

# Tech Report 3

Lighting Schematic Design & Design Development

Sarah Miller

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PRINCE FREDERICK HALL

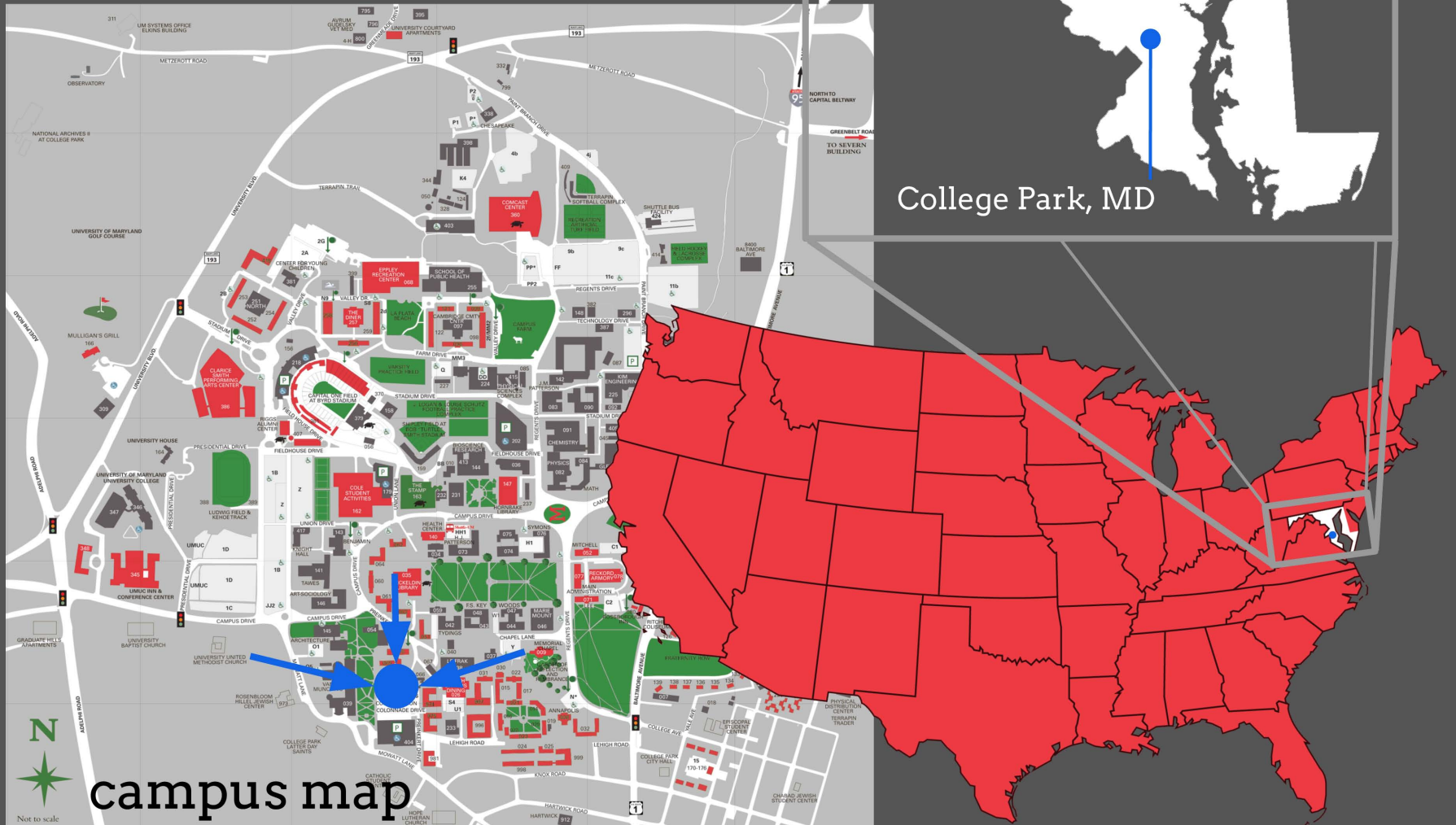
university of maryland



south facade

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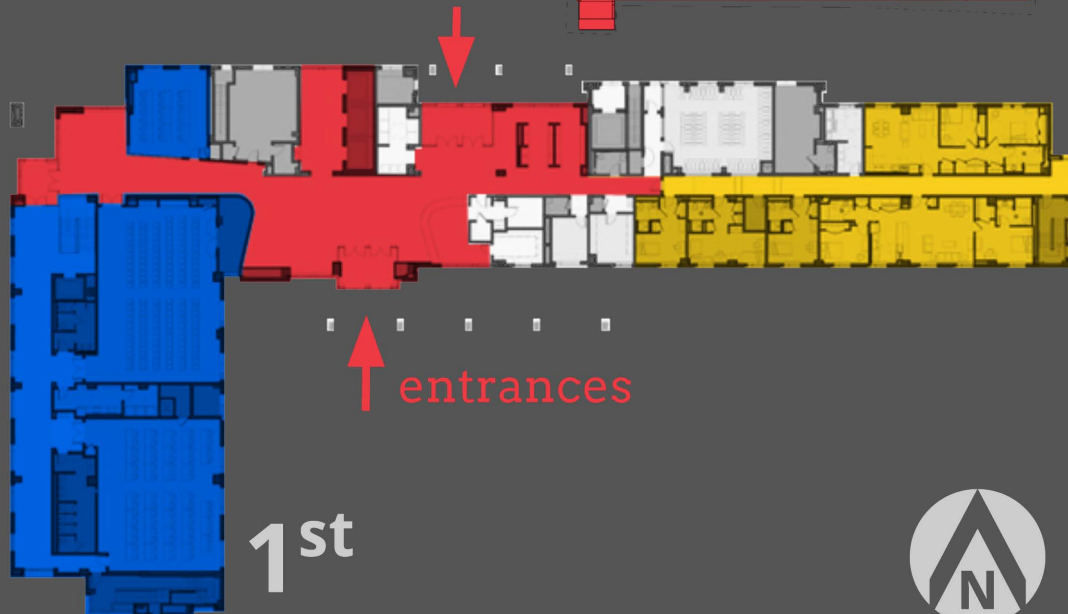
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roof  
7th  
6th  
5th  
4th  
3rd  
2nd  
1st

KEY:

-  residential
-  academic
-  offices
-  other



entrances

1st





# DESIGN CONCEPT



- public & private spaces
- learning environments

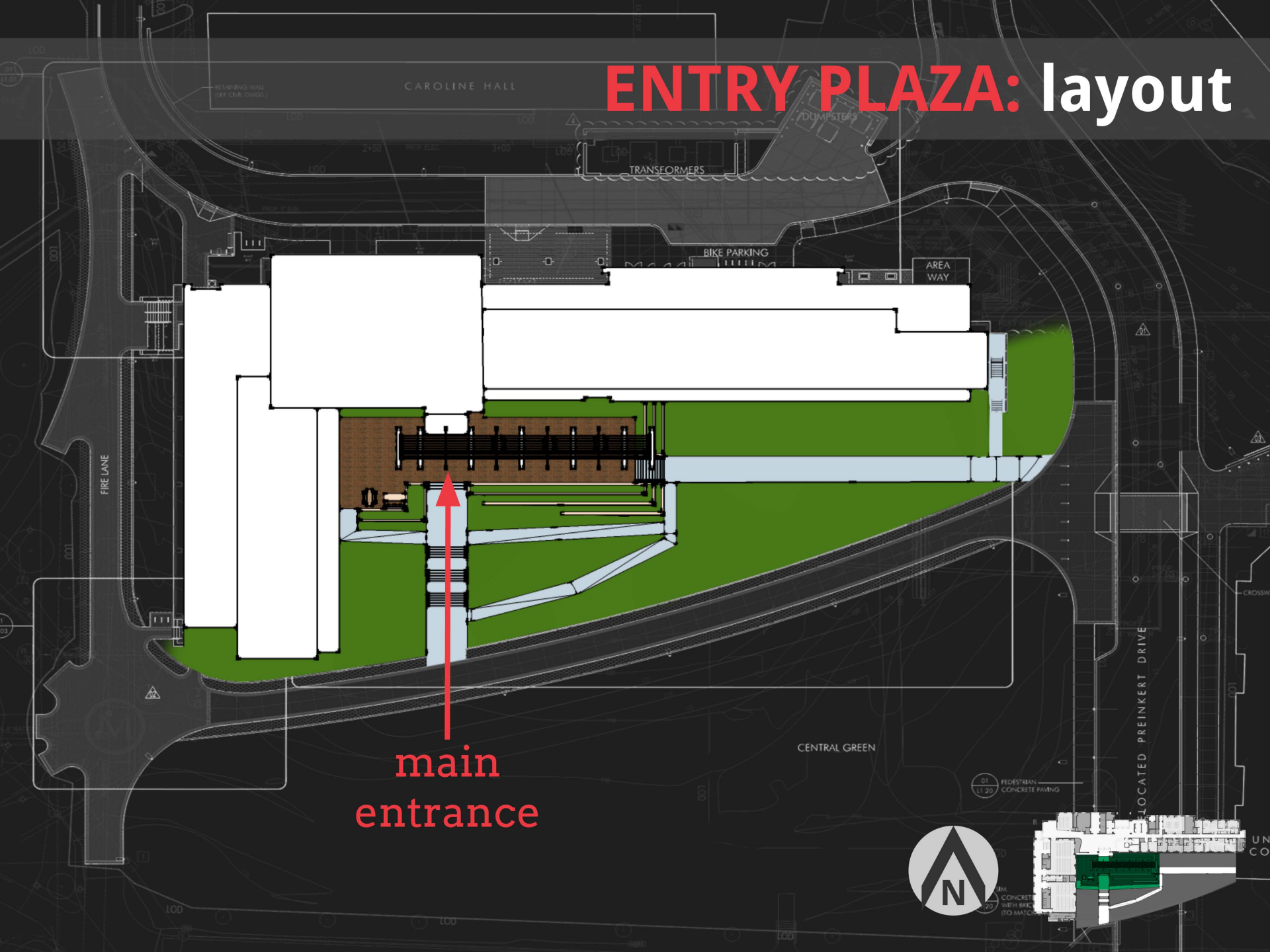
## DESIGN SPACES:

- entry plaza
- lobby
- seminar room
- dormitory suite

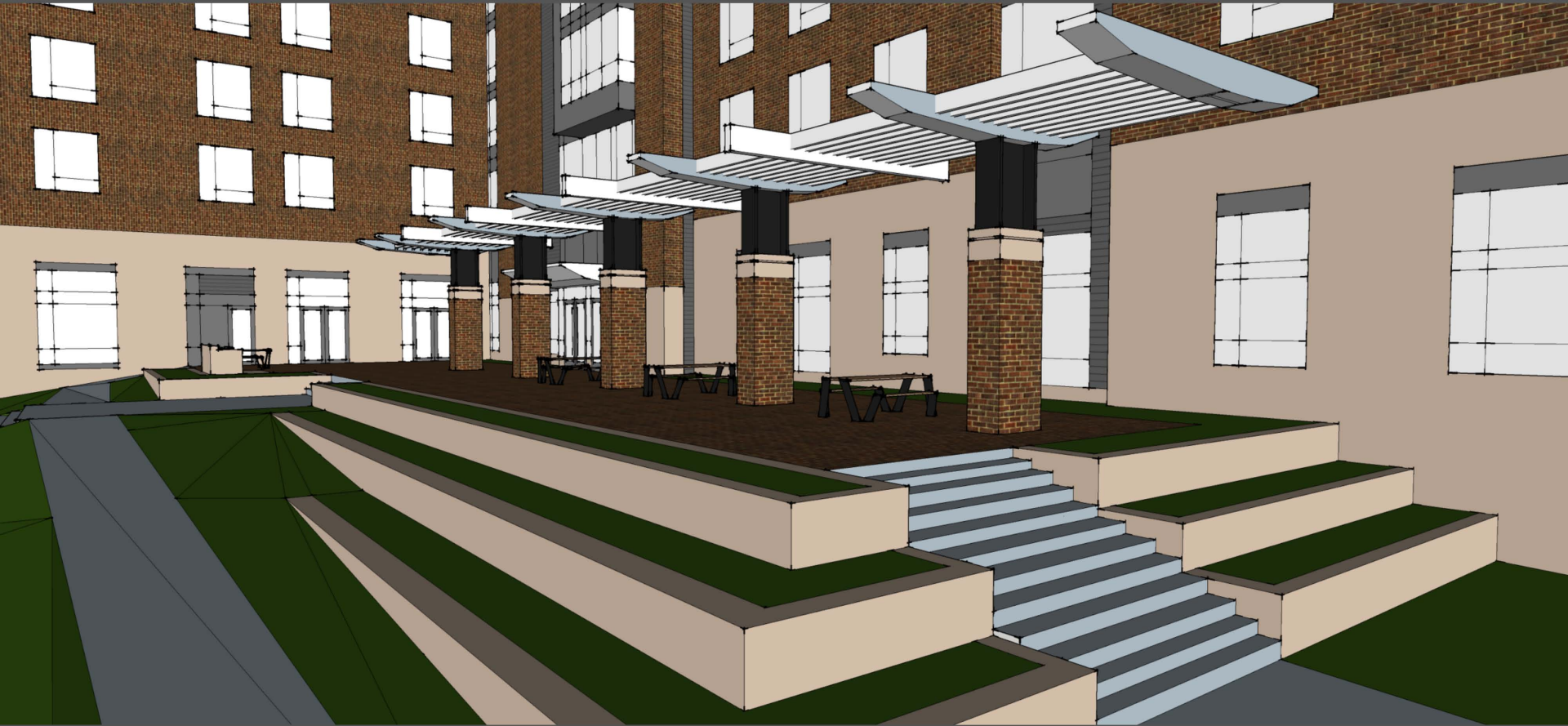


# ENTRY PLAZA: layout

main  
entrance



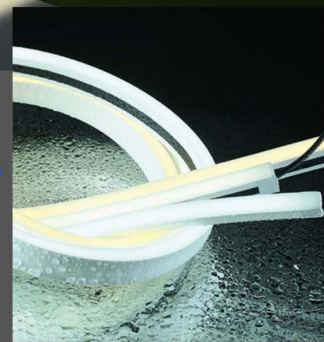
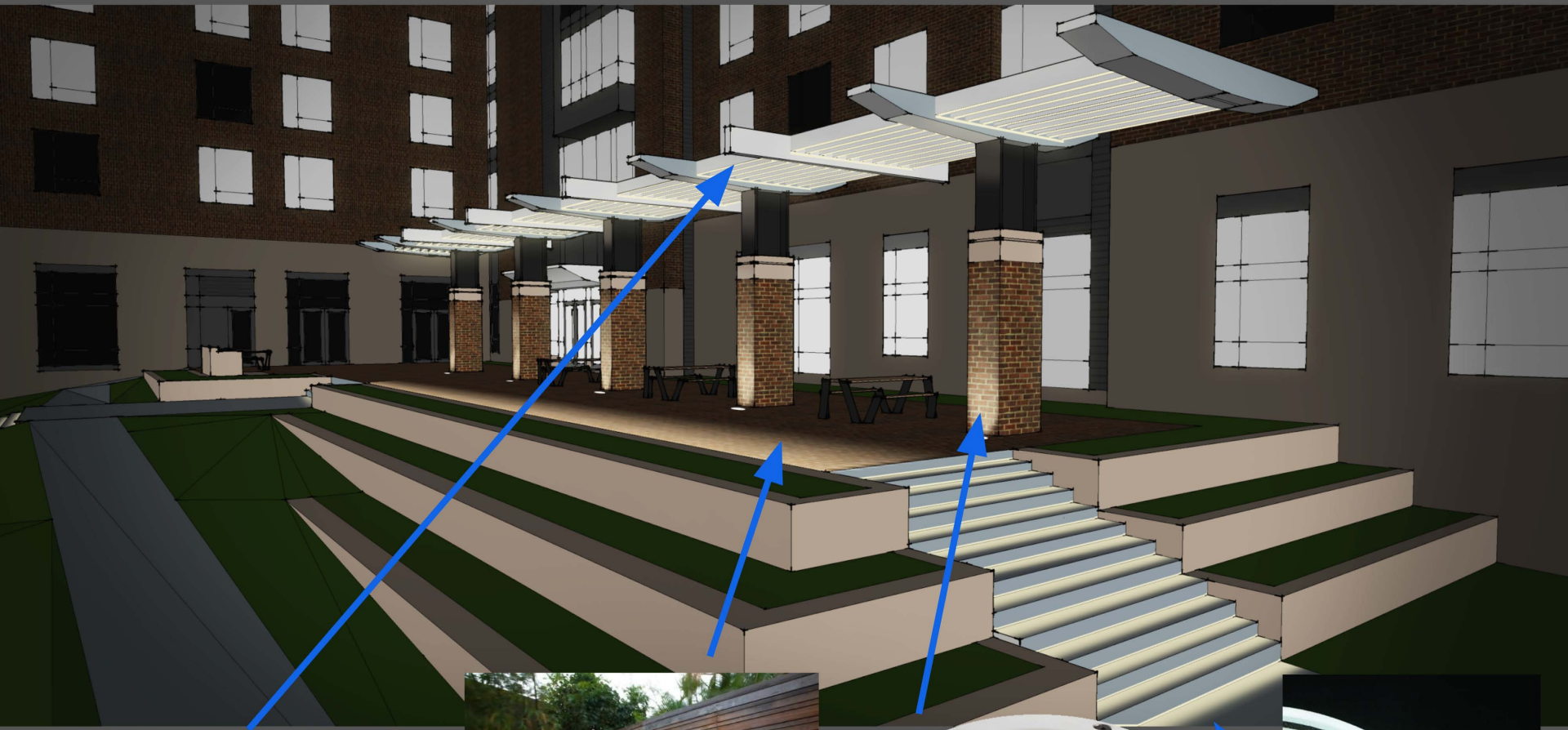
# ENTRY PLAZA: design criteria



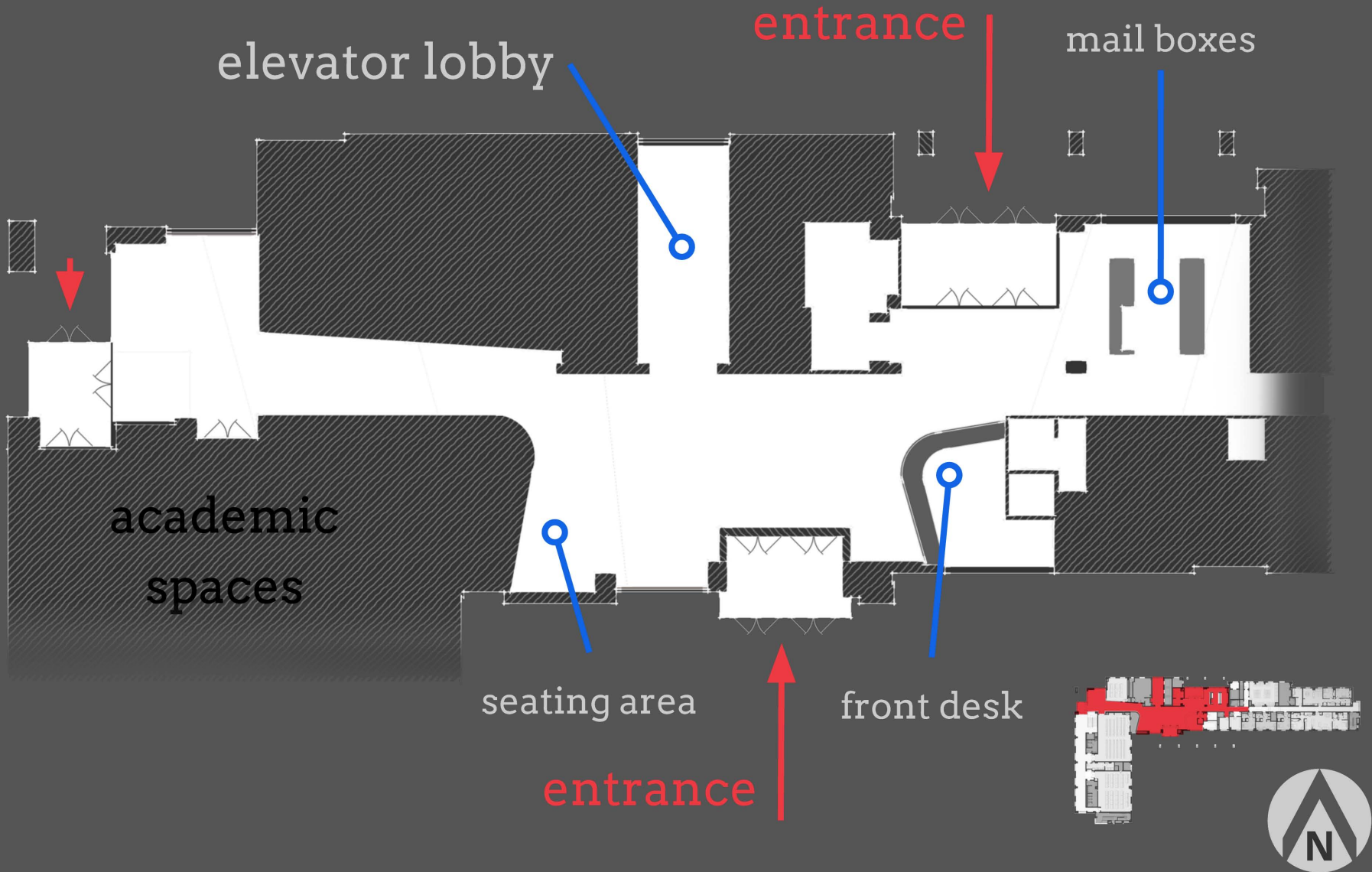
- welcoming entrance
- promote social discovery



# ENTRY PLAZA: the first step of **discovery**

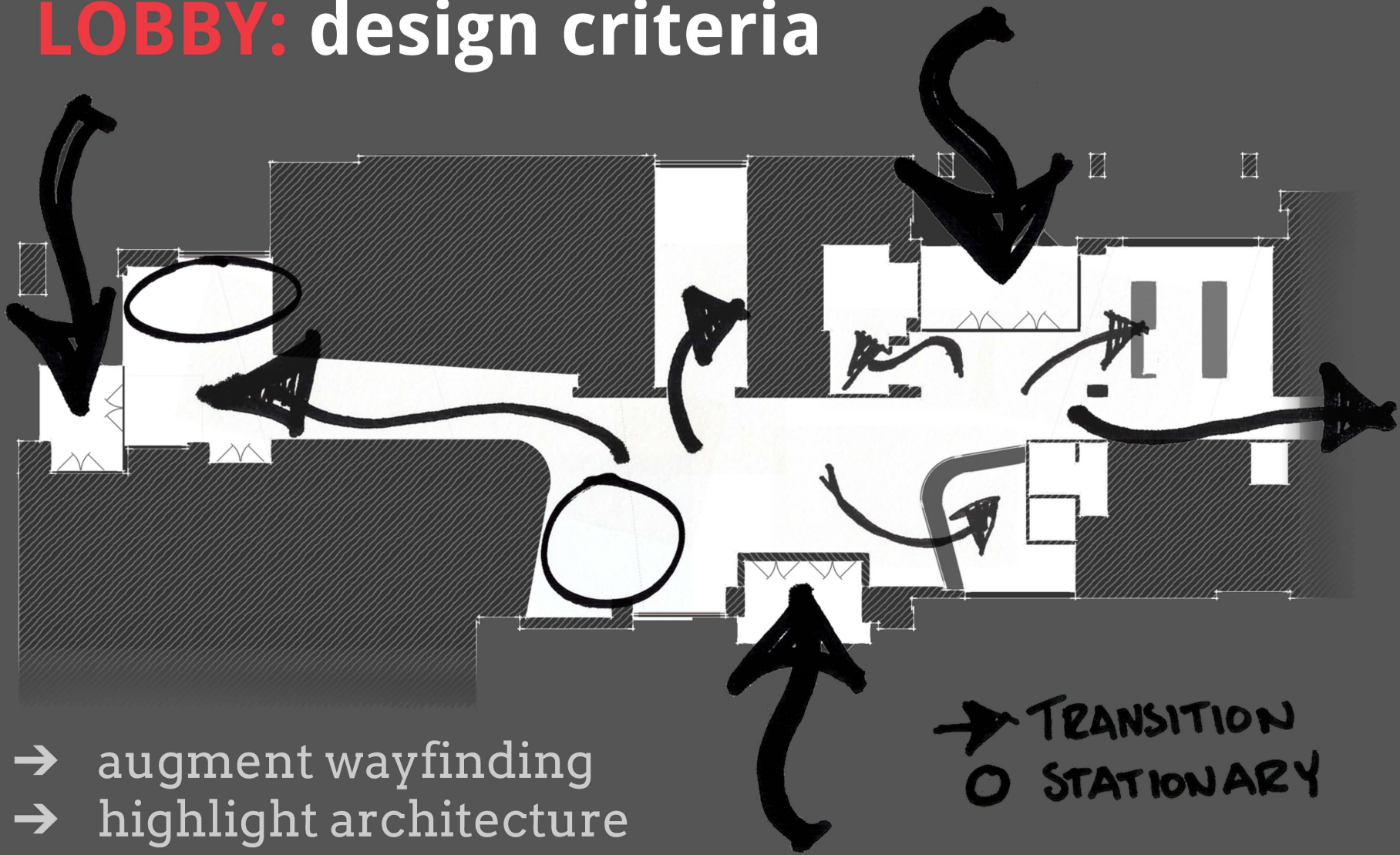


# LOBBY: layout



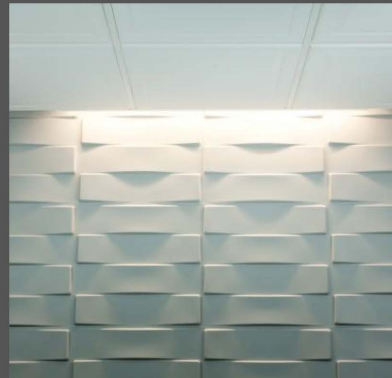


# LOBBY: design criteria

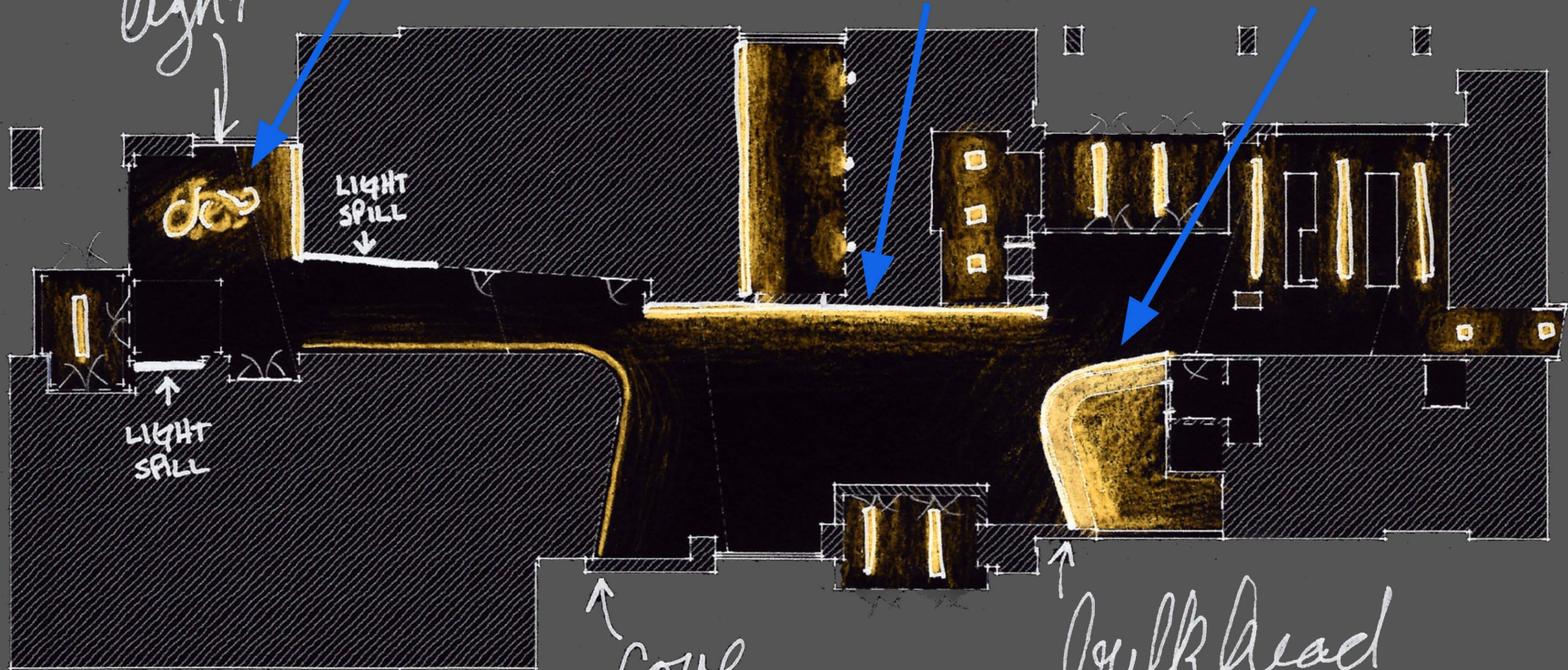


- augment wayfinding
- highlight architecture
- juxtapose public & private
- create welcoming entry

→ TRANSITION  
○ STATIONARY



feature light



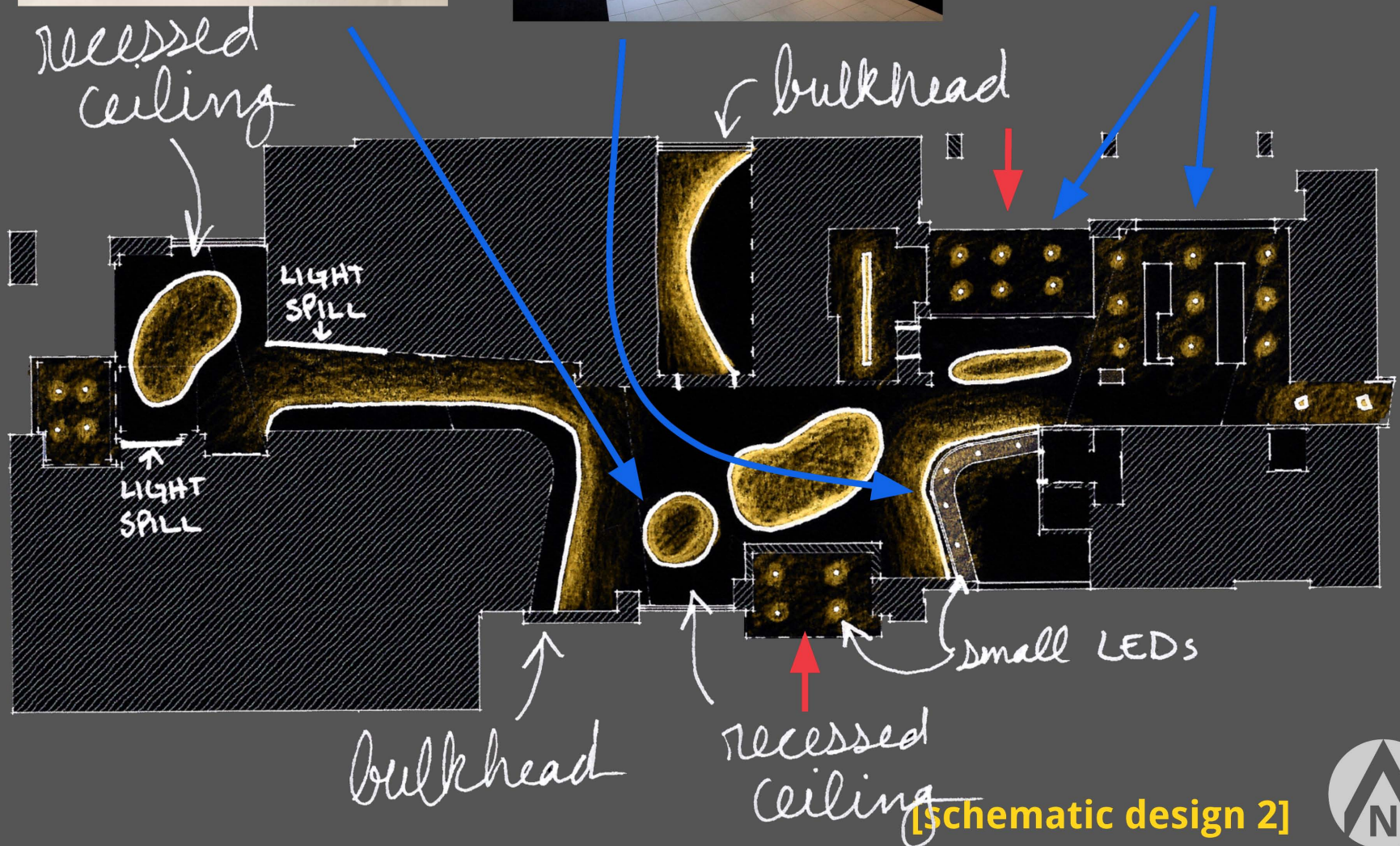
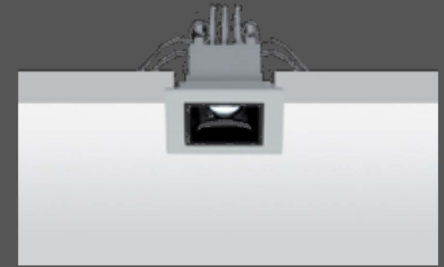
cove

bulkhead cove

[schematic design 1]



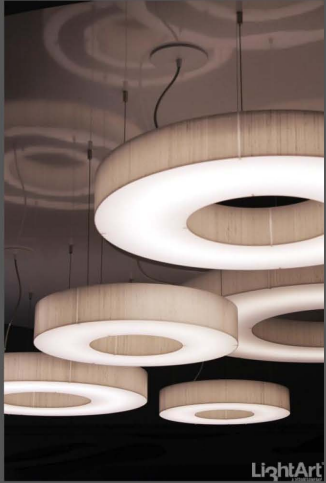




[schematic design 2]



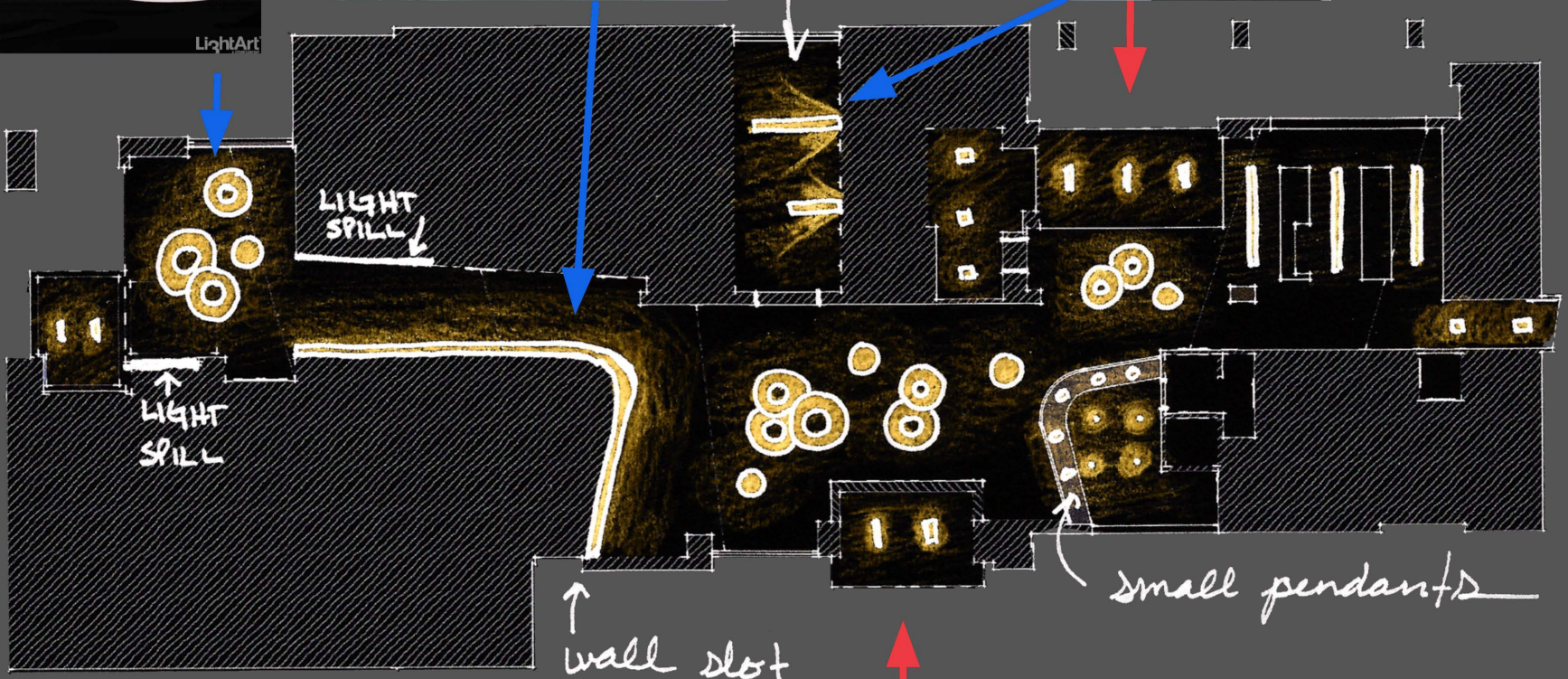




LightArt



*wrap down wall*



[schematic design 3]



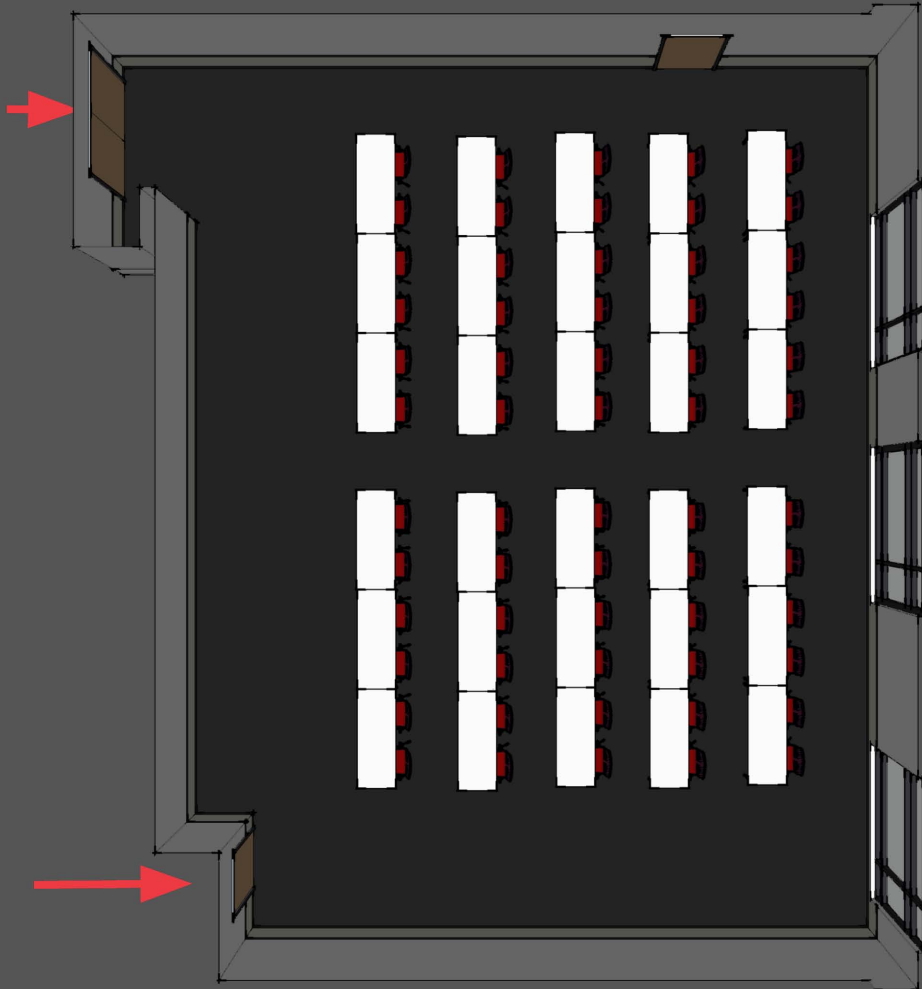


**LOBBY: discovery** occurs through the juxtaposition of public and private spaces

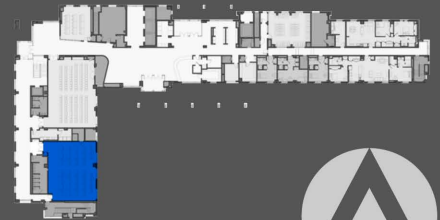


schematic design sketch: [3]

# SEMINAR ROOM: design criteria

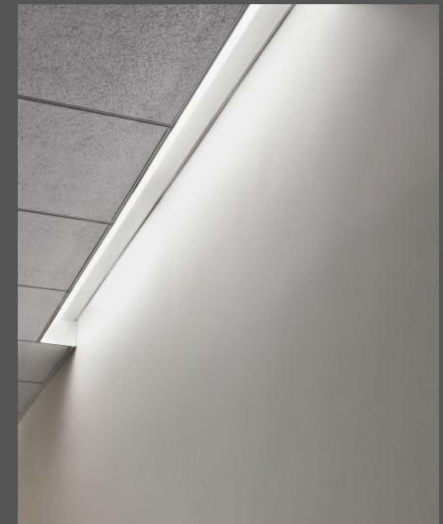
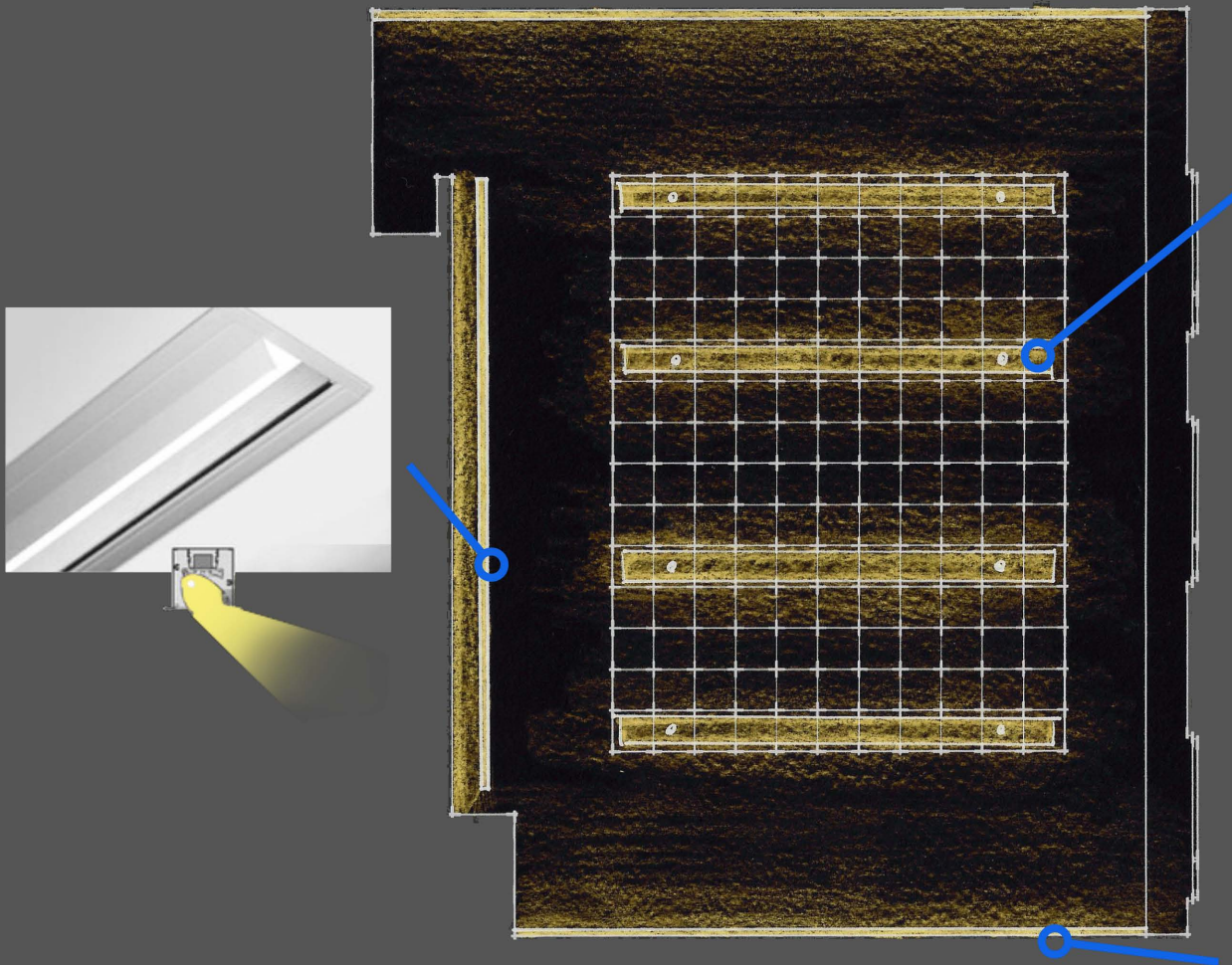


- 200 lux workplane
- uniformity 2:1 (avg:min)  
(general classroom: IES Handbook)
- bright walls
- multiple scenes
  - ◆ lecture presentation
  - ◆ AV with notes
  - ◆ AV no notes
- integrate with daylight





# SEMINAR ROOM: lighting equipment





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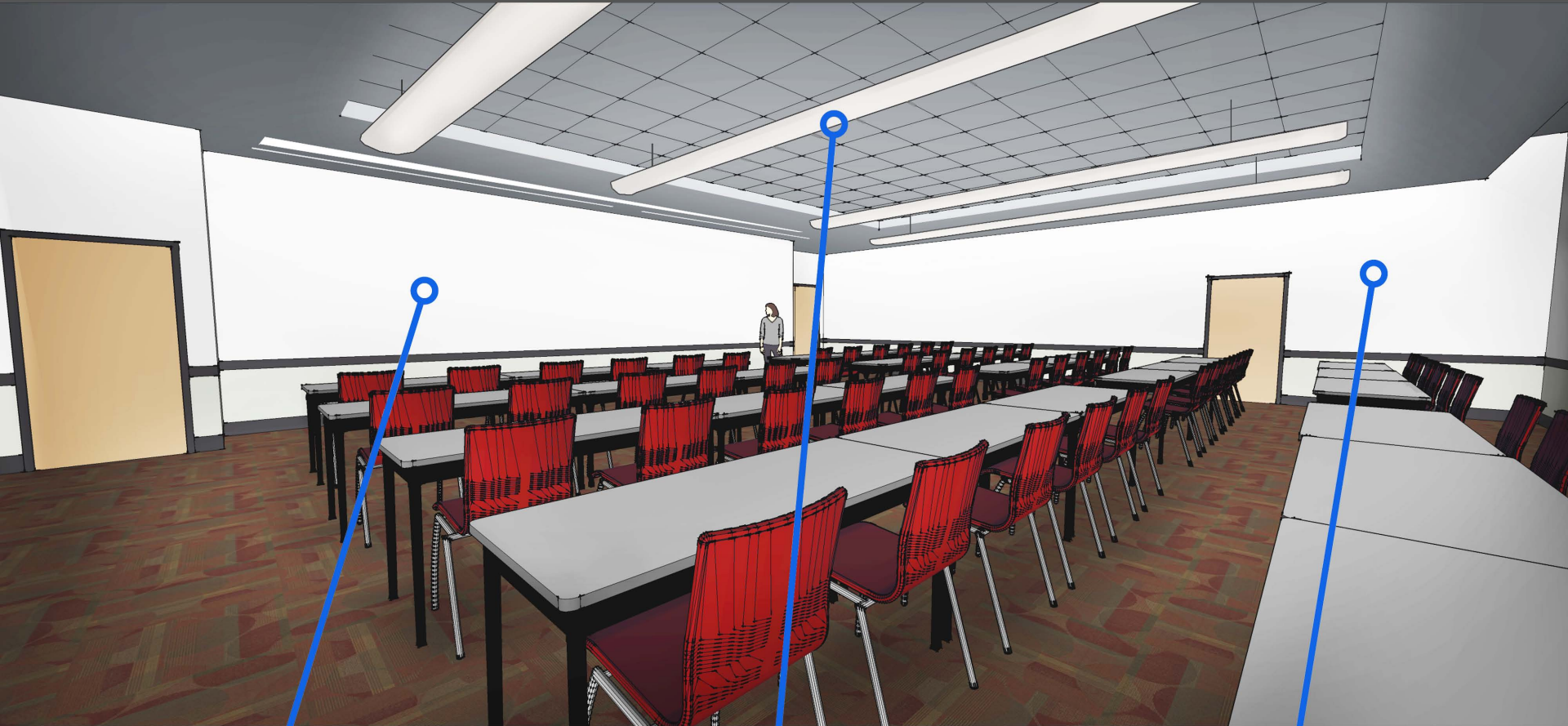
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# SEMINAR ROOM: discover education



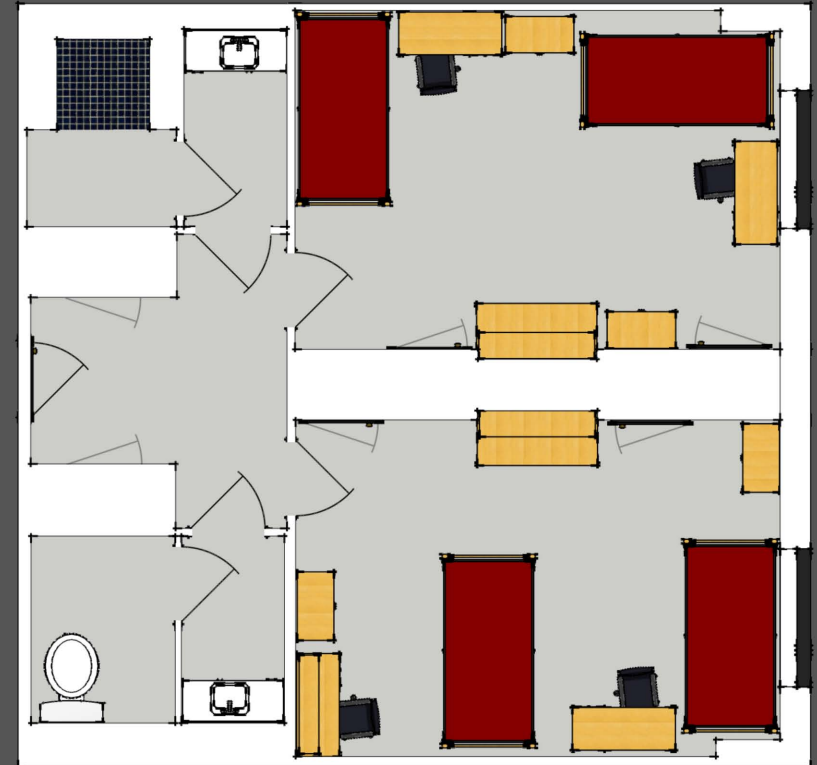
white board

general  
illumination

bright walls

# DORMITORY SUITE: design criteria

- maximize controllability
  - ◆ comfort for both roommates
  - ◆ different scenes
- minimize LPD
  - ◆ 42 dormitory suites
  - ◆ target:  $0.38 \text{ W/ft}^2$   
(ASHRAE 90.1 2010)
- consider architectural solar shading
  - ◆ east & west facing
  - ◆ flat facade on both



8' - 7" ceiling





# DORMITORY SUITE: **discovery** of social life

work light



focal point



layers of light



bright ceiling





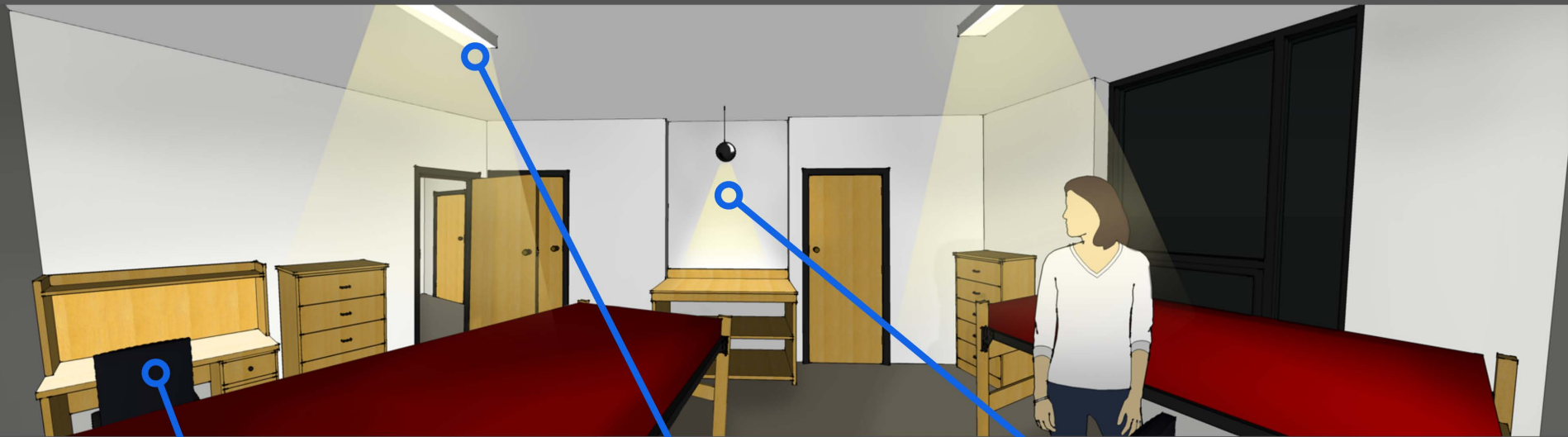
# DORMITORY SUITE: lighting equipment





# DORMITORY SUITE: schematic design

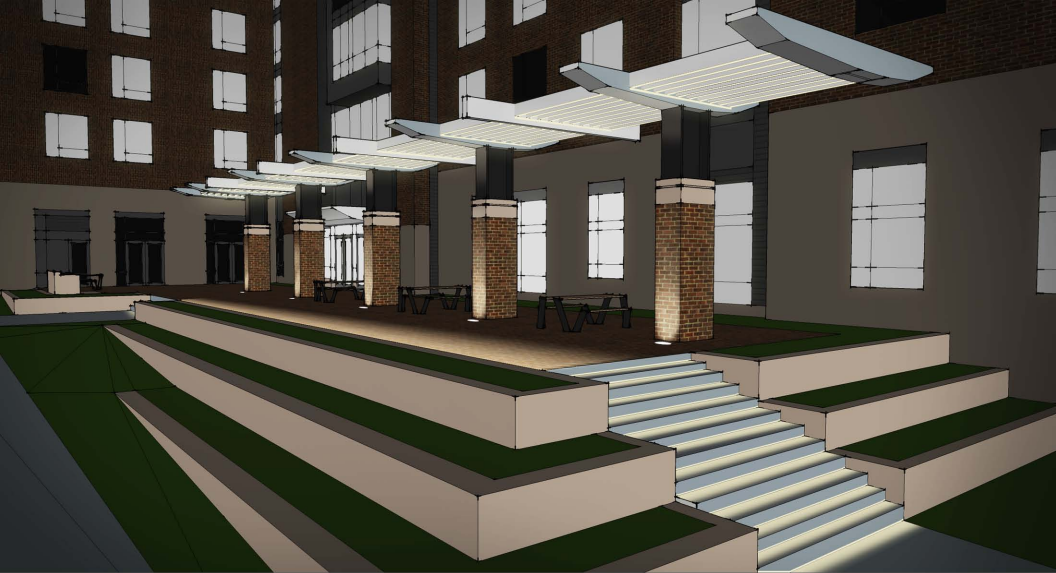
## LAYERS OF LIGHT



work

general

accent



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