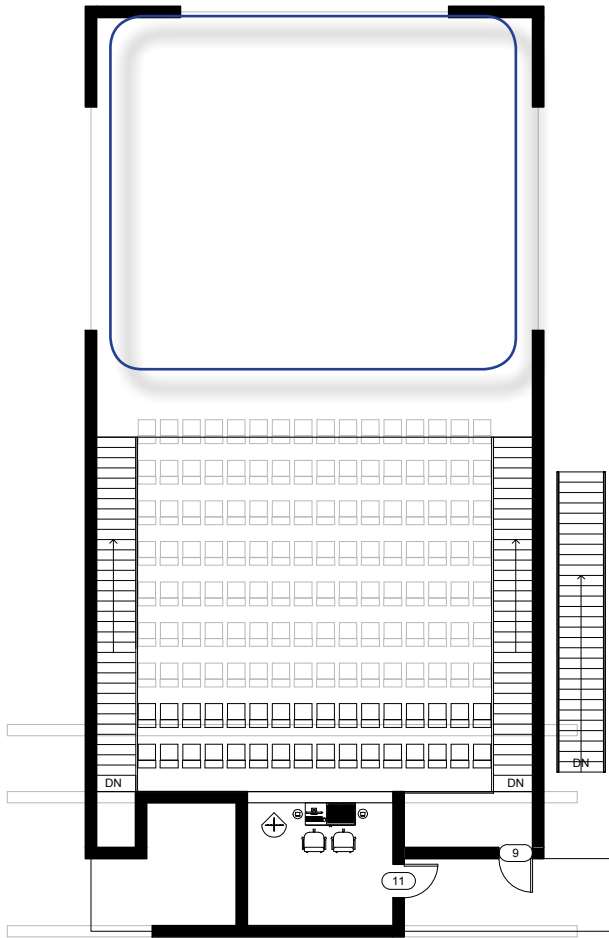
BLACK BOX | anything goes!



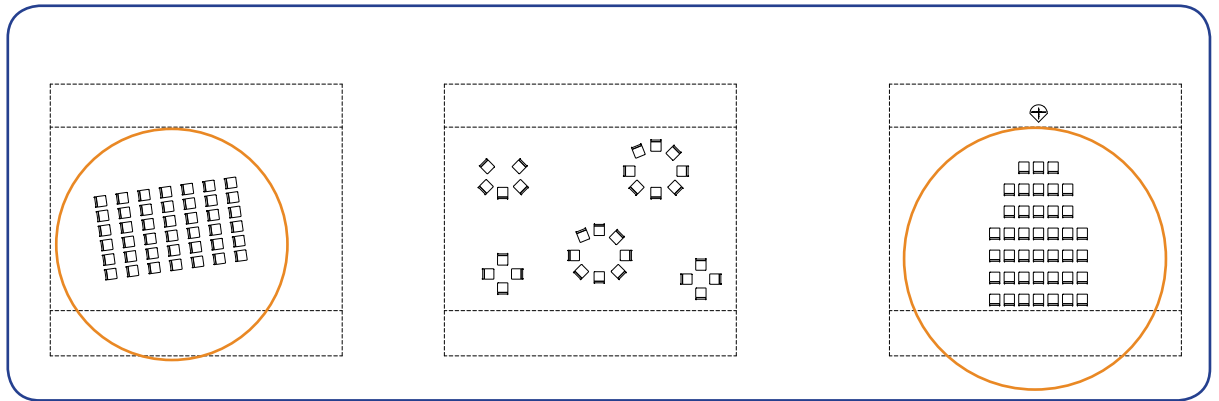
lv101 | thrust



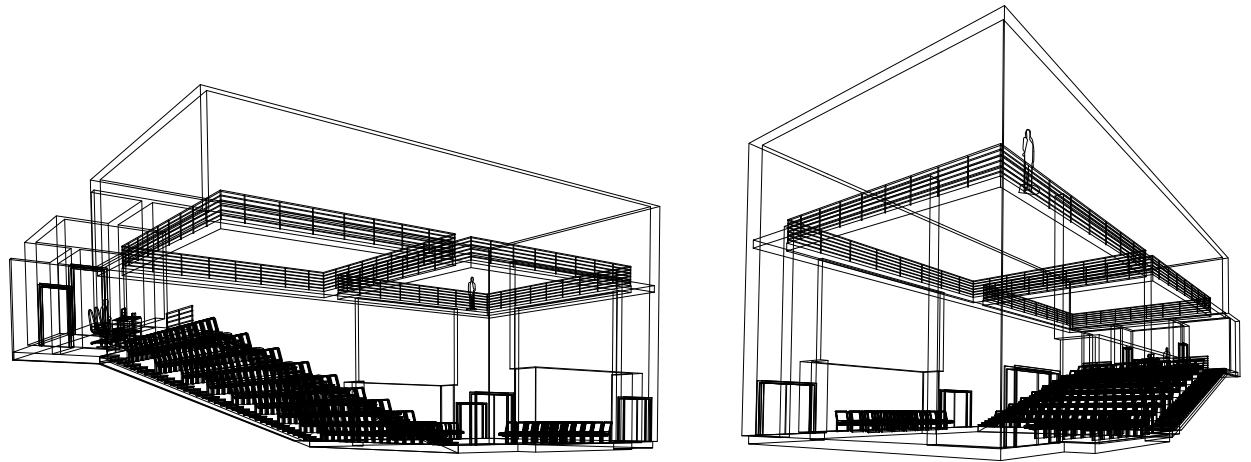
lv101 | proscenium

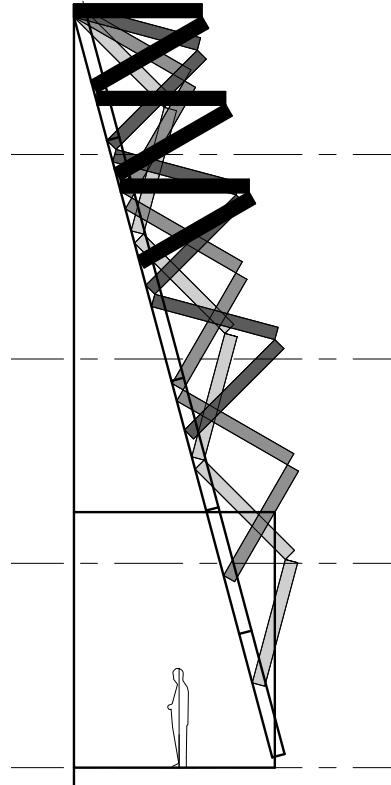
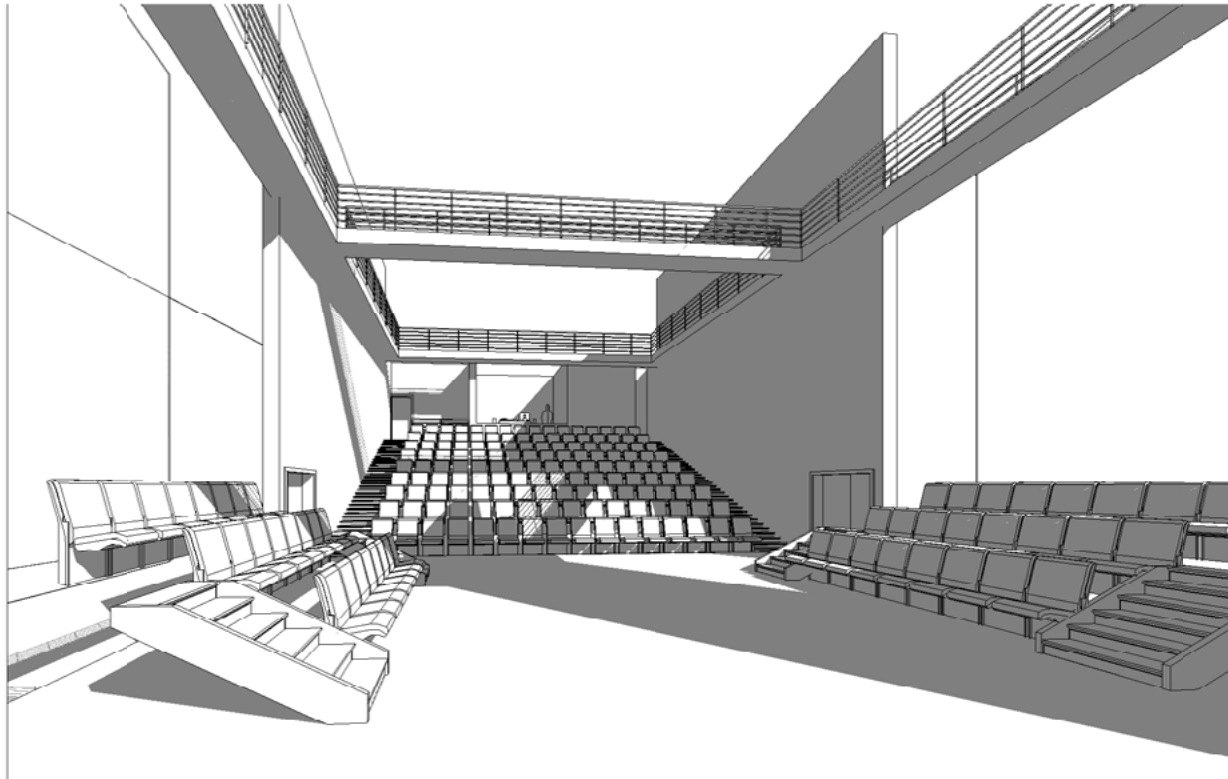
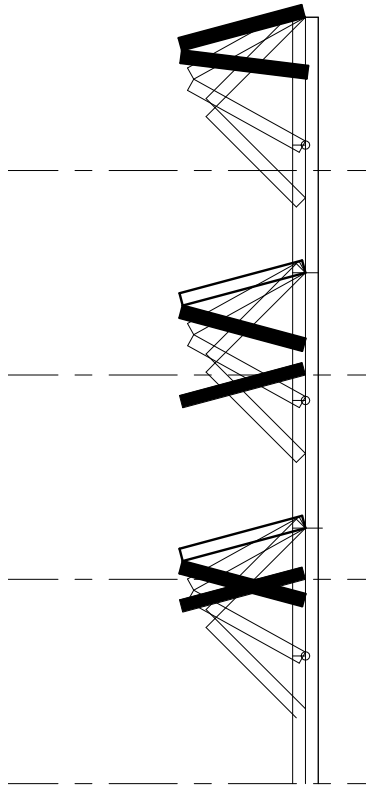


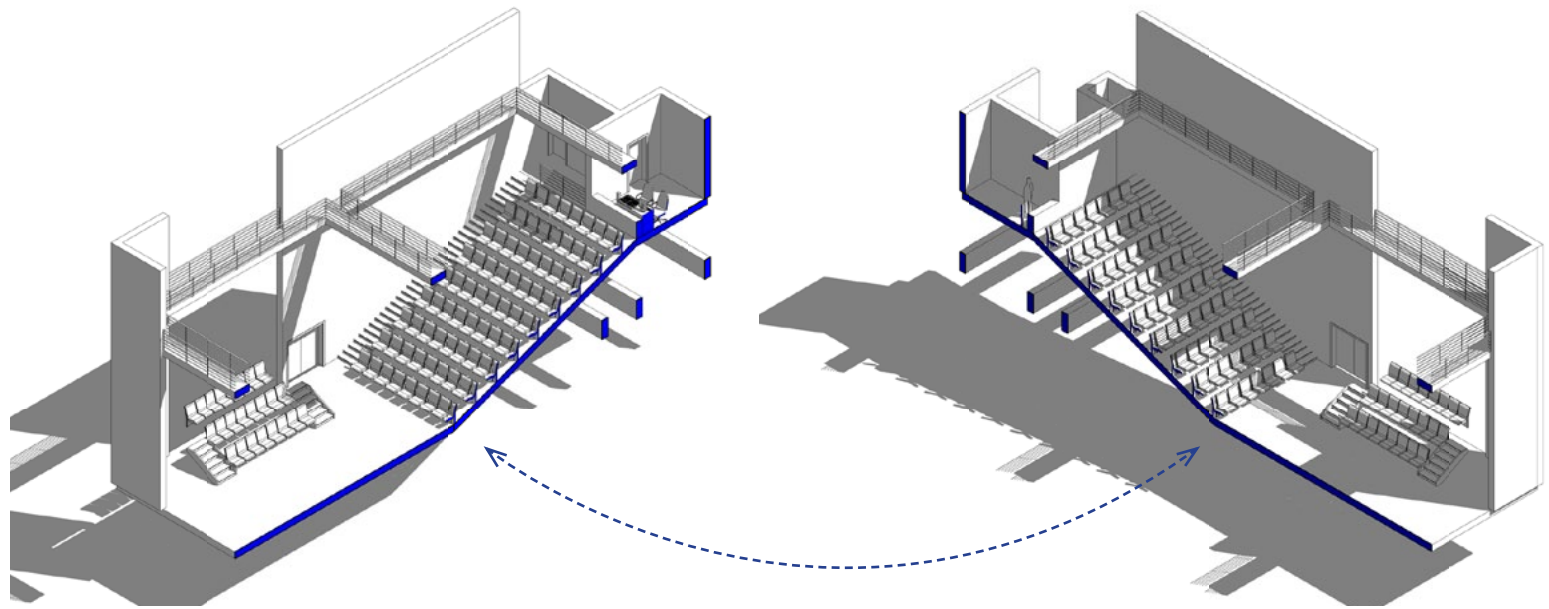
lvlo1 | blackbox

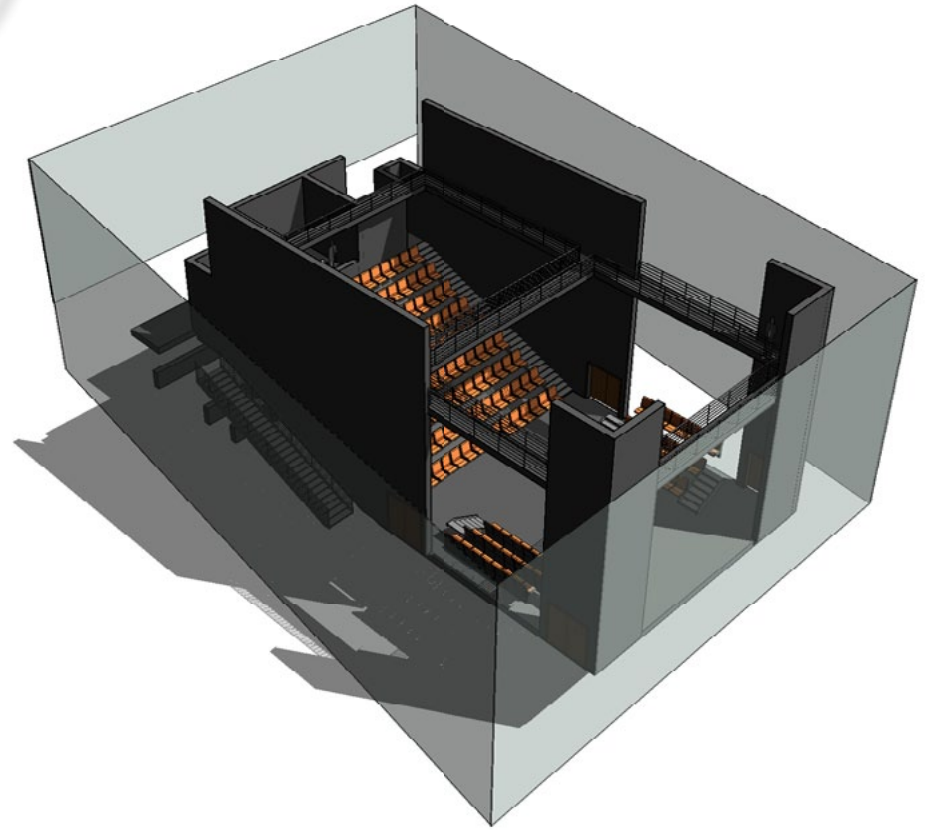
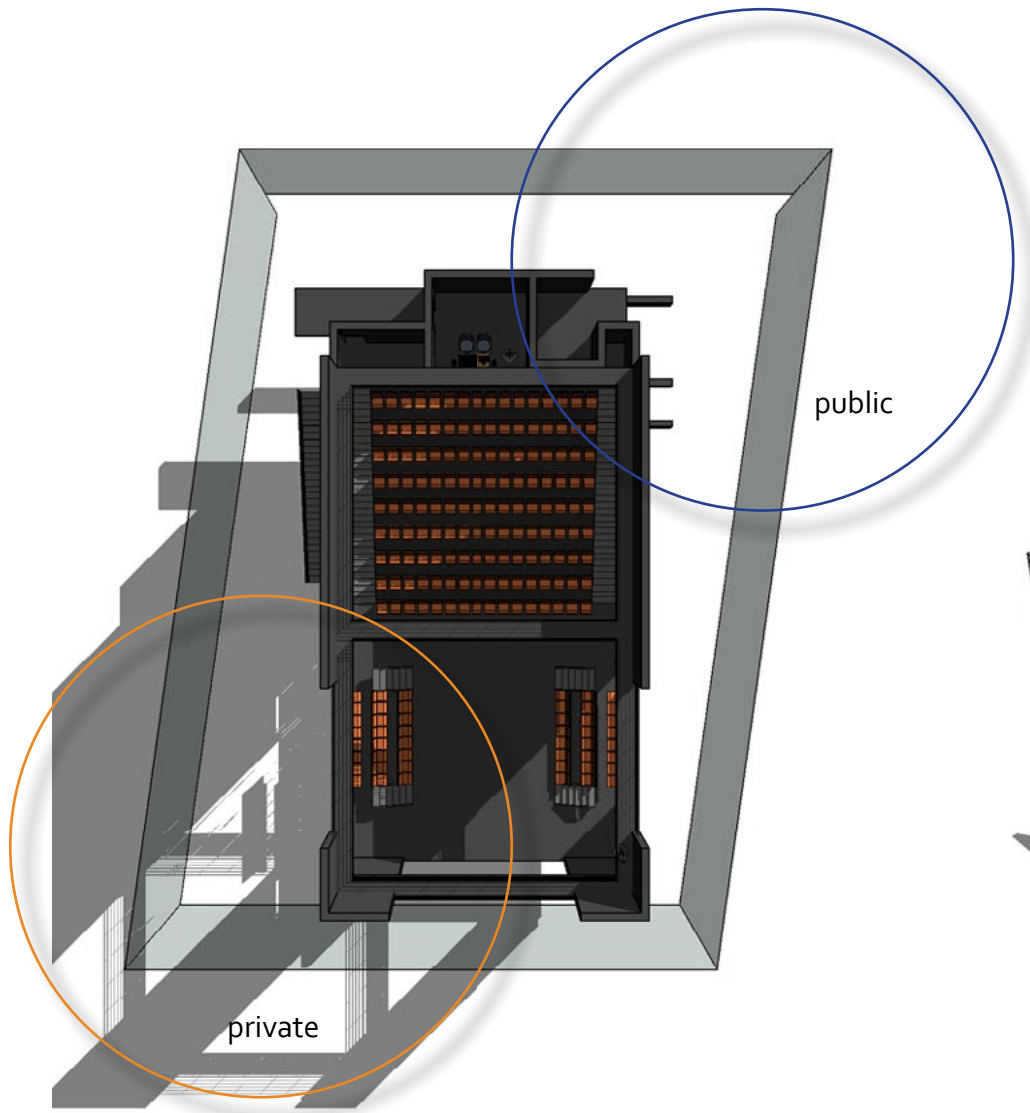


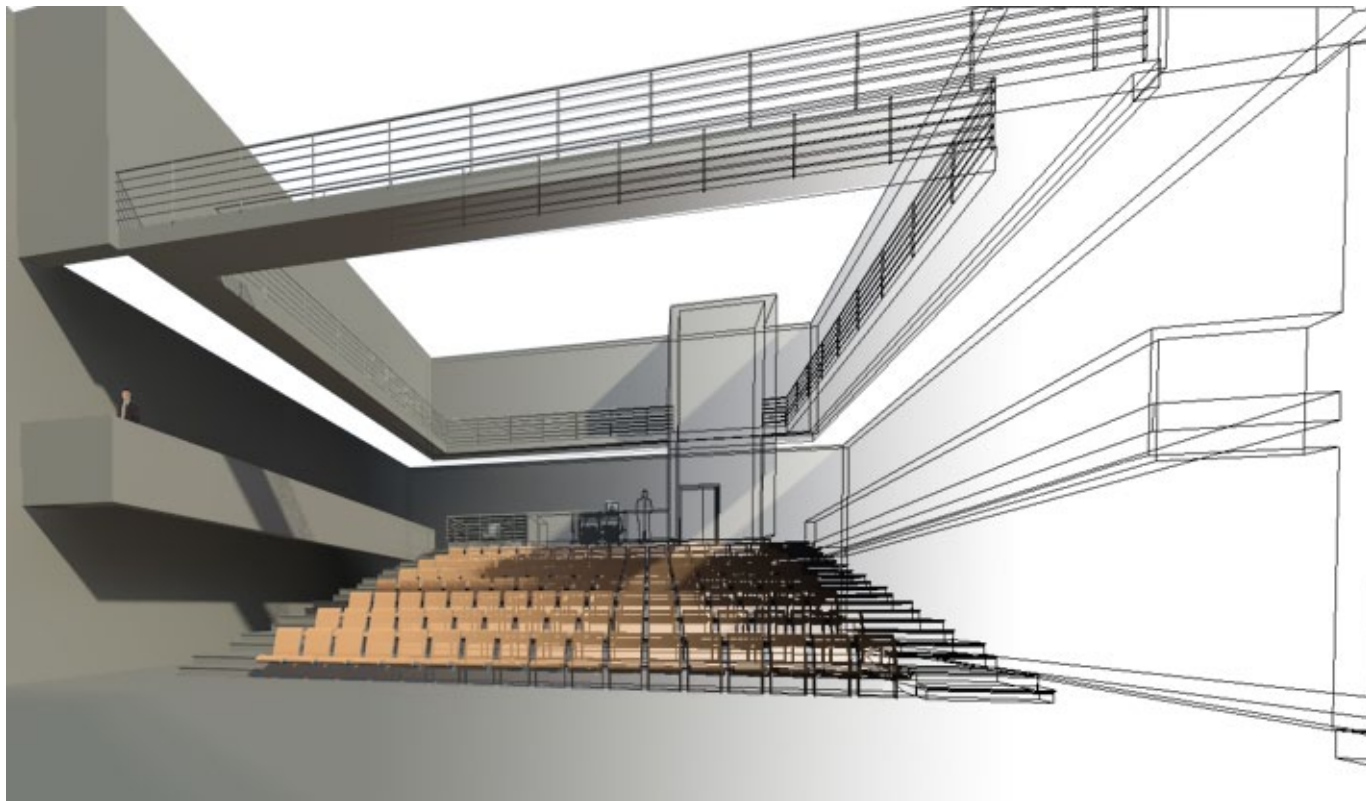
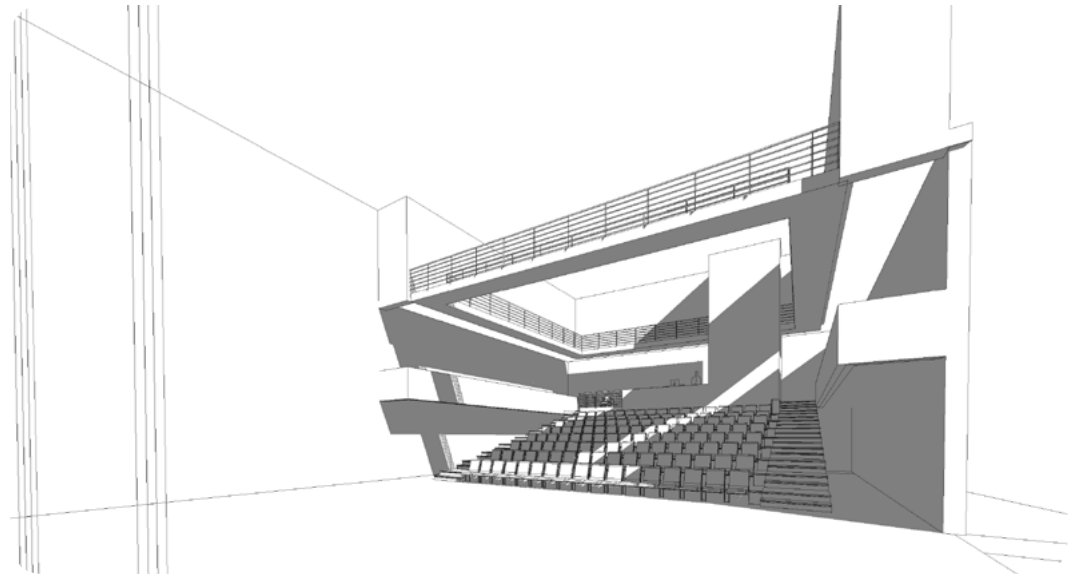
function | classroom, dispersed classroom, recital, etc...

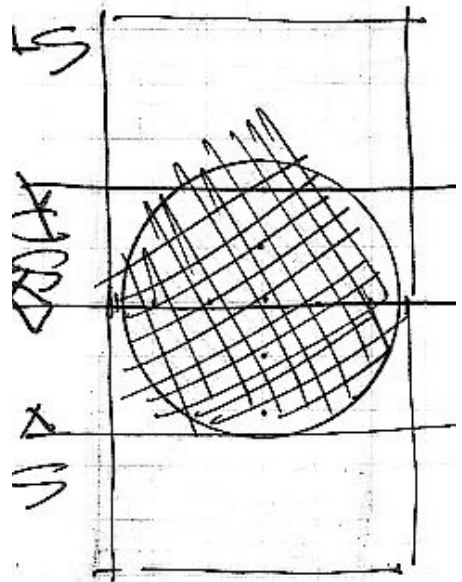
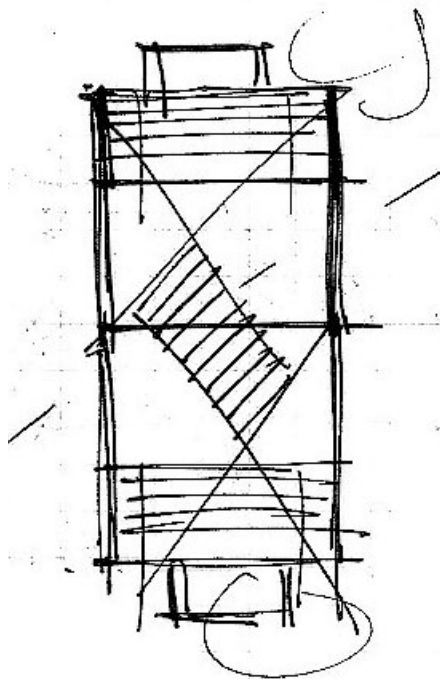
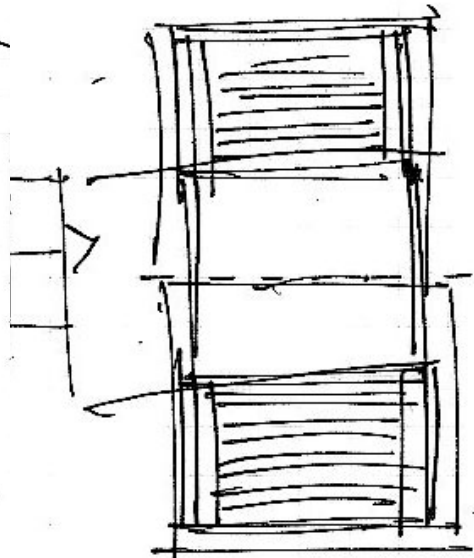
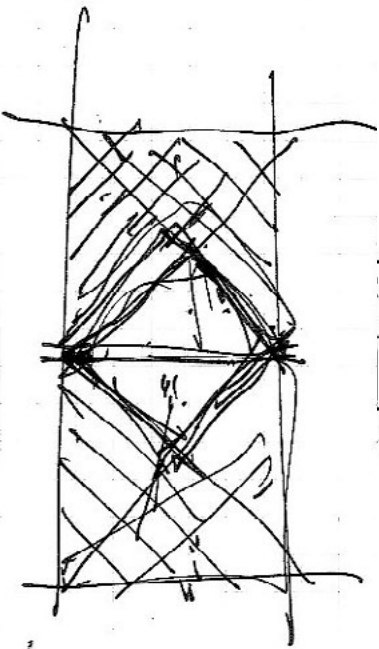


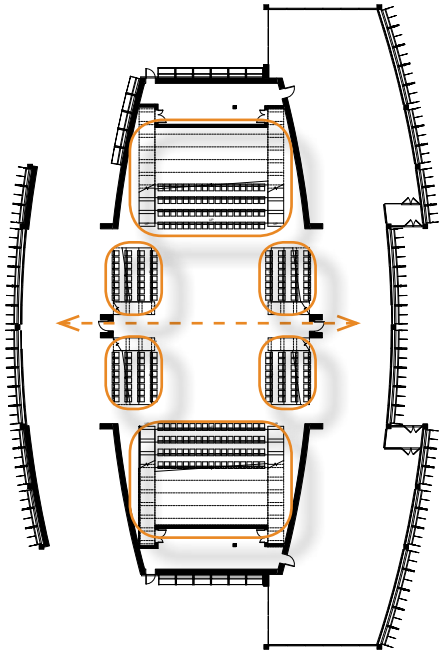




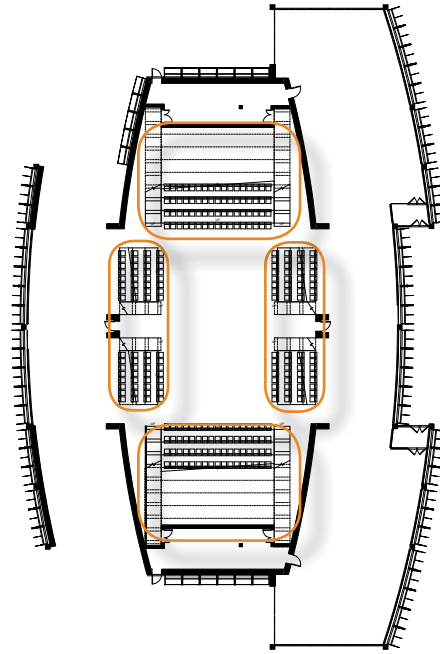




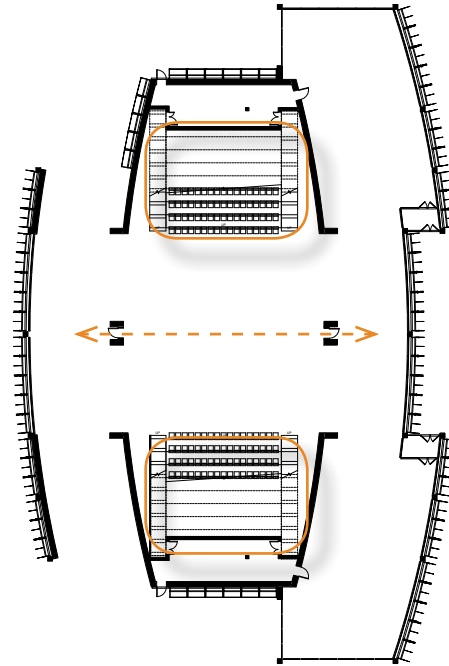




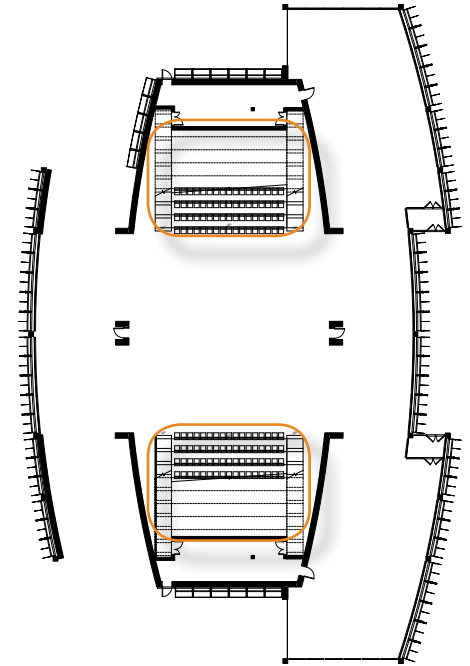
lvl01 | two thrust stage



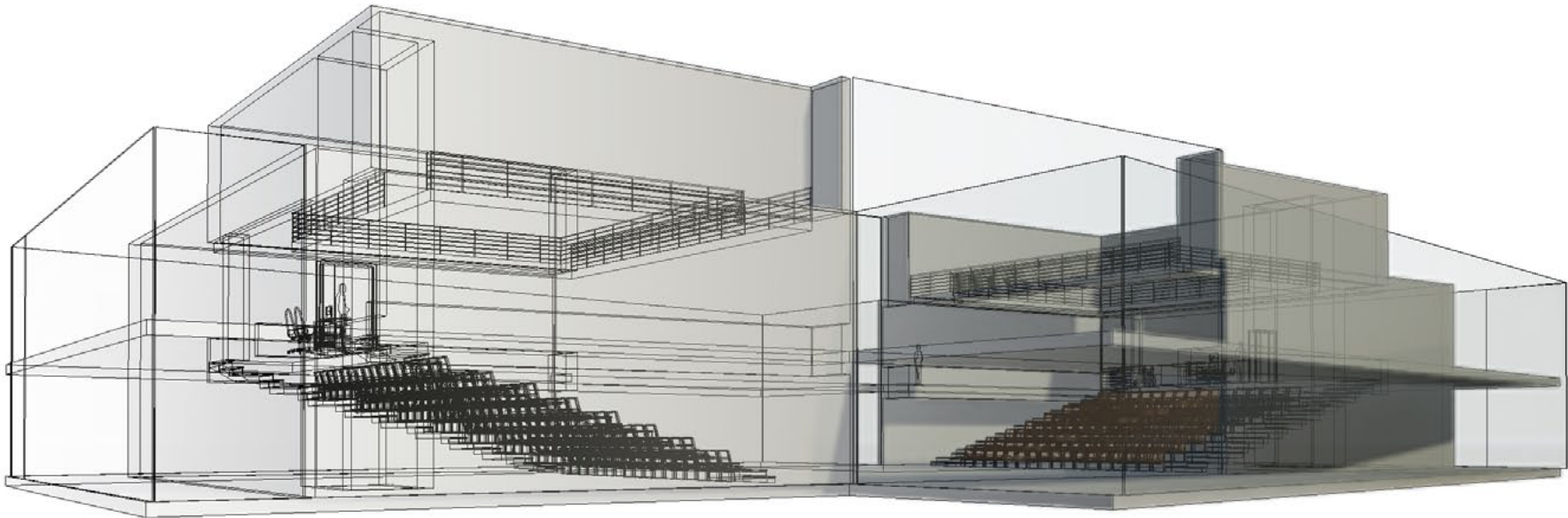
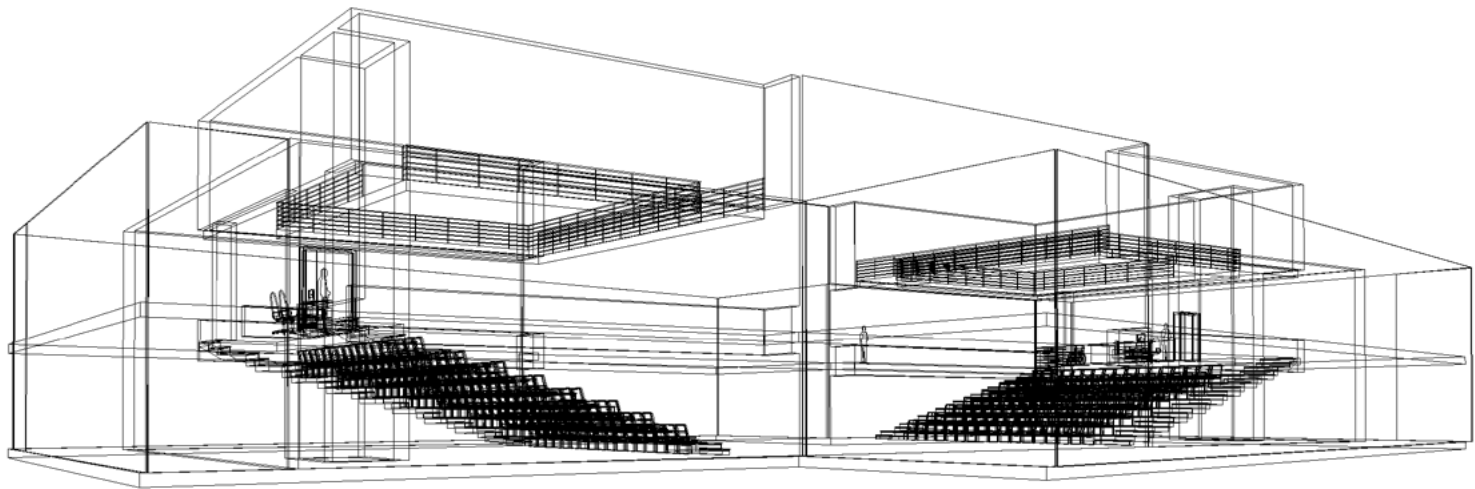
lvl01 | round stage

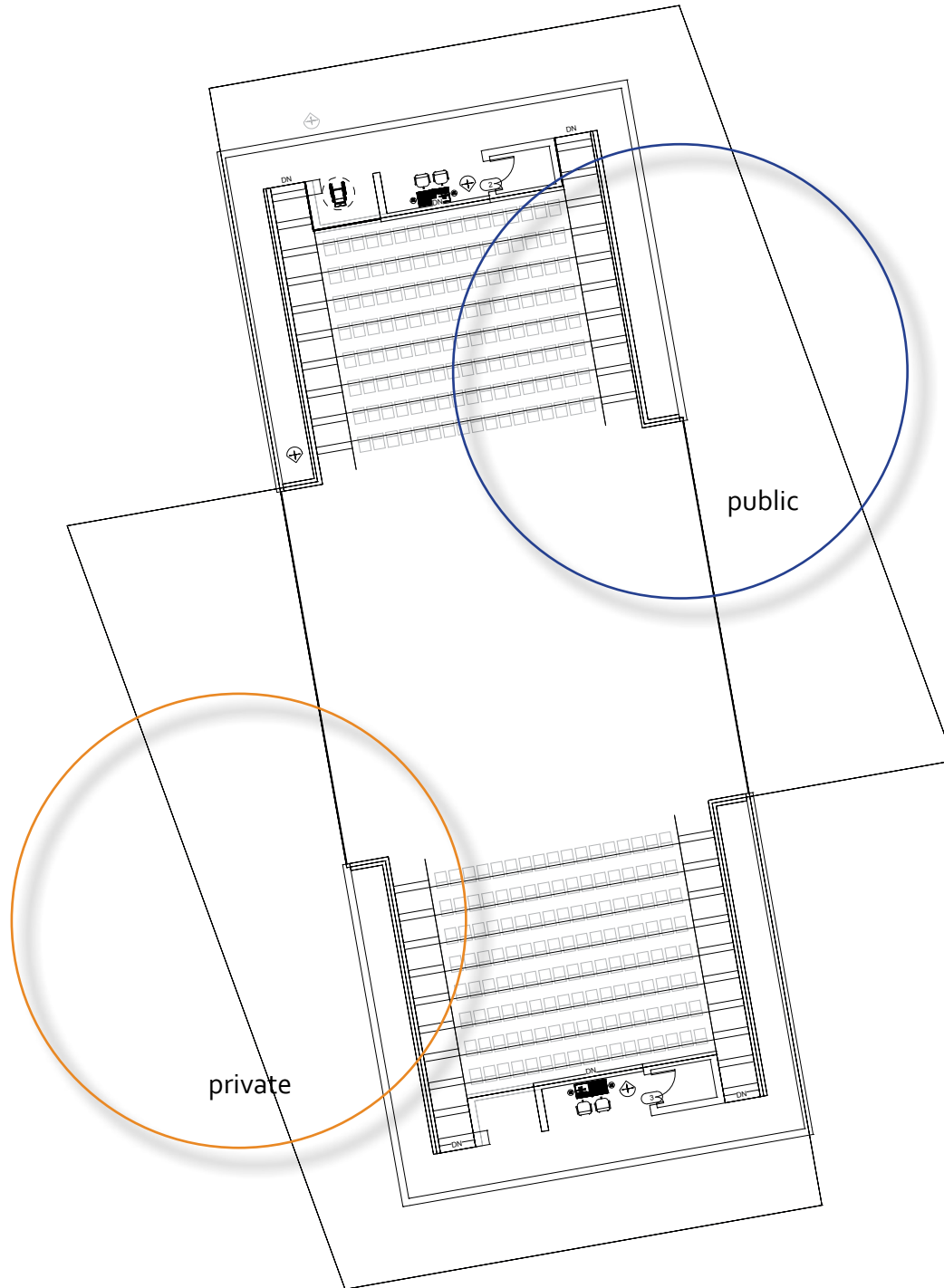


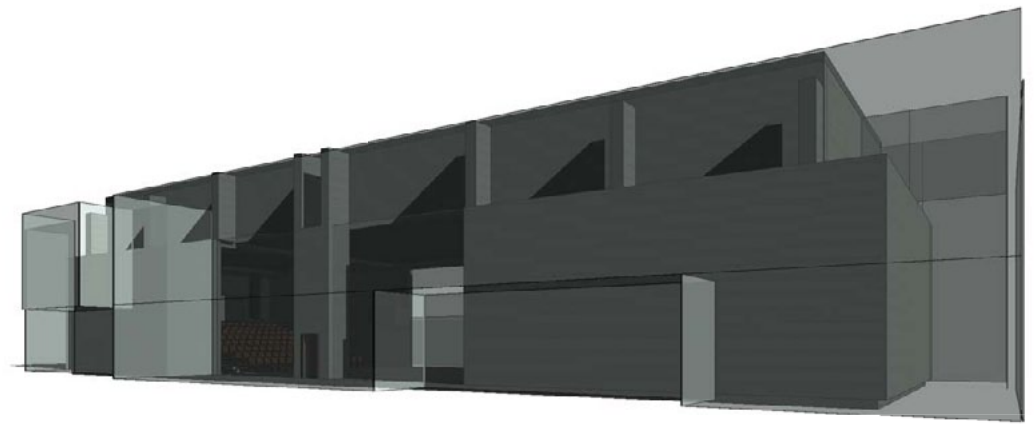
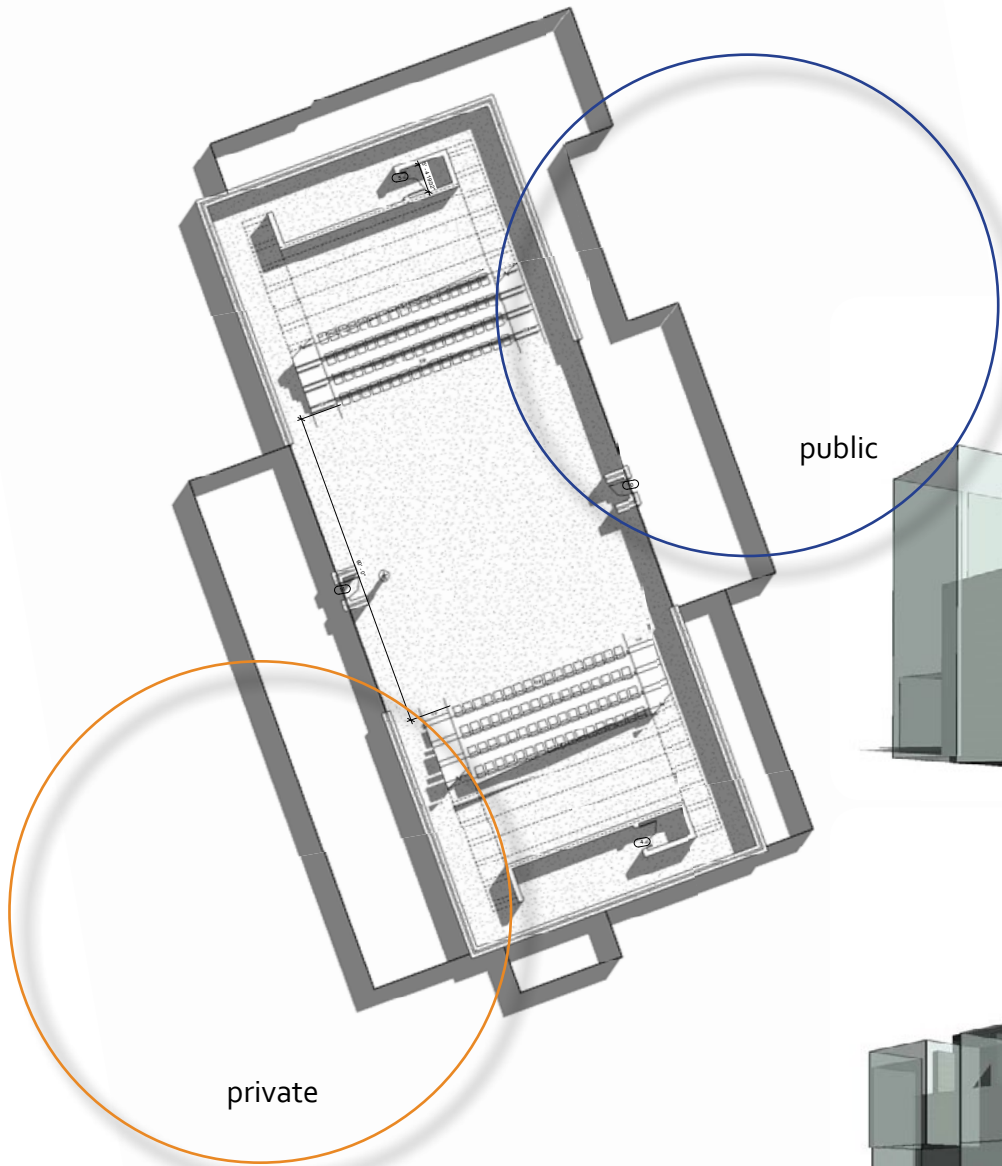
lvl01 | two proscenium stage

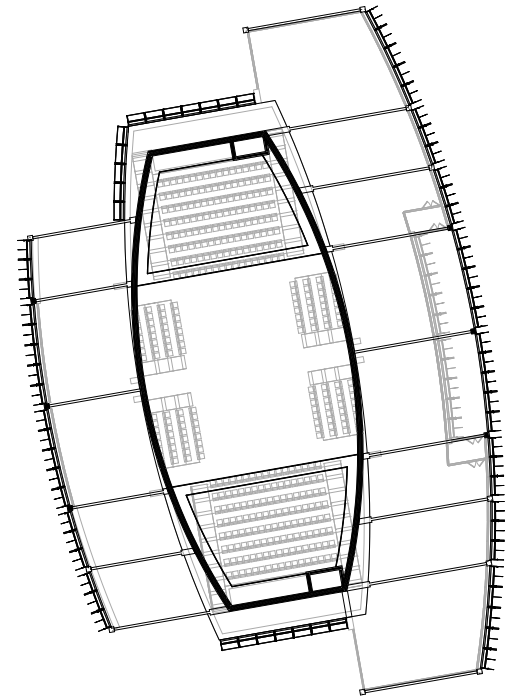
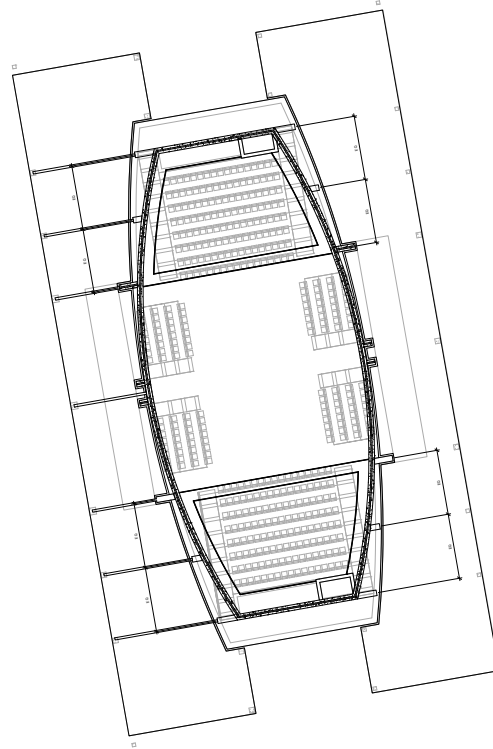
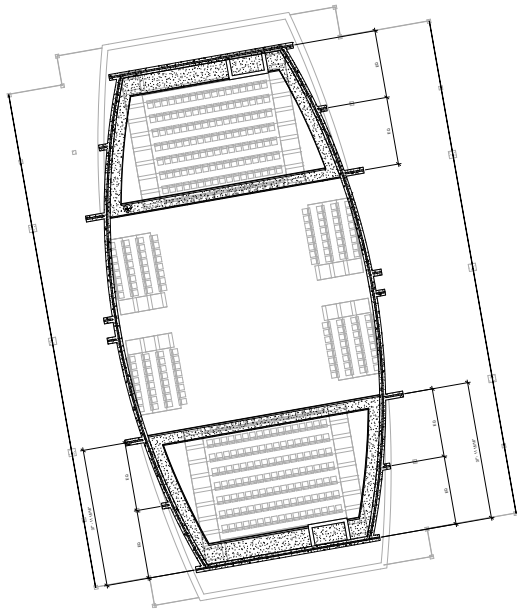
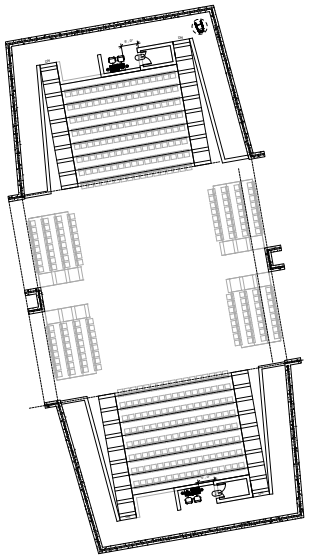


lvl01 | opposed stage

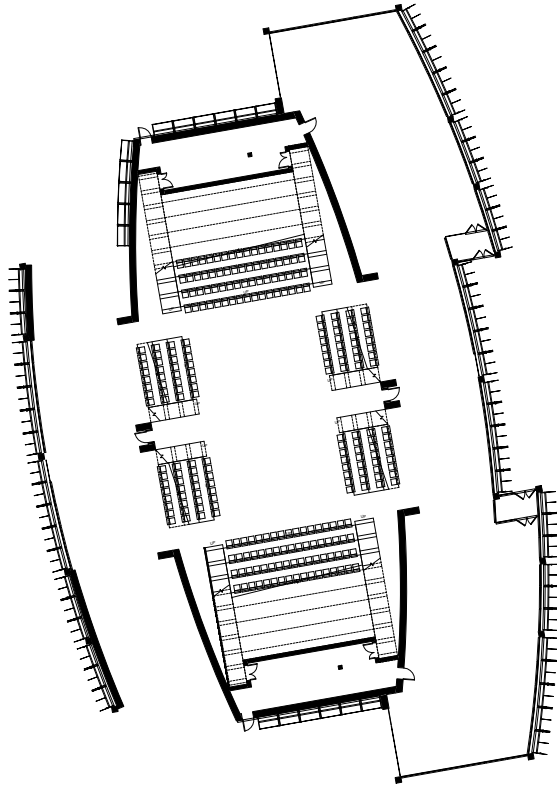




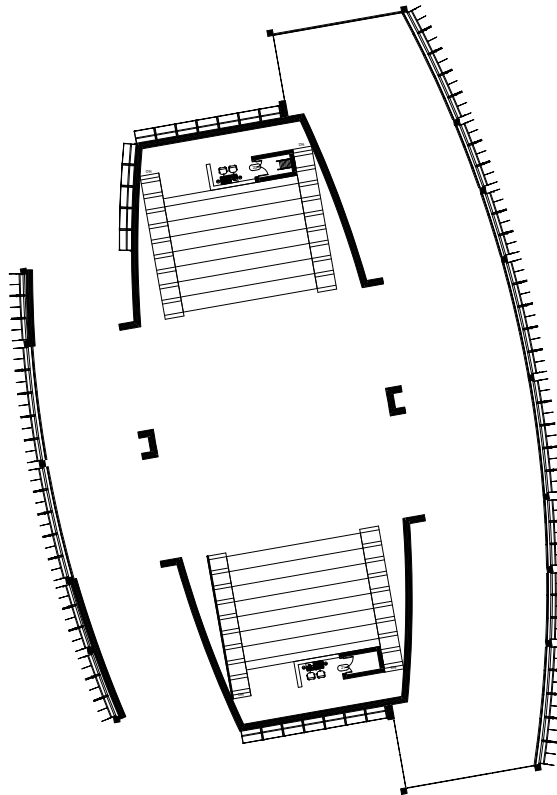




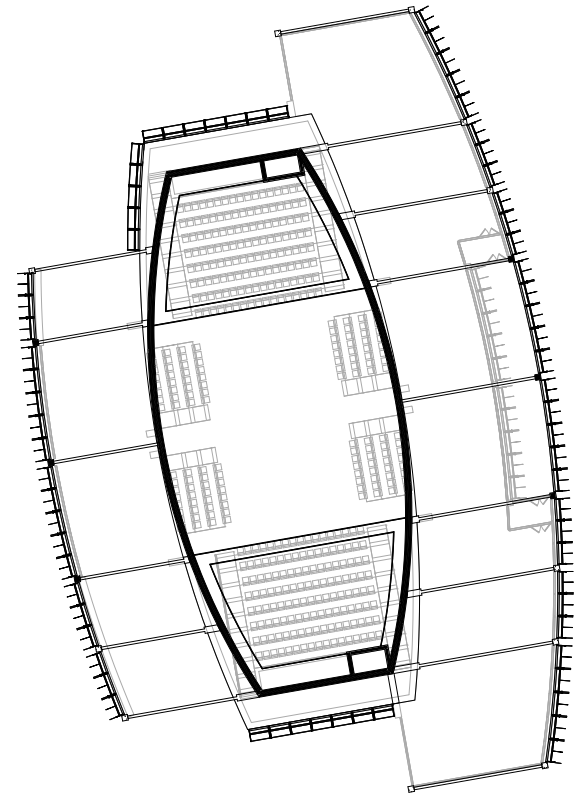
process | variation of a theme



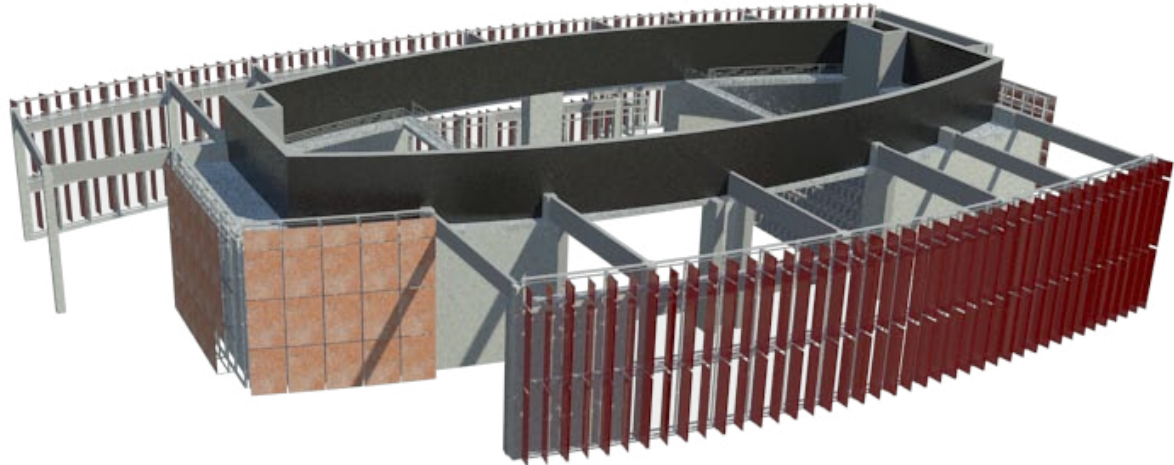
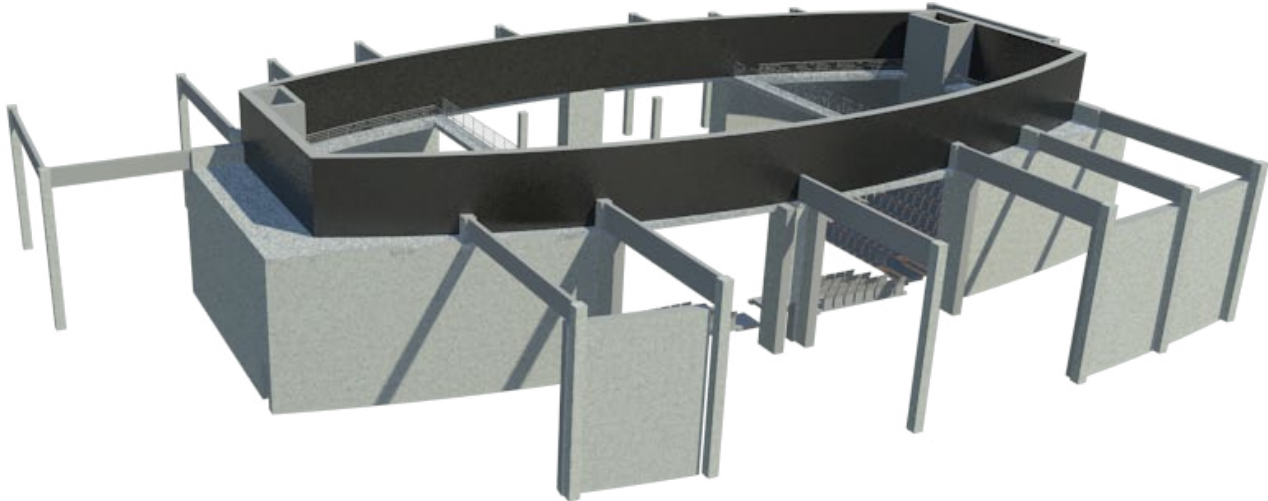
lvlo1 | auditorium, set, mechanical, props, locker rooms, public bath, reception, lobby, lounge

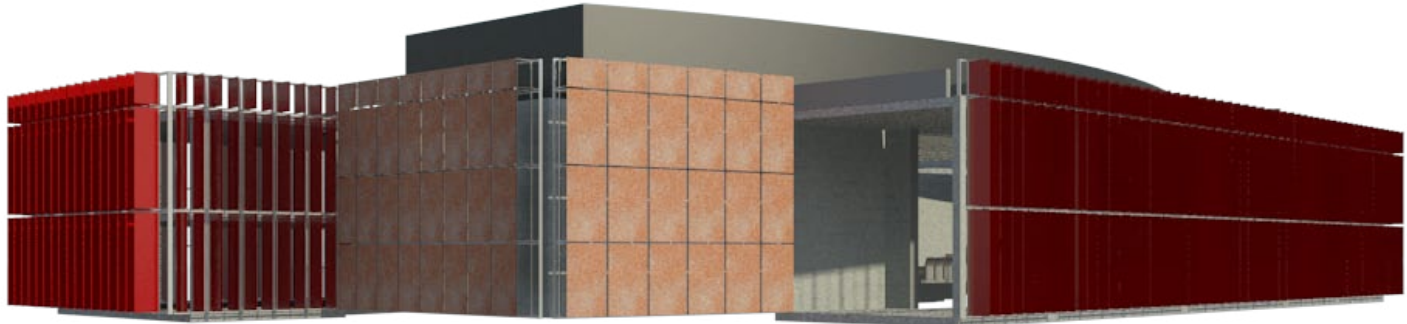
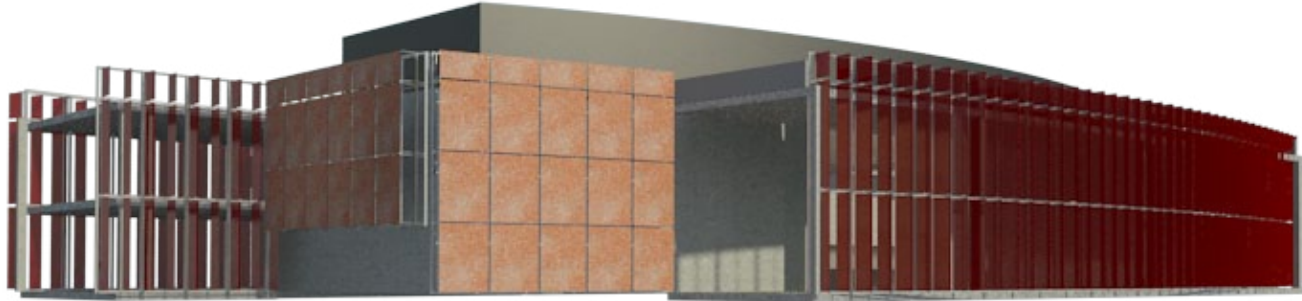


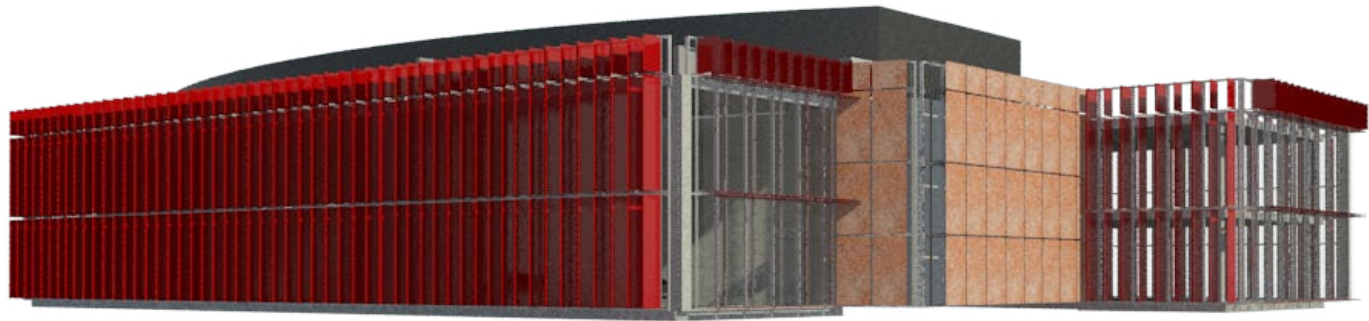
lvlo2 | changing rooms, offices, rehearsal studios, audio/visual

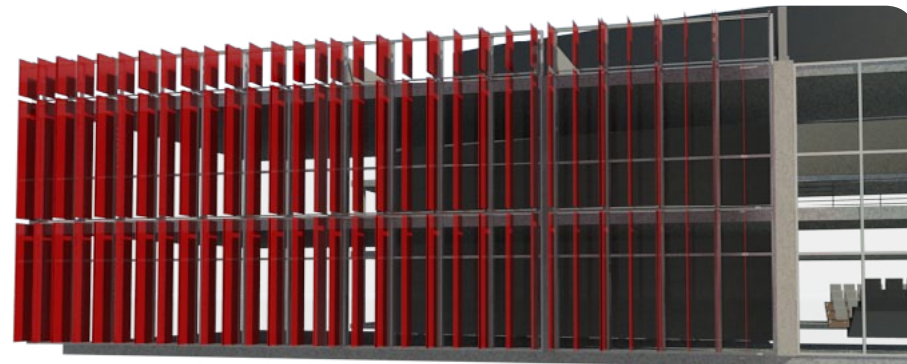
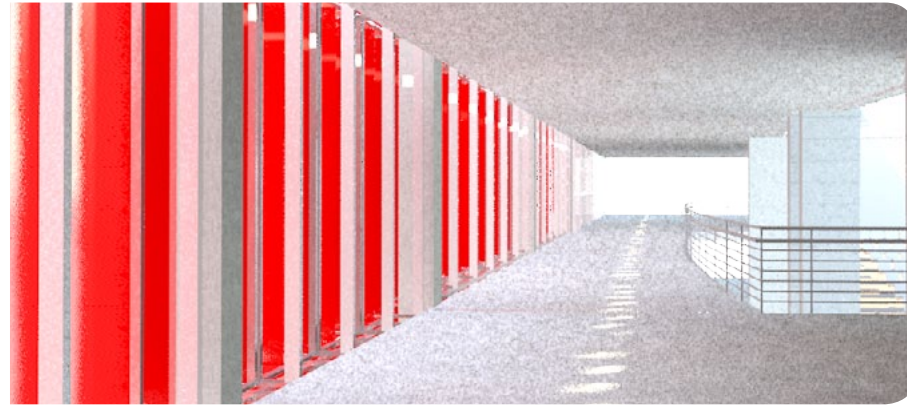
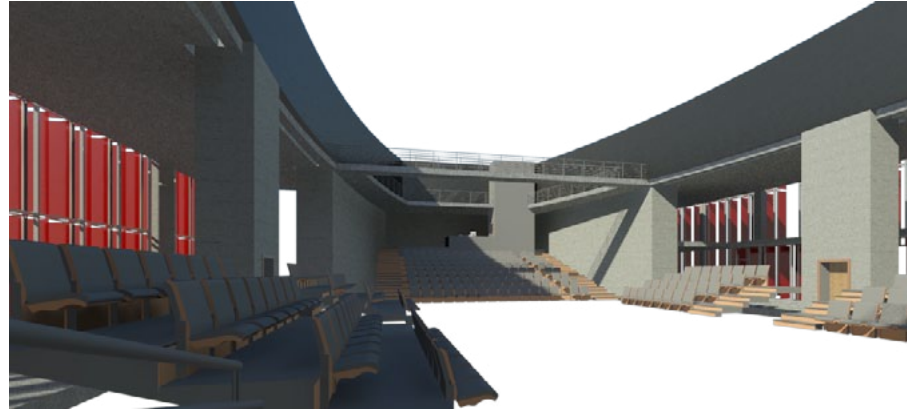


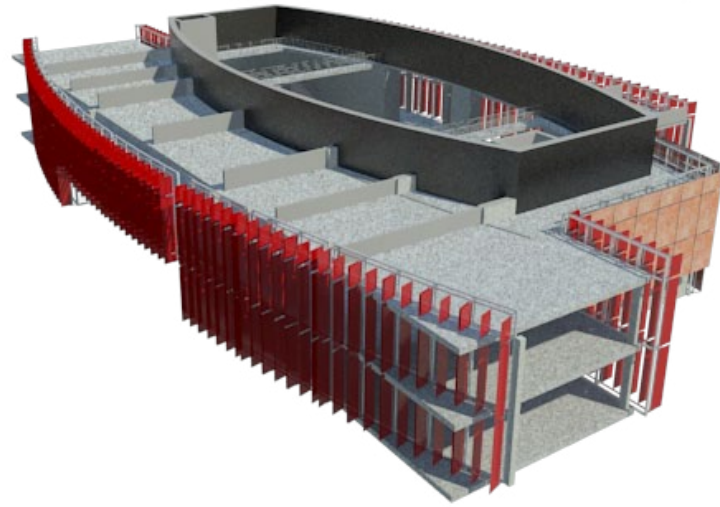
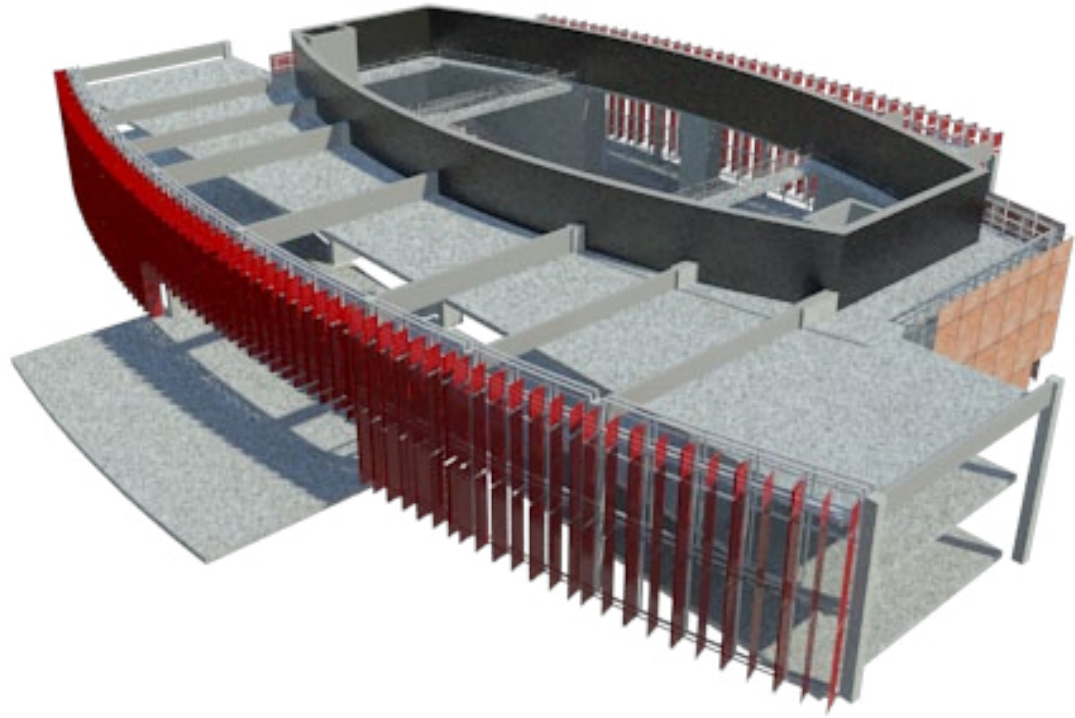
lvlo3 | fly tower "bridge"

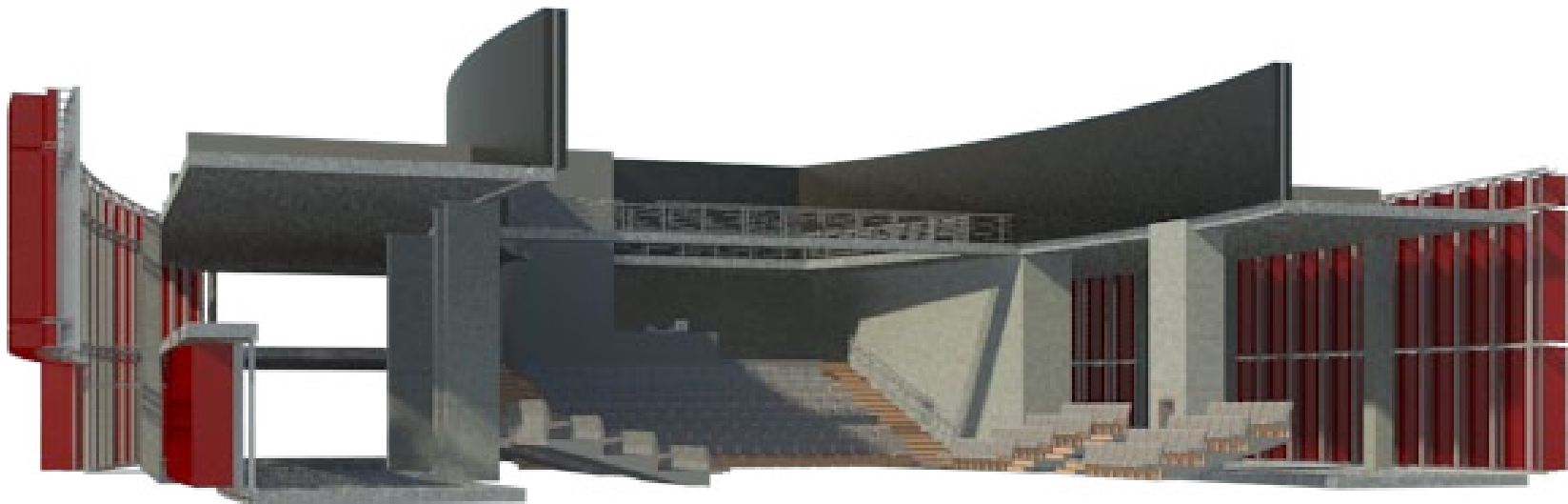
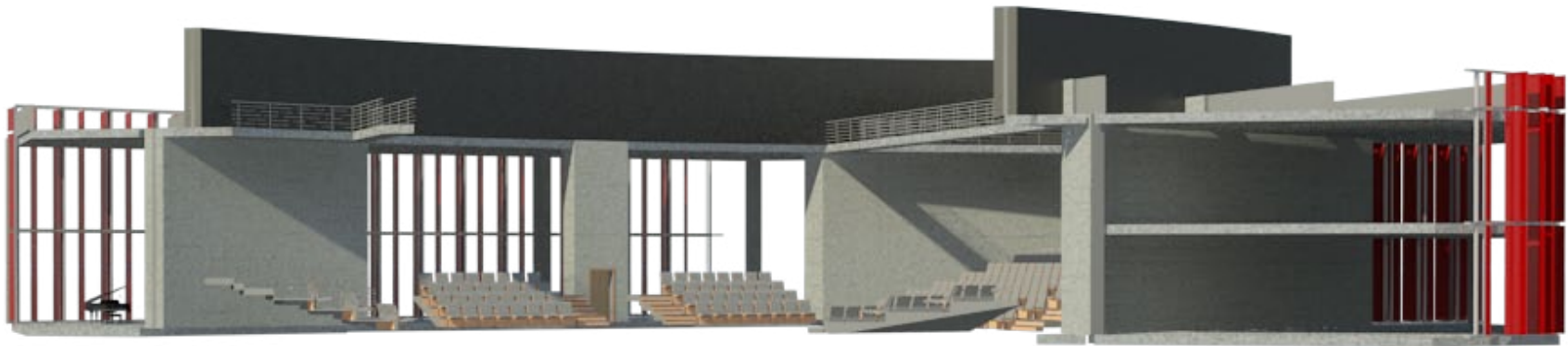


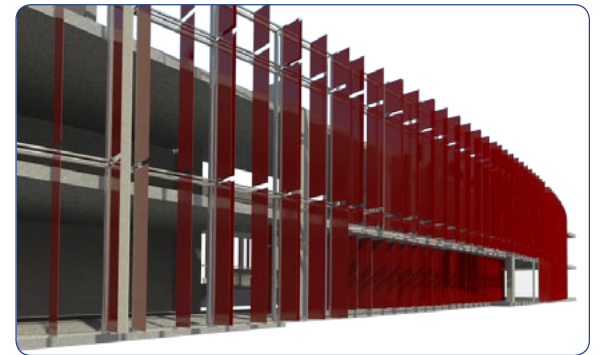
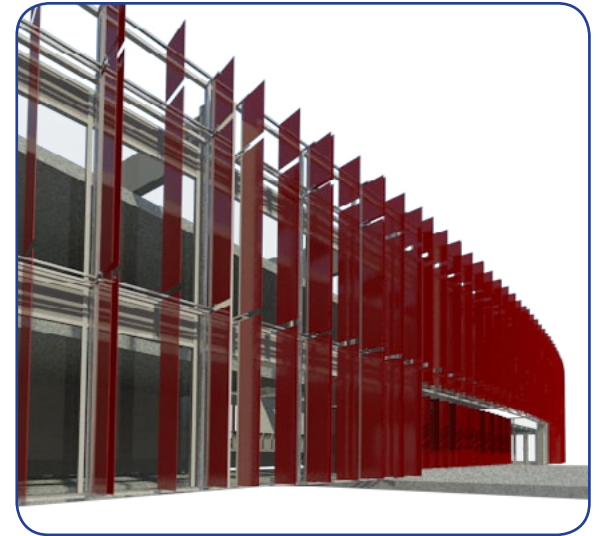












PROCESS | facade study

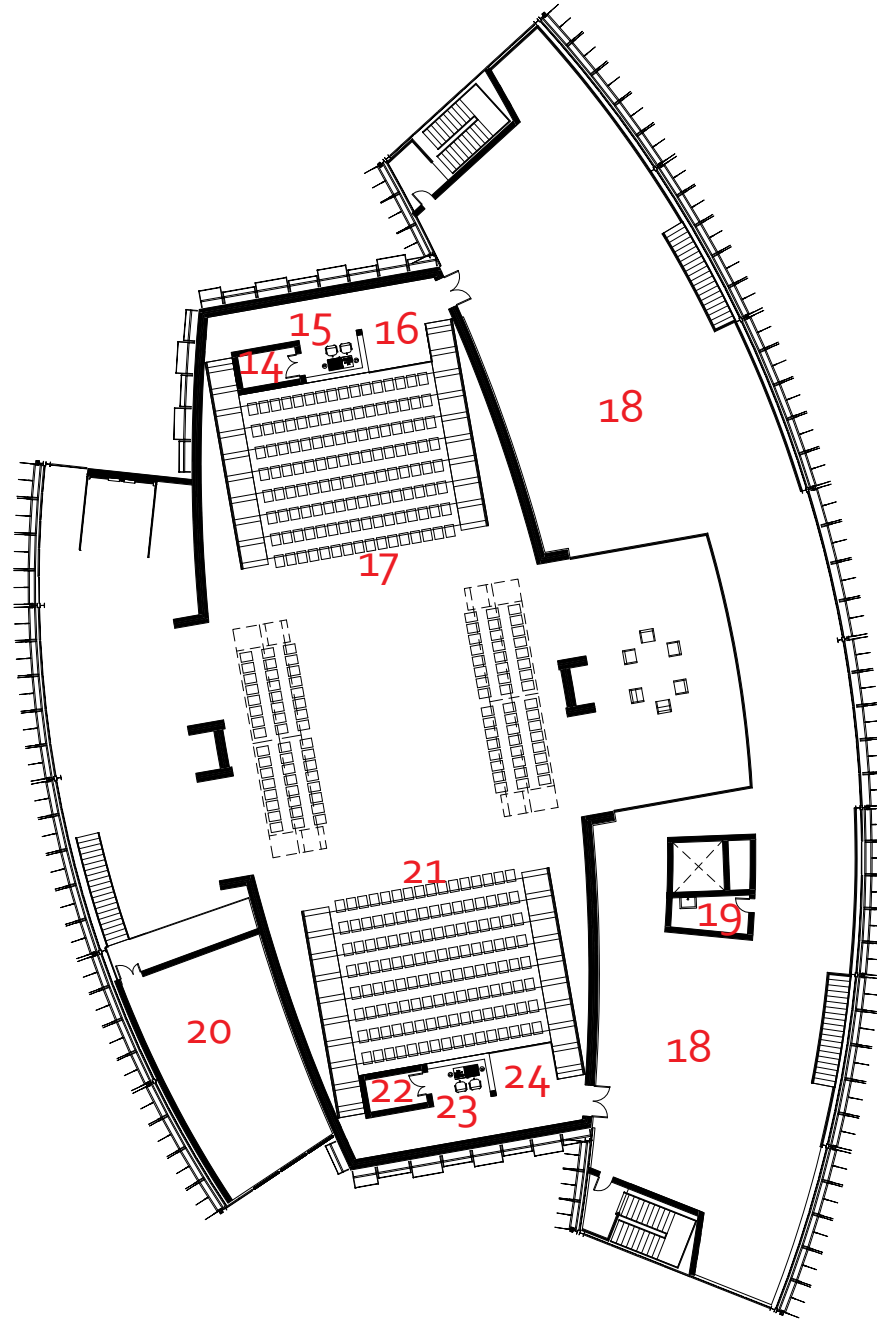


computer crashed (x 3)
process lost...

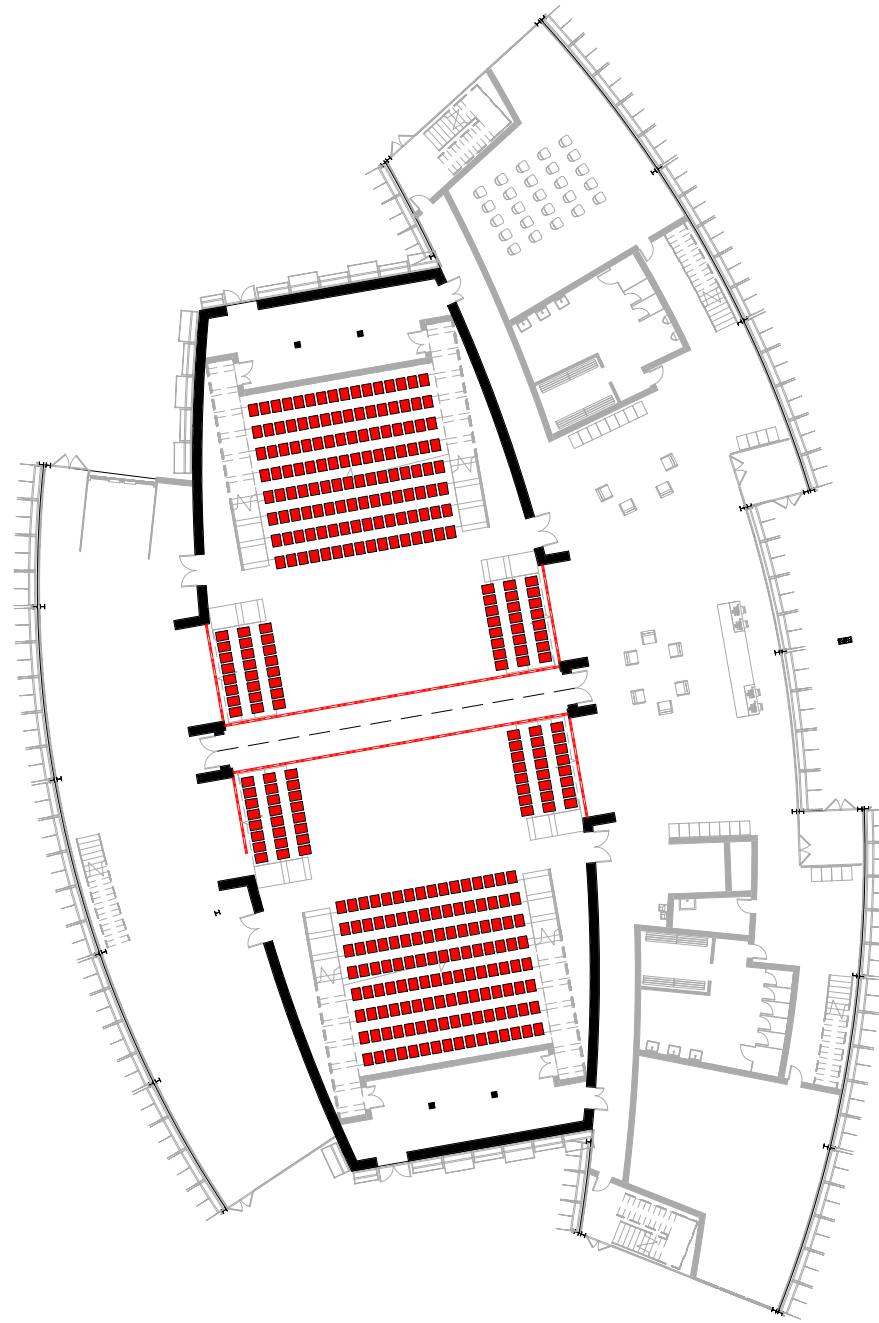


level two (n.t.s)

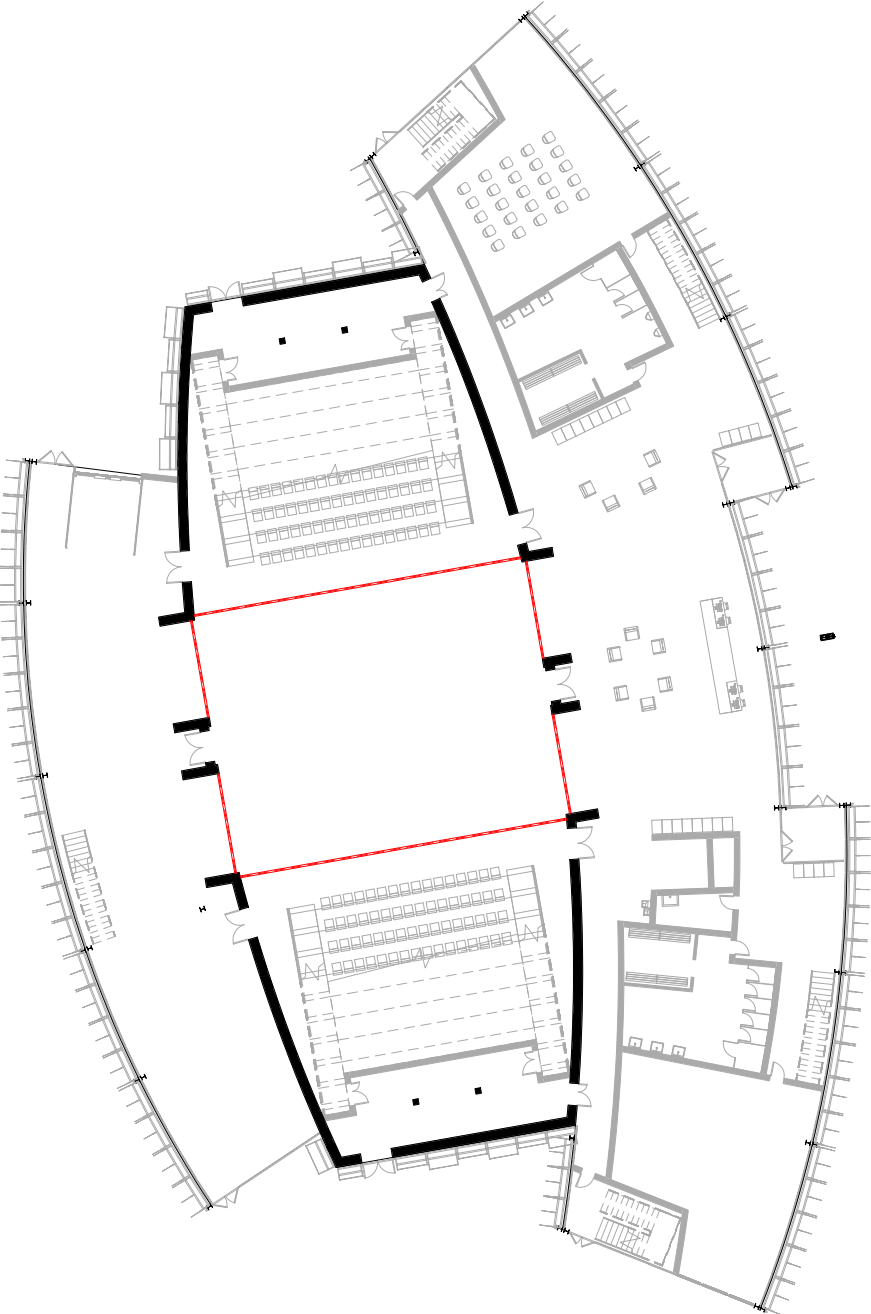
- 14 video
- 15 sound booth
- 16 handicap seating
- 17 auditorium
- 18 studio classroom
- 19 janitors closet
- 20 boiler room
- 21 auditorium
- 22 video
- 23 sound booth
- 24 handicap seating



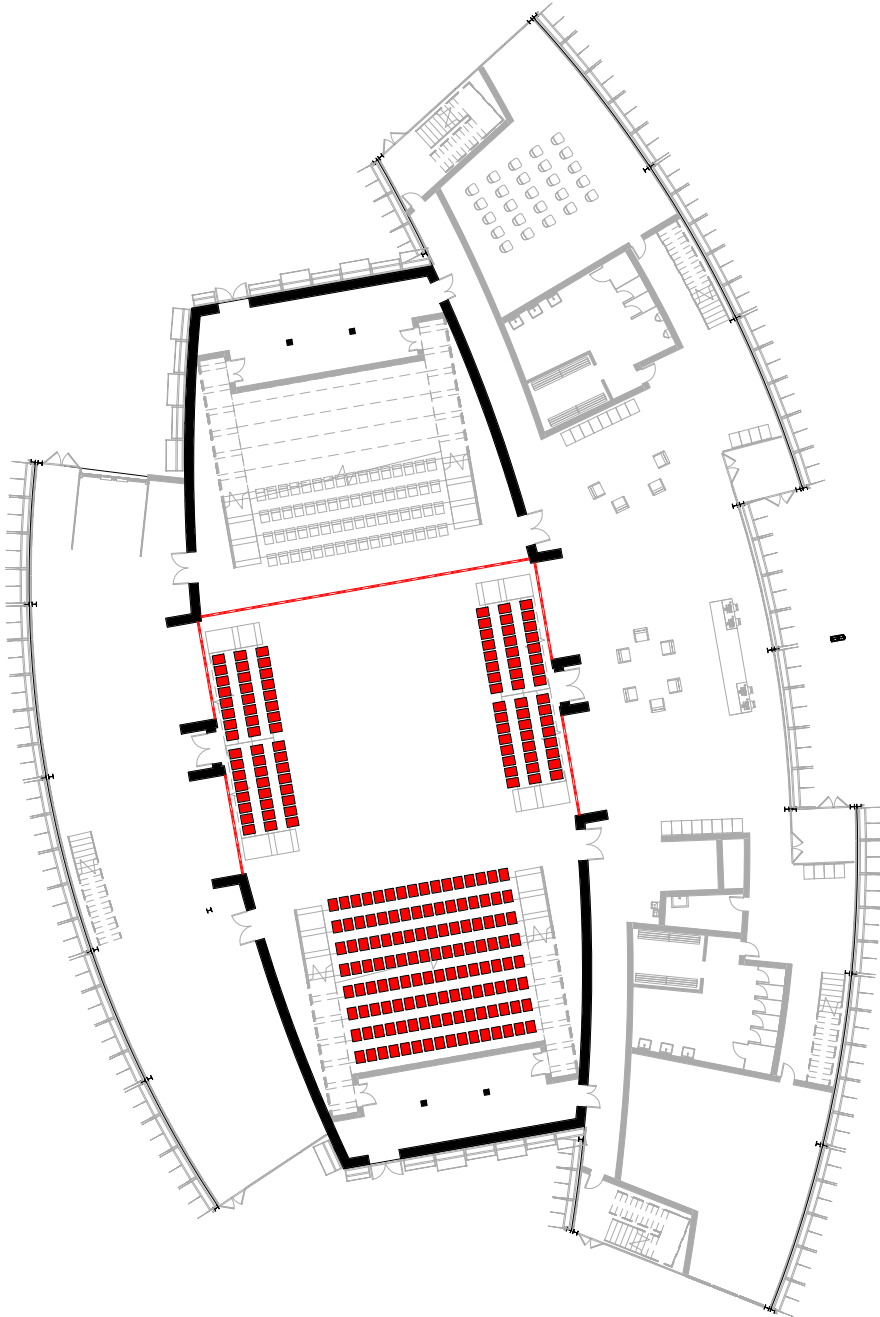
level one
2 x thrust stage



level one
box stage

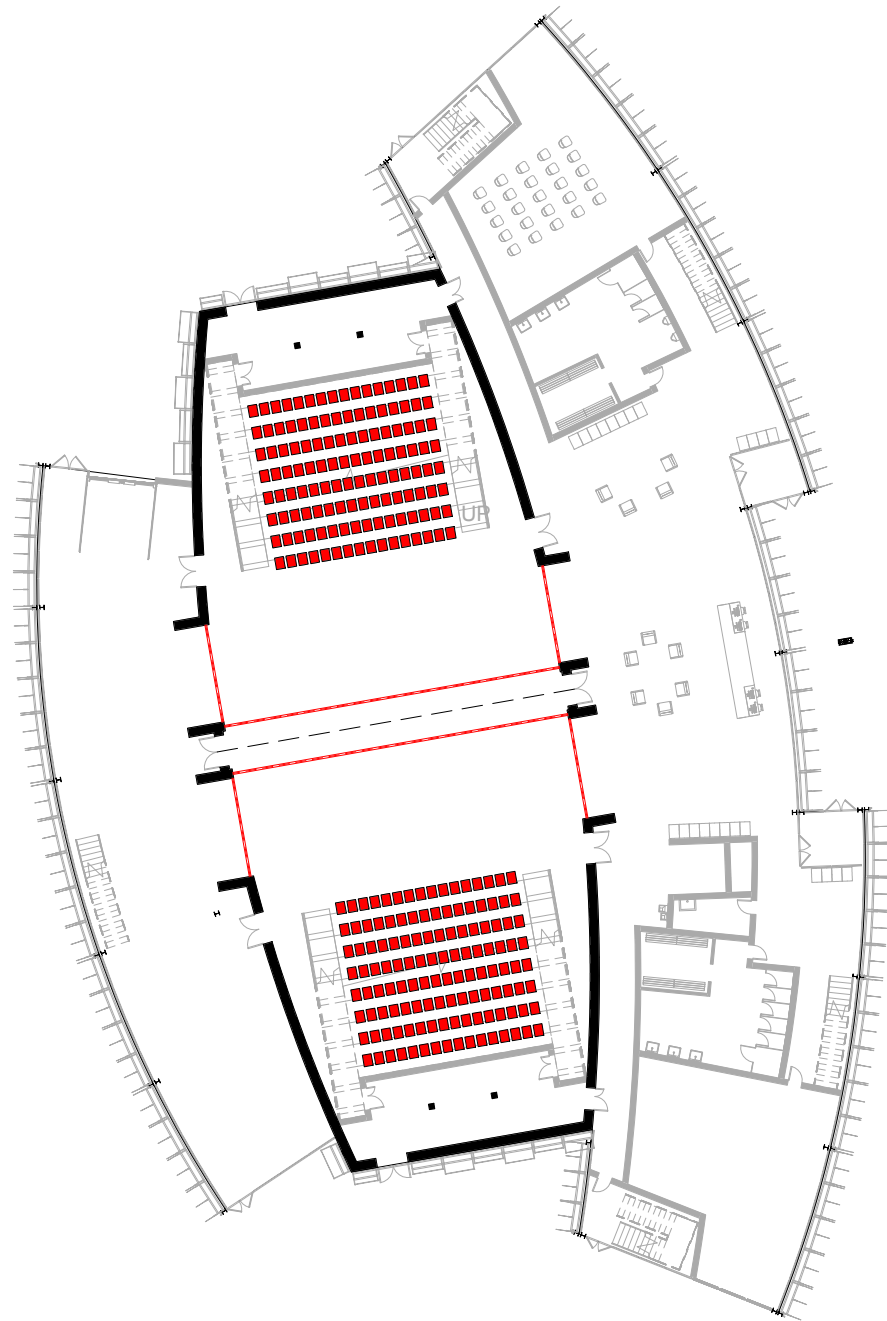


level one
thrust stage

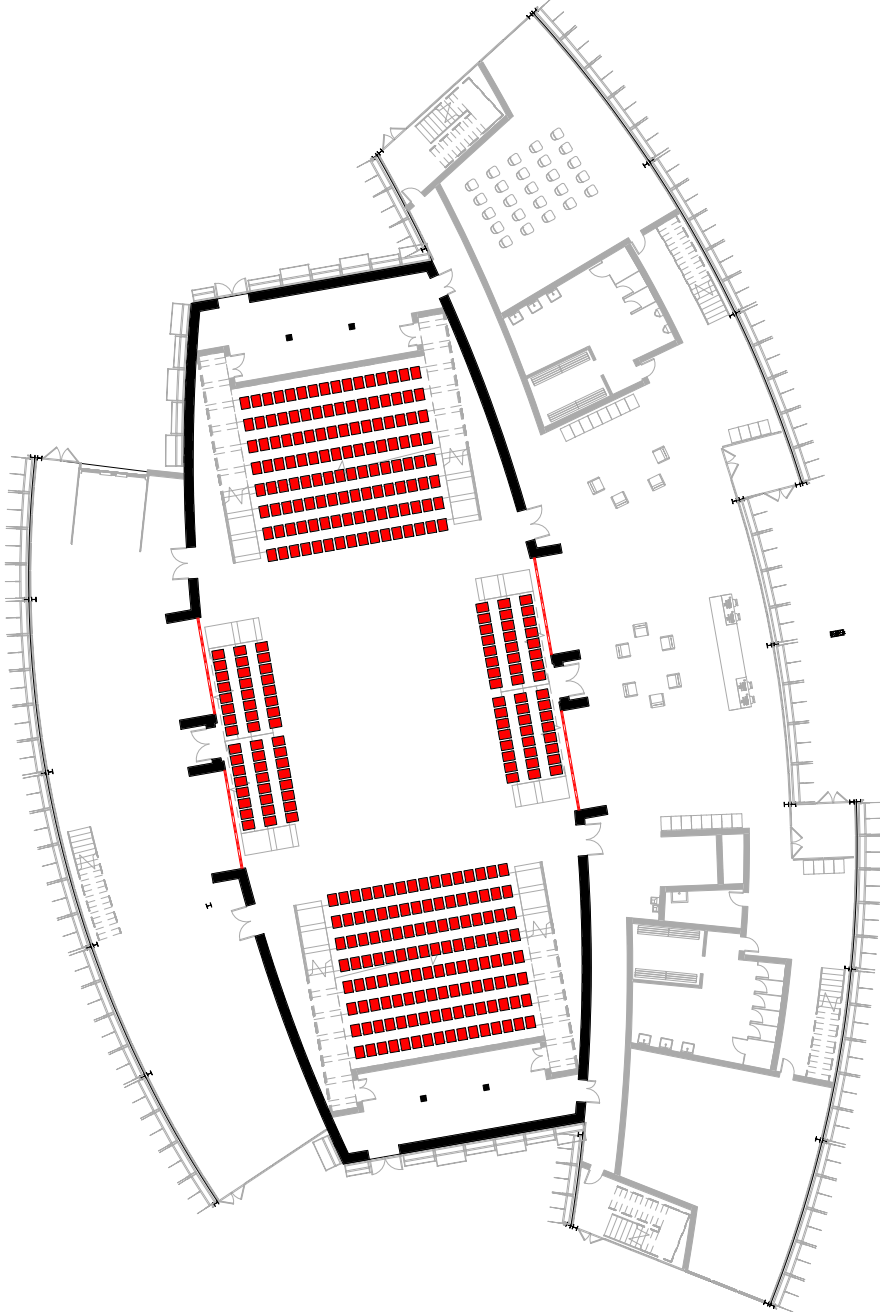


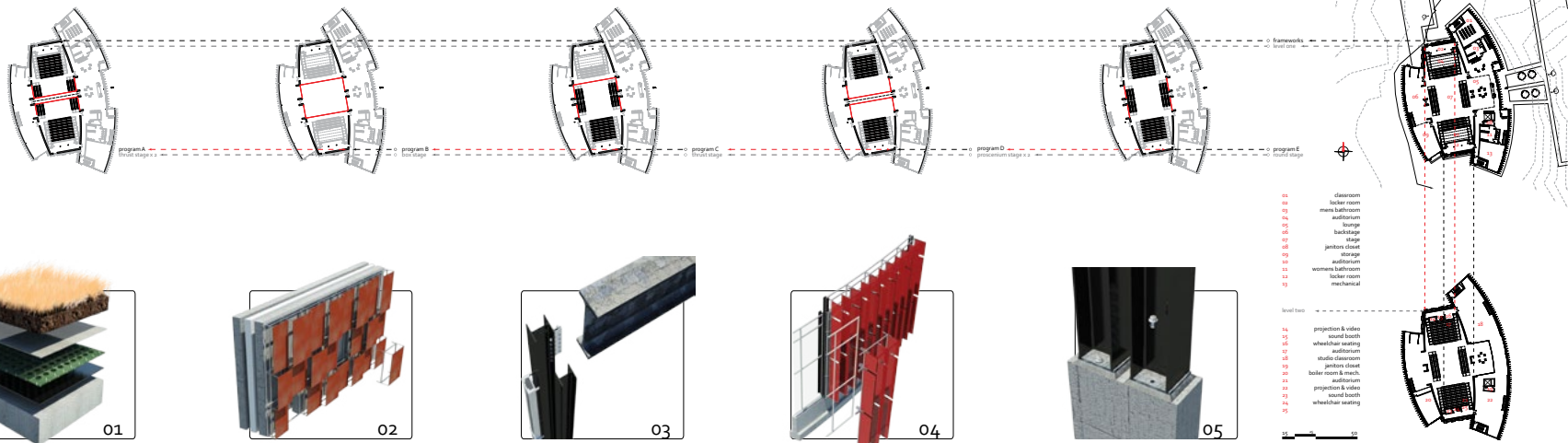
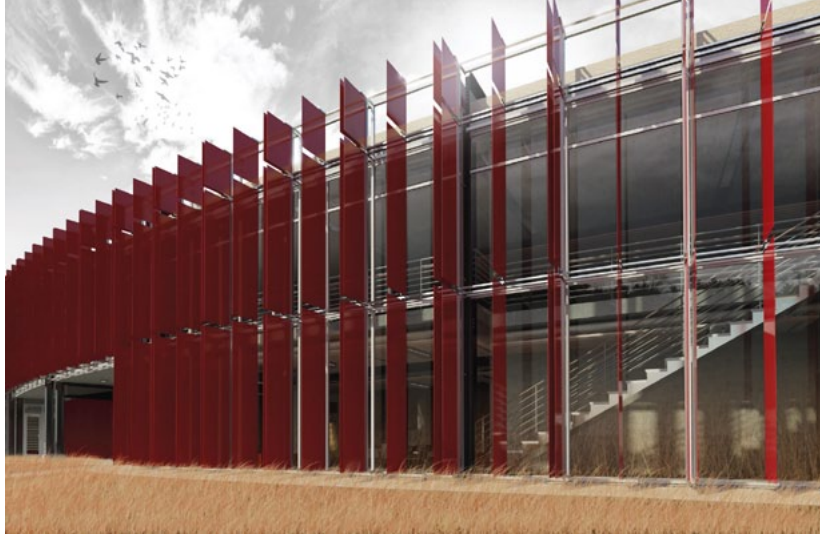
level one

2 x proscenium stage



level one
round stage





responsive frameworks

polyfunctional space for dynamic stimulus

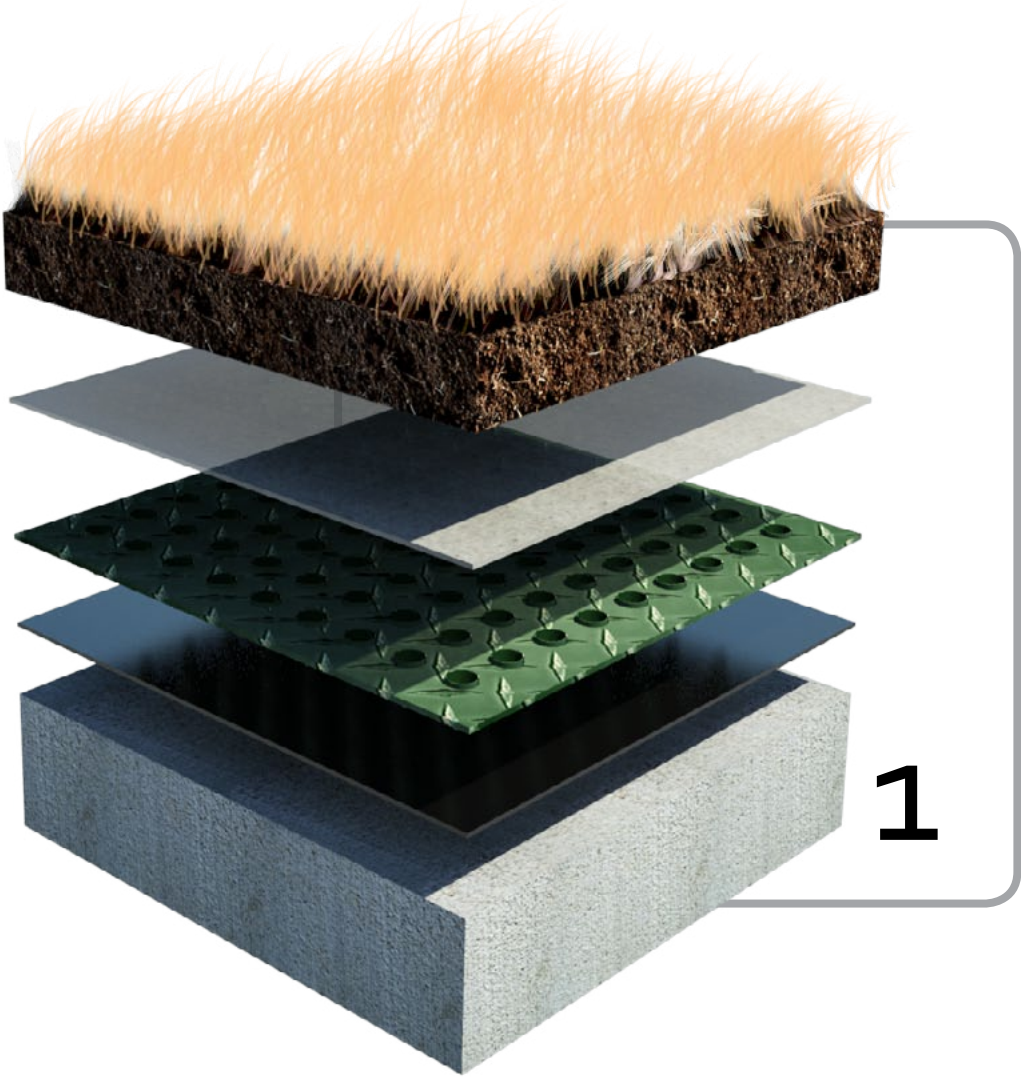
this thesis investigates the question 'how does a building respond to dynamic stimulus over time? a performing arts center at the non-profit minnetonka center for arts is the vehicle for research. as the building program and users change throughout the day, this solution responds through a flexible framework enabling the client to modify the central space to suit their needs. the goal of this research is to produce a model that addresses efficiency of space and embodied energy in addition to satisfying current trends in theater design.

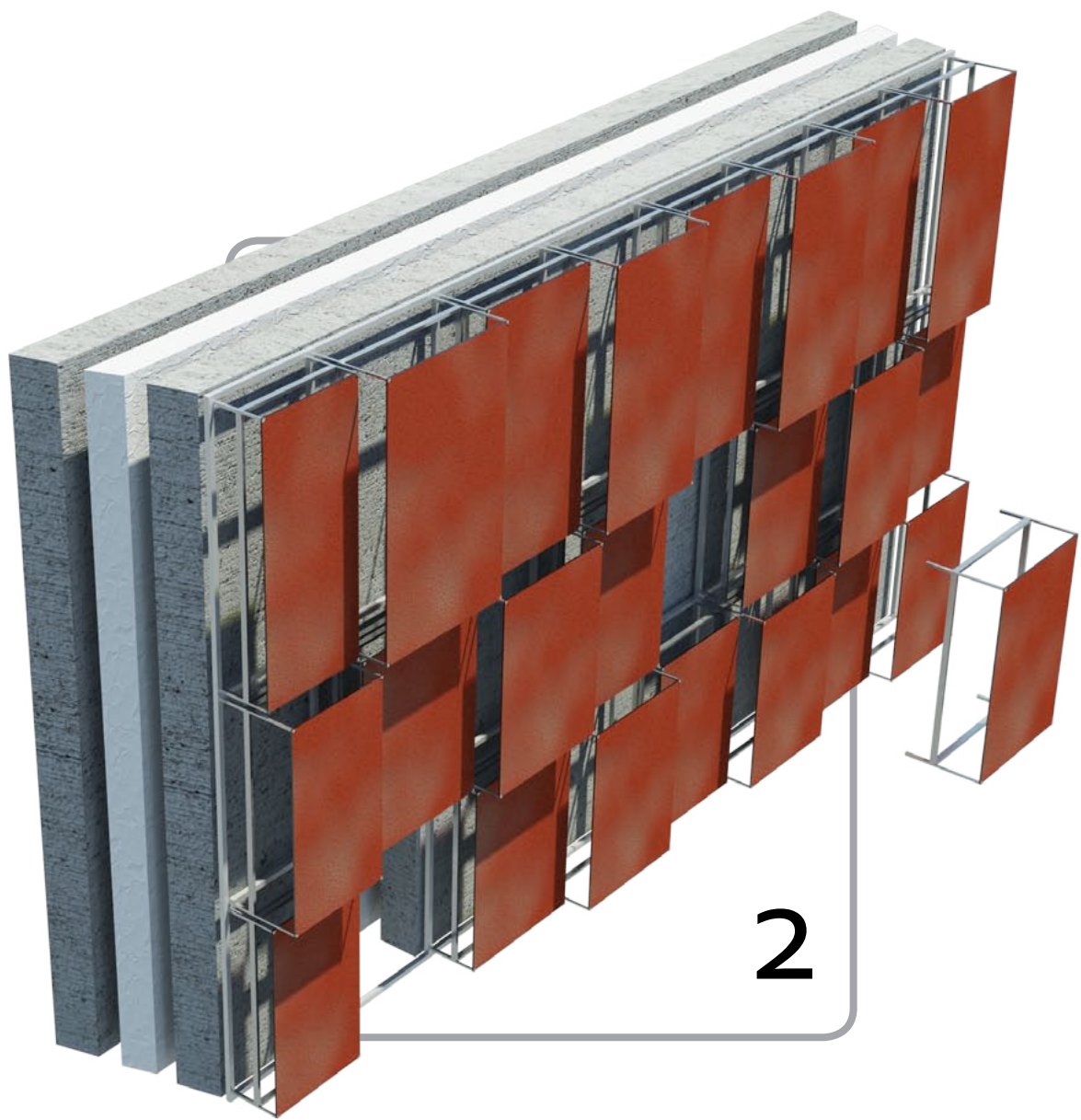




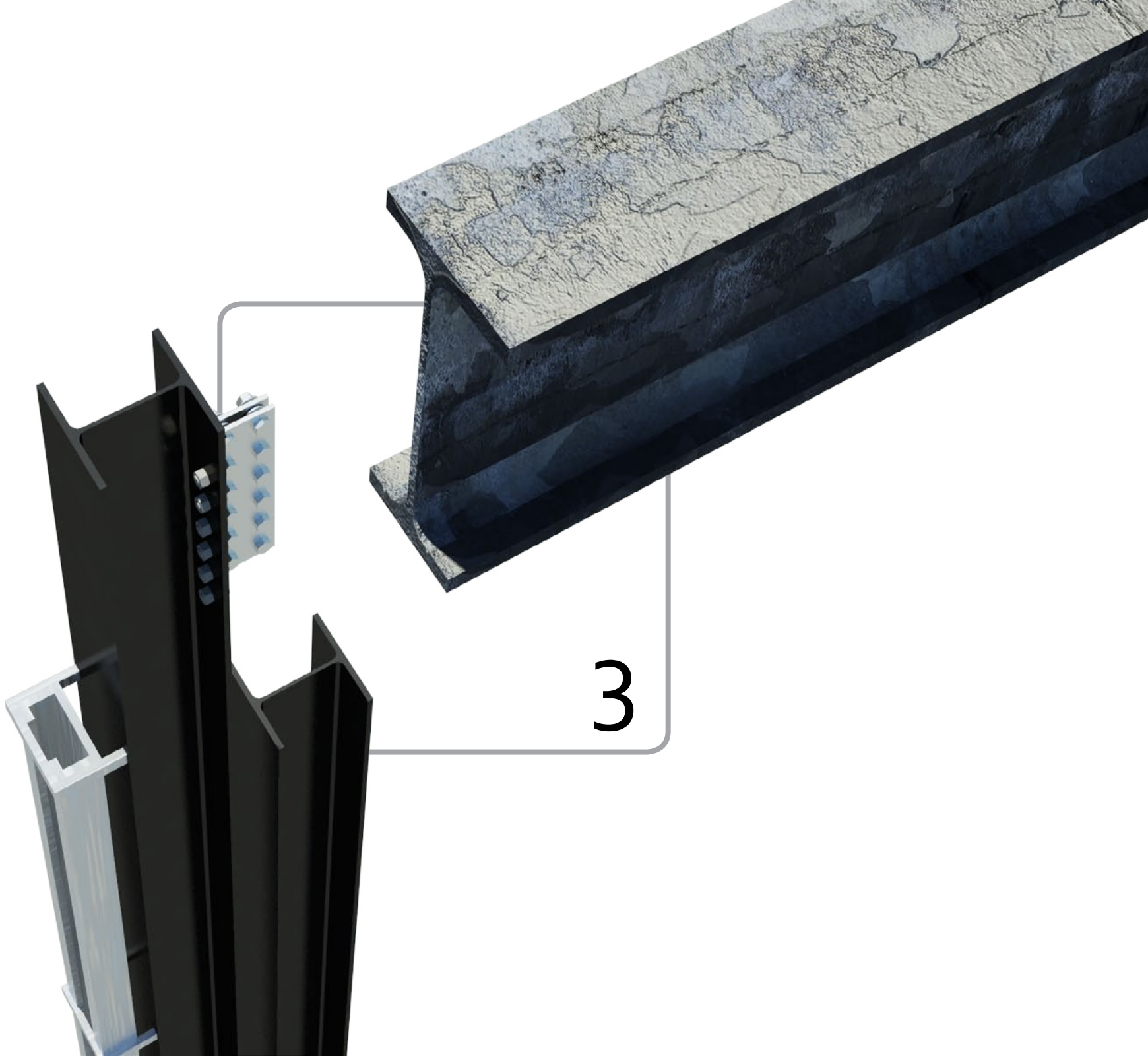
arch 722 | design thesis
spring semester 2012

matthew collianni | bakr m aly ahmed
revit, 3ds max, illustrator, photoshop

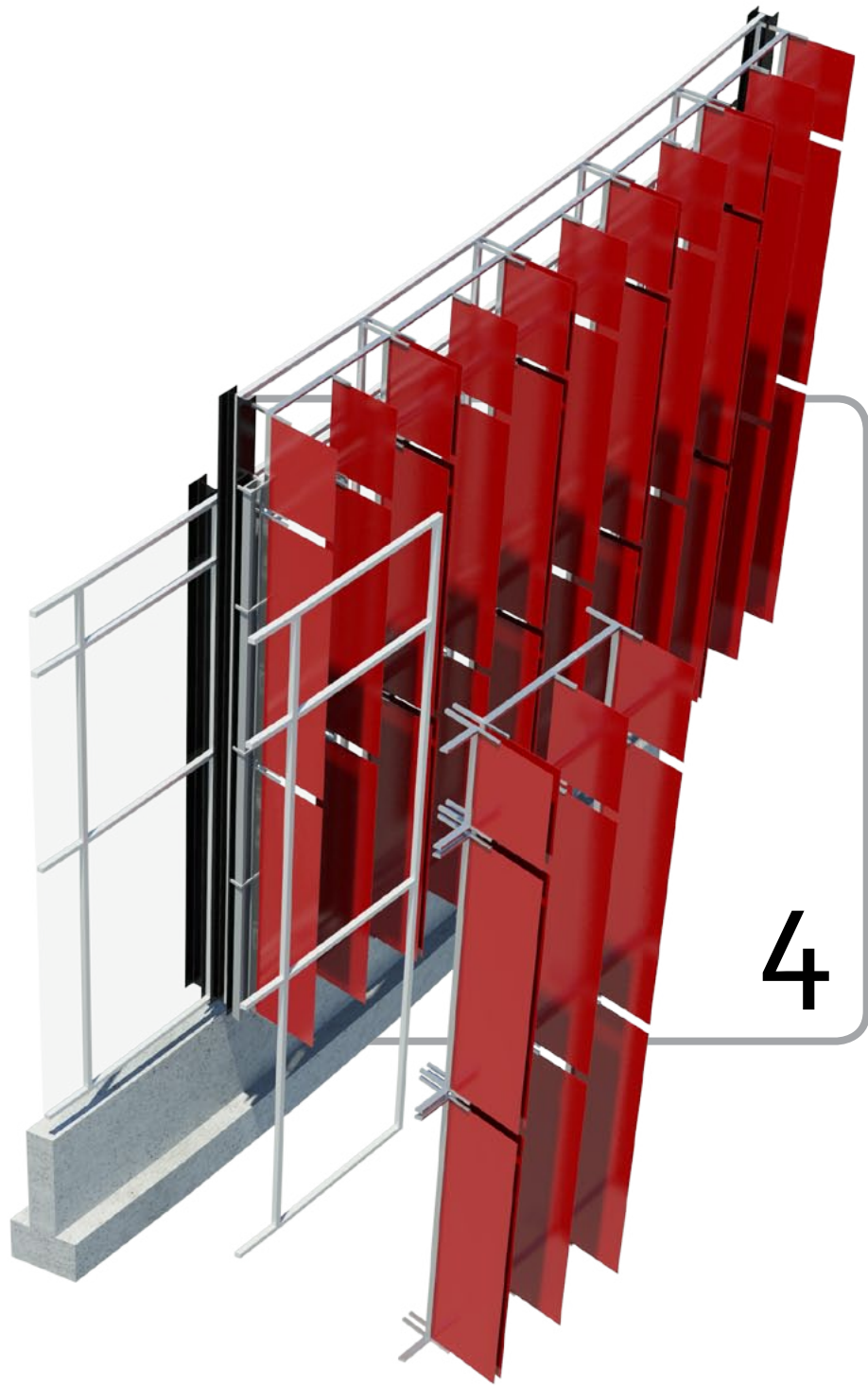




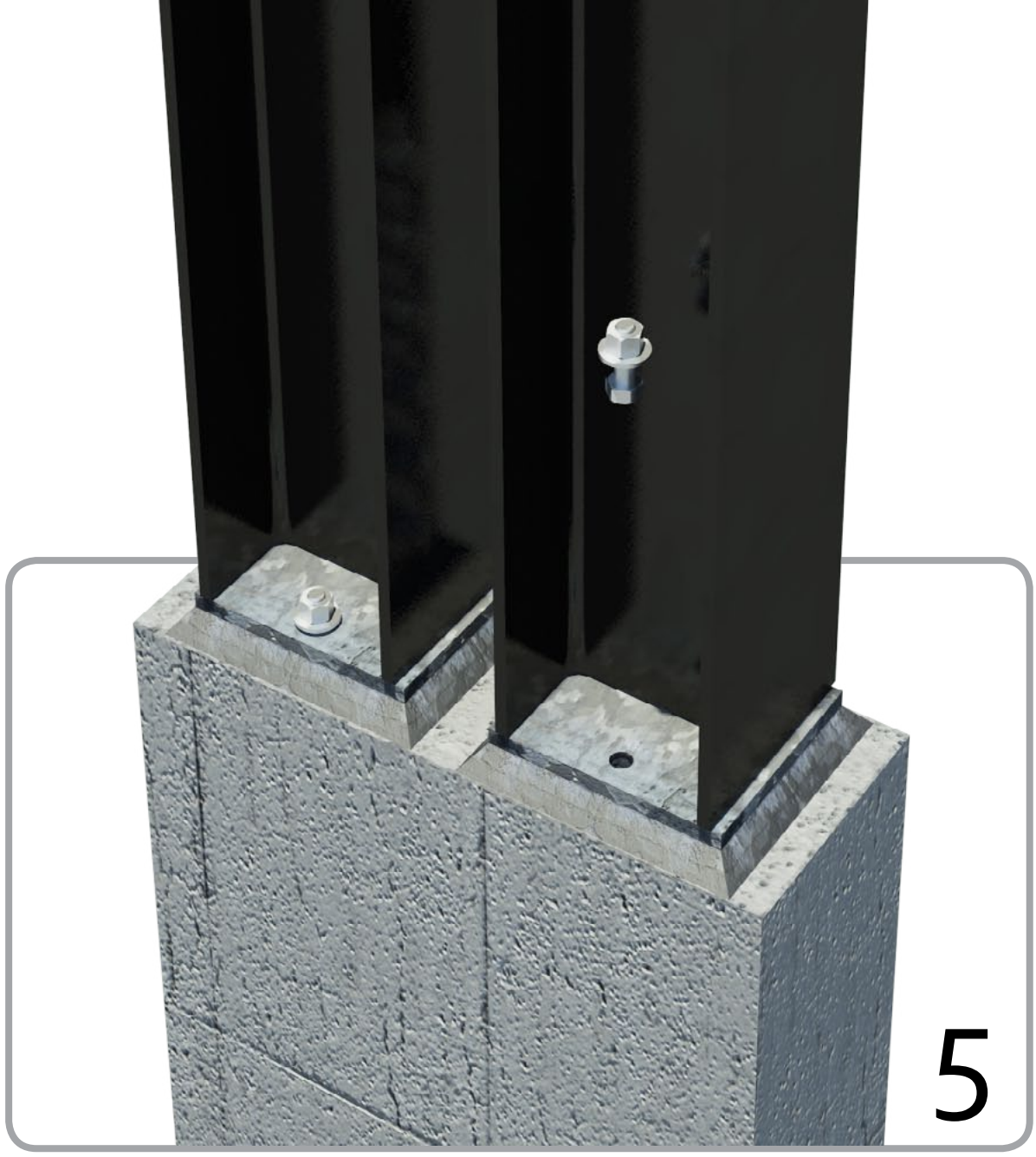
2

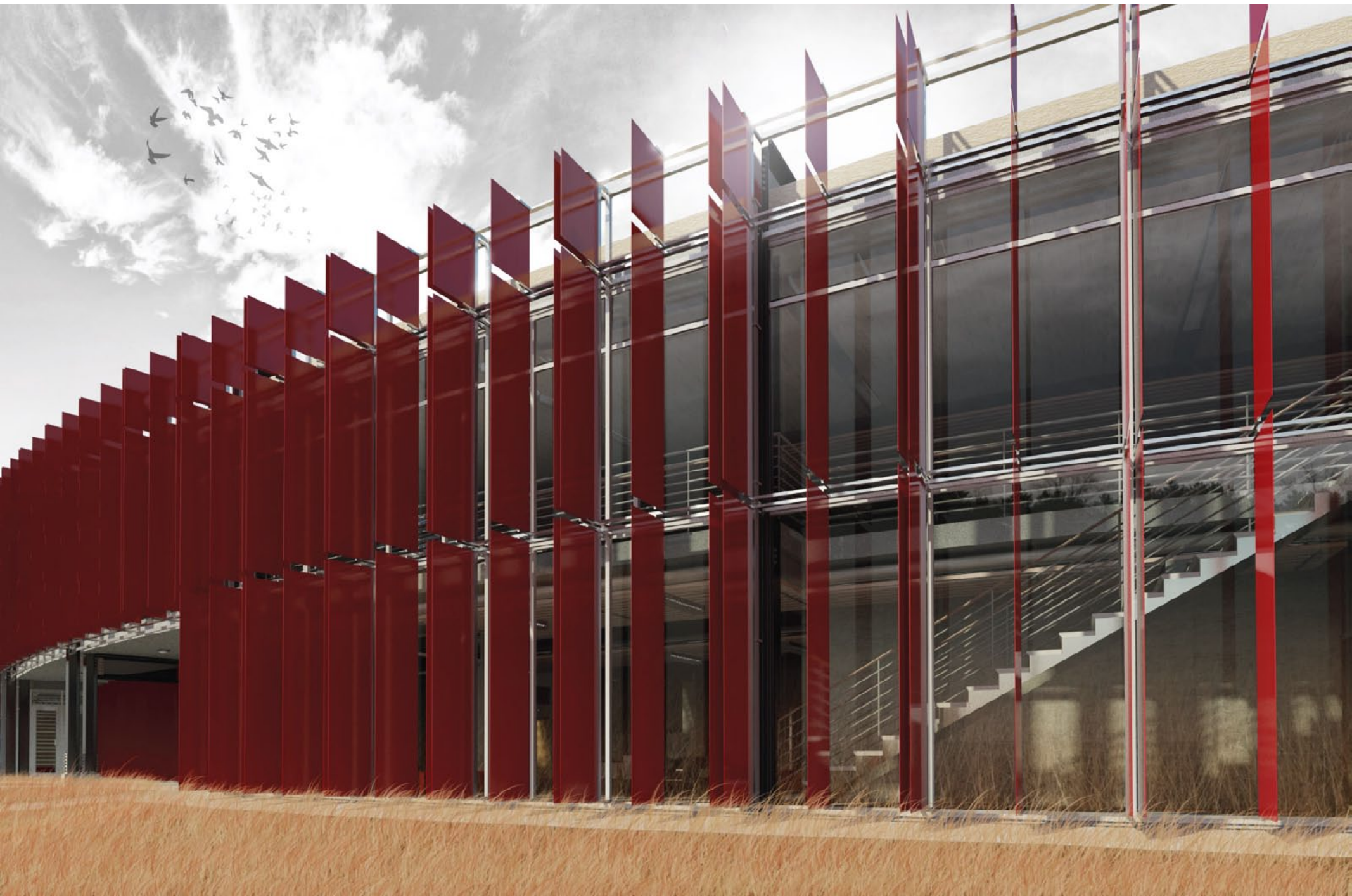


3



4







TOUCHÉ
TOURNÉE
LE CHAT NOIR
DE
ROSLIN SAUS

THEATRE
MOULIN ROUGE
C'est très excitant!!
REVUE
M.A. Charles Quinot, Copain Bouffier

LITTLE SHOP OF

WICKED