

BIOENGINEERING BUILDING

VICTORIA RIEDINGER



BUILDING OVERVIEW

BUILDING NAME - Bioengineering Building

LOCATION - Eastern Region, USA

OCCUPANCY TYPE - Research Facility

SIZE - 184,239 GSF

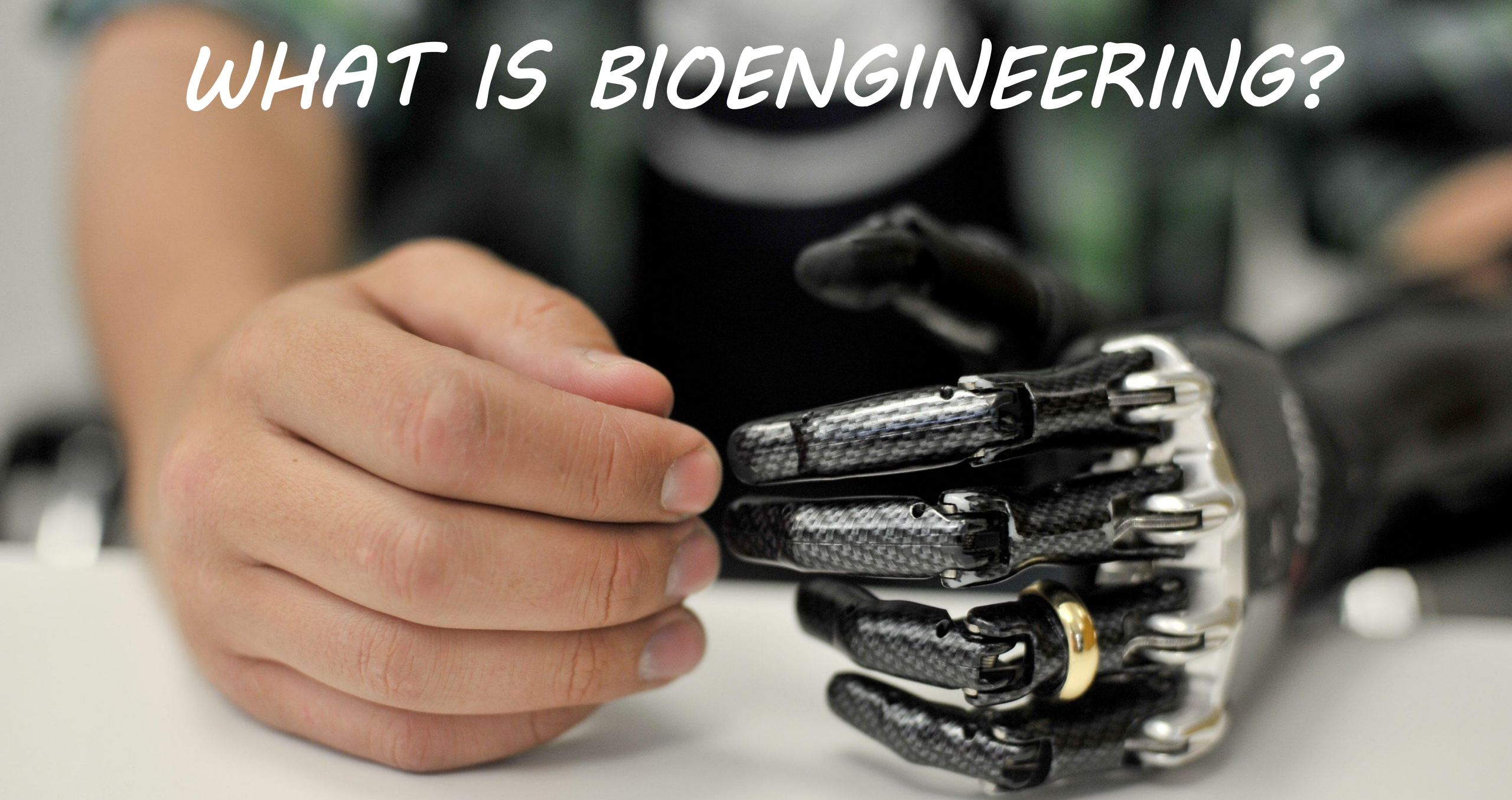
FLOORS ABOVE GRADE - 6

CONSTRUCTION DATES - July 2015-March 2017

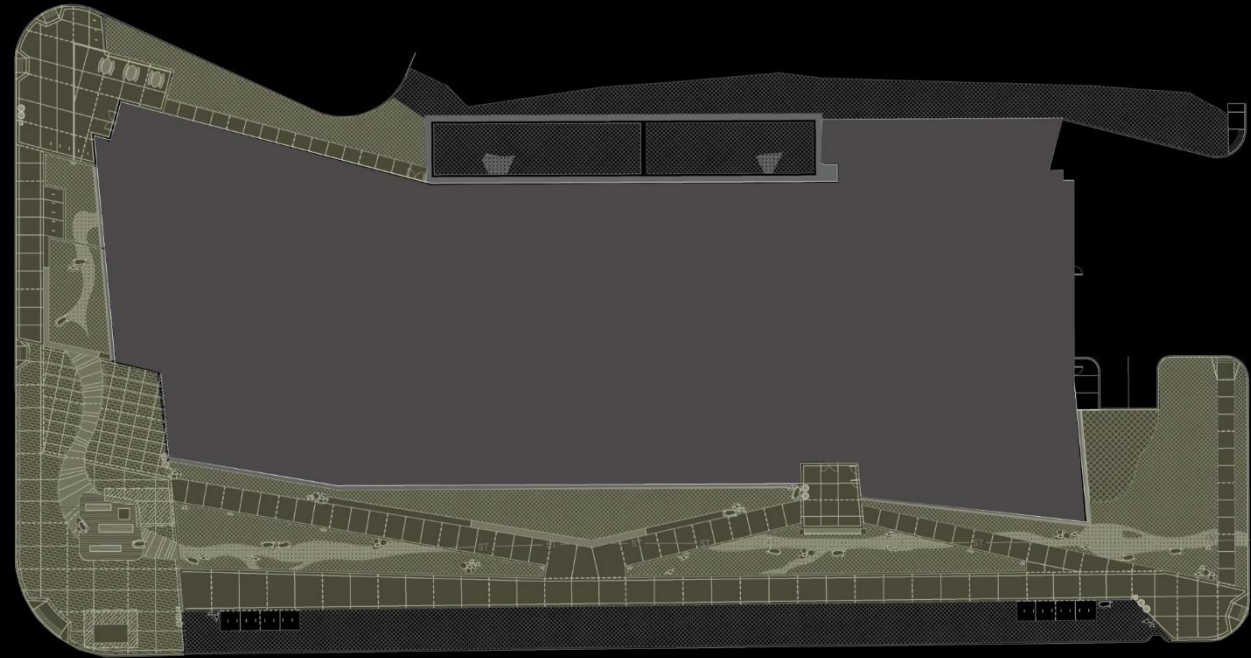
TOTAL COST - \$120,000,000

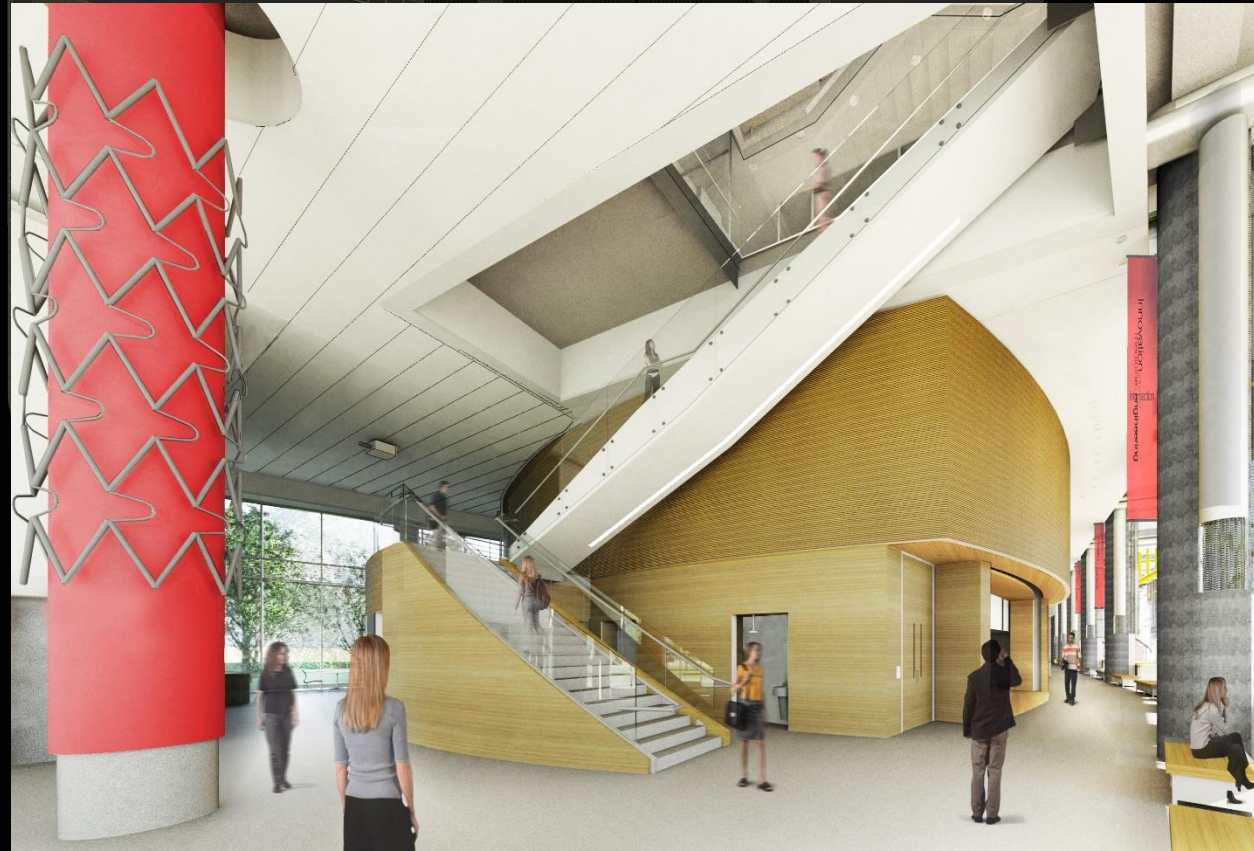
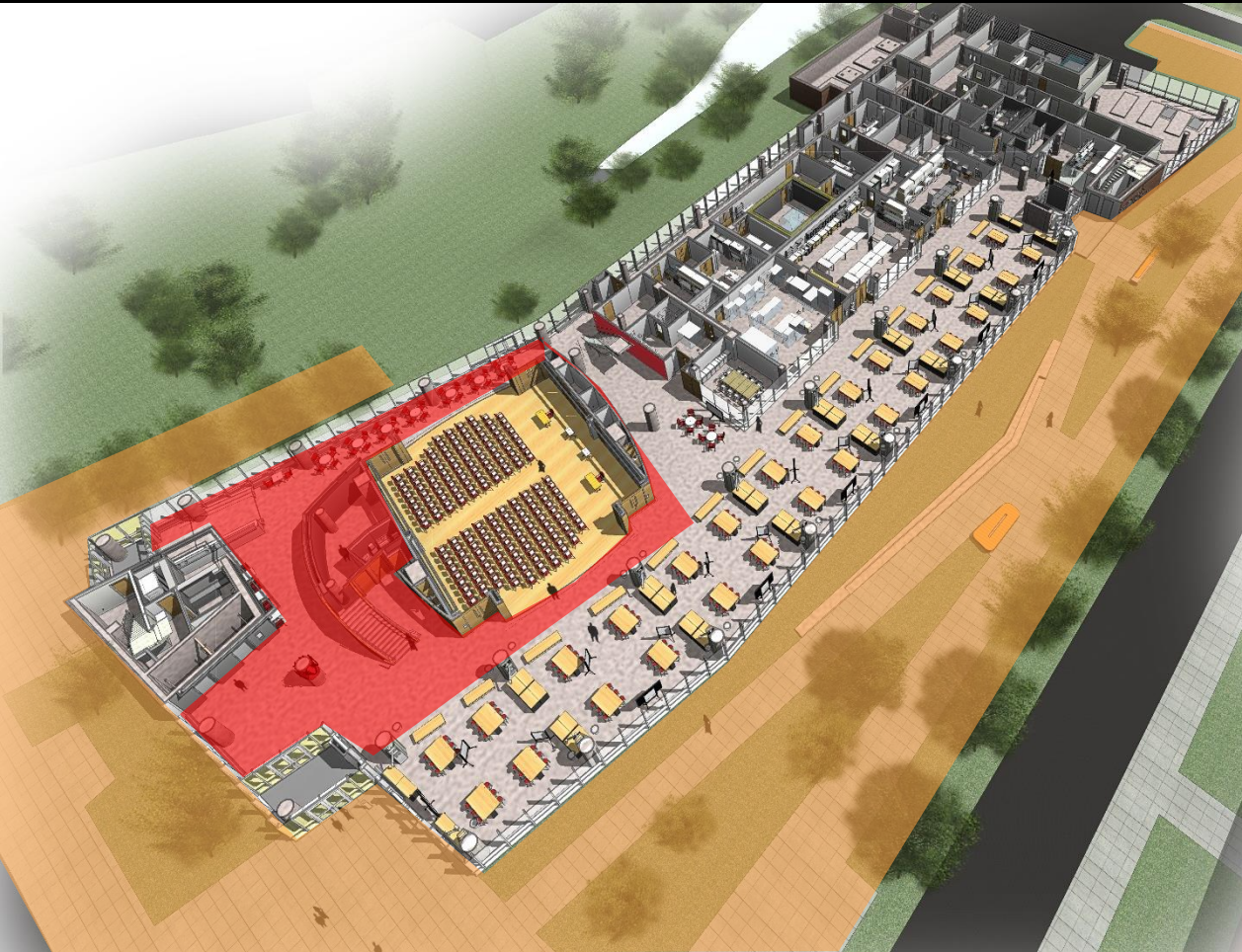
PROJECT DELIVERY METHOD - Design-Bid-Build

WHAT IS BIOENGINEERING?





















the
body



the hair



EXTERIOR PLAZA CRITERIA



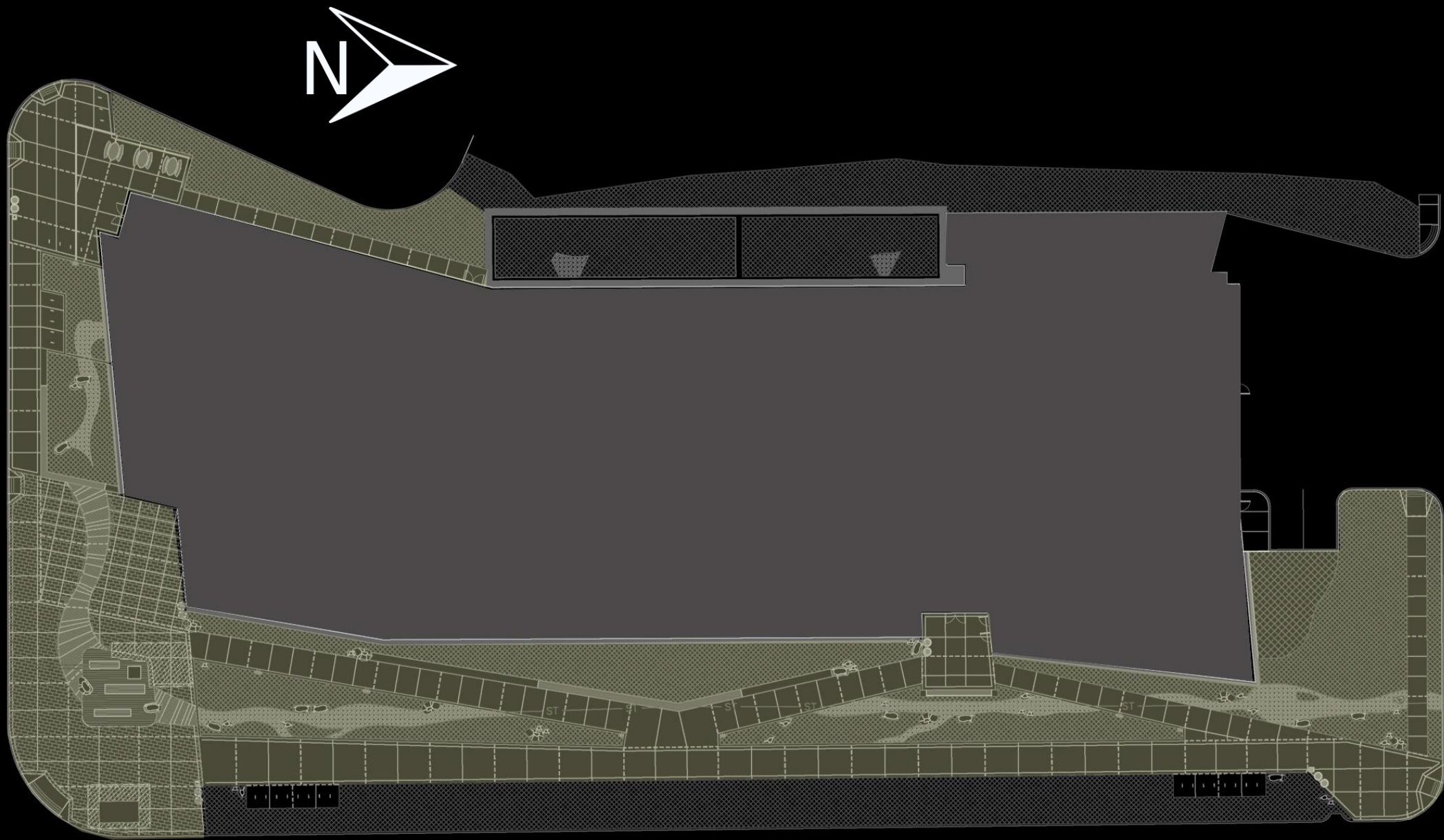
E_h : 0.5 fc at grade
LPD: 0.2 W/ft² or
1 W/ft of walkway length

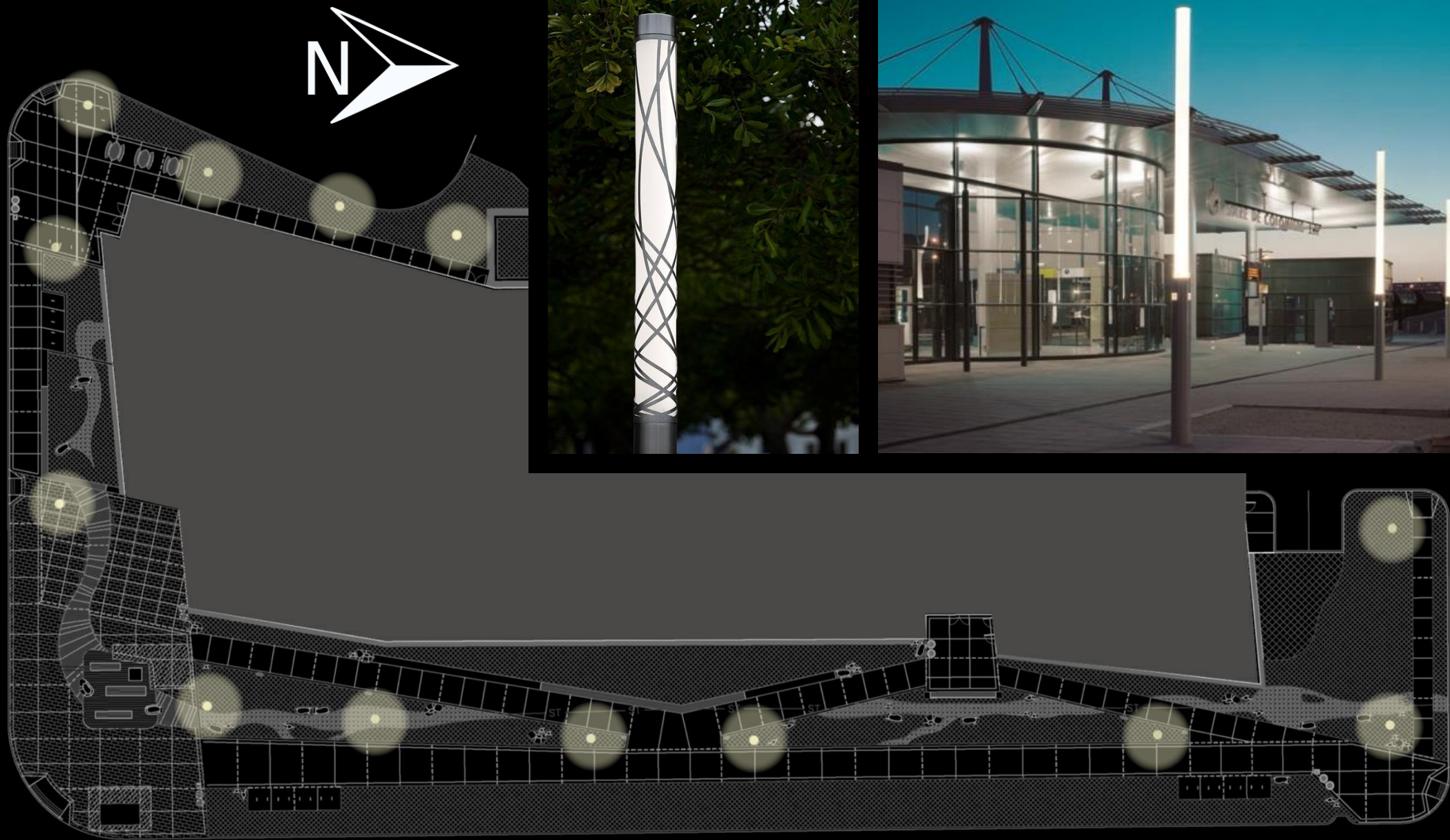


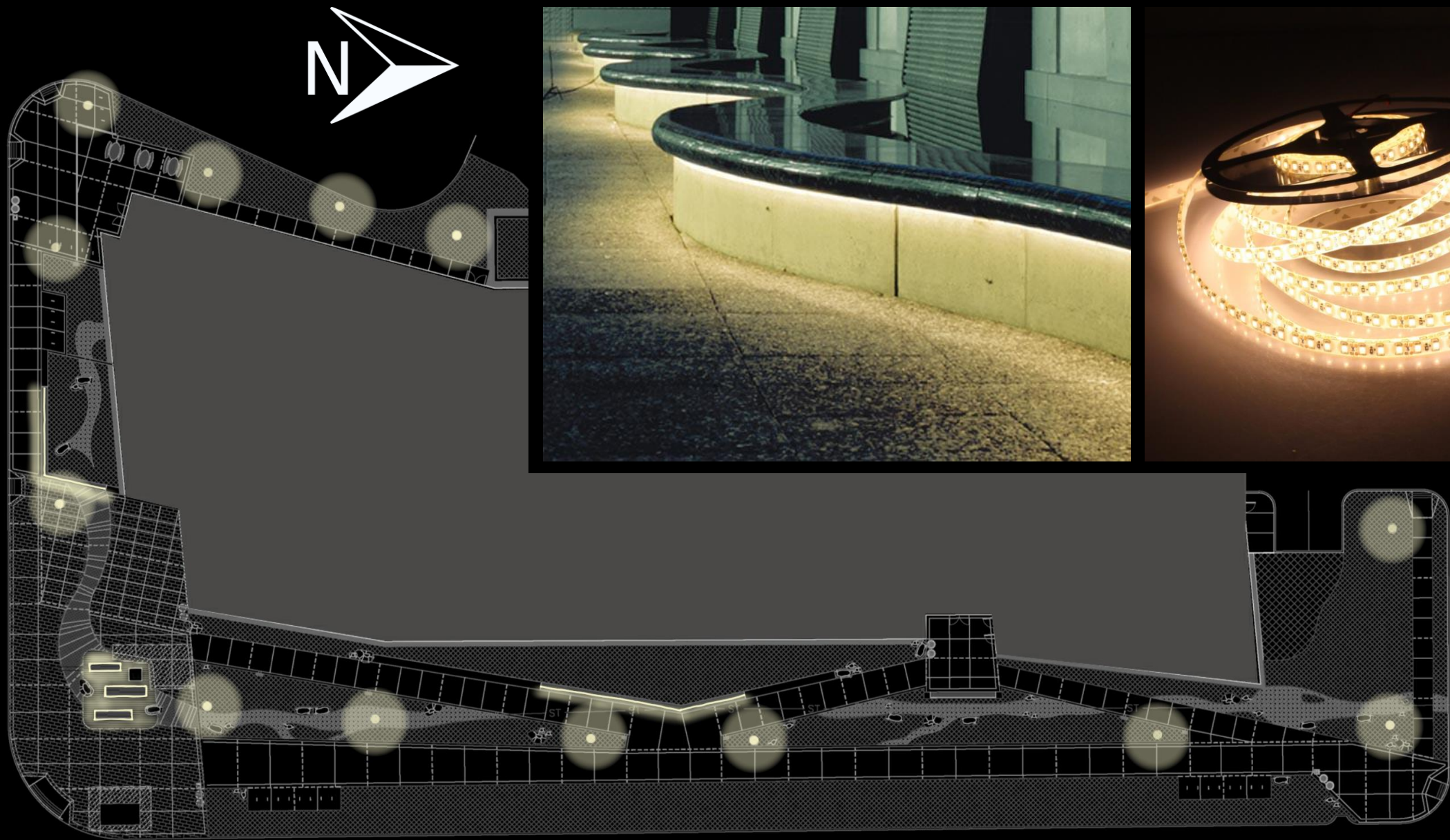
E_h : 4 fc at grade
LPD: 0.4 W/ft²

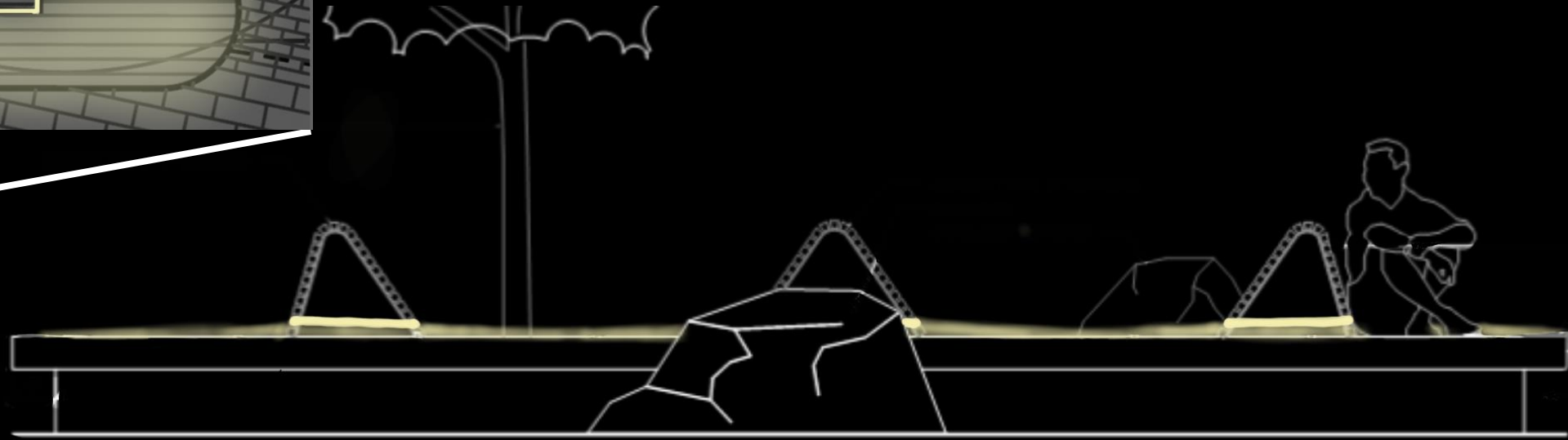
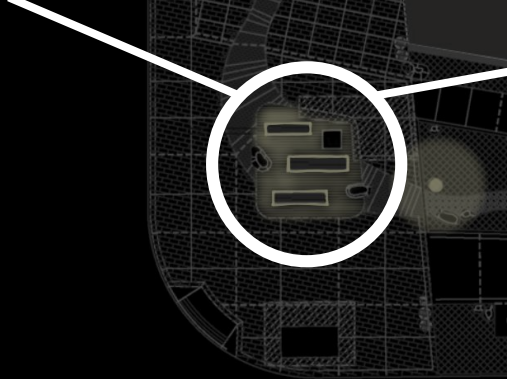
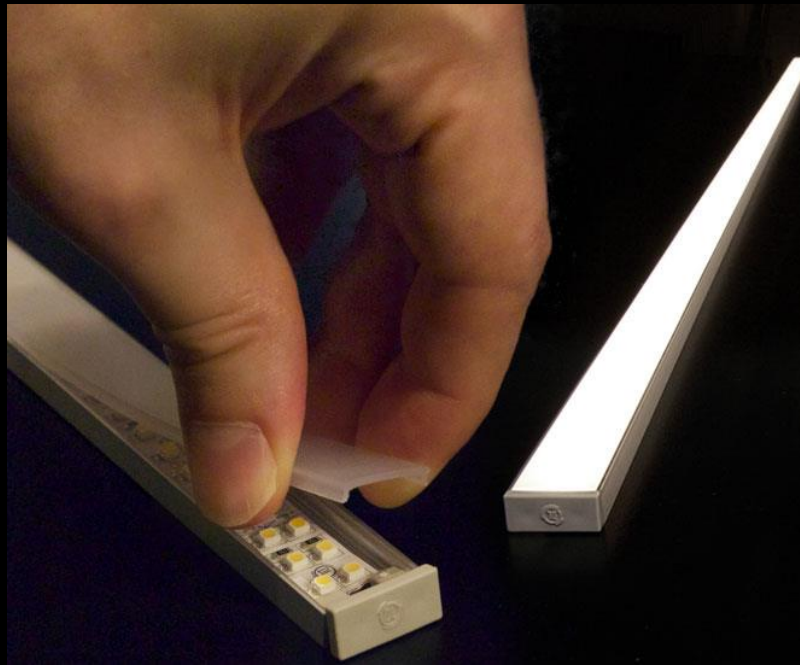
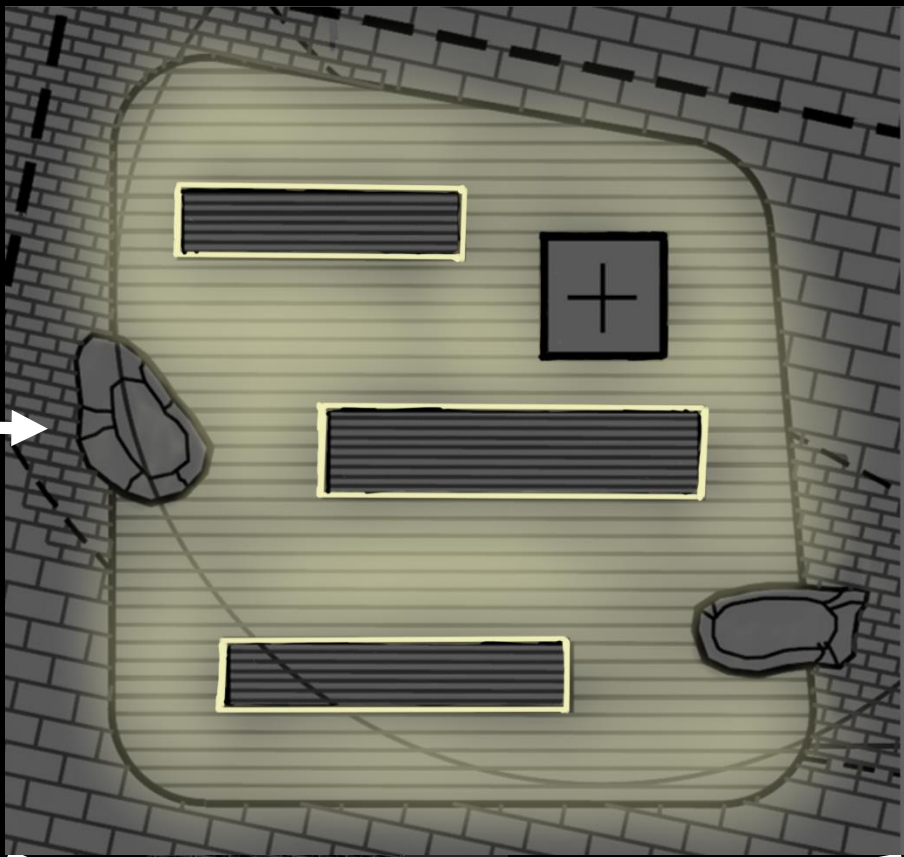


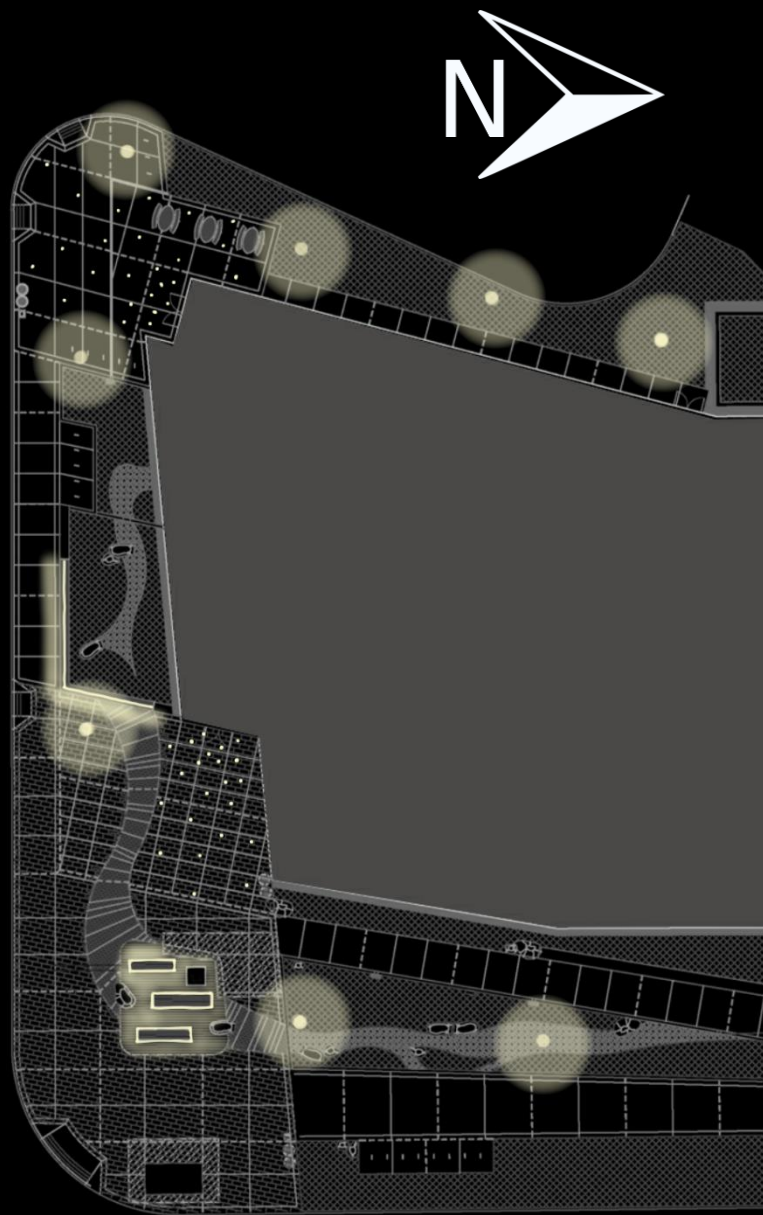
- Connection to surrounding buildings
- Transition
- Relaxation
- Place for gathering
- Safety
- Consider light spill from building









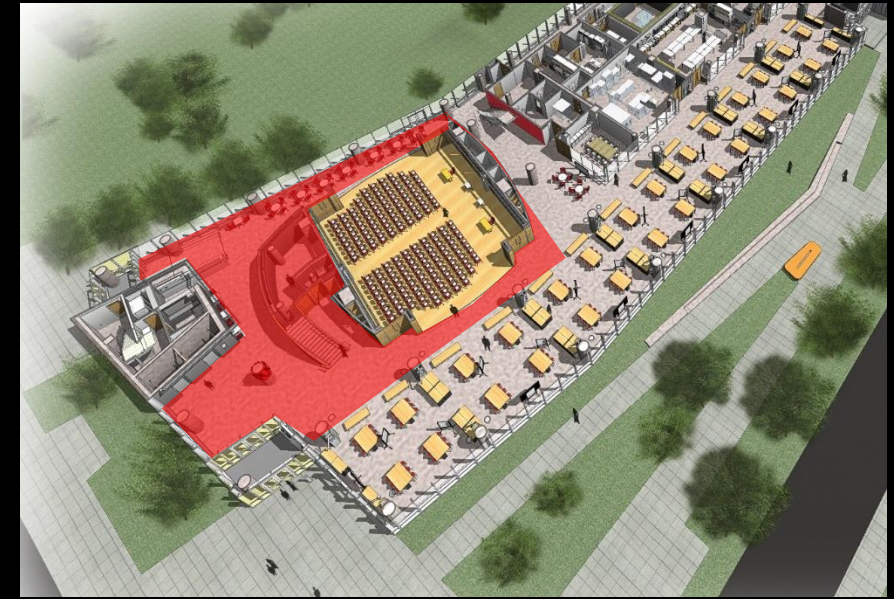




LOBBY CRITERIA

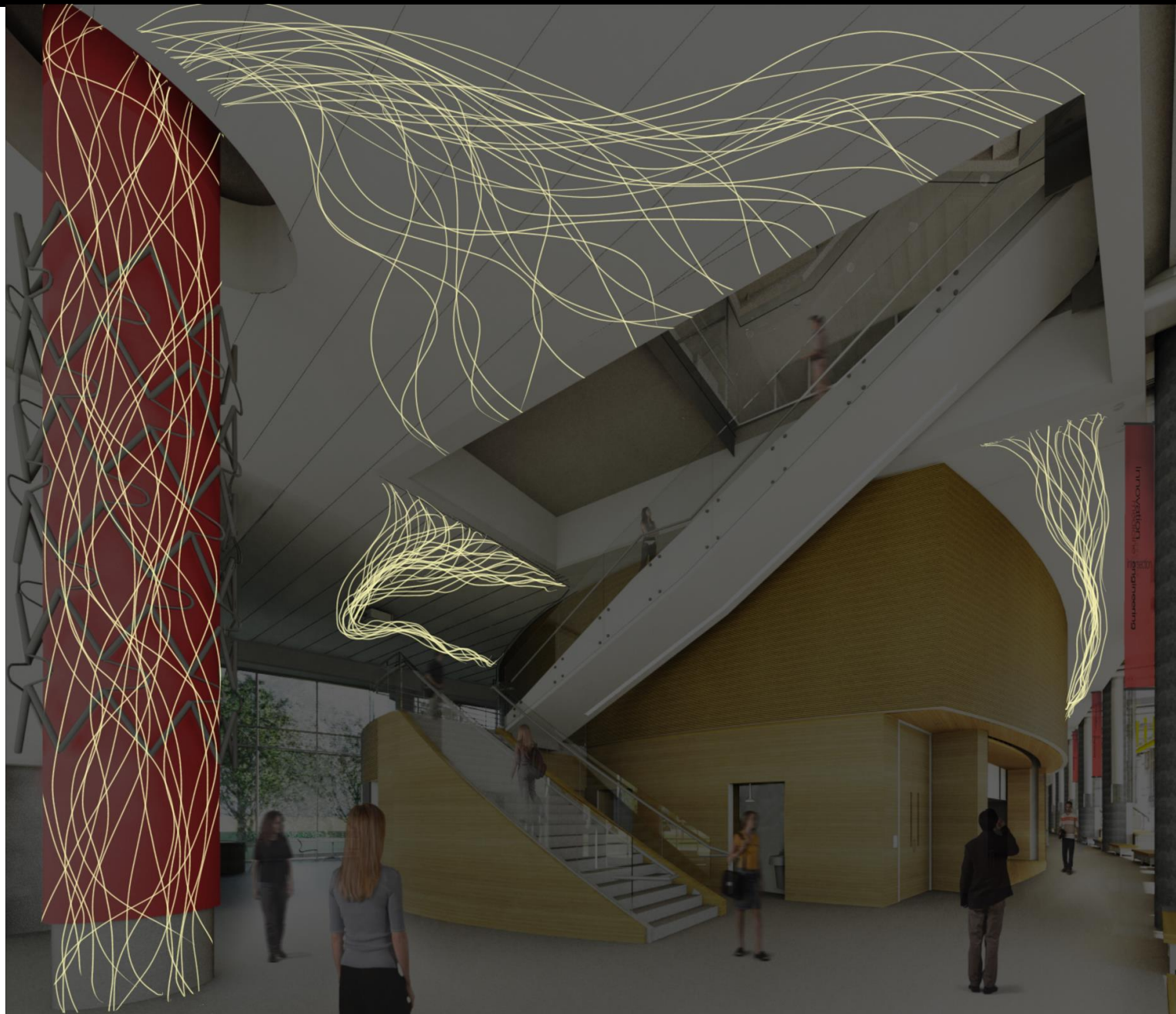


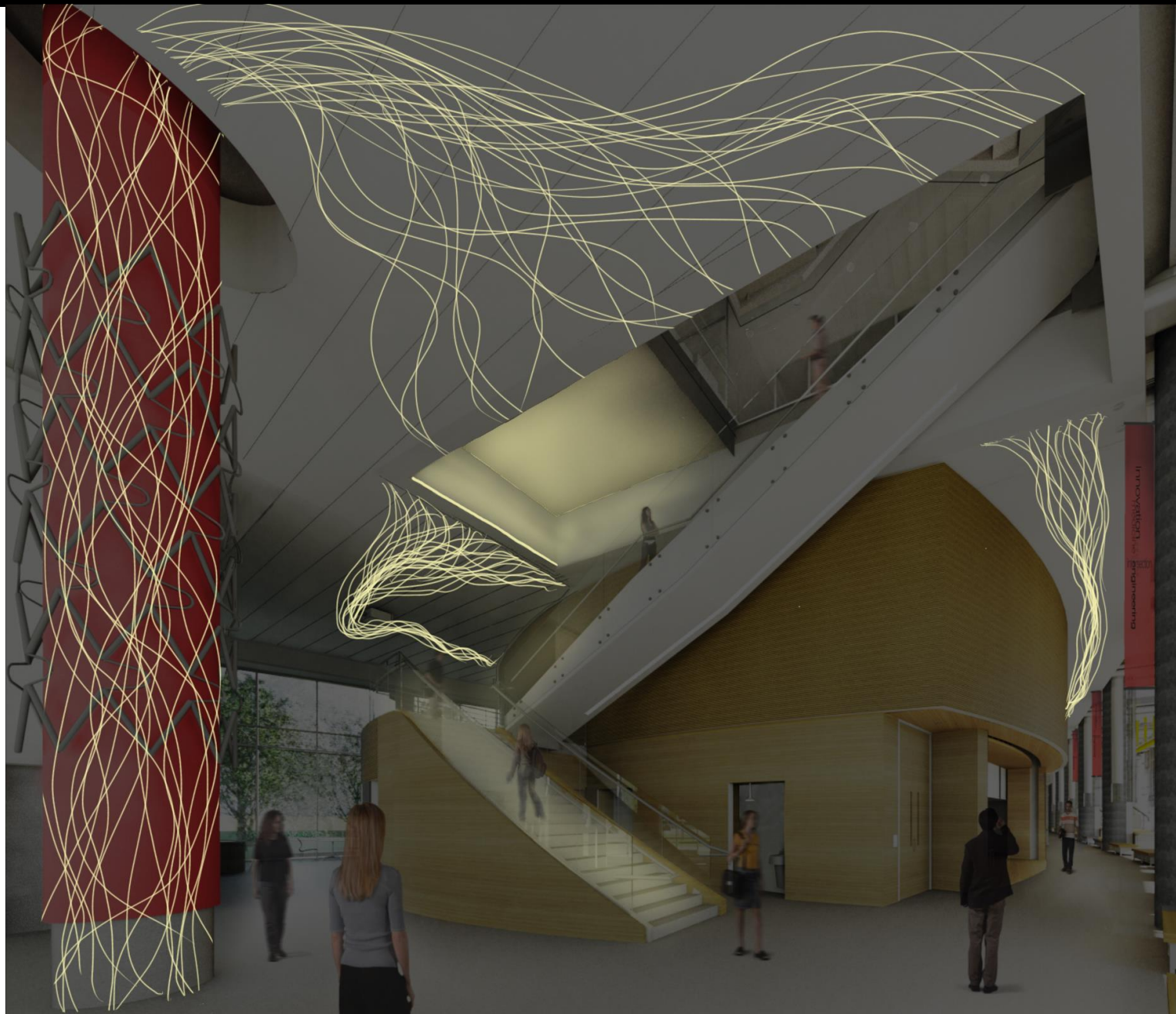
E_h : 10 fc at floor
 E_v : 5 fc at 5'
Uniformity (avg to min): 3:1
LPD: 1.36 W/ft²

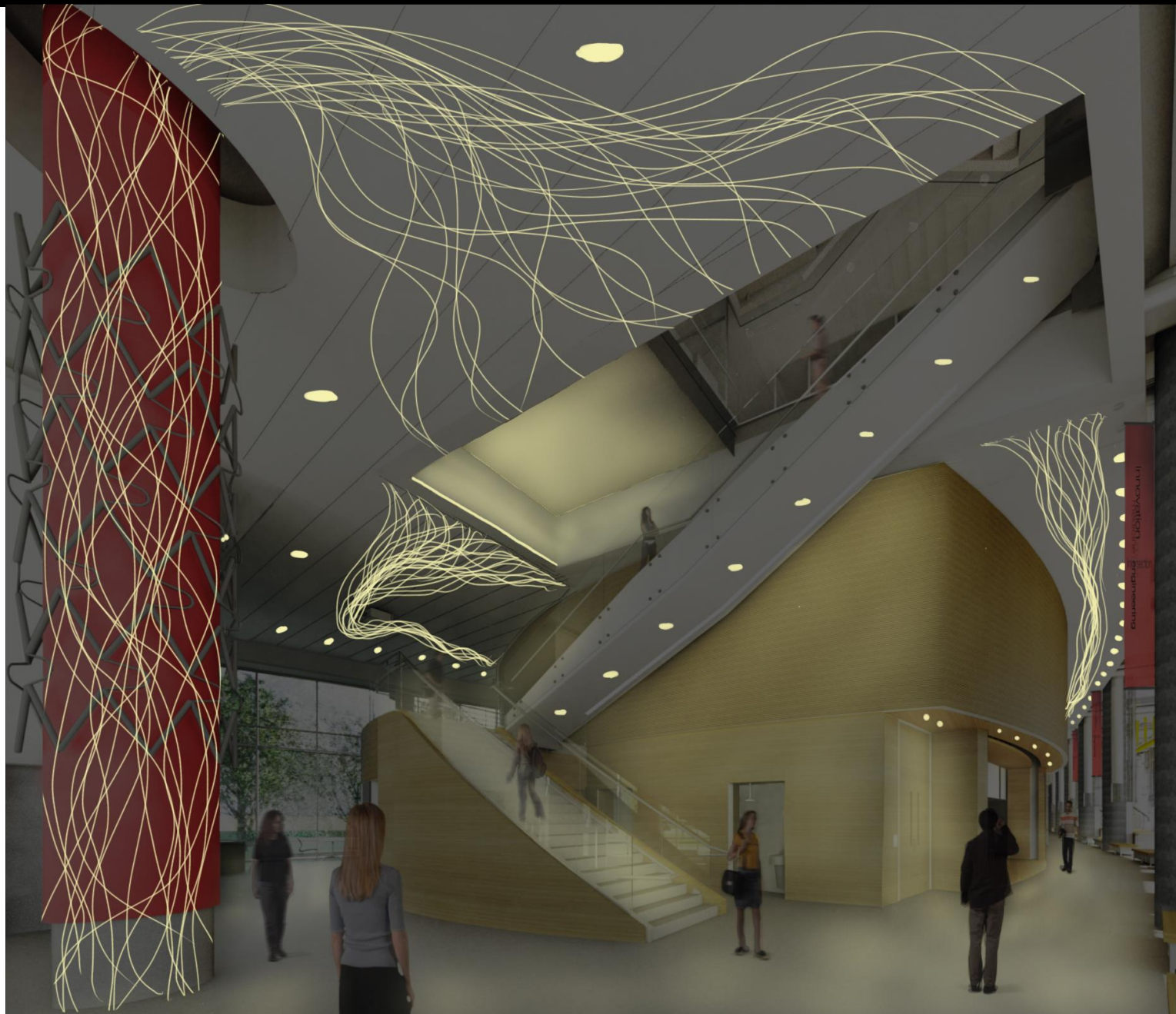


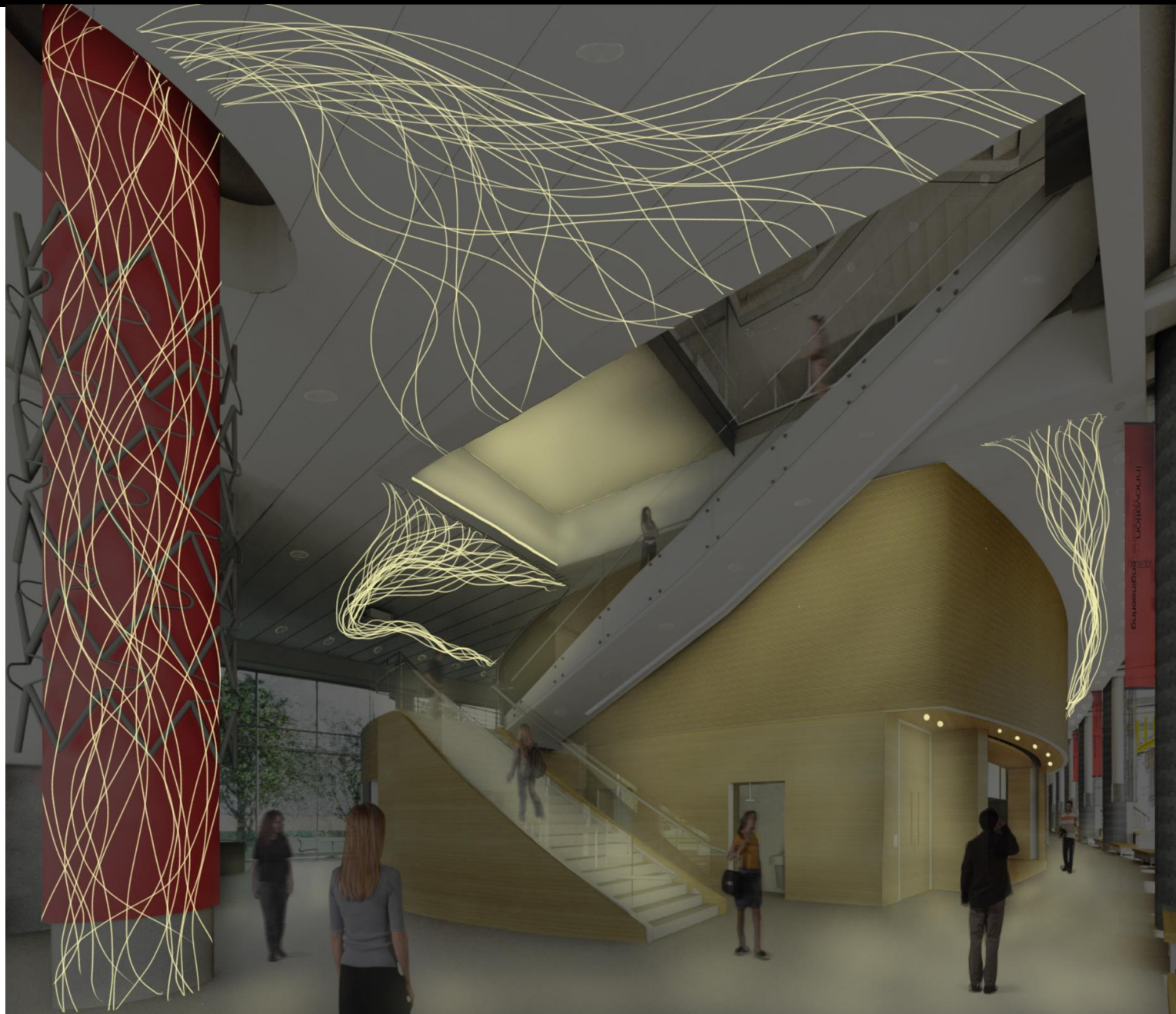
E_h : 5 fc at floor
 E_v : 2 fc at 5'
Uniformity (avg to min): 3:1
LPD: 1.36 W/ft²

- Main entry
- Heart of the building
- Transition
- Wayfinding
- Height of space
- Connection to adjacent spaces
- 3 designs

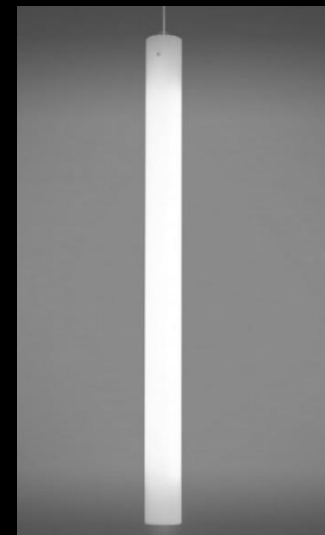
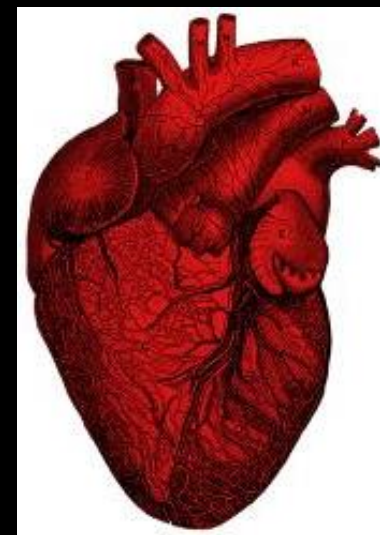
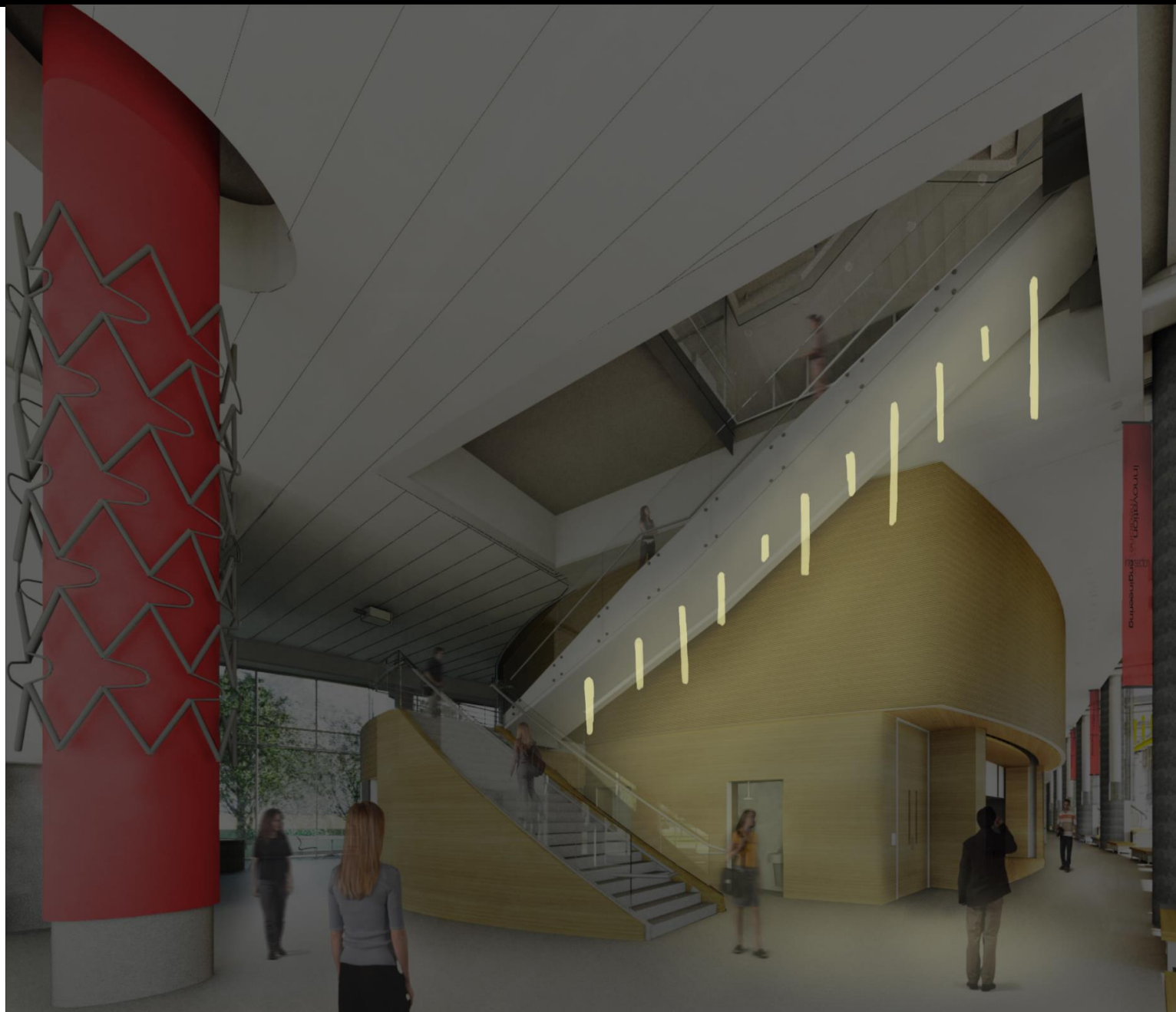








DESIGN 2



INTRODUCTION

CONCEPT

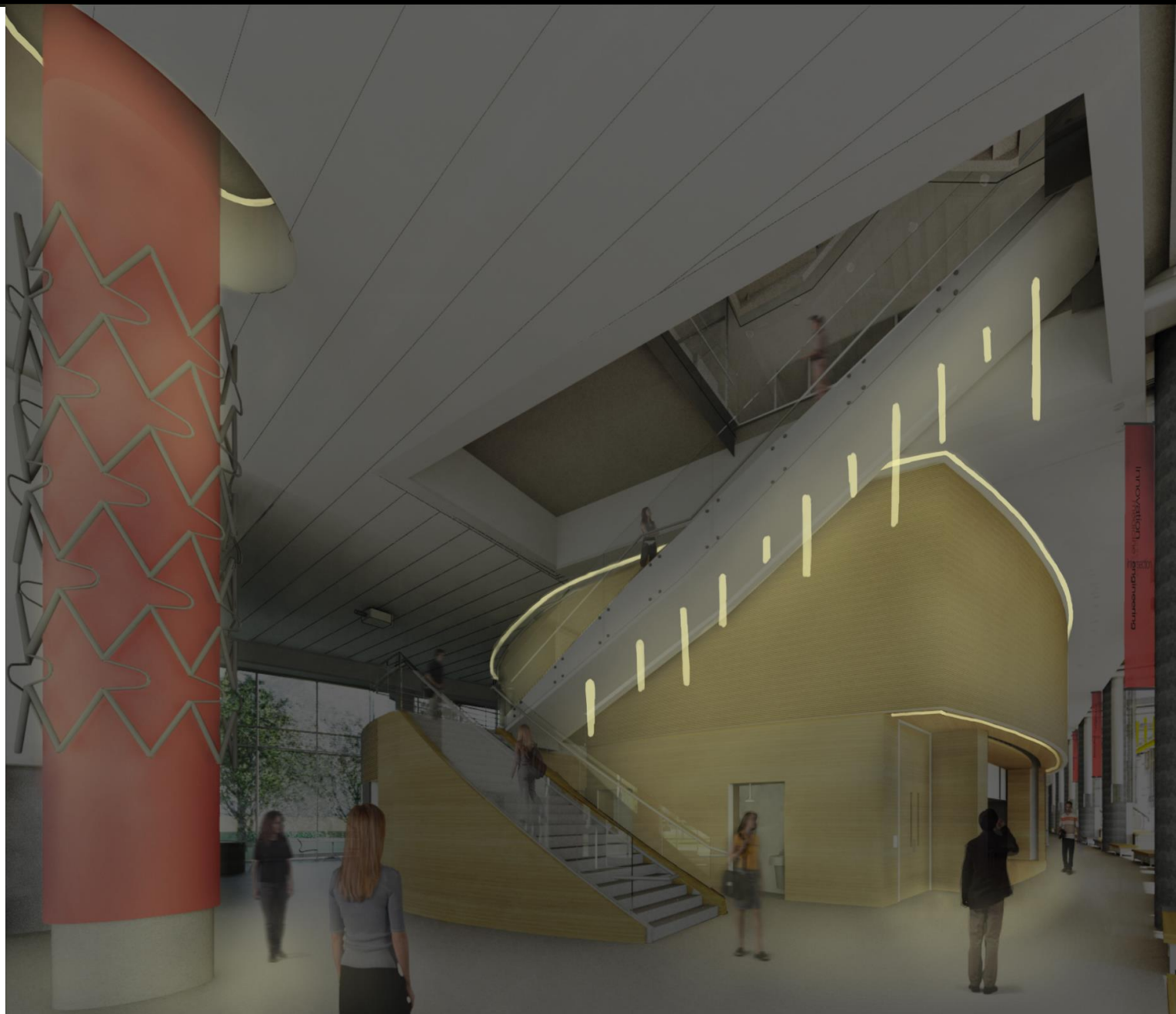
EXTERIOR PLAZA

LOBBY

FLEX CLASSROOM

FLEX LAB | 26

DESIGN 2



INTRODUCTION

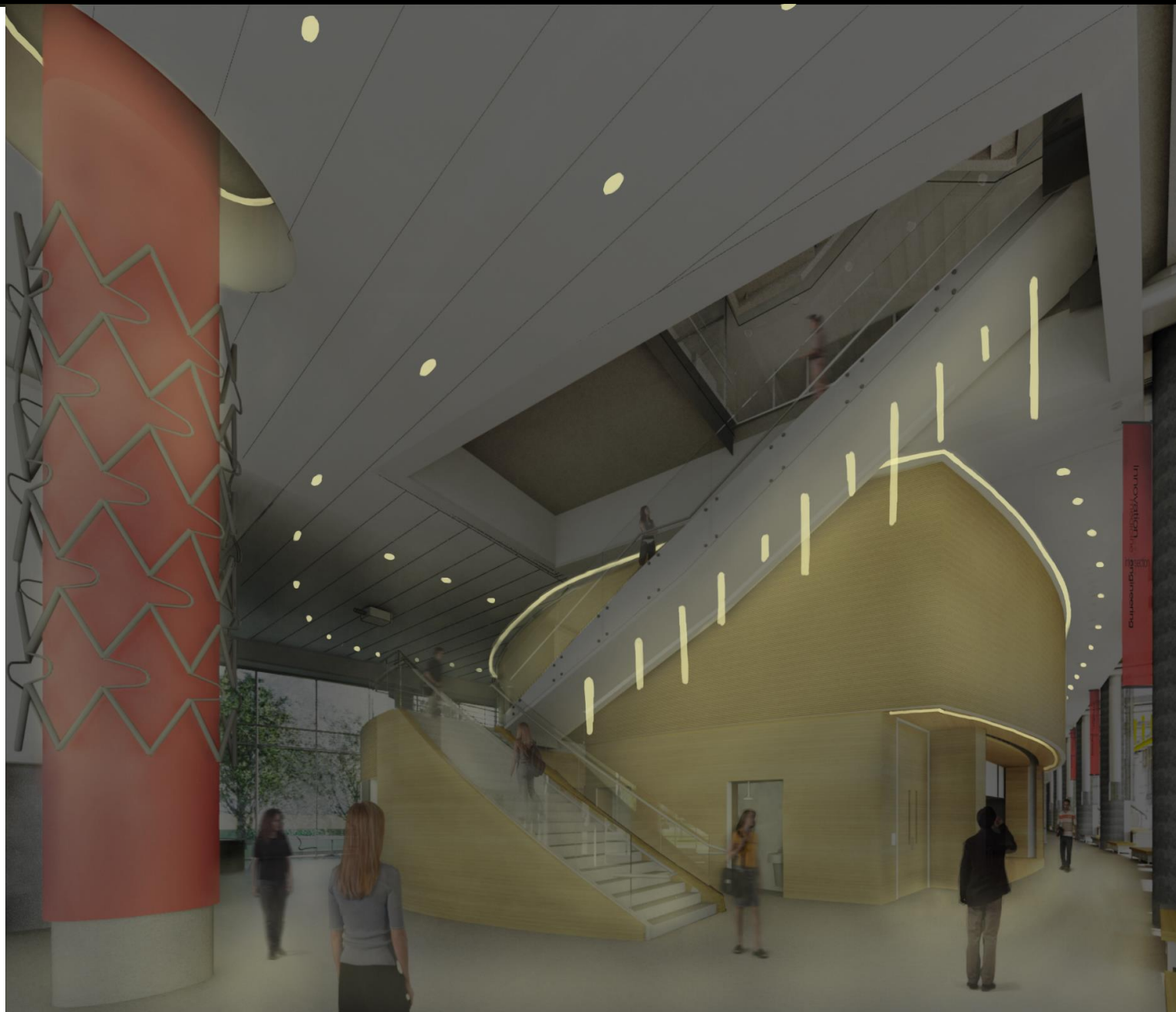
CONCEPT

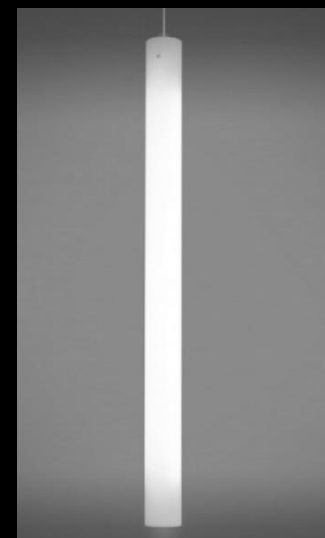
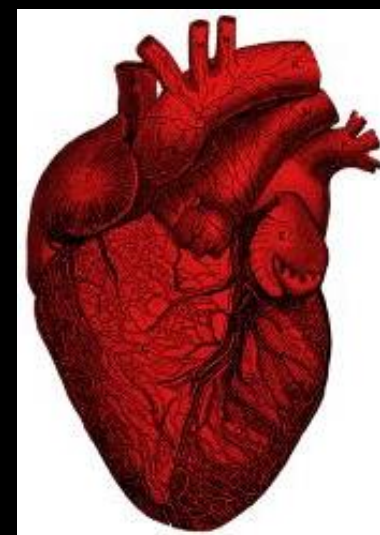
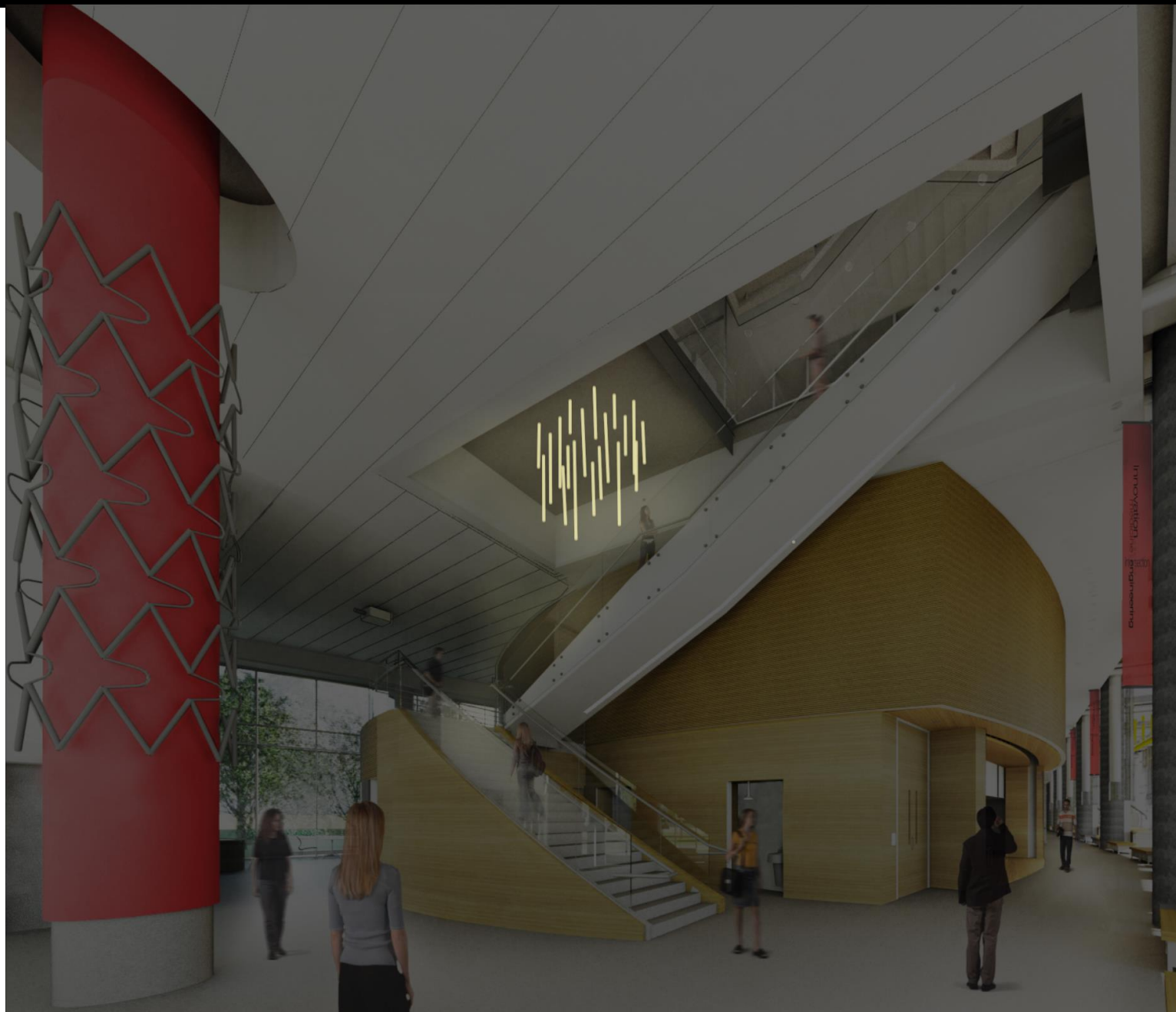
EXTERIOR PLAZA

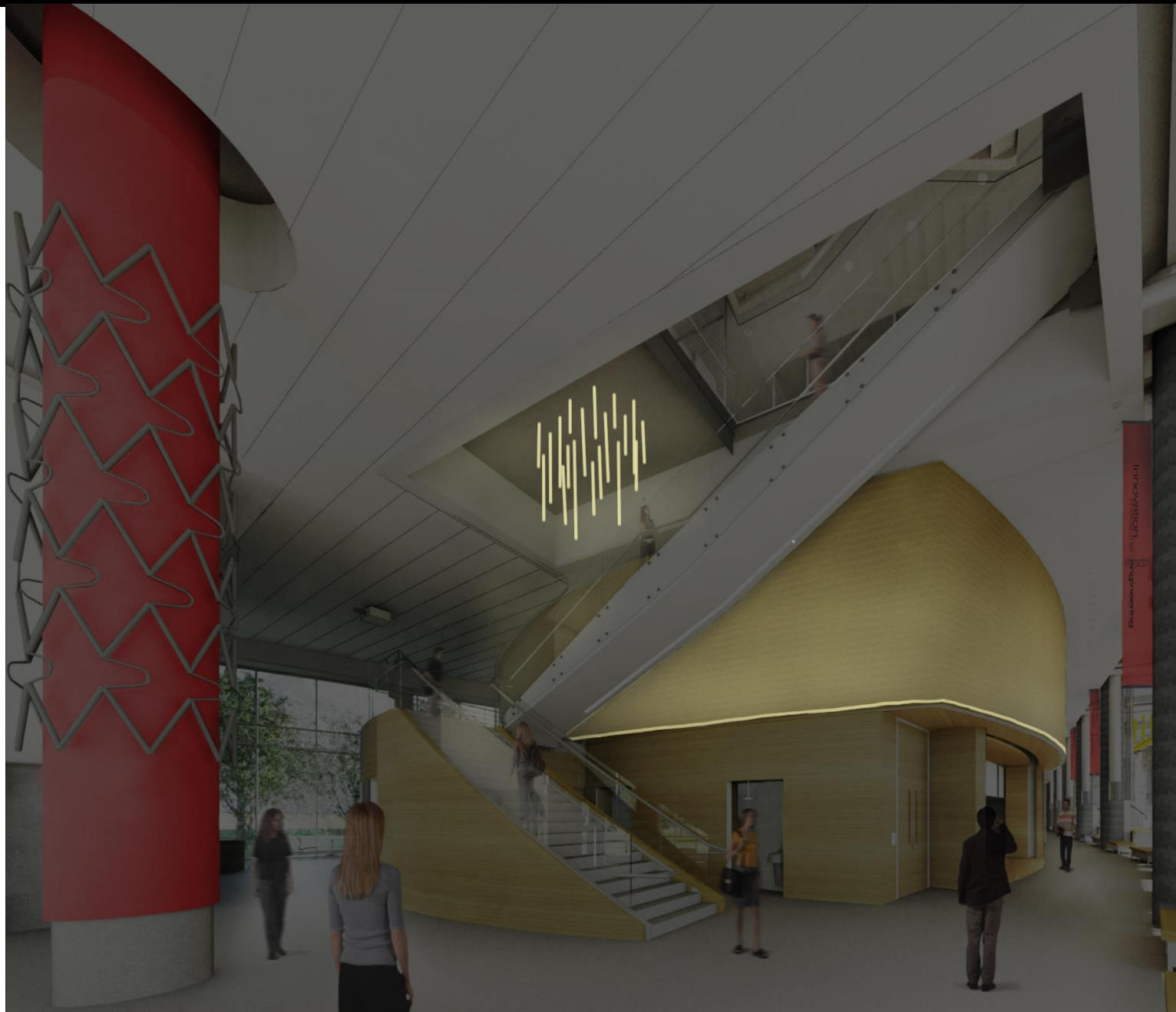
LOBBY

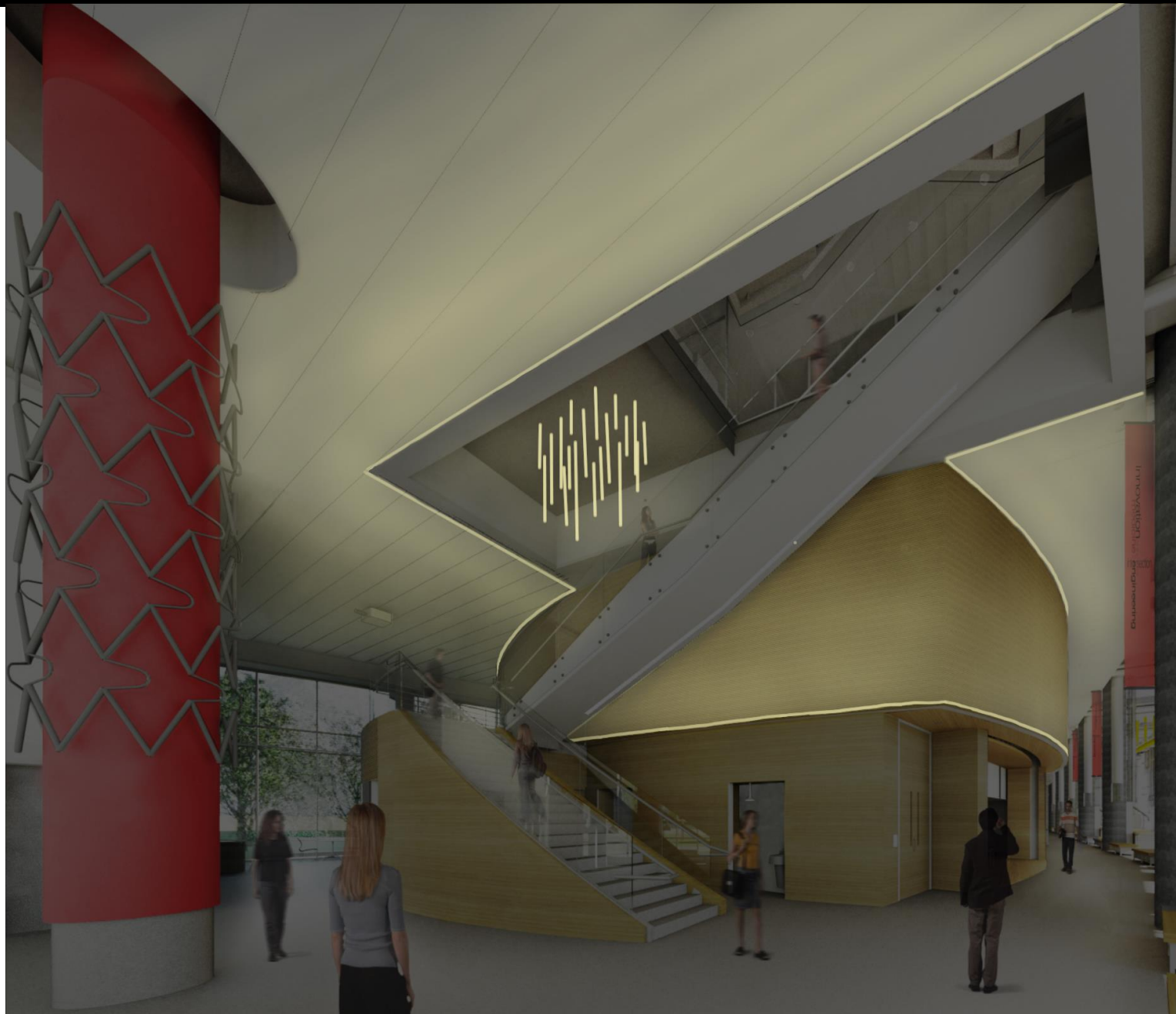
FLEX CLASSROOM

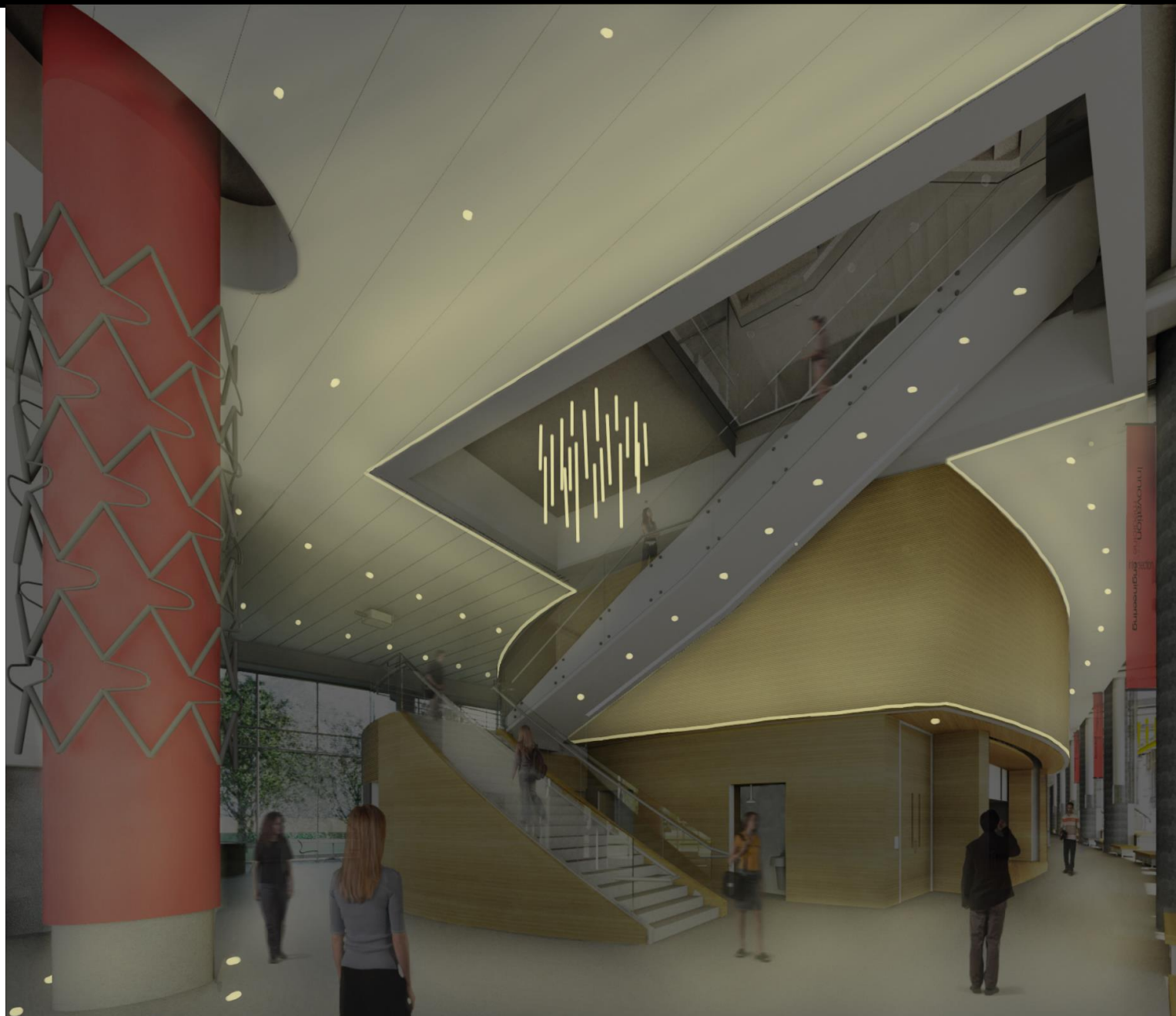
FLEX LAB | 27



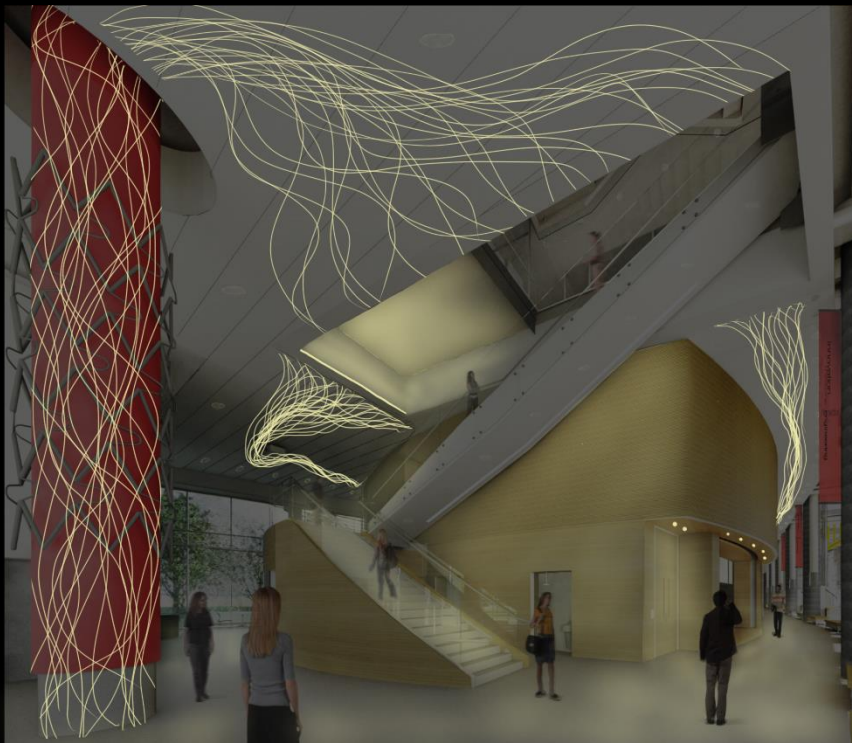








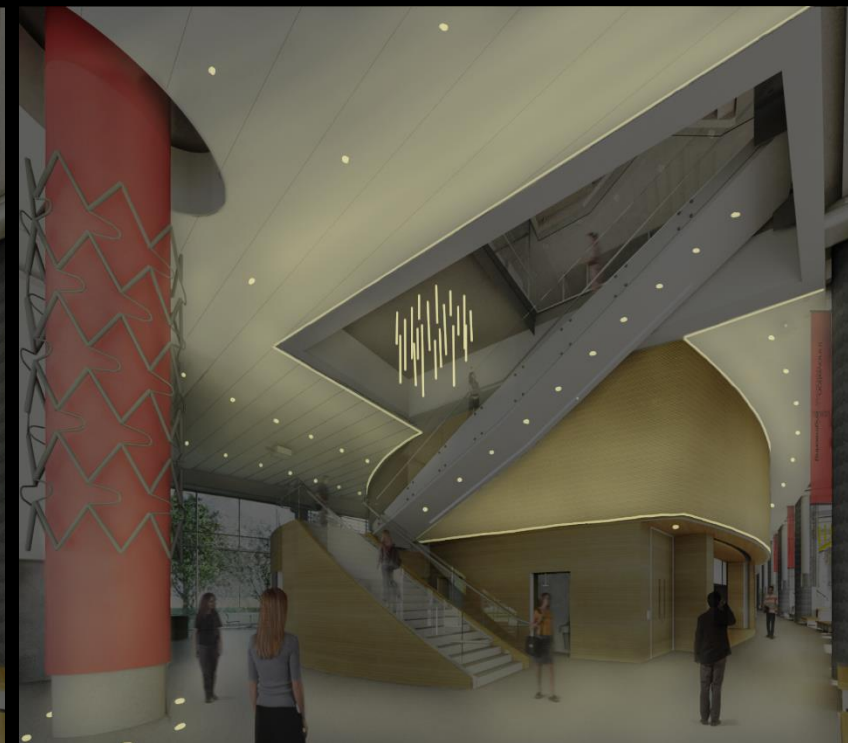
DESIGN 1

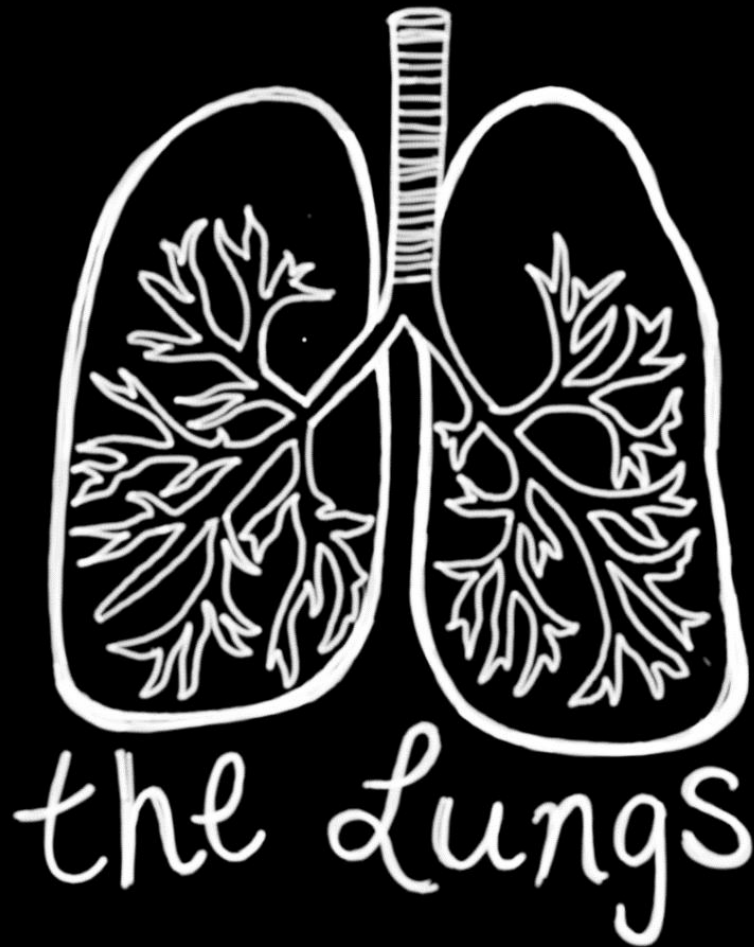


DESIGN 2



DESIGN 3





FLEX CLASSROOM CRITERIA



E_h : 5 fc at 2'
 E_v : 1.5 fc at 4'
 E_v (at screen): 1.5 fc at 4'
Uniformity (avg to min): 2:1
LPD: 1.24 W/ft²



E_h : 40 fc at 2.5'
 E_v : 1.5 fc at 4'
Uniformity (avg to min): 2:1
LPD: 1.24 W/ft²



- Flexibility
- Variety of spaces (1, 2, or 4 spaces)
- Lecture vs Classroom vs Event gathering
- Controls
- Connection to adjacent spaces
- Psychological Impression: Public vs Private

Public- Events

Private- Classroom instruction









FLEX LAB CRITERIA



E_h : 50 fc at 3'
 E_v : 30 fc at 4'
Uniformity (avg to min): 1.5:1
LPD: 1.81 W/ft²



- Height of space
- Openness to surrounding spaces
- Mechanical and lab equipment
- Daylighting influence
- Controls
- Individual task lighting











THANK YOU

SPECIAL THANKS TO:

BALLINGER
THE LIGHTING PRACTICE
DR. HOUSER