5-2015

# Inspire. Empower. Live.: A design solution for the deaf and hearing-impaired

Caryn M. Brahams
*East Tennessee State University*

# Table of Contents

# Literature Review

## Defining "Deaf": An Introduction

What does it mean to be deaf? Is it simply the inability to hear? Physiologically speaking, yes, but over the course of time, deafness has created its own culture that encompasses far more than this mere definition. Elizabeth Keating and Gene Mirus, professors at the University of Texas, define it a little differently. They write, "In the American Deaf community, deafness is defined not only in physiological terms but also in cultural terms, since this group includes hearing children of deaf parents, who are thus hearing native signers" ("American Sign Language in virtual space", 2003). Gallaudet University, a leader in deaf research and innovation, echoes that deaf culture is one "built around these sensibilities and shared life experiences" ("What is DeafSpace", 2007). Deaf culture has lacked recognition for many years because of its minority classification, and deaf communities are often unintentionally ostracized from hearing communities. For instance, the invention of the telephone was a piece of technology that deaf individuals did not utilize until almost 100 years later when the TTY was created ("American Sign Language in virtual space", 2003). In the built environment, deaf and hearing-impaired individuals are even more challenged to adapt to an environment constructed for the opposite, hearing individuals ("What is DeafSpace", 2007). In an effort to address this division, schools, programs and cultural centers have been initiated all over the world to cater to deaf needs and desires, thus, establishing the division between the deaf and hearing worlds as a social issue. Examining how structural and aesthetic design can factor into these issues presents interesting solutions by innovating the way deaf and hearing-impaired individuals utilize space.

## Effect of American Sign Language (ASL)

One of the many ways to define a culture of people is by the shared language they use. For the deaf community, they are familiar with American Sign Language, or ASL. ASL is an

inaudible combination of hand and body movements that express meaning. Gallaudet University describes sign language as "a visual-kinetic mode of communication" ("What is DeafSpace", 2007). Because of this active movement to convey meaning, deaf and hearing-impaired individuals inhabit space differently from a hearing individual. Gallaudet University's publication, *A Case for SLCC Aesthetic Principles,* states, "Deaf people inhabit a highly visual world; they have a visual and spatial language and a visually-centered way of orienting within the world around them" (2005). Deaf and hearing-impaired individuals must maintain visual contact with the other person or objects they are interacting with in order to communicate with their environment effectively. Deaf culture usually spends the first part of any conversation or gathering adjusting the environment to suit their needs including arranging furniture in conversational circles and adjusting sources of natural light ("What is DeafSpace", 2007).

**"DeafSpace" Design**

"DeafSpace" is a term coined by a group of architects and students from Gallaudet University that outlines several design considerations unique to the deaf community ("What is DeafSpace", 2007). Pioneered by architect Hansel Bauman with the assistance of Gallaudet's ASL Deaf Studies Department, it is a concept that embodies how design can go beyond simply adapting buildings to deaf use, but rather pioneering an entire aesthetic which symbolizes the deaf way of being (*A Case for SLCC Aesthetic*, 2005). The concept includes considerations for sensory reach, space and proximity, mobility and proximity, light and color, and acoustics, which are all priorities to the deaf community. Gallaudet states, "Common to all of these categories are the ideas of community building, visual language, and the promotion of personal safety and well-being" ("What is DeafSpace", 2007).

The first of the considerations, that of "sensory reach", addresses spatial orientation. Since deaf people take notice of minute spatial cues like shadow movement, vibrations, and

other's expressions, they access a level of observation practically unknown to the hearing world ("What is DeafSpace", 2007). This places an emphasis on attempting to orient people in a complete circle rather than a straight line and pursuing intuitive wayfinding ("What is DeafSpace", 2007). The goal is to have a "smooth flow of space from public to shared to private spaces" without sacrificing the interest of the space visually (*A Case for SLCC Aesthetic Principles*, 2005).

"Space and proximity" and "mobility and proximity" also address spatial orientation but in reference to another person. A hearing person's "personal bubble" can be affectionately compared to a deaf person's "signing space," which is significantly larger due to the added space signer's must occupy for conversation, and that space increases as more individuals join the conversation ("What is DeafSpace", 2007). Consequently, a building's spatial dimensions should reflect this change, and equipment and furniture placement should allow for flexibility in optimizing the space for occupants ("What is DeafSpace", 2007). The same is true of signing conversations that become mobile. These conversations take up considerably more space than conversations between hearing people, so the key is to incorporate uninterrupted circulation and gathering spaces ("What is DeafSpace", 2007).

Concerning light and color, these elements should be utilized in such a way that promotes clear instruction of space and reduces eye strain ("What is DeafSpace", 2007). The best light for visual communication is soft and diffused, and it should help orientation while encouraging well-being (*A Case for SLCC Aesthetic Principles*, 2005). Use of color is mostly encouraged for wayfinding, and colors that contrast with skin tones are the most beneficial for highlighting sign language ("What is DeafSpace", 2007). All materials should make up the background for activities instead of being visually perceived as the foreground (*A Case for SLCC Aesthetic Principles*, 2005).

The last consideration in the DeafSpace concept is acoustics. This element begins to address the way "deaf individuals experience many different kinds and degrees of hearing loss" ("What is DeafSpace", 2007). For those who use devices to enhance their hearing, sound can be especially distracting and even painful ("What is DeafSpace", 2007). This is usually caused by reverberation off hard building surfaces like metal and concrete, so designs should incorporate solutions to reduce background noise and other audible distractions ("What is DeafSpace", 2007).

**Precedents**

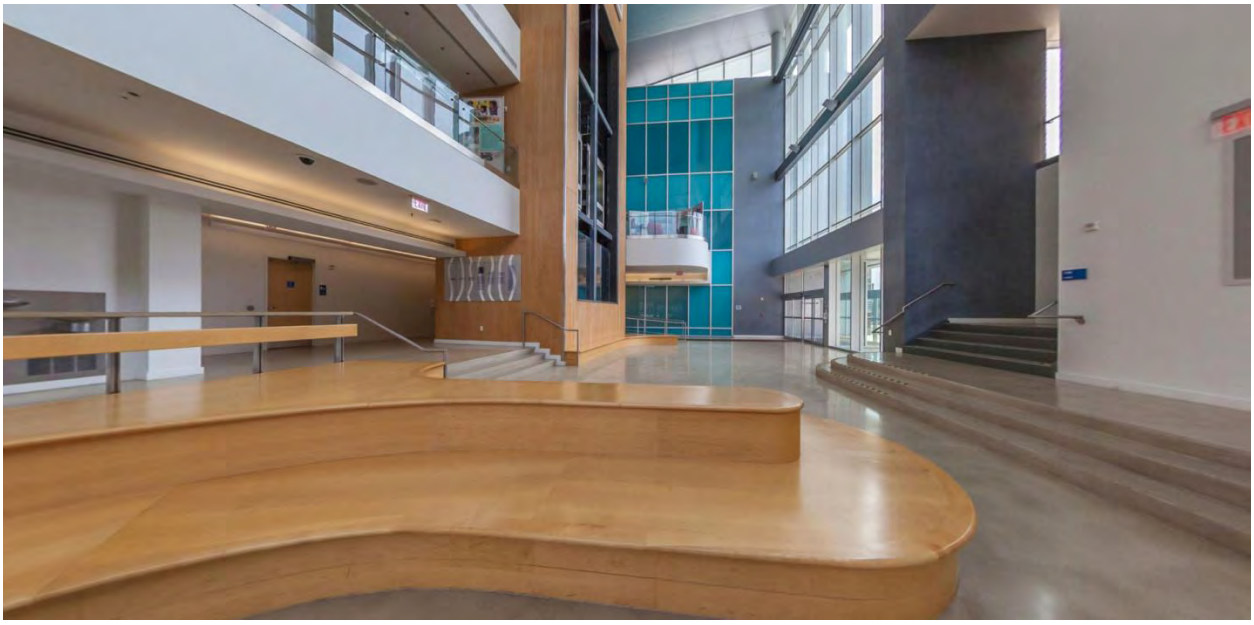
**Sorenson Language and Communication Center, Gallaudet University**

Envisioned by deaf students and faculty for deaf use, the Sorenson Language and Communication Center at Gallaudet University was conceptualized in May of 2005 (*A Case for SLCC Aesthetic Principles*, 2005). The center's concept revolves around seeking a "place of connection" within the deaf community. The group communicated that the building should foster a sense of connection to deaf individuals, openness and light, nature, and deaf history and culture. Most of all, the building integrates deaf interactions as a natural state ("Gallaudet University", 2009).

Every detail was considered in regards to how deaf and hearing-impaired people would use the building. Smithgroup JJR architects explain the building's spatial design as "splayed" to incorporate large, open areas for conversation ("Gallaudet University", 2009). These open spaces also provide direct sight lines throughout the interior to aid the visual communication used prominently by the building's occupants ("Gallaudet University", 2009).

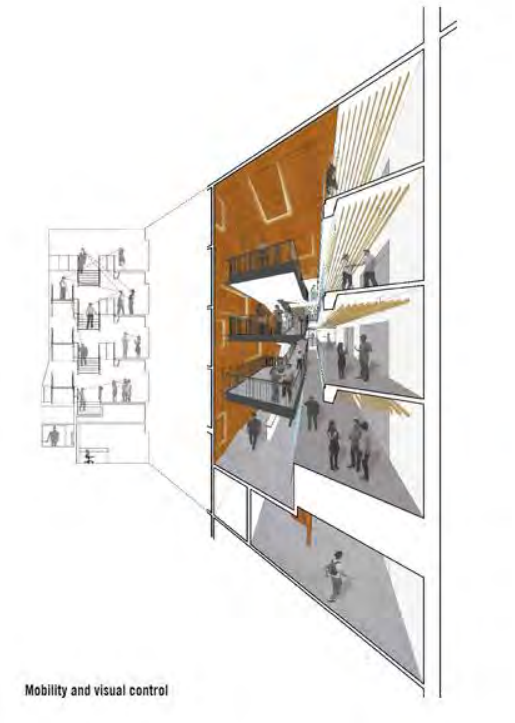
Another component that aids this is the circular architectural forms and expanses of glass materials throughout the building ("Gallaudet University", 2009). Not only does this aid communication, but it also allows the building to achieve a connection to nature through light and air to create a calming and welcoming

atmosphere. Smithgroup JJR architects also cite that the materials like zinc for the exterior of the building were chosen to reflect light in a helpful way, and other considerations like the light and shadows diagram below were explored to also maximize natural light (“Gallaudet University”, 2009).



**Living and Learning Residence Hall 6, Gallaudet University – Washington, D.C.**

The Living and Learning Residence Hall 6, LLRH6, on Gallaudet University's campus was the first of its kind to be designed using the DeafSpace standards. The five-story residence hall houses 164 residents in semi-private suites and features community oriented amenities like collaboration rooms, kitchens, a fitness room, and others. The building also features energy-efficient lighting and geo-thermal heating and cooling ("Gallaudet University Residence Hall", 2012).




In true DeafSpace form, the building incorporates multitudes of natural light and adjustable shades. The furniture remains flexible enough to

accommodate different arrangements, and color is kept to a minimum, only providing interest where truly needed. Materials offer a sense of transparency to maintain visual access from space to space and help carry light throughout the building. It even includes a “terraced living room” to facilitate large group gatherings, providing each attendant with a direct sight line to the front ("Gallaudet University Residence Hall", 2012).

.

**Central Institute for the Deaf, Washington University – St. Louis, MO**

Dr. Max Aaron Goldstein opened the Central Institute for the Deaf, CID, in 1916 with the mission to teach deaf children how to talk (*Central Institute for the Deaf*, 2014). He implemented strategies using "remnants" of hearing and used assistive devices like hearing tubes and ear trumpets, so students' progress was measured by how well they responded to new devices and strategies (*Central Institute for the Deaf*, 2014). Out of Dr. Goldstein's model, a "Language Outline" was produced, which is a model for teaching language to deaf individuals in the place of simple vocabulary. This pioneered the methods for educating deaf students (*Central Institute for the Deaf*, 2014).

The CID "Quiet School" was constructed with deaf students' educational needs in mind. The school's acoustics exceeds ASHA's recommendations, and they utilize special technologies to enhance speech (*Central Institute for the Deaf*, 2014). Also to help with this noise concern, the school was located away from the busy highway and is surrounded by natural landscaping that aids as a buffer (*Central Institute for the Deaf*, 2014).

**Deaf Cultural Centre – Birmingham, UK**

The Deaf Cultural Centre in the United Kingdom houses the Birmingham Institute for the Deaf charity offices as well as the Signing Tree Conference Centre and Café. They host a variety of events that highlight deaf art in multiple forms ("D5 Architects LLP", 2007).

The building features large expanses of glass on the façade to provide visual access and natural light to the interior ("D5 Architects LLP", 2007). The bold architecture matches the bold

statement made by the mission of the building to provide unique services to the deaf population ("D5 Architects LLP", 2007). The form resembles a "series of linked spaces" that provide maximum flexibility, and the interior boasts long open areas to lend a spacious and comfortable atmosphere ("D5 Architects LLP", 2007). Like most, color is used in a minimum here only to add interest, and it does not distract from the conversation at hand.

**Site Analysis**

The centers and structures detailed above provide a striking mix between the needs of deaf culture and possible solutions, each specific to their region and purpose. A center that addresses these needs in Johnson City, Tennessee would serve both the community and the native deaf population, as a meeting ground for both cultures.

The building's location will be located in the heart of Downtown Johnson City, Tennessee, USA in a currently vacant lot on Main Street between the Hamilton Bank building and Energy Fitness. The following Google Earth image visually represents the location. The building will assume a linear form based on the site, and views will be located on the east, opening to a small green area, and north, opening to Main Street, sides of the building. The south side of the building will open into a back alley.

Johnson City, situated in Northeast Tennessee at 1,525 feet above sea level, hosts a typically mild and temperate climate ("Johnson City", 2010). Average annual rainfall is 41 inches, and the region experiences all four seasons with varying day length ("Johnson City", 2010). The proximity to the Appalachian Mountains sometimes provides harsher winters than expected.

**Structural and Contextual Needs**

The buildings structural needs will be determined by the use of each floor. The building is constructed of brick with wooden columns, so heavy load adjustments will have to be made in certain areas. The building will need to accommodate a two-story atrium with a grand stair, causing changes to the first level ceiling and second level floor. Accommodations will also need to be made to adhere to safety and fire codes given the buildings materials. Contextual needs will address those mentioned within Gallaudet University's DeafSpace concept, including but not limited to, sensory touch, space, mobility, proximity, light, color, acoustics, etc. The building will also implore elements of Universal Design.

**Sustainable Accommodations**

The building will explore the use of sustainable strategies through space planning for flexibility, materials, finishes, and other innovative ideas. The building will be evaluated based on the LEED building analysis checklist with an emphasis placed on alternative transportation, site development, materials, sustainable lighting, and energy efficiency. Johnson City provides mass bus transportation to various sites throughout the city, one being down the street from the proposed building site. Given the visual communication used by deaf people, the design will maximize natural light in a way that is energy efficient and atmospherically pleasant. Materials will also be chosen based on longevity, recycled content, and the materials positive affect on indoor air quality.

# Design Theory Application

## Social Cognition Theory

Albert Bandura introduced the Social Learning Theory in the 1960s, which eventually became known as the Social Cognitive Theory ("The Social Cognitive Theory", 2013). The theory states, "[L]earning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behavior" ("The Social Cognitive Theory", 2013). Social Cognitive Theory, SCT, calls attention to how people acquire and maintain certain behaviors and use them in certain social environments ("The Social Cognitive Theory", 2013). According to the Boston University of Public Health, "The goal of SCT is to explain how people regulate their behavior through control and reinforcement to achieve goal-directed behavior that can be maintained over time" ("The Social Cognitive Theory", 2013).

This building designed with the deaf population in mind will provide an opportunity to facilitate the Social Cognitive Theory. By creating a space where deaf individuals can grow and regularly use their native form of communication for everyday tasks, it allows them to effectively portray a normal state of being. They encounter a space that not only accommodates their needs but encourages their way of life. Also by creating this unique space, people outside the realm of deaf culture receive exposure to it in an immersive manner. Therefore the SCT becomes double-fold because it also encourages hearing individuals to learn and maintain a new form of communication. By interacting with deaf culture on a daily basis, it can be expected that hearing individuals will pick up some of the signs and will want to retain the knowledge for future use.

# Programming Phase

## Problem Statement

Johnson City boasts a sizeable, and yet unrecognized, deaf population. In an effort to foster community enrichment and address the specific needs of the deaf population in Johnson City, the city government has proposed a community center that will be erected in the downtown area to cater to deaf individuals. The city has deemed the building to be mixed-use and requires a community theatre and conference center, a parks and recreation area, and residential living space for select deaf residents. The community theatre and conference center should be equipped to handle events both of deaf and hearing nature but should be designed with the deaf user in mind utilizing innovative technologies and other solutions. This area should inspire all who enter. The parks and recreation area should focus on merging the hearing and deaf cultures through comraedery and recreational activities, empowering both to meet their differences head-on and learn to work together. The residential floor will be solely occupied by deaf tenants, providing direct community and unique living solutions. Residential tenants will be applicable for a scholarship initiative that allows them to live and work in the building for reduced cost.

**Community Center Space Program: Main Level**

**Visitor Space:**

Reception/Lobby 2,000 s.f.

- Adequate work surface/storage for 1 receptionist
- Lounge space for 15 seated guests

Women's Restroom 160 s.f.

Men's Restroom 160 s.f.

Concessions/Café 546 s.f.

- Café tables and chairs for 10-20 guests
- Small kitchen (with oven/range, fridge/freezer, etc.)

Visual Communication Booth 150 s.f.

**Theatre Space:**

Audience Seating 900 s.f.

- Seating for 50 guests

Stage 300 s.f.

Reserve/Backstage 200 s.f.

Creative Shop 200 s.f.

- Storage for costumes, sets, etc.
- Work surface for 1 artistic director
    - Task chair
    - Telephone, electrical

Dressing Rooms 250 s.f.

- Lockers/Cubbies for 12 cast members

- Sink/vanity combo
    - electrical

| | |
|---|---|
| Women's Restroom | 80 s.f. |
| Men's Restroom | 80 s.f. |

**Administrative Space:**

| | |
|---|---|
| Director's Office | 120 s.f. |

- Work surface
- Storage
- Task/side chairs
- Data, telephone, electrical

**Support Space:**

| | |
|---|---|
| Mechanical | 50 s.f. |
| Accessory Space/Circulation | 2100 s.f. |

**Community Center Space Program: Second Level**

**Visitor Space:**

Lounge 1,200 s.f.

- Lounge seating for 10 guests
- Single person restroom

**Recreation Space:**

Game Room 600 s.f.

- Various game tables (pool, foosball, etc.)
- Storage cabinets
- Lounge seating for 10 guests

Recreation Theatre 350 s.f.

- Accommodate 12-15 guests
- Multi-media center

**Administrative Space:**

Director's Office 120 s.f.

- Work surface/storage
- Task/side chairs
- Data, telephone, electrical

Open Office 600 s.f.

- Systems work surfaces for 3 employees
- Task/side chairs
- Data, telephone, electrical

Meeting Rooms 900 s.f.

- Smart television

- Marker boards
- Conference tables/chairs
- Video/Skype capability
- Data, electrical

**Support Space:**

| | |
|---|---|
| Mechanical | 50 s.f. |
| Storage/Misc. | 300 s.f. |
| Accessory Space/Circulation | 1580 s.f. |

**Community Center Space Program: Third Level**

**Visitor Space:**

| | |
|---|---|
| Lobby/Corridor | 1,400 s.f. |

- Lounge space for 6 guests

**Residential Space:**

| | |
|---|---|
| Studio Lofts (4 @ 900 s.f.) | 3,600 s.f. |

**Support Space:**

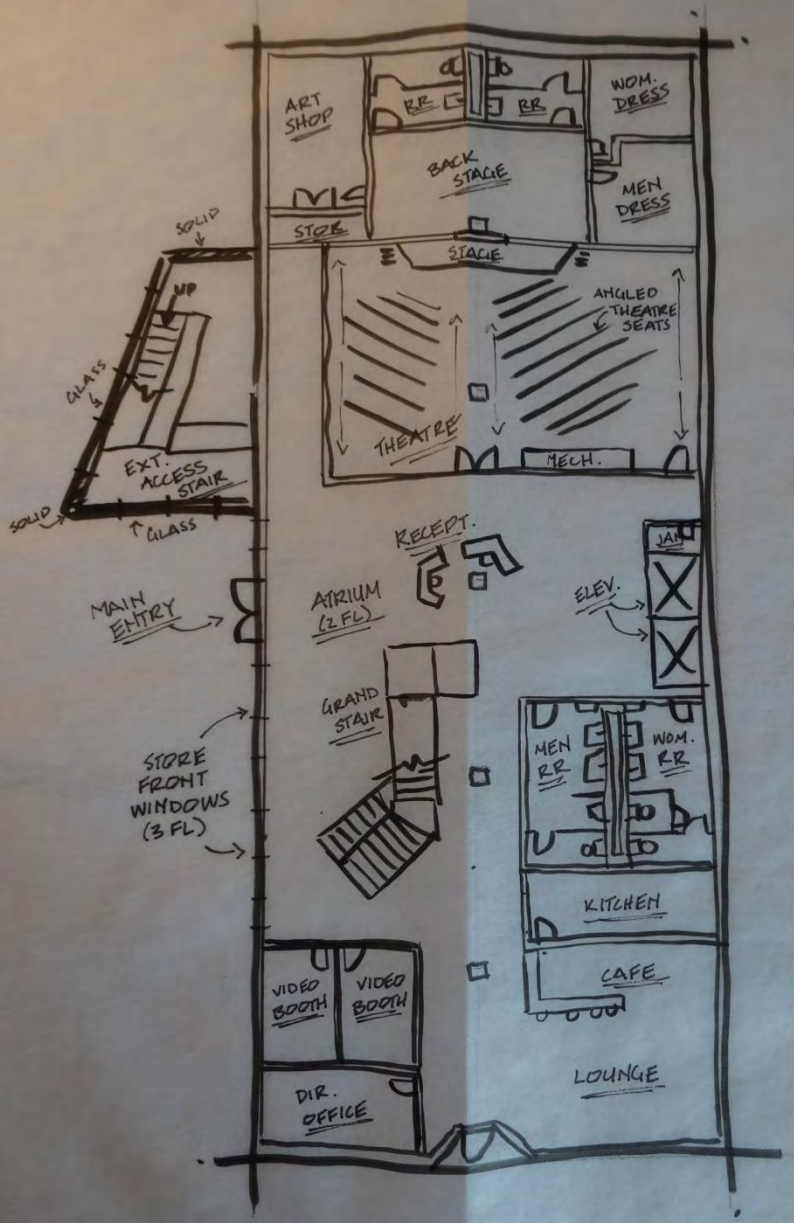
| | |
|---|---|
| Storage | 700 s.f. |

**Goals and Objectives**

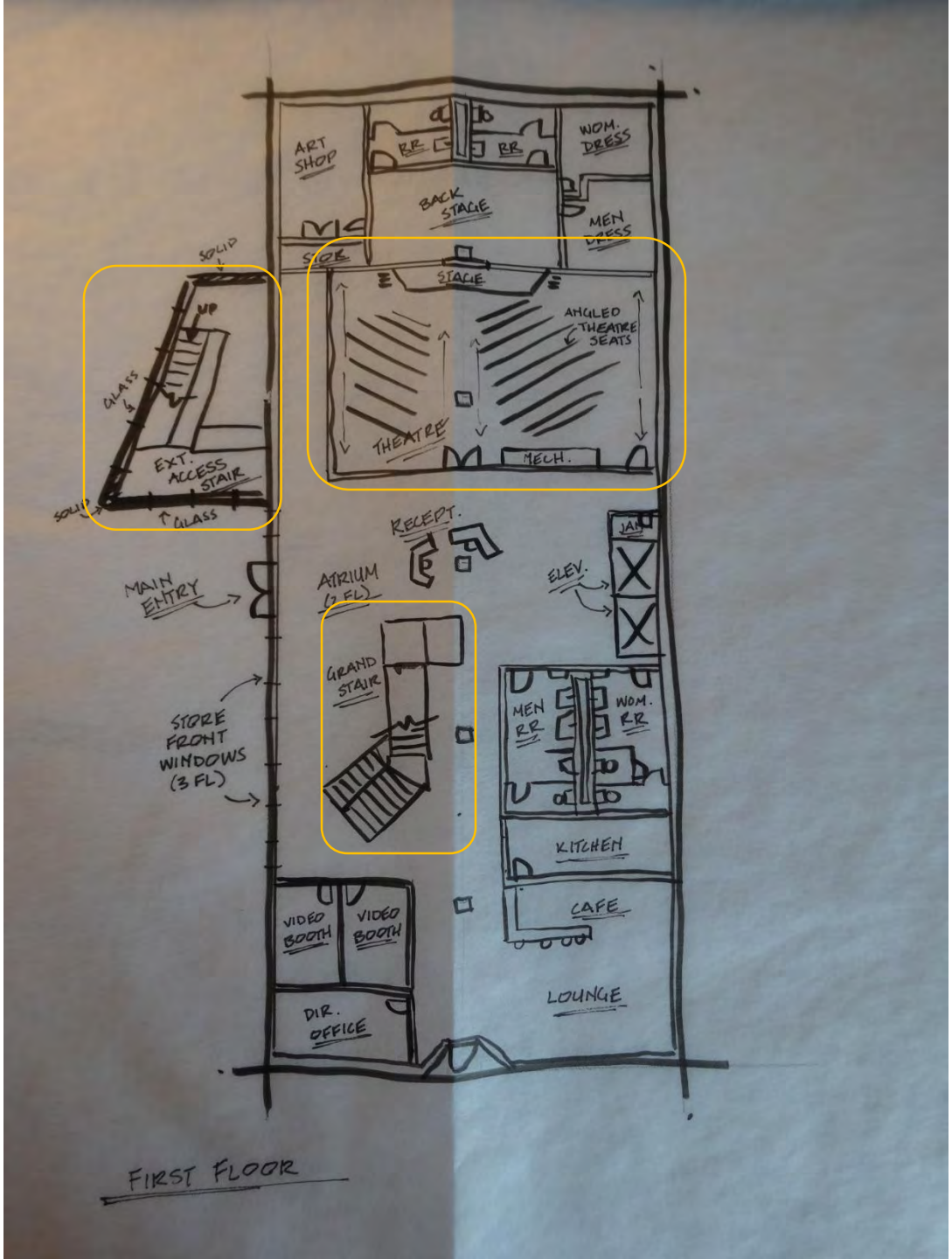
- Utilize Universal Design and DeafSpace concepts to create an intuitive environment for deaf individuals
    - Integration of technology (light/sound sensors)
    - Open space planning (barrier free)
    - Light and color theory
- Foster community and comraedery between deaf and hearing cultures
    - Activity driven spaces encourage interaction (exterior green, lobby)
    - Immersive experience
- Create a cohesive design brand that encompasses all three purposes
    - Space planning (architectural shapes and openings)
    - Light and color theory as wayfinding

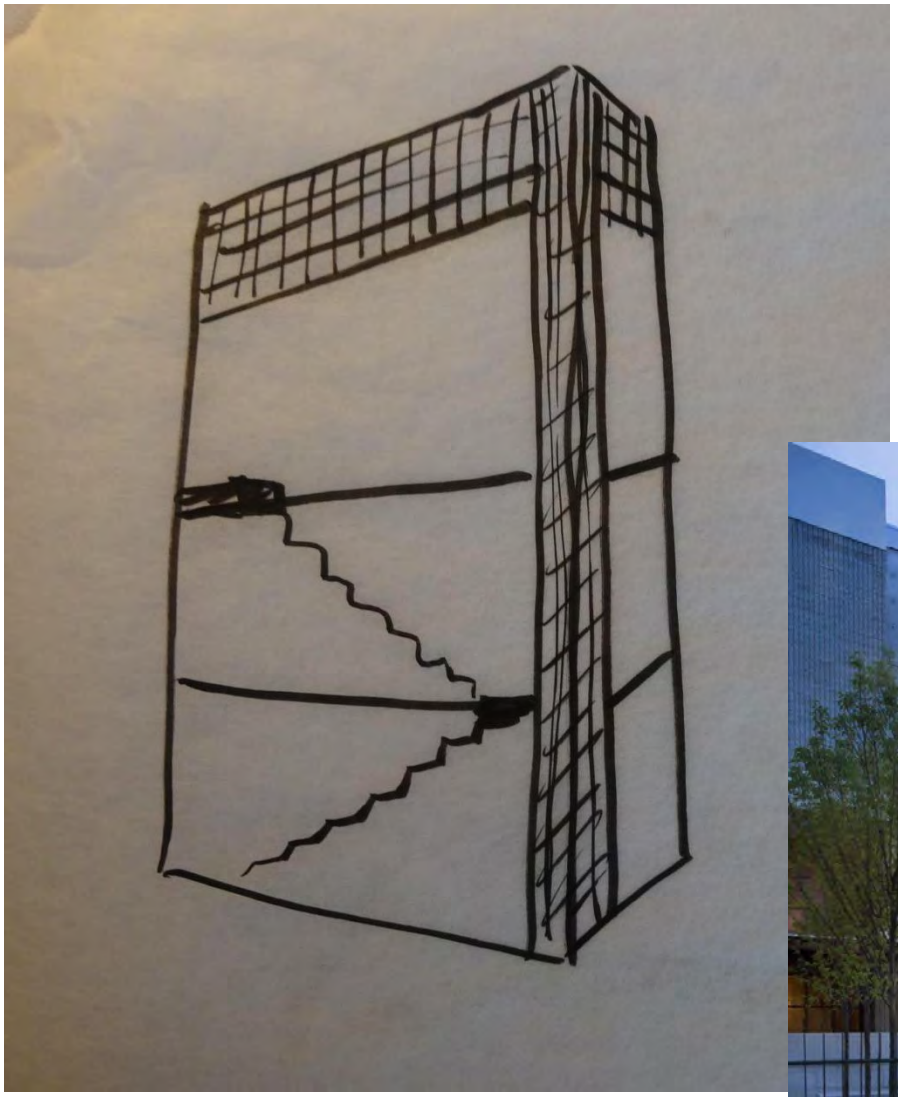
**Design Concept**

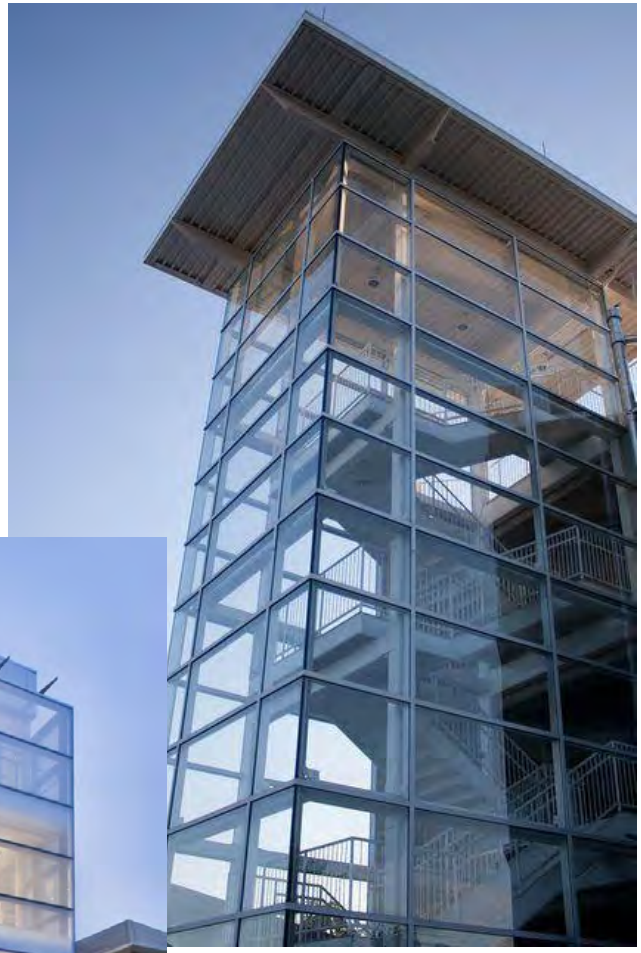
Enriching everyday lives by inspiring individuals, empowering community, and honing in on the deaf way of being.

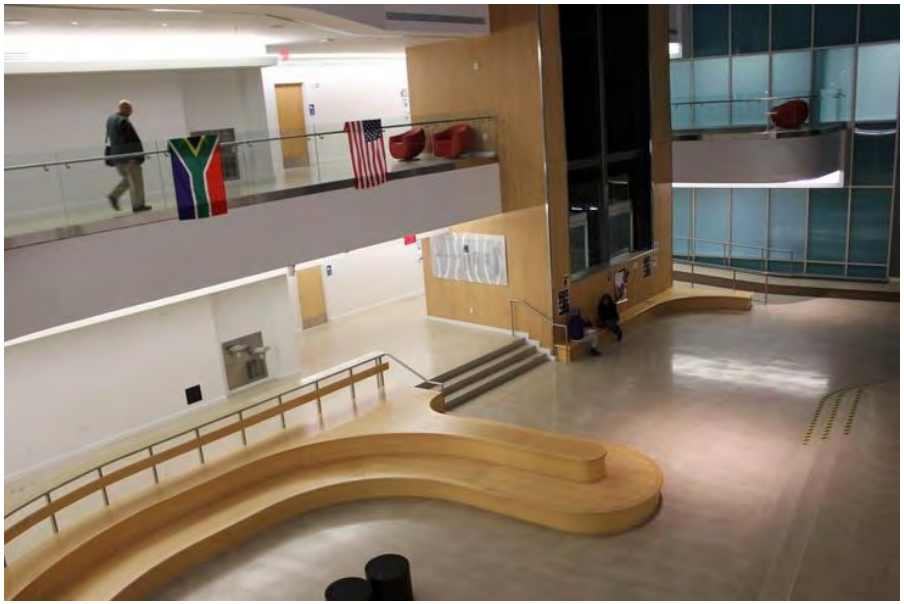

ART SHOP
RR
RR
WOM. DRESS
BACK STAGE
MEN DRESS
STOR
STAGE
SOLID
UP
GLASS
ANGLED THEATRE SEATS
THEATRE
MECH.
EXT. ACCESS STAIR
SOLID
GLASS
RECEPT.
JAN
MAIN ENTRY
ATRIUM (2 FL)
ELEV.
GRAND STAIR
STORE FRONT WINDOWS (3 FL)
MEN RR
WOM. RR
KITCHEN
CAFE
VIDEO BOOTH
VIDEO BOOTH
LOUNGE
DIR. OFFICE

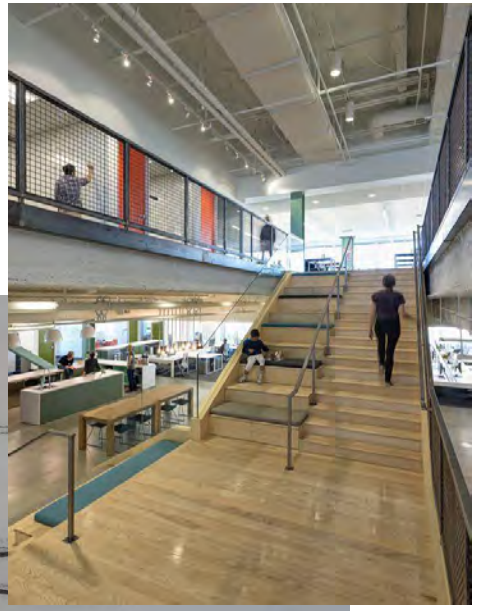
FIRST FLOOR

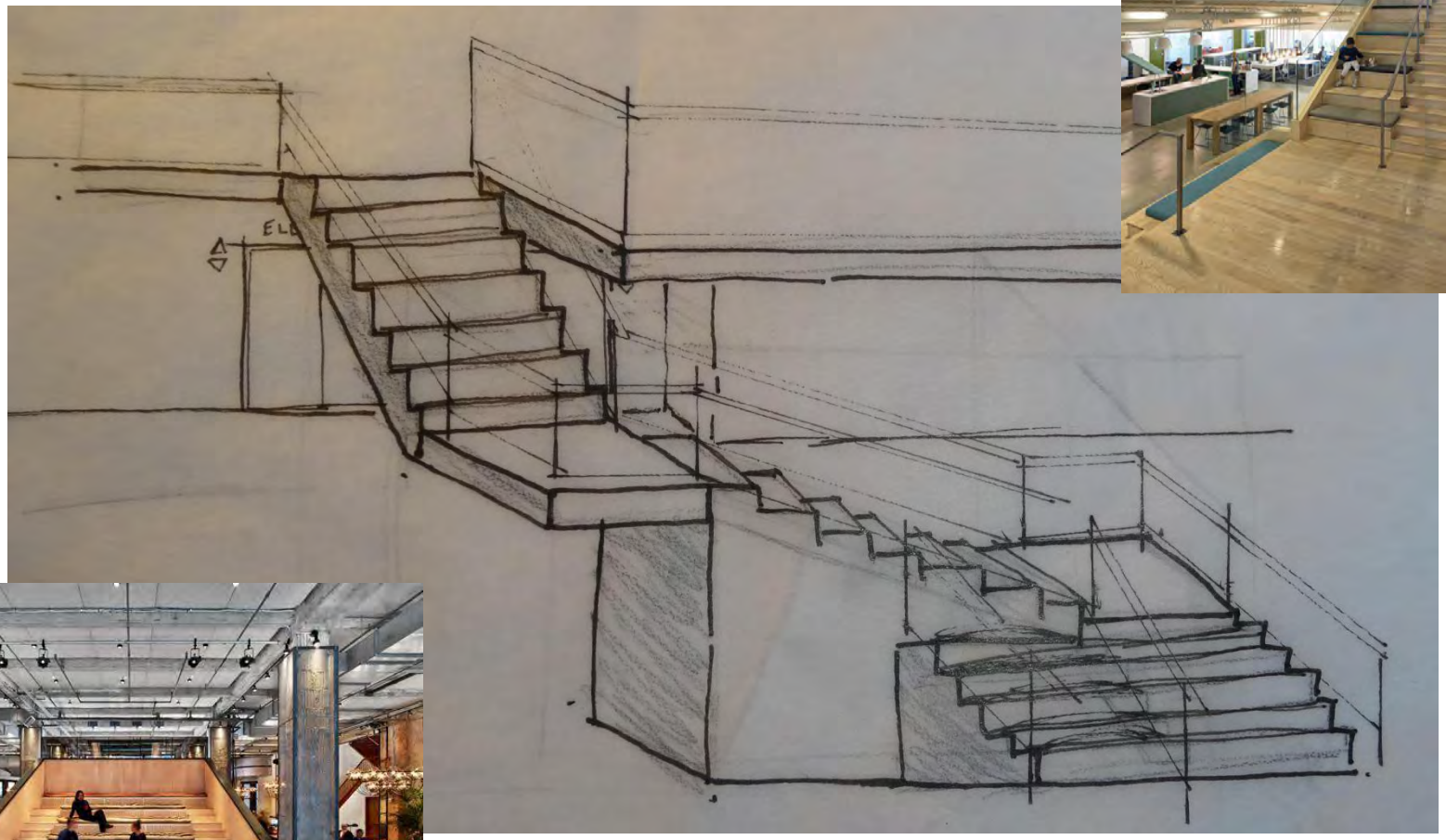

ART SHOP
RR
RR
WOM. DRESS
BACK STAGE
MEN DRESS
STOR.
STAGE
ANGLED THEATRE SEATS
THEATRE
MECH.
SOLID
UP
GLASS
EXT. ACCESS STAIR
SOLID
GLASS
RECEPT.
JAN.
MAIN ENTRY
ATRIUM (2 FL)
ELEV.
GRAND STAIR
STORE FRONT WINDOWS (3 FL)
MEN RR
WOM. RR
KITCHEN
CAFE
VIDEO BOOTH
VIDEO BOOTH
LOUNGE
DIR. OFFICE
FIRST FLOOR

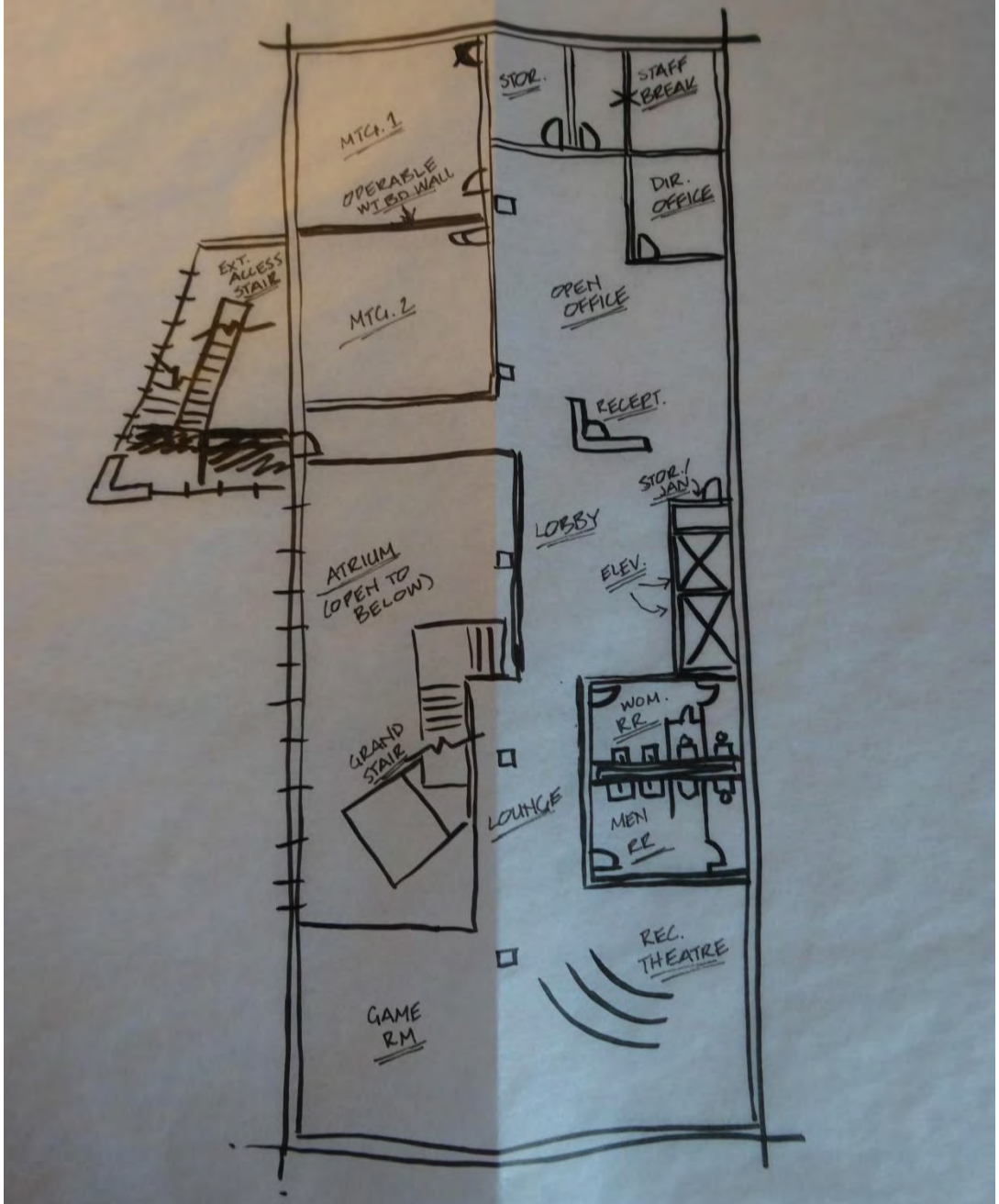


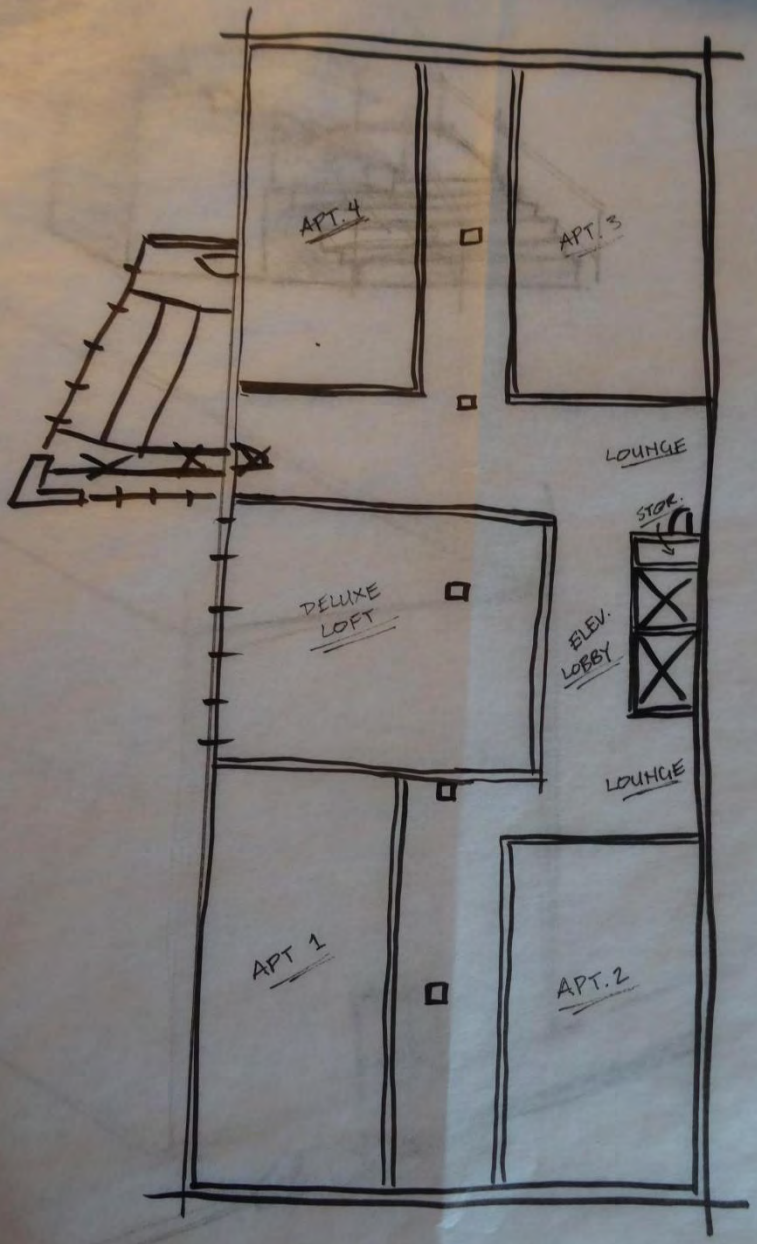


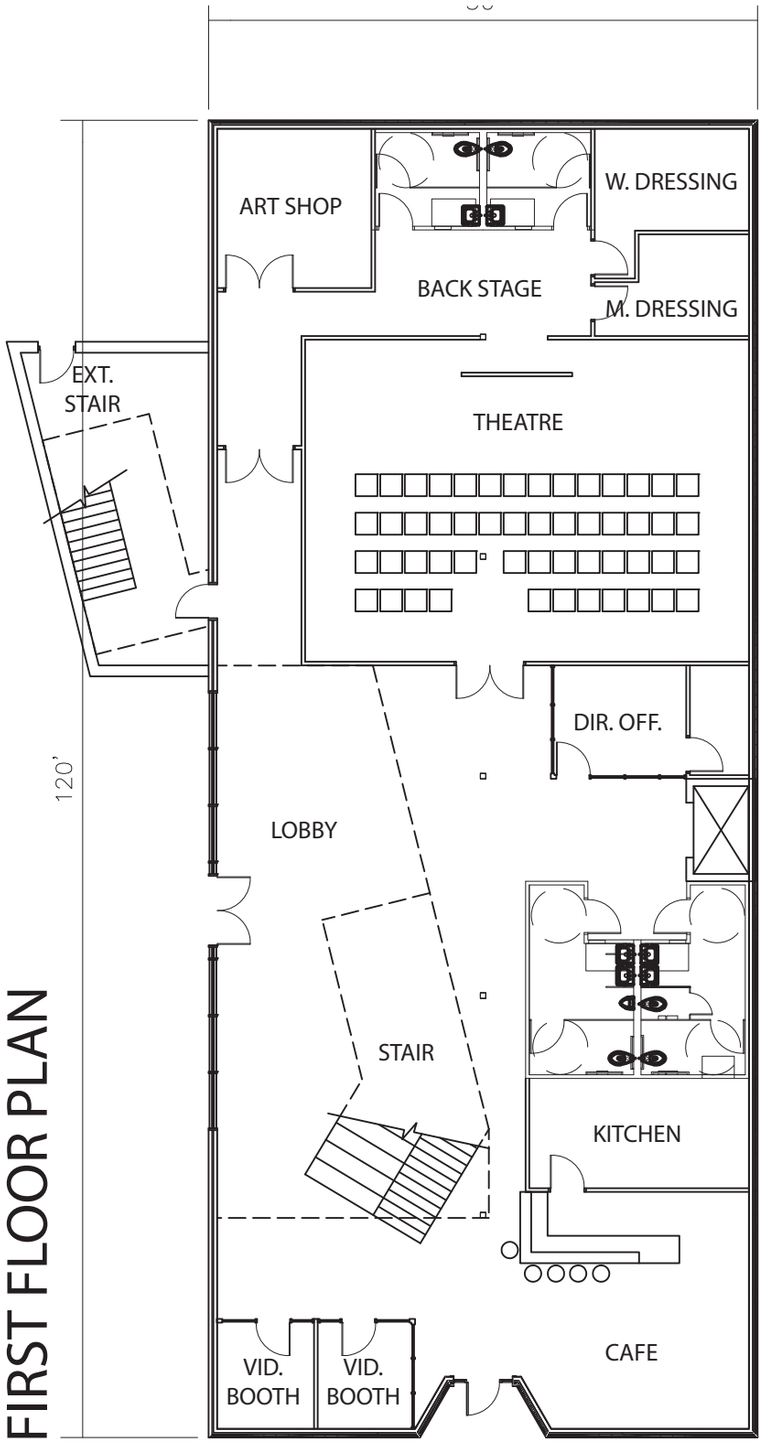




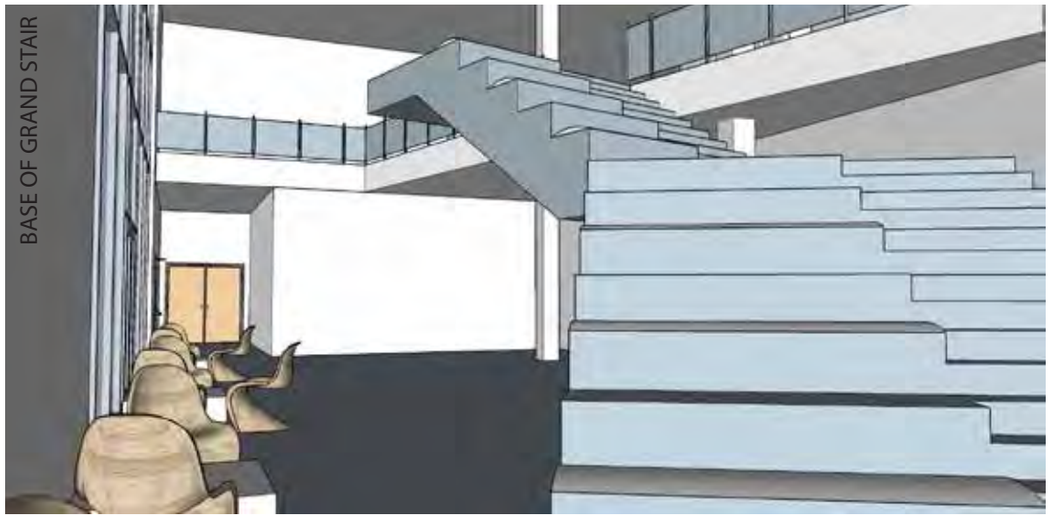



STOR.
STAFF BREAK
MTG. 1
OPERABLE W/BD WALL
DIR. OFFICE
EXT. ACCESS STAIR
MTG. 2
OPEN OFFICE
RECEPT.
STOR./ JAN.
LOBBY
ATRIUM (OPEN TO BELOW)
ELEV.
WOM. RR
GRAND STAIR
LOUNGE
MEN RR
REC. THEATRE
GAME RM

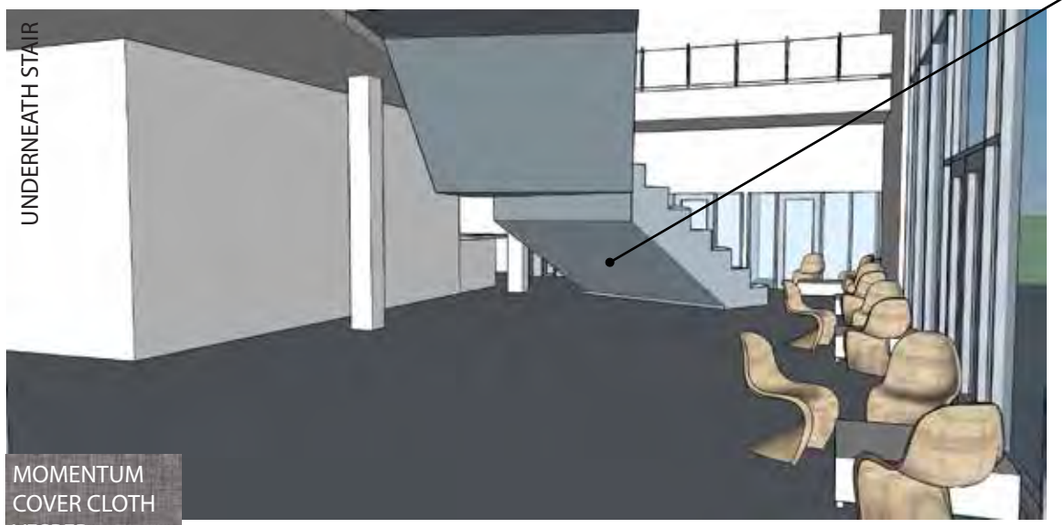

APT. 4
APT. 3
LOUNGE
STOR.
DELUXE LOFT
ELEV. LOBBY
LOUNGE
APT 1
APT. 2




FIRST FLOOR PLAN




UNDER STAIR BARRIER IDEAS




MOMENTUM
COVER CLOTH
VESPER

MOMENTUM
COVER CLOTH
ANTIQUE

MOMENTUM
TACTIC
BRUN

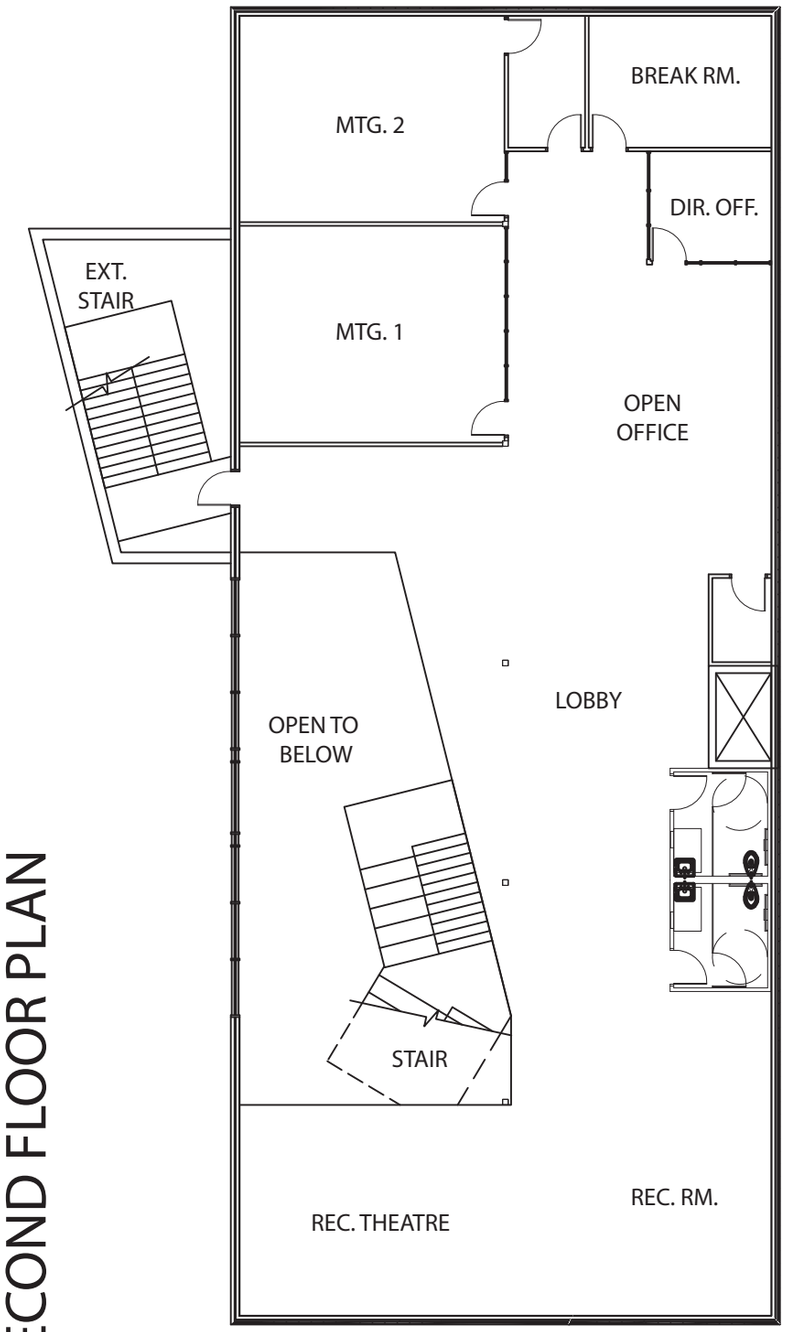
DAUPHIN
PERILLO CHAIR

DAUPHIN
4+ CHAIR

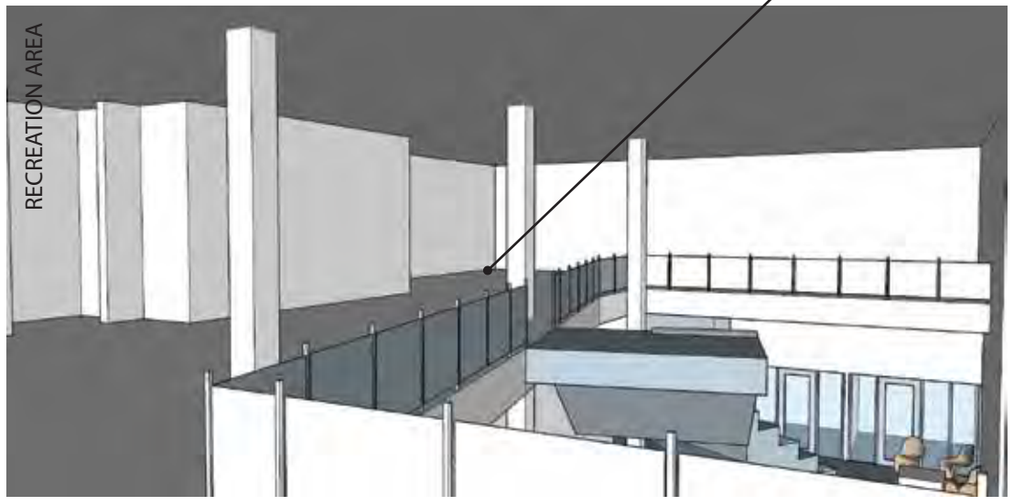
3FORM
ECORESIN
HINT MEADOW

REFINISH EXISTING FLOOR

# SECOND FLOOR PLAN







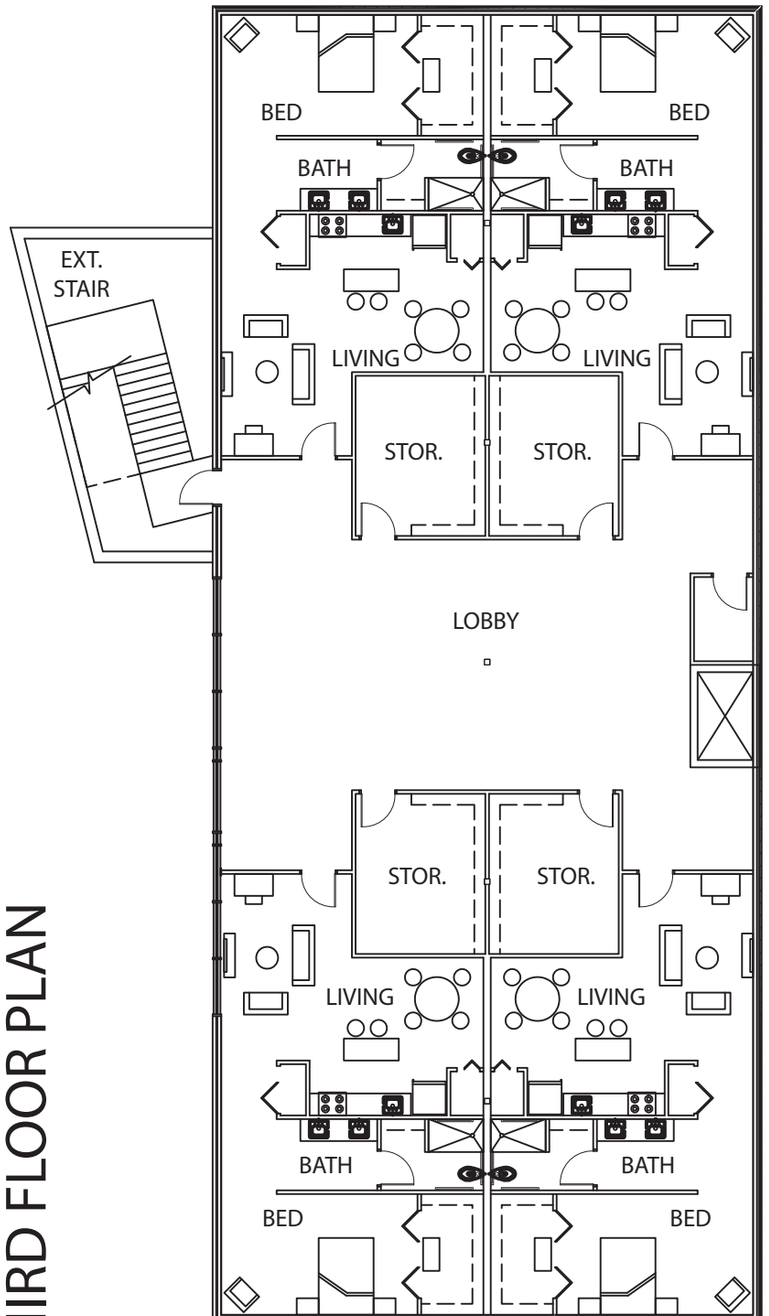

REC. RM. IDEAS

NIENKAMPER
CLOUD

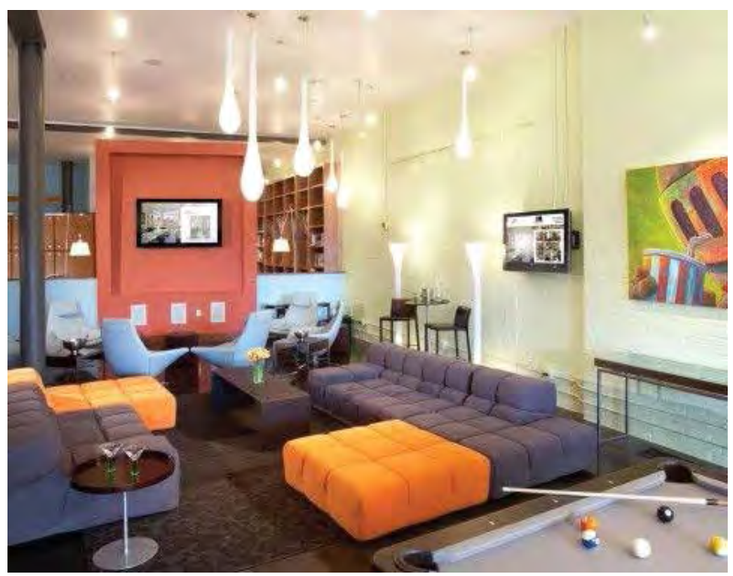
NIENKAMPER
GRAINGER CHAIR


REC. THEATRE PRIVACY GLASS
GLAS-PRO

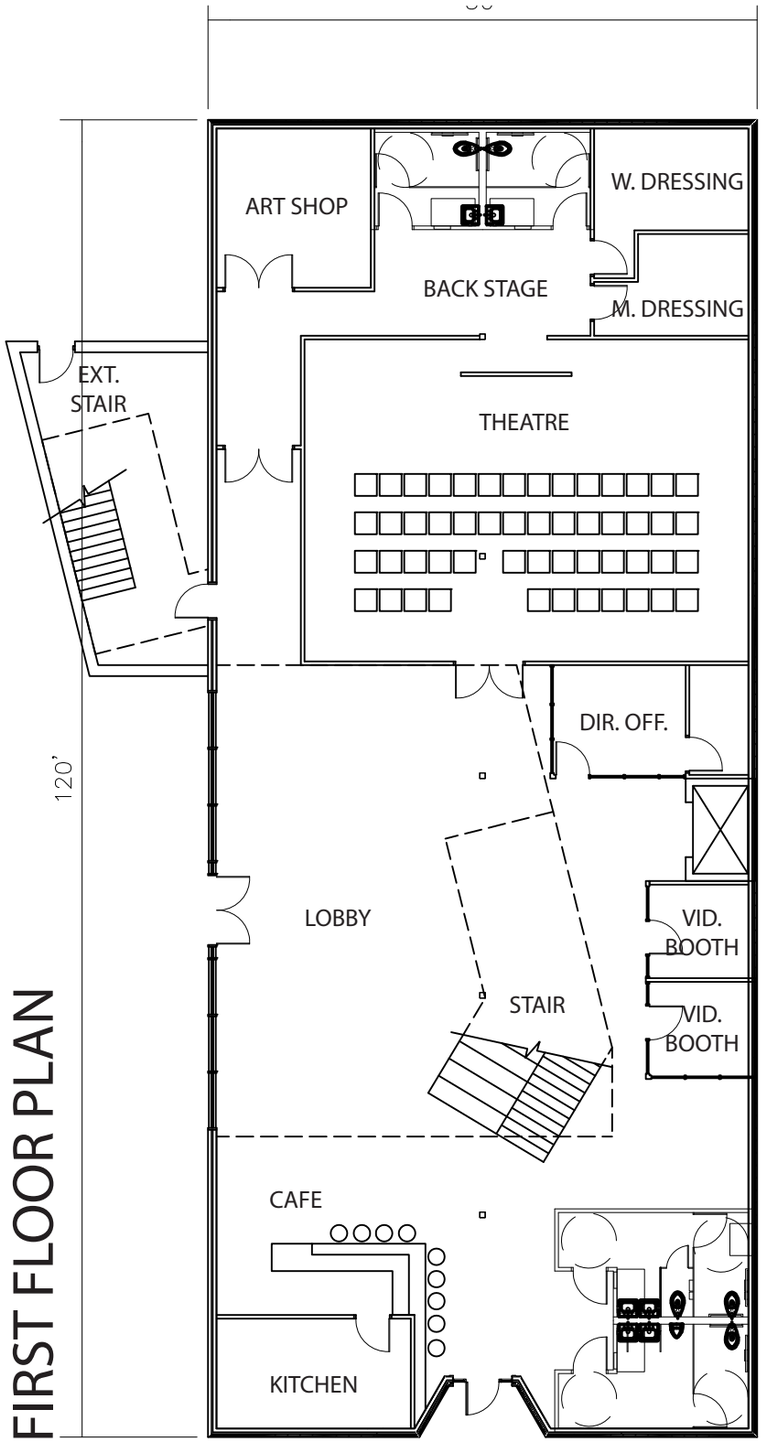
# THIRD FLOOR PLAN



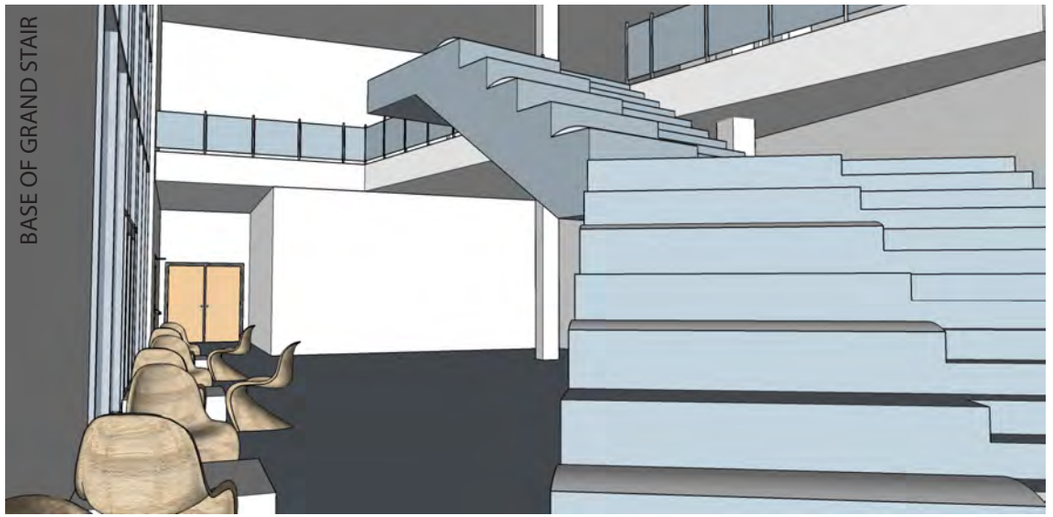




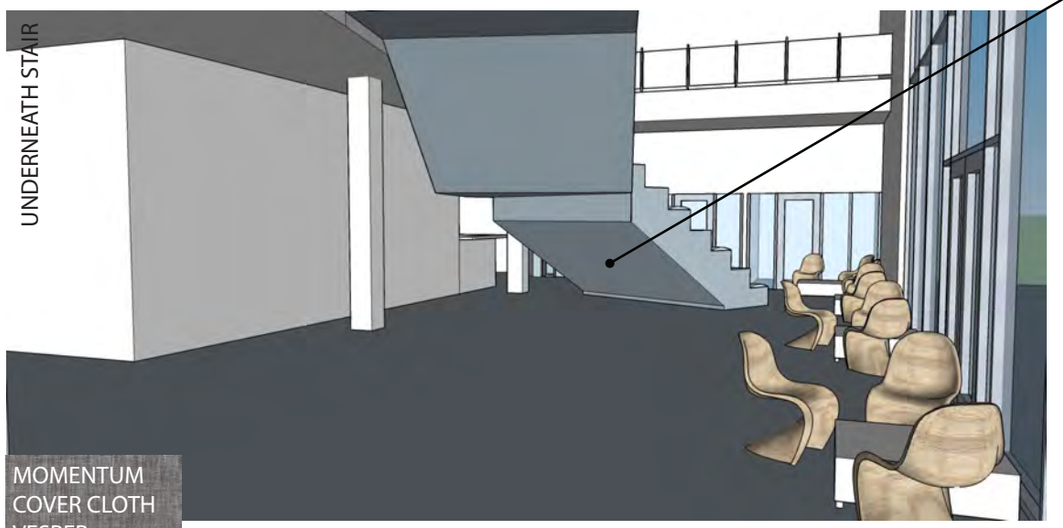
LOFT INTERIOR AND LOBBY IDEAS




FIRST FLOOR PLAN




UNDER STAIR BARRIER IDEAS




MOMENTUM
COVER CLOTH
VESPER

MOMENTUM
COVER CLOTH
ANTIQUE

MOMENTUM
TACTIC
BRUN

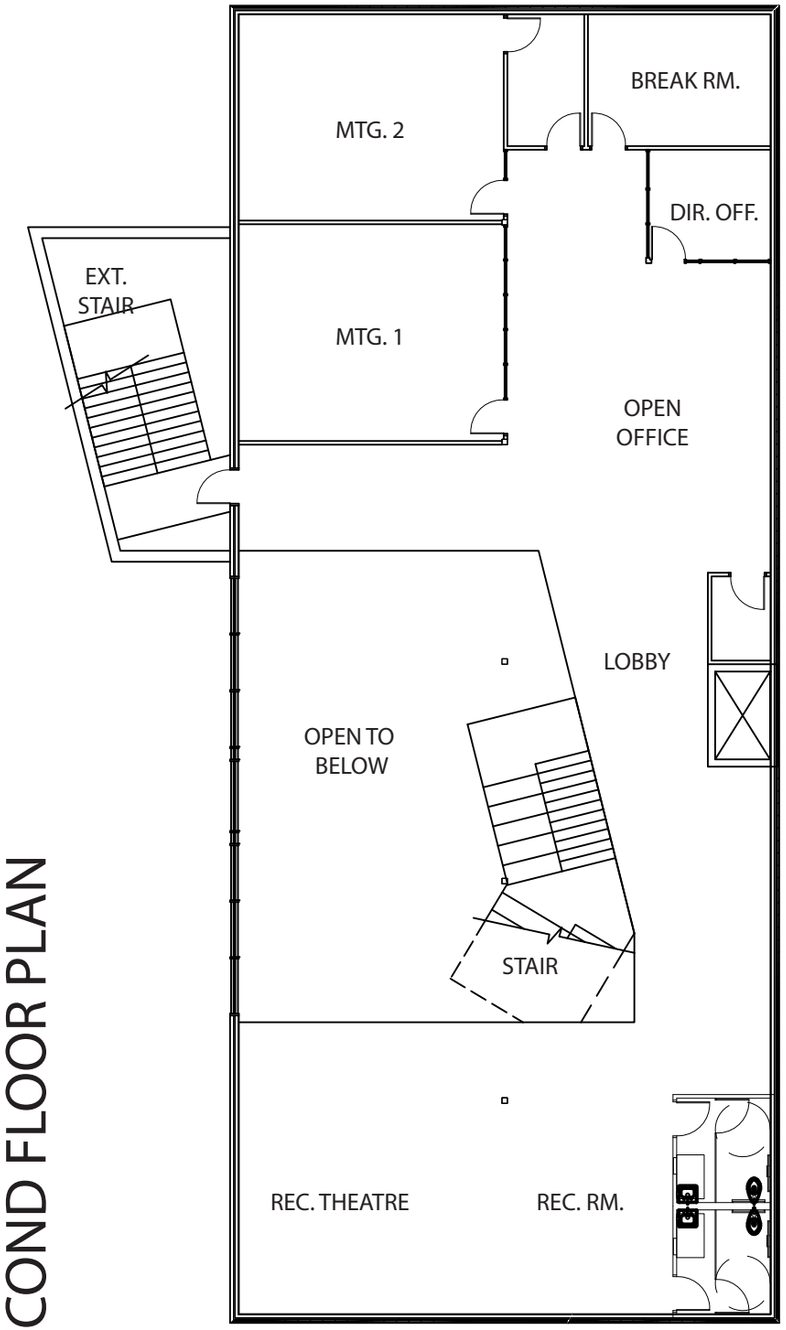
DAUPHIN
PERILLO CHAIR

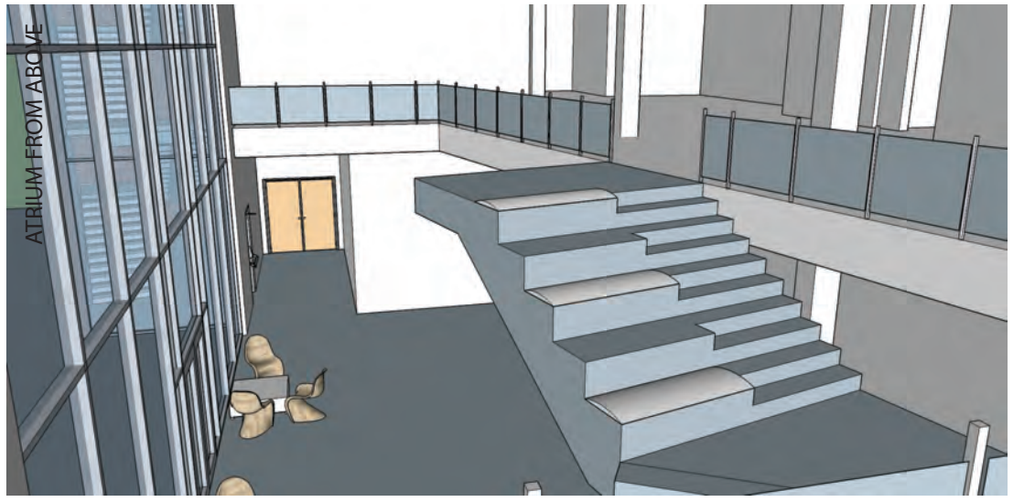
DAUPHIN
4+ CHAIR

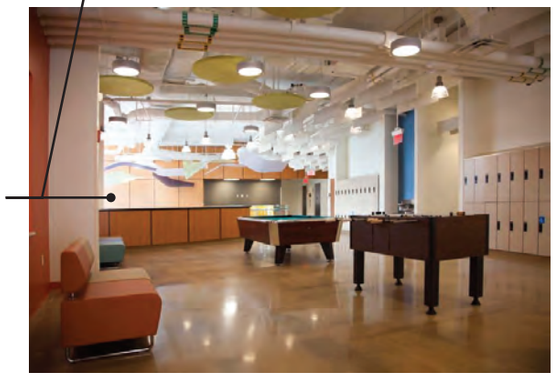
3FORM
ECORESIN
HINT MEADOW

REFINISH EXISTING FLOOR

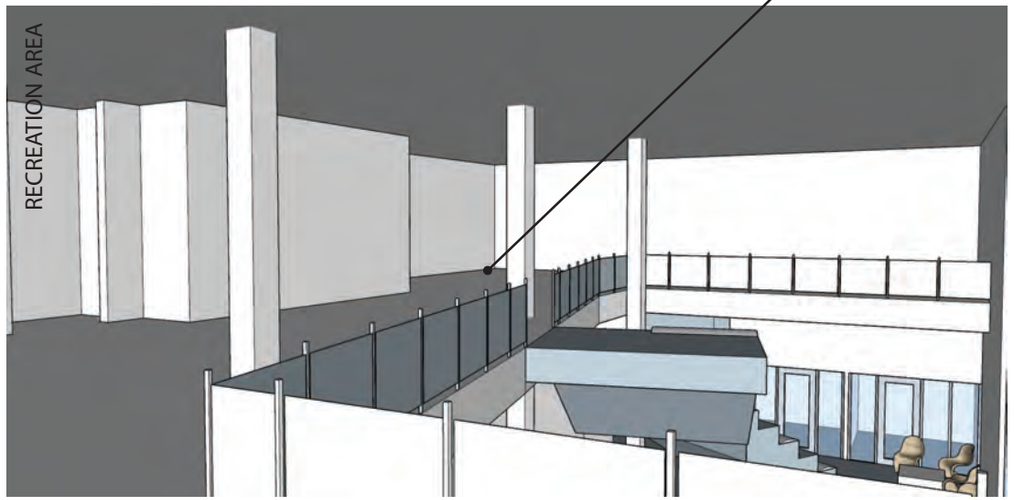
# SECOND FLOOR PLAN

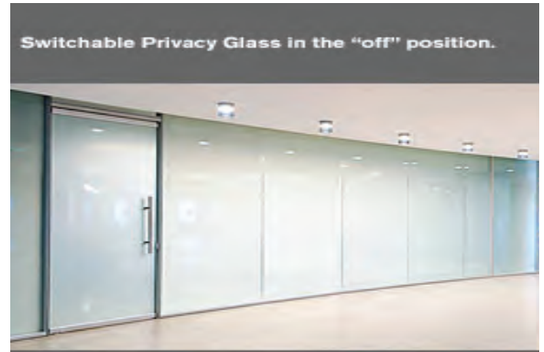


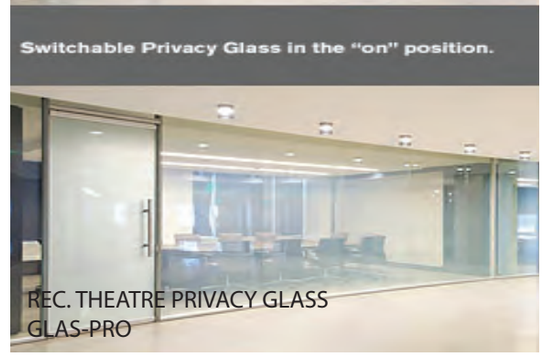



REC. RM. IDEAS



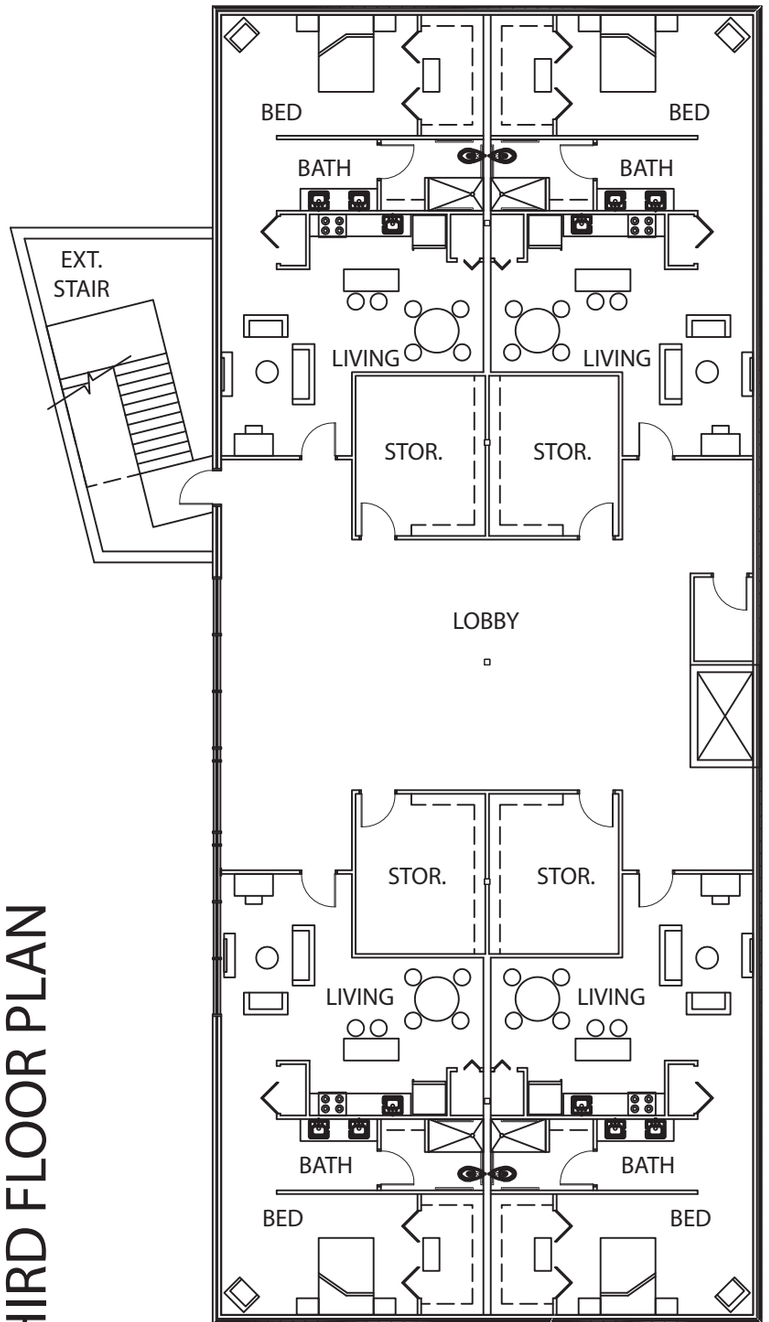




REC. THEATRE PRIVACY GLASS
GLAS-PRO

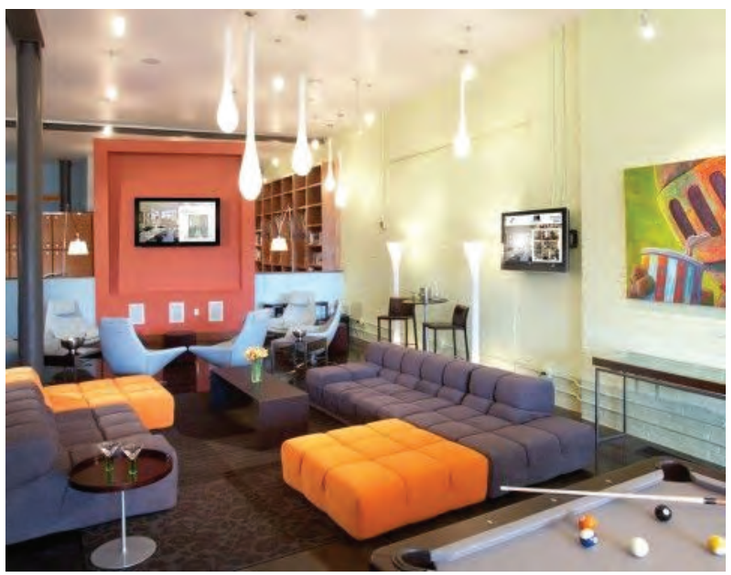
NIENKAMPER
CLOUD

NIENKAMPER
GRAINGER CHAIR

# THIRD FLOOR PLAN







LOFT INTERIOR AND LOBBY IDEAS

# Design Development Phase

## Expanded Concept

Each floor of the community center will embody one of the three conceptual verbs: inspire, empower, and live. The first floor will *inspire* individuals through the incorporation of a community theatre space where visitors can attend a variety of events focused on visual arts and communication. This floor will also integrate technology and other inclusive spaces that will instigate communication between all. Color and light will be used to create a light and uplifting atmosphere, as well. The second floor will *empower* hearing and deaf individuals alike to be involved in community with one another through various parks and recreation activities, including access to a game room and other organized opportunities. The final floor will provide unique *living* solutions for deaf individuals. Specifically catered to deaf and hearing-impaired needs, these tech-intensive units will ease inhibitions to daily living activities.

## Solution Statement

From the street, the IEL Center makes a bold and enticing statement with the addition of a glass enclosed exterior stair. Backlit panels will be used on the rear wall of the stair corridor to create a dynamic art piece that draws people into the courtyard and encourages movement. The angle of the glass enclosed space sets the tone for the open and splayed architecture throughout the building. As guests enter the IEL Center on the first floor, they experience the first dose of this architectural set up. The angle from the exterior stair is repeated on the interior stair to enhance visual interest and sensory reach. Color creates intuitive wayfinding by signifying public landmarks with blue and semi-private spaces with orange and semi-permeable barriers such as GlasPro Switchable Privacy Glass and floating wood sculptural pieces under the stairs and above the cafe. The complementary color scheme also contrasts with skin tone for effective visual communication. Natural light is maximized by the exterior curtain wall and paired with

soft diffused lighting to enhance this as well. The furniture from Vitra is flexible and incorporated in order to achieve uninterrupted circulation paths supporting the DeafSpace relationship of space, proximity, and mobility. Gathering spaces at the café and on the stairs foster interaction between the deaf and hearing communities. The incorporation of technology in the video messaging booths also encourage communication throughout the region. Materials were selected to provide pattern and contrast in key background areas such as the stair railing, flooring, and case work without distracting from the foreground of the space. These materials also reflect a "softness" that reduces reverberation and improves acoustics in tandem with a building-wide white noise generator. In the community theatre, acoustics are emphasized with the use of architectural elements and ceiling and wall panels from Armstrong. By creating a soffit and acoustically sound stage, reverberation and reflection of sound are minimized to create a pleasing and comfortable environment for all users, deaf and hearing alike. The soffit also allows the theatrical equipment to be hidden within the ceiling creating a polished appearance within the space. The panel solutions provide interest and contrast by installing them on an angle, which creates visual rhythm in the theatre. The panels also provide intriguing lighting solutions through the dichotomy between light and shadow.

As guests continue to the second floor, they will encounter a recreational space meant for activity driven gatherings. The game room and recreational theatre can host events such as game nights with board and table games, television and movie marathons, etc. The open plan reigns again to enforce visual access throughout the building including the glass walls at the recreation office, which will be responsible for organizing various events for the community. The two meeting rooms on the second floor will incorporate Skype and muti-media to promote lectures, business meetings, or private gatherings.

The third floor is the only floor reserved specifically for deaf and hearing-impaired in habitants for full-time residency. These equal and mirrored 900 square foot units include an attached storage space and multiple integrated technologies. These accommodations include a bed-vibrating alarm system, light-pulsing doorbell and telephone, and visual messaging synced with the television. The inhabitants of this floor will be eligible for a "live-and-work" scholarship, which would allow them to live on the third floor of the IEL Center for free and work within it for a standardized stipend. This idea will drive the application of the Social Cognition Theory the building hopes to embody by creating an immersive experience where deaf and hearing-impaired individuals are empowered to interact socially and professionally with hearing individuals.

# Specification List

| Material | Manufacturer | Pattern | Color | Location | Total Area of coverage | Quantity | Unit Price | Total Material Cost | Installation Unit Price | Total Insallation Cost | Total costs (Material & Installation) | Installation Method | Maintenance | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| **Floor** | | | | | | | | | | | | | | |
| | Existing | Existing | Medium Oak | General, UNO | 4502 sq ft | | | | | | | Existing | | |
| | Mannington | Circ | Travertine | Theatre | 1186 sq ft | | | | | | | Full Spread Adhesive | | |
| | Mondo | Advance | Black | Theatre Stage | 256 sq ft | | | | | | | Full Spread Adhesive | | |
| **Base** | | | | | | | | | | | | | | |
| | Johnsonite | 129 | Silk | General, UNO | | | | | | | | | | |
| **Wall** | | | | | | | | | | | | | | |
| | Sherwin Williams | | SW 6642 - Rhumba Orange | Lobby accent | 156 sq ft | | | | | | | | | Egg Shell |
| | Sherwin Williams | | SW 7698 - Straw Harvest | General, UNO | | | | | | | | | | Egg Shell |
| | Sherwin Williams | | SW 6214 - Underseas | Café accent | 384 sq ft | | | | | | | | | Egg Shell |
| | Sherwin Williams | | SW 6257 - Gibraltar | Theatre accent | 708 sq ft | | | | | | | | | Egg Shell |
| | Armstrong | Soundshapes | Dark Cherry | N Theatre Wall | 208 sq ft | | | | | | | | | |
| | Armstrong | Soundsoak | Bone | Theatre Wall, UNO | 480 sq ft | | | | | | | | | |
| **Ceiling** | | | | | | | | | | | | | | |
| | Armstrong | Soundshapes | Dark Cherry | Theatre Cove Ceiling | 364 sq ft | | | | | | | | | |
| | Armstrong | Woodworks Grille | Light Cherry | Café | 144 sq ft | | | | | | | | | |
| **Furniture** | | | | | | | | | | | | | | |
| | Vitra | Zeb Stool | Wood | Café | | | | | | | | | | |
| | Vitra | Flower Bench | White | Lobby | | | | | | | | | | |
| | Vitra | Panton Chair | Ice Gray | Lobby | | | | | | | | | | |
| | KI | Lancaster Seating | Wonderwheel Mambo | Theatre | | | | | | | | | | |
| | Herman Miller | Aeron Chair | Black | Lobby | | | | | | | | | | |
| | Herman Miller | Setu Task Chair | Blue | Lobby | | | | | | | | | | |
| **Lighting** | | | | | | | | | | | | | | |
| | Corbett | Vertigo Sconce | Bronze | Theatre | | | | | | | | | | |
| | Home Décor Coll. | Paxton Pendant | Black | Café | | | | | | | | | | |
| | Halo | 6" Recessed LED Downlight | White | Lobby/Theatre | | | | | | | | | | |
| | Halo | 6" LED Gimbal Downlight | White | Café | | | | | | | | | | |
| | Neo-Ray | 2'x2' Fenestra Recessed Linear Downlight | White | Café | | | | | | | | | | |
| | Strand | Acclaim Axial Mark II Zoomspot | Black | Theatre | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

# IEL CENTER





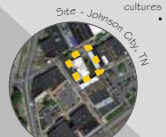
Inspiration

Enriching everyday lives by **INSPIRING** individuals, **EMPOWERING** community, and honing in on the **DEAF WAY OF BEING.**

Each floor of the community center will embody one of the three conceptual verbs: inspire, empower, and live. The first floor will inspire individuals through the incorporation of a community theatre space where visitors can attend a variety of events focused on visual arts and communication. This floor will also integrate technology and other inclusive spaces that will instigate communication between all. Color and light will be used to create a light and uplifting atmosphere, as well. The second floor will empower hearing and deaf individuals alike to be involved in community with one another through various parks and recreation activities, including access to a game room and other organized opportunities. The final floor will provide unique living solutions for deaf individuals. Specifically catered to deaf and hearing-impaired needs, these tech-intensive units will ease inhibitions to daily living activities.

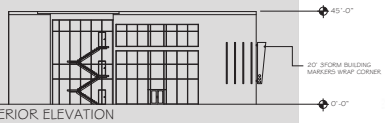
**Goals:**

- Utilize Universal Design and DeafSpace concepts to create an intuitive environment for deaf individuals
  - Foster community and comraedery between deaf and hearing cultures
- Create a cohesive design brand that encompasses all three purposes


Site - Johnson City, TN

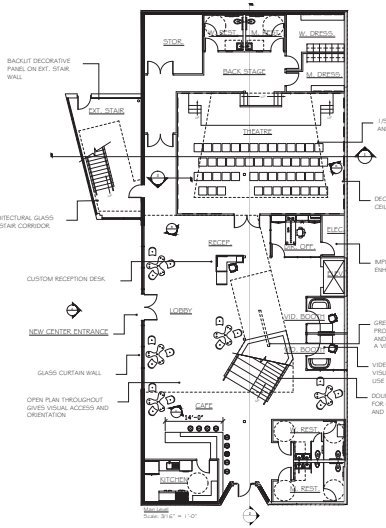

Existing Building


Context - Main Street

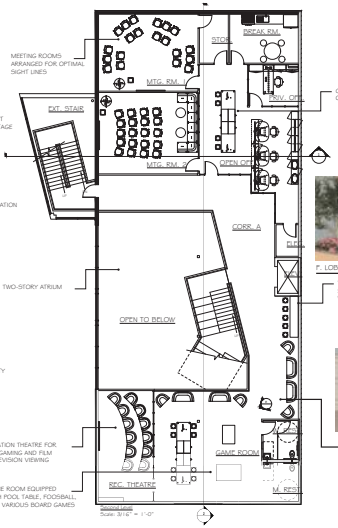


A. EXTERIOR ELEVATION

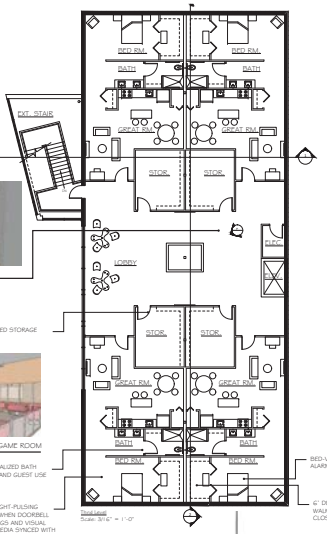
## INSPIRE.




## EMPOWER.

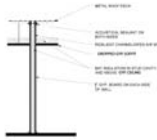



## LIVE.



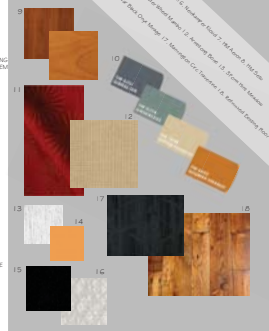

1. BUILDING SECTION

2. BUILDING SECTION


3. ACOUSTIC WALL SECTION


**LEED v4 ID+C**

| | |
|---|---|
| IDc: Innovation in Design | 5 |
| IDc: Pilot Credit | 1 |
| IDc: Integrative Process | 1 |
| LT: Access to Nature | 1 |
| LT: Surrounding Density and Diverse Uses | 5 |
| LT: Reduced Parking Footprint | 1 |
| WE: Water Use Reduction | 4 |
| SS: Rainwater Management | 3 |
| SS: Heat Island Reduction | 2 |
| SS: Light Pollution Reduction | 1 |
| EA: Optimize Energy Performance | 18 |
| EA: Advanced Energy Metering | 1 |
| EA: Demand Response | 2 |
| EA: Renewable Energy Production | 3 |
| EA: Enhanced Refrigerant Management | 1 |
| EA: Green Power and Carbon Offsets | 2 |
| MR: Building Life-Cycle Impact Reduction | 5 |
| MR: Building Product Disclosure and Optimization - Environmental Product Declarations | 2 |
| MR: Building Product Disclosure and Optimization - Sourcing of Raw Materials | 2 |
| MR: Building Product Disclosure and Optimization - Material Ingredients | 2 |
| MR: Construction and Demolition Waste Management Planning | 2 |
| EQ: Enhanced Indoor Air Quality Strategies | 2 |
| EQ: Low-Emitting Materials | 3 |
| EQ: Construction Indoor Air Quality Management Plan | 1 |
| EQ: Indoor Air Quality Assessment | 2 |
| EQ: Thermal Comfort | 1 |
| EQ: Interior Lighting | 2 |
| EQ: Daylight | 3 |
| EQ: Quality Views | 1 |
| EQ: Acoustic Performance | 1 |
| IN: Innovation | 5 |
| IN: LEED Accredited Professional | 1 |
| TOTAL | 110 |


BUILDING EXTERIOR


B. INTERIOR LOBBY & CAFE

C. INTERIOR LOBBY


D. COMMUNITY THEATRE

## Annotated Bibliography

Bauman, H. (2005). A Case for SLCC Aesthetic Principles. *Aesthetic Principles for the Sorenson Language and Communication Center*.

Information regarding the Sorenson Language and Communication Center at Gallaudet University was obtained from this publication. The information was used to describe the decisions and feelings that made the SLCC what it is.

D5 Architects LLP - News. (2007, January 1). Retrieved February 4, 2015, from http://www.d5architects.net/index.php/html/news.

D5 Architects LLP's website provided images and basic project details for the Deaf Cultural Centre in the United Kingdom. The purpose of the building was gathered from this source, and design observations were made based on the photographs.

Forrester Construction. (n.d.). Retrieved February 4, 2015, from http://www.forresterconstruction.com/portfolio/18.

Forrester Construction's website provided project photographs for Gallaudet University's Sorenson Language and Communication Center.

*Gallaudet University building designed especially for the deaf and hard of hearing* [Video]. (2010). USA: YouTube.

Smithgroup JJR Architects' video provides information on design inspiration and process for the Sorenson Language and Communication Center. The video detailed the decision making process during the preliminary, schematic, and design development stages. The basic project information was gathered from this source.

Gallaudet University Residence Hall. (2012, January 1). Retrieved February 4, 2015, from http://ltlarchitects.com/gallaudet-university-residence-hall.

Basic project information including the purpose and design features were found on LTL Architects' website for the Living and Learning Residence Hall 6 are Gallaudet University. Some of the information regarding DeafSpace concepts was also received from this source.

Johnson City. (2010, January 1). Retrieved February 4, 2015, from http://www.etsu.edu/com/pathology/johnsoncity.aspx.

East Tennessee State University's website solely provided basic city data for Johnson City, Tennessee, including average annual rain fall, general climate, and population.

Keating, E., & Mirus, G. (2003). American Sign Language in Virtual Space: Interactions between deaf users of computer-mediated video communication and the impact of technology on language practices. *Language in Society*, (32), 693-714.

Information from this source was used as background to frame deaf and hearing-impaired struggles as a social issue. It was also used to establish a base-line definition of what it means to be deaf.

The Social Cognitive Theory. (2013, January 20). Retrieved February 4, 2015, from http://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/SB721-Models/SB721-Models5.html.

Information regarding design theory was recovered from Boston University's website. This information related to Social Cognition Theory. It included basic definitions and the five principles that make up the theory.

"What is DeafSpace?" (2007, January 1). Retrieved January 30, 2015, from http://www.gallaudet.edu/campus_design/deafspace.html.

Gallaudet University's document on DeafSpace detailed the considerations behind the concept as well as how the concept was created. Specific information about designing for deaf individuals was acquired from this source.

# FACILITIES AND SERVICES CODE REVIEW
# INTERNATIONAL BUILDING CODE 2012

CHAPTER 3 - USE AND OCCUPANCY
CLASSIFICATION
- SECTION 303.2 - ASSEMBLY GROUP A-1
- SECTION 303.3 - ASSEMBLY GROUP A-2
- SECTION 303.4 - ASSEMBLY GROUP A-3
- SECTION 304.1 - BUSINESS GROUP B
- SECTION 310.4 - RESIDENTIAL GROUP R-2

CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS

TABLE 503 - ALLOWABLE BUILDING HEIGHTS AND AREAS
TYPE III-A

| | |
|---|---|
| GROUP A-1 | ALLOWABLE: 28,000 SF/4 STORY<br>ACTUAL: 2,216 SF |
| GROUP A-2 | ALLOWABLE: 28,000 SF/4 STORY<br>ACTUAL: 545 SF |
| GROUP A-3 | ALLOWABLE: 28,000 SF/4 STORY<br>ACTUAL: 2,217 SF FIRST STORY/3,027 SF<br>SECOND STORY/1,353 SF THIRD STORY/6,597 SF OVERALL |
| GROUP B | ALLOWABLE: 57,000 SF/6 STORY<br>ACTUAL: 736 SF |
| GROUP R-2 | ALLOWABLE: 48,000 SF/5 STORY<br>ACTUAL: 4,284 SF |

TABLE 508.4 - REQUIRED SEPARATIONS OF OCCUPANCY TYPES
NO RATING REQUIRED BETWEEN A-1, A-2, AND A-3 OCCUPANCIES
1-HOUR RATING REQUIRED BETWEEN A-3 AND B OCCUPANCIES
1-HOUR RATING REQUIRED BETWEEN A-3 AND R-2 OCCUPANCIES

TABLE 509 - INCIDENTAL USES
1-HOUR RATING FOR MECHANICAL ROOMS OVER 100 SF

CHAPTER 6 - TYPES OF CONSTRUCTION

TABLE 601 - FIRE RESISTANCE RATING REQUIRED FOR BUILDING ELEMENTS
TYPE III-A
SEMI-COMBUSTIBLE MATERIALS
1-HOUR RATING REQUIRED

CHAPTER 7 - FIRE RESISTANCE RATED CONSTRUCTION

TABLE 707.3.10 - FIRE RESISTANCE RATING REQUIREMENTS FOR FIRE BARRIER ASSEMBLIES

2-HOUR RATED FIRE BARRIER: ITEM NUMBER 13-1.2, ⅝" FIRE-RATED GYP BOARD ON EACH SIDE OF METAL STUDED WALL, 4" WALL FINISHED THICKNESS FACE-TO-FACE, BARRIER MUST EXTEND FROM FLOOR TO DECK ABOVE.

1-HOUR RATED FIRE BARRIER: ITEM NUMBER 13-1.1, ⅝" GYP BOARD ON EACH SIDE OF METAL STUDED WALL, 4" WALL FINISHED THICKNESS FACE-TO-FACE, BARRIER MUST EXTEND FROM FLOOR TO DECK ABOVE.

TABLE 716.5 - OPENING FIRE PROTECTION ASSEMBLIES, RATINGS, AND MARKINGS
OPENINGS WITHIN A 1-HOUR BARRIER: 1 HOUR MINIMUM FIRE DOOR

CHAPTER 8 - INTERIOR FINISHES

SECTION 803.1.1 - WALL AND CEILING FINISHES
INTERIOR WALL AND CEILING FINISHES SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM E 84.

CLASS A: FLAME SPREAD 0-25; SMOKE DEVELOPED 0-450
CLASS B: FLAME SPREAD 26-75; SMOKE DEVELOPED 0-450
CLASS C: FLAME SPREAD 76-200; SMOKE DEVELOPED 0-450

TABLE 803.9 - INTERIOR WALL AND CEILING FINISHES BY OCCUPANCY

| | |
|---|---|
| OCCUPANCY A - | EXIT PASSAGE/HALLWAY: B<br>CORRIDOR: B<br>ROOMS: C |
| OCCUPANCY B - | EXIT PASSAGE/HALLWAY: B<br>CORRIDOR: C<br>ROOMS: C |
| OCCUPANCY R - | EXIT PASSAGE/HALLWAY: C<br>CORRIDOR: C<br>ROOMS: C |

SECTION 804.4.2 - INTERIOR FLOOR FINISHES
CLASS II FLOOR FINISH THROUGHOUT

CHAPTER 9 - FIRE PROTECTION SYSTEMS

SECTION 903 - AUTOMATIC SPRINKLER SYSTEMS
SPRINKLER SYSTEM THROUGHOUT

SECTION 906 - PORTABLE FIRE EXTINGUISHERS
SHALL BE PROVIDED IN LOCATIONS ACCORDING TO THE INTERNATIONAL FIRE CODE

CHAPTER 10 - MEANS OF EGRESS

TABLE 1004.1.2 - MAXIMUM AREA ALLOWED PER OCCUPANT
OCCUPANCY A-1 - 50 TOTAL OCCUPANTS FOR FIRE AREA
OCCUPANCY A-2 AND A-3 - 476 TOTAL OCCUPANTS FOR FIRE AREA
OCCUPANCY B - 7 TOTAL OCCUPANTS FOR FIRE AREA
OCCUPANCY R - 21 TOTAL OCCUPANTS FOR FIRE AREA

SECTION 1005.3.1 - STAIRS
OCCUPANCY A - 5' MINIMUM WIDTH STAIR

SECTION 1005.3.2 - OTHER EGRESS COMPONENTS
OCCUPANCY A - 9' MNIMUM WIDTH

SECTION 1007.6 - AREA OF REFUGE
SHALL BE PROVIDED AT TOP OF STAIR AND SHALL BE NO LESS THAN 30"X48"

SECTION 1009 - STAIRWAYS
STAIRS WILL BE DESIGNED PER INTERNATIONAL BUILDING CODE

SECTION 1011 - EXIT SIGNS
SHALL BE PROVIDED IN LOCATIONS ACCORDING TO INTERNATIONAL BUILDING CODE

TABLE 1016.2 - EXIT ACCESS TRAVEL DISTANCE
SHALL NOT EXCEED 250 FEET FOR A AND R OCCUPANCIES
SHALL NOT EXCEED 300 FEET FOR B OCCUPANCIES

TABLE 1018.1 - CORRIDOR FIRE-RESISTANCE RATING
NO RATING REQUIRED FOR A, B, AND R OCCUPANCIES

CHAPTER 11 - ACCESSIBILITY

GENERAL NOTE: ALL DOORS WILL MEET COMPLIANCE IN HARDWARE AND CLEARANCES. BATHROOMS WILL COMPLY REGARDING HANDRAIL PLACEMENT AND GENERAL FLOOR CLEARANCES. PROPER FLOOR CLEARANCES AND HEIGHTS WILL BE PROVIDED. SIGNAGE WILL MEET REQUIREMENTS AND BE LOCATED ACCORDING TO INTERNATIONAL BUILDING CODE.

CHAPTER 29 - PLUMBING FIXTURES

TABLE 2902.1 - MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES
CLASSIFICATION: ASSEMBLY GROUP A
TOTAL OCCUPANCY COUNT: 100 OCCUPANTS

FIXTURES REQUIRED:
- 50 MALE: 2 WATER CLOSETS, 2 LAVATORY
- 50 FEMALE: 2 WATER CLOSETS, 2 LAVATORY
- 1 WATER FOUNTAIN
- 1 SERVICE SINK

CLASSIFICATION: BUSINESS GROUP B
TOTAL OCCUPANCY COUNT: 4 OCCUPANTS

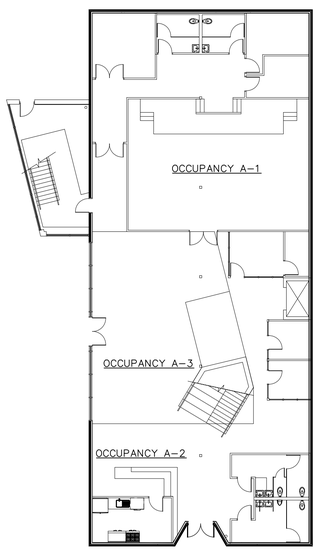
FIXTURES REQUIRED:
- 2 MALE: 1 WATER CLOSETS, 1 LAVATORY
- 2 FEMALE: 1 WATER CLOSETS, 1 LAVATORY
- 1 WATER FOUNTAIN
- 1 SERVICE SINK

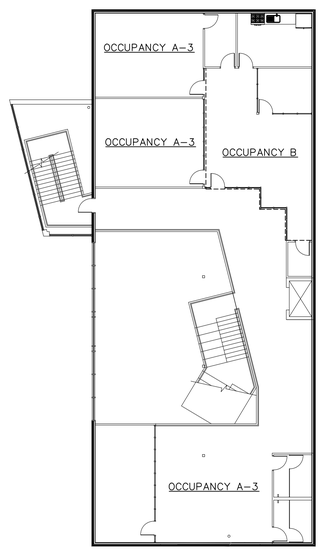
CLASSIFICATION: RESIDENTIAL GROUP R-2
TOTAL OCCUPANCY COUNT: 8 OCCUPANTS

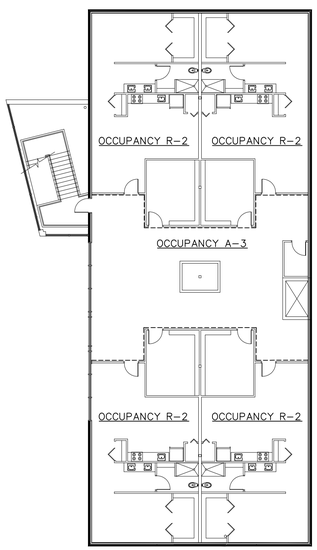
FIXTURES REQUIRED:
- 1 WATER CLOSETS, 1 LAVATORY, 1 BATH TUB OR SHOWER, 1 KITCHEN SINK PER DWELLING

## LEGEND:

— — — — — 1-HOUR FIRE BARRIER. WALL TYPE SHALL EXTEND FROM TOP OF FLOOR TO BOTTOM OF DECK ABOVE. SEE CHAPTER 7 NOTES TO LEFT.




REVISIONS | BY | DATE

SENIOR THESIS - IEL CENTER
CODE REVIEW

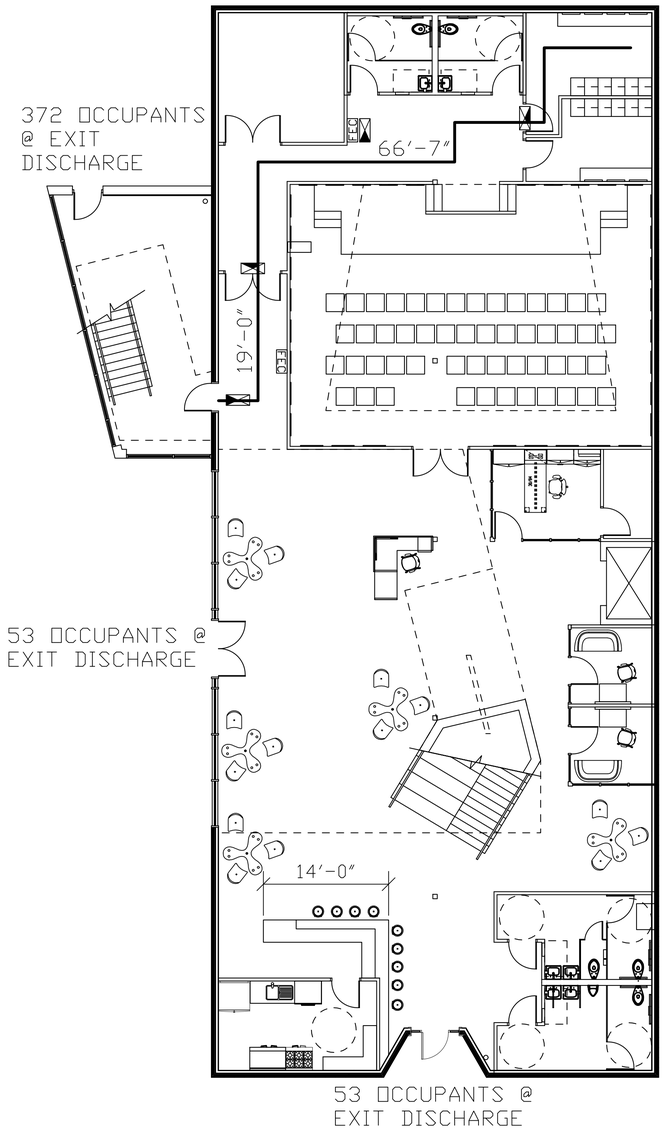
DRAWN: CARYN BRAHAMS
CHECKED:
DATE: 04/29/15
SCALE: 1/16" = 1'-0"
JOB NO.: XXX
SHEET: I-1.1

## LEGEND:

COMMON PATH OF TRAVEL

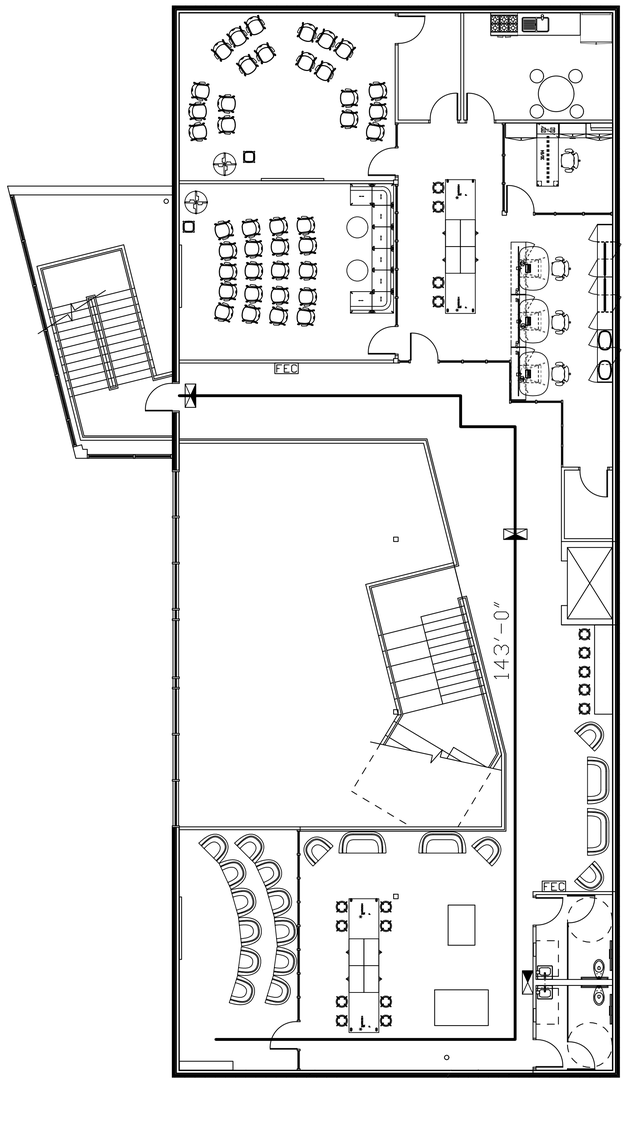
EXIT ACCESS

EXIT SIGN



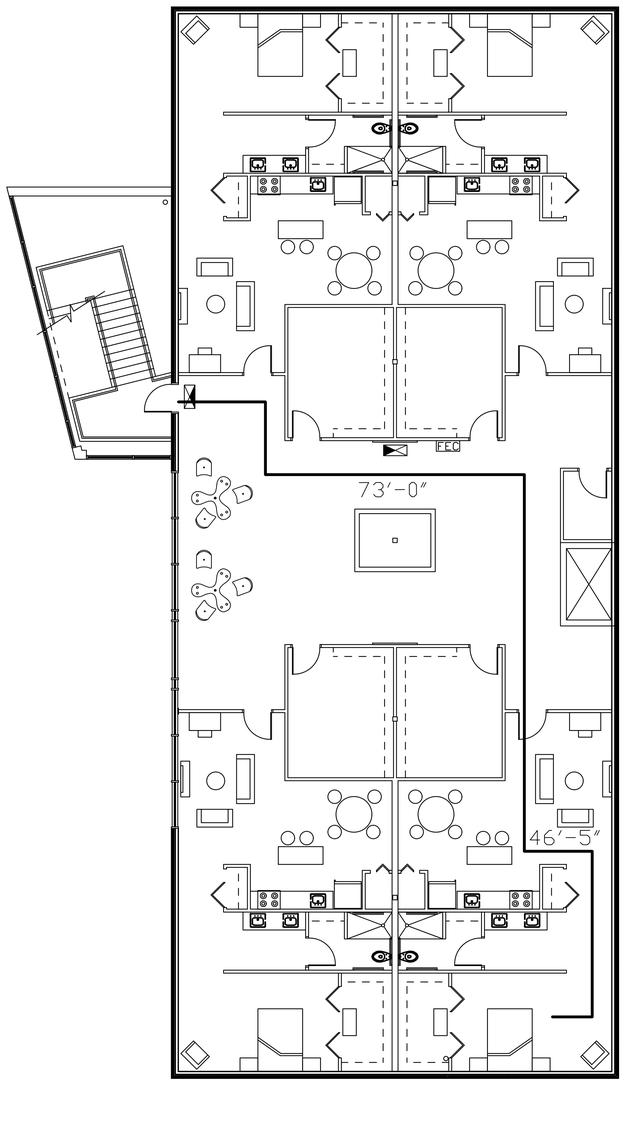

1 MAIN LEVEL LIFE SAFETY PLAN

Scale: 1/8" = 1'-0"




2 SECOND LEVEL LIFE SAFETY PLAN

Scale: 1/8" = 1'-0"




3 THIRD LEVEL LIFE SAFETY PLAN

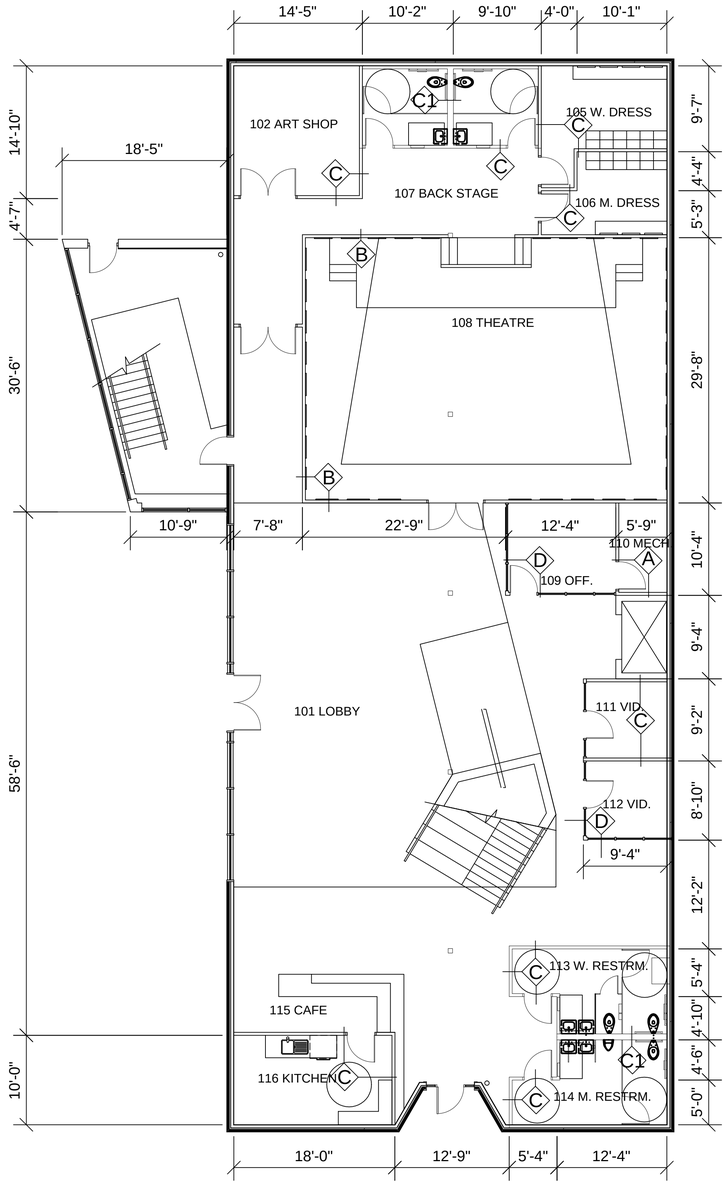
Scale: 1/8" = 1'-0"

| BY | REVISIONS | DATE |
|---|---|---|
| | | |

IEL CENTER - SENIOR THESIS

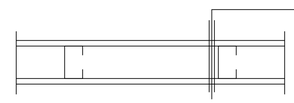
LIFE SAFETY PLANS

| | |
|---|---|
| DRAWN | CARYN BRAHAMS |
| CHECKED | |
| DATE | 4/29/15 |
| SCALE | 1/8" = 1'-0" |
| JOB NO. | XXX |
| SHEET | I-1.2 |



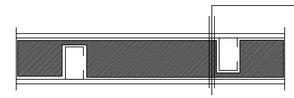

1 FLOOR PLAN

Scale: 1/8" = 1'-0"



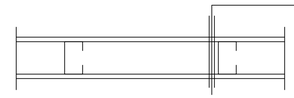
WALL CONSTRUCTION
⅝" GYP. BD.
3 ⅝" MTL STUDS @ 16" O.C.
⅝" GYP. BD.

WALL TYPE A



WALL CONSTRUCTION
½" GYP. BD.
3 ⅝" MTL STUDS @ 16" O.C.; STAGGERED @ 1"
CONTINUOUS ROCK WOOL INSULATION
½" GYP. BD.

WALL TYPE B



WALL CONSTRUCTION
½" GYP. BD.
3 ⅝" MTL STUDS @ 16" O.C.
½" GYP. BD.

WALL TYPE C

WALL TYPE C1 - REPLACE 3 ⅝" MTL STUDS W/ 6" MTL STUDS @16" O.C.

WALL CONSTRUCTION
2 LAYERS OF 1" GLASS
PER GLASPRO MANUF. SPECS

WALL TYPE D

2 WALL TYPES

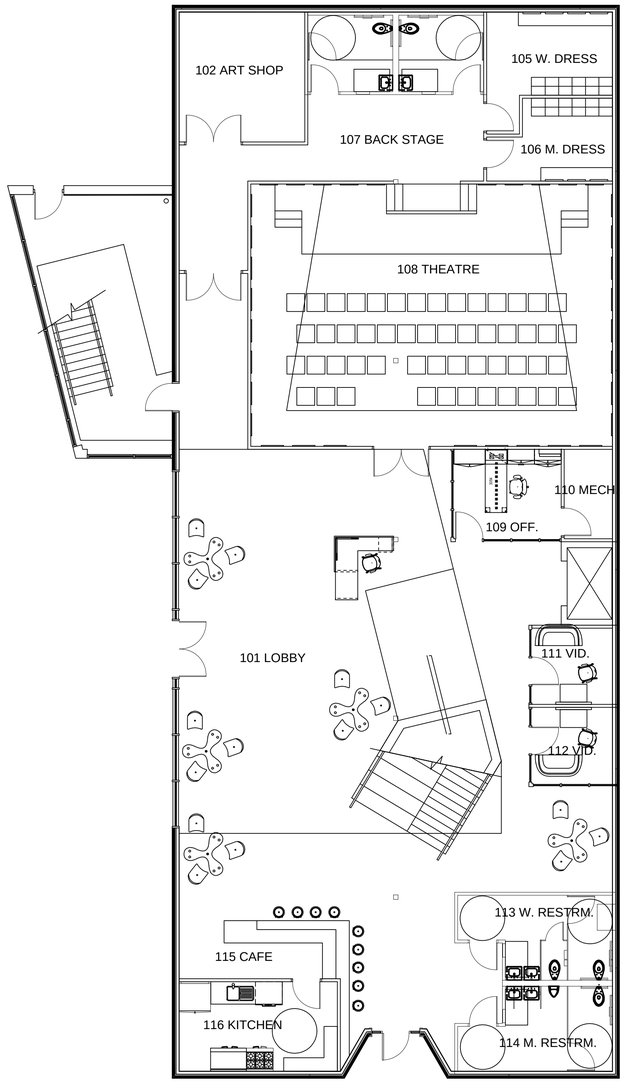
Scale: 1-1/2" = 1'-0"

| BY | REVISIONS | DATE |
|---|---|---|
| | | |

IEL CENTER - SENIOR THESIS

FLOOR PLAN & WALL TYPES

DRAWN: CARYN BRAHAMS
CHECKED:
DATE: 4/29/15
SCALE: VARIES
JOB NO.: XXX
SHEET: I-1.3




2 FURNITURE PLAN

Scale: 1/8" = 1'-0"

FURNITURE LEGEND

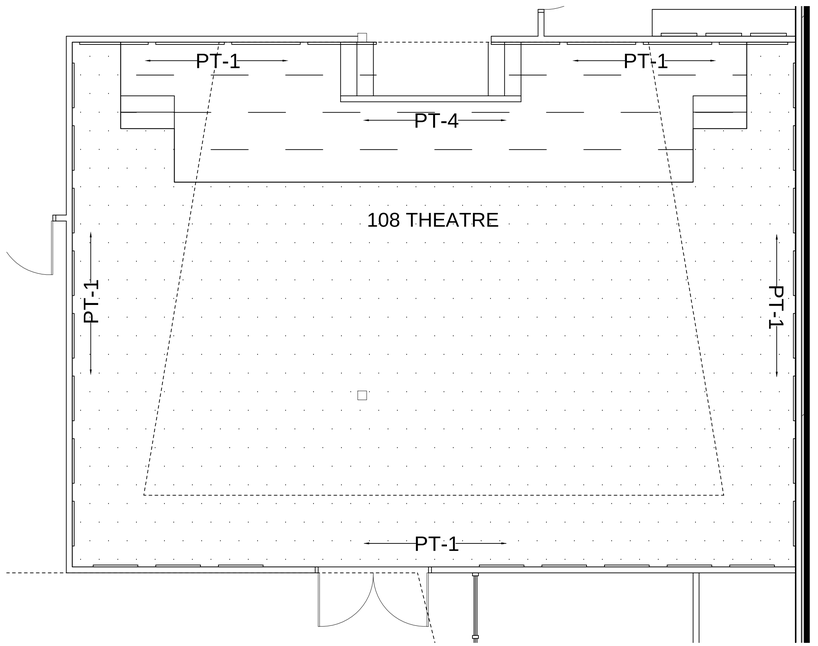
| SYMBOL | QUANT. | COST | PROD. # | DESCRIPTION | FINISH |
|---|---|---|---|---|---|
| | 15 | $310 | | VITRA PANTON CHAIR | 23 - ICE GREY |
| | 5 | $3,355 | | VITRA FLOWER BENCH | 01 - CHAMPAGNE WHITE |
| | 3 | $539 | | HERMAN MILLER SETU TASK CHAIR | 4W25 - BERRY BLUE |
| | 1 | $679 | | HERMAN MILLER AERON EXEC. CHAIR | 3D01 - CARBON |
| | 2 | $3,645 | 14984 | NEINKAMPER KLOUD LOUNGE | CLASSIC - 659 BEAUTY |
| | 9 | $975 | | VITRA ZEB STOOL | 10 - NATURAL OAK, VARNISH |
| | 50 | | | KI LANCASTER AUDITORIUM SEATING | WONDER WHEEL - MAMBO |

TOTAL $9,503

BY
REVISIONS
DATE

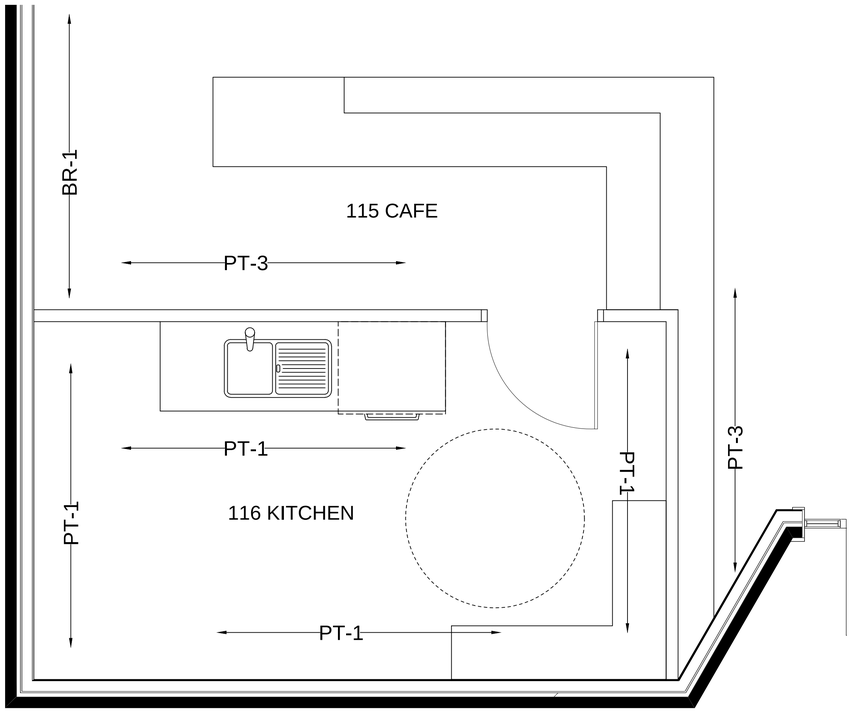
IEL CENTER - SENIOR THESIS
FURNITURE PLAN

DRAWN
CARYN BRAHAMS
CHECKED
DATE
4/29/15
SCALE
1/8" = 1'-0"
JOB NO.
XXX
SHEET
I-1.4




1 INTERIOR FINISH PLAN - THEATRE

Scale: 1/4" = 1'-0"




2 INTERIOR FINISH PLAN - CAFE

Scale: 1/2" = 1'-0"

| FINISH LEGEND | | | | |
|---|---|---|---|---|
| CODE | HATCH | MANUF. | DESCRIPTION | FINISH |
| WD-1 | | | EXISTING WD FLR | ANTIQUE OAK STAIN |
| RS-1 | | MONDO | ADVANCE RUBBER SHEET | L08 BLACK |
| CP-1 | | MANNINGTON COMMERCIAL | BROADLOOM - CIRC | 35216 - TRAVERTINE |
| PT-1 | | SHERWIN WILLIAMS | SW 7698 - STRAW HARVEST | MATTE |
| PT-2 | | SHERWIN WILLIAMS | SW 6642 - RHUMBA ORANGE | MATTE |
| PT-3 | | SHERWIN WILLIAMS | SW 6214 - UNDERSEAS | MATTE |
| PT-4 | | SHERWIN WILLIAMS | SW 6257 - GIBRALTAR | MATTE |
| BR-1 | | | EXISTING EXT. BRICK WALL | |

| WALL FINISH SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| RM. NUM. | NAME | WALLS | | | | NOTES |
| | | NORTH | EAST | SOUTH | WEST | |
| 108 | THEATRE | PT-1<br>PT-4 | PT-1 | PT-1 | PT-1 | 3, 6 |
| 115 | CAFE | | PT-3 | PT-3 | BR-1 | 4 |
| 116 | KITCHEN | PT-1 | PT-1 | PT-1 | PT-1 | |

FINISH NOTES

1. CONTACT DESIGNER WITH ANY QUESTIONS IN THE EVENT OF CONTRADICTORY OR CONFUSING INFORMATION ON PLANS, SCHEDULES, ELEVATIONS, ETC.

2. USE PT-1 AS GENERAL WALL PAINT, UNLESS NOTED OTHERWISE.

3. USE PT-4 AS ACCENT ON NORTH STAGE WALL IN THEATRE.

4. USE PT-3 AS ACCENT WALL PAINT IN CAFE. REFER TO PLAN AND ELEVATIONS FOR LOCATION AND EXTENT.

5. REFINISH EXISTING WOOD FLOOR, U.N.O.

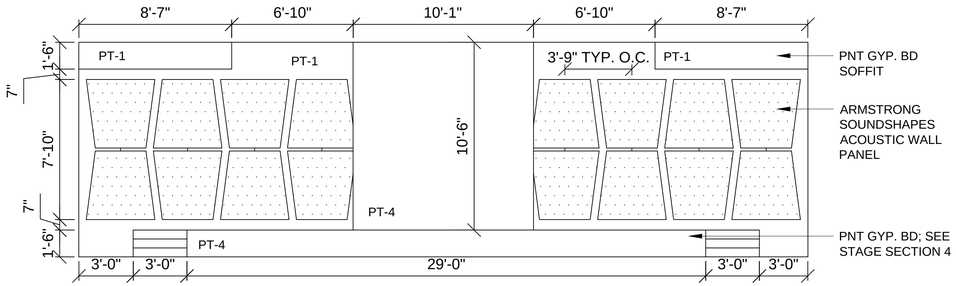
6. INSTALL ACOUSTIC WALL PANELS AS NOTED ON INTERIOR ELEVATIONS.

BY | REVISIONS | DATE

IEL CENTER - SENIOR THESIS

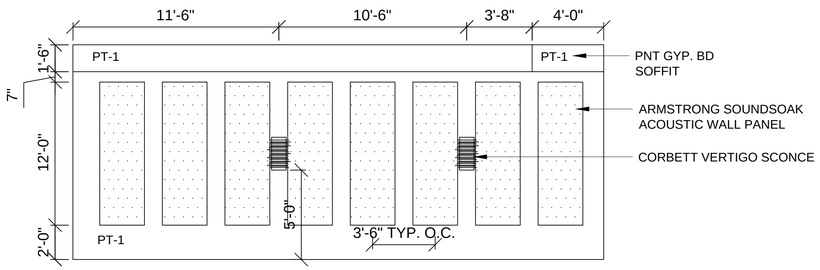
FINISH PLANS

DRAWN: CARYN BRAHAMS
CHECKED:
DATE: 4/29/15
SCALE: VARIES
JOB NO.: XXX
SHEET: I-2.1



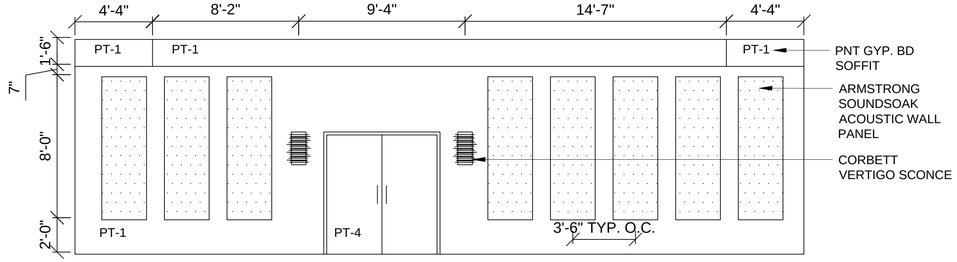

1 THEATRE - NORTH ELEVATION

Scale: 1/4" = 1'-0"



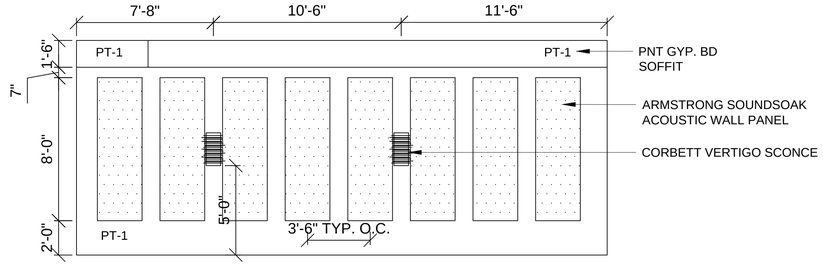

2 THEATRE - EAST ELEVATION

Scale: 1/4" = 1'-0"



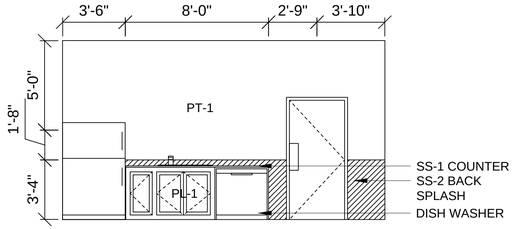

3 THEATRE - SOUTH ELEVATION

Scale: 1/4" = 1'-0"



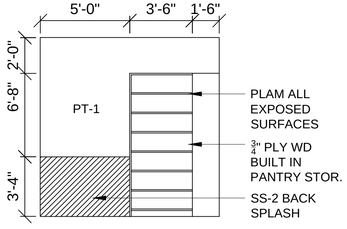

4 THEATRE - WEST ELEVATION

Scale: 1/4" = 1'-0"



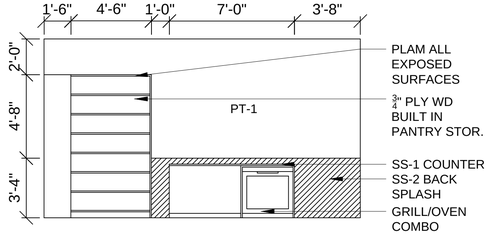

5 KITCHEN - NORTH ELEVATION

Scale: 1/4" = 1'-0"



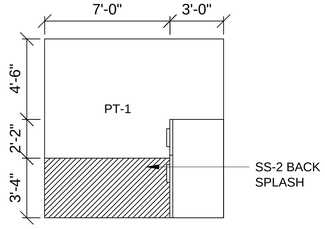

6 KITCHEN - EAST ELEVATION

Scale: 1/4" = 1'-0"



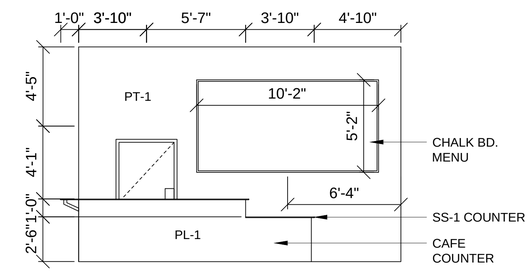

7 KITCHEN - SOUTH ELEVATION

Scale: 1/4" = 1'-0"



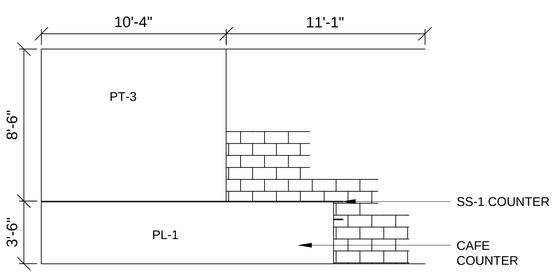

8 KITCHEN - WEST ELEVATION

Scale: 1/4" = 1'-0"




9 CAFE - SOUTH ELEVATION

Scale: 1/4" = 1'-0"




10 CAFE - WEST ELEVATION

Scale: 1/4" = 1'-0"

| BY | REVISIONS | DATE |
|---|---|---|
| | | |

IEL CENTER - SENIOR THESIS

ROOM ELEVATIONS

DRAWN
CARYN BRAHAMS

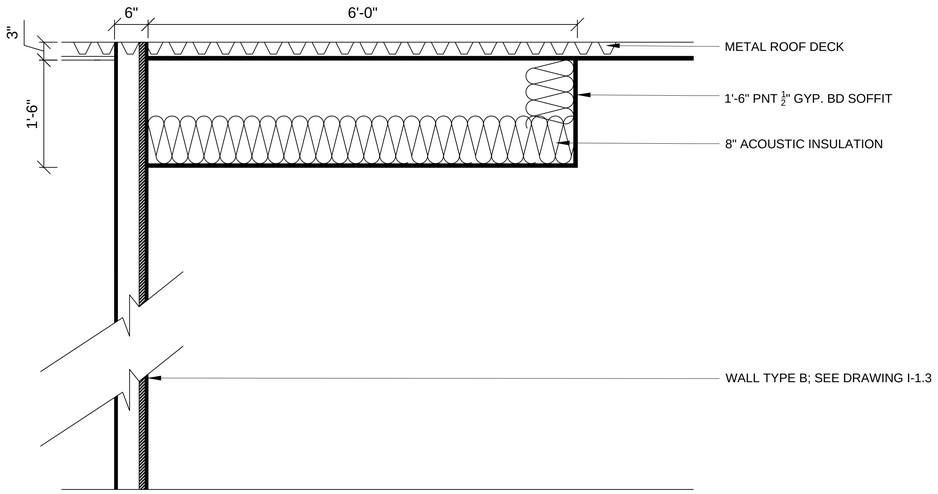
CHECKED

DATE
4/29/15

SCALE
1/4" = 1'-0"

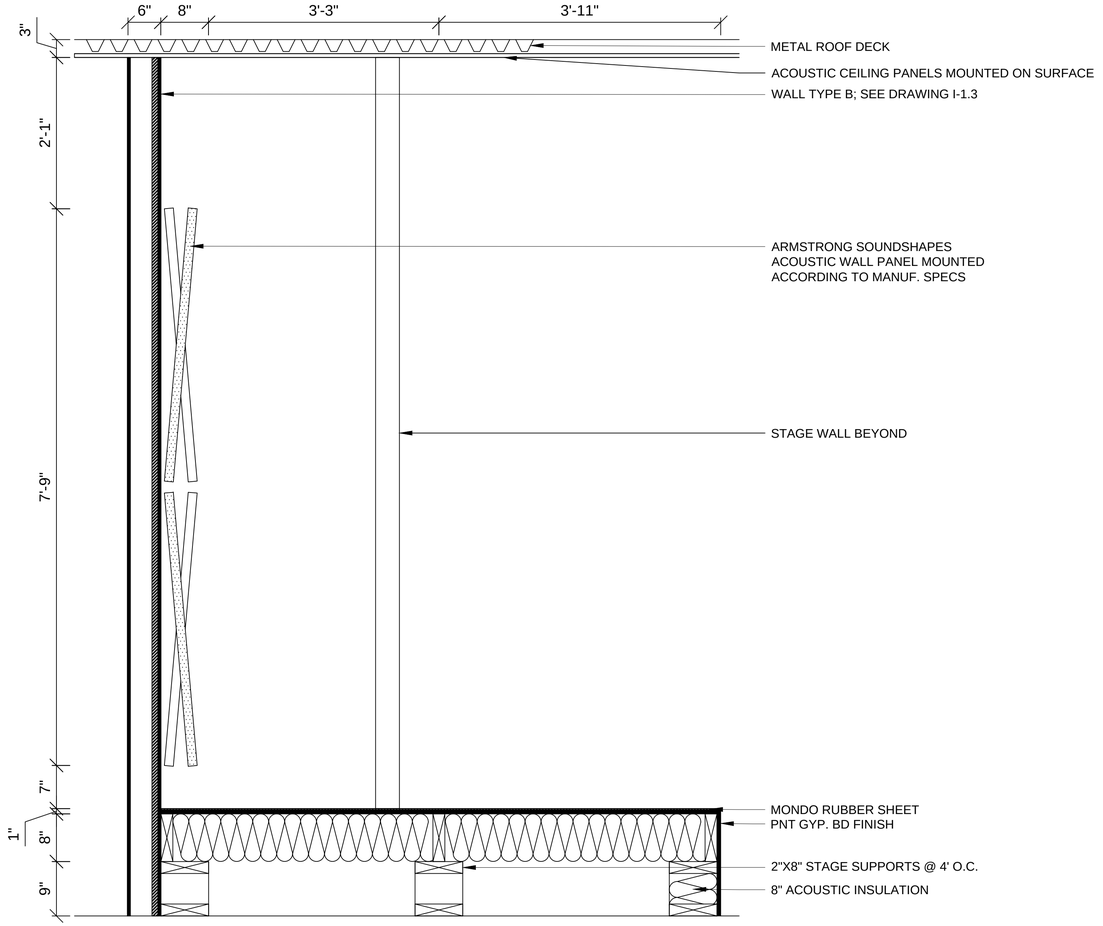
JOB NO.
XXX

SHEET
**I-2.2**



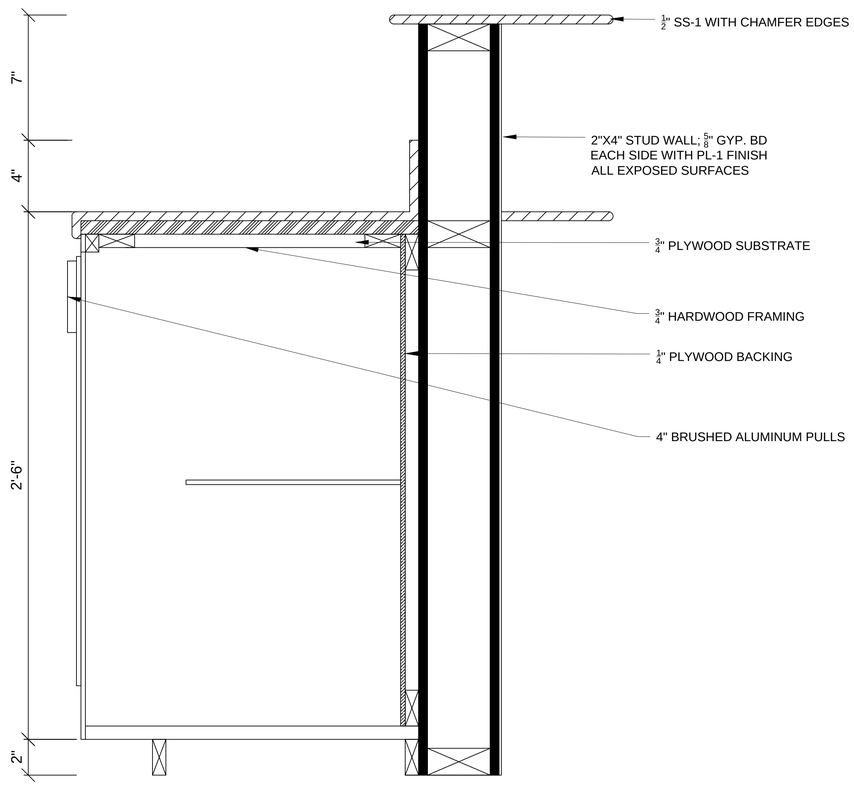

3 THEATRE - ACOUSTIC WALL SECTION

Scale: 1" = 1'-0"




4 THEATRE - STAGE SECTION

Scale: 1" = 1'-0"




5 CAFE - CASEWORK SECTION

Scale: 1" = 1'-0"

| BY | REVISIONS | DATE |
|---|---|---|
| | | |

IEL CENTER - SENIOR THESIS

ROOM & CASEWORK SECTIONS

I I

DRAWN
CARYN BRAHAMS

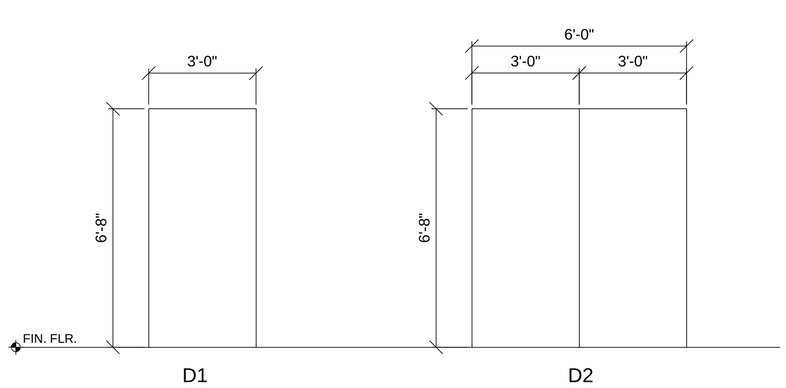
CHECKED

DATE
4/29/15

SCALE
1" = 1'-0"

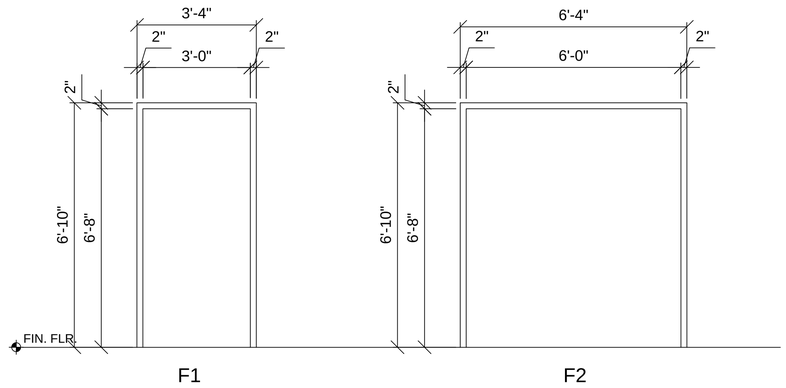
JOB NO.
XXX

SHEET
**I-2.3**




1 DOOR ELEVATIONS

Scale: 1/2" = 1'-0"




2 FRAME ELEVATIONS

Scale: 1/2" = 1'-0"

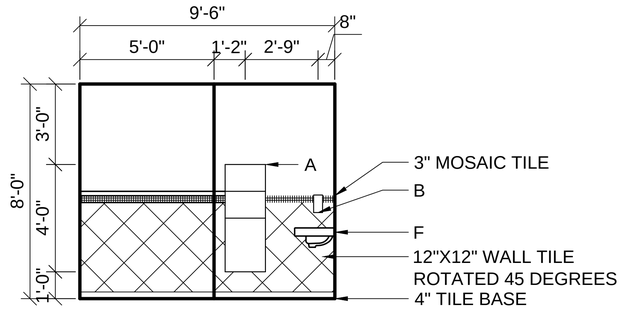
| MARK | DESCRIPTION | HEIGHT | WIDTH | FRAME TYPE | FRAME MAT. | DOOR TYPE | DOOR MAT. | NOTES |
|---|---|---|---|---|---|---|---|---|
| 108 | THEATRE | 6'-8" | 6'-0" | F2 | HM | D2 | HM | |
| 116 | CAFE | 6'-8" | 3'-0" | F1 | HM | D1 | HM | |

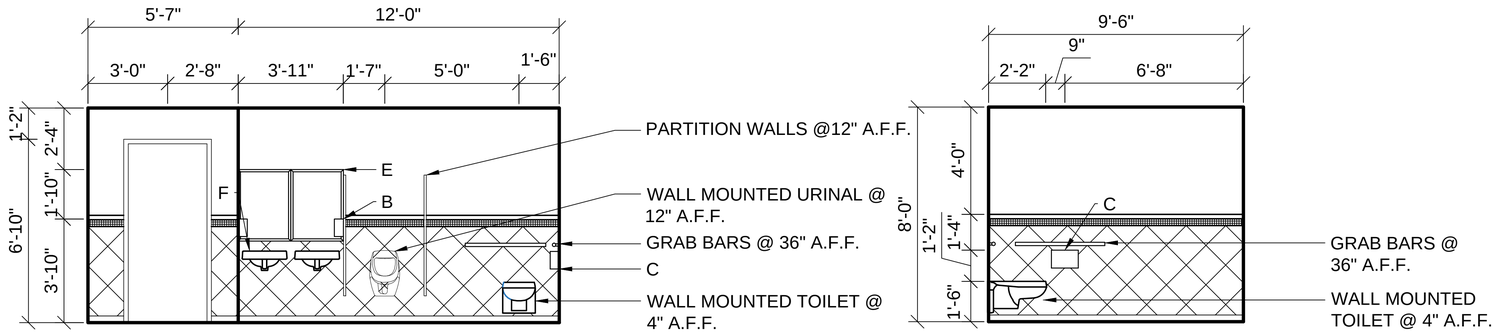
| REVISIONS | DATE | BY |
|---|---|---|
| | | |

IEL CENTER - SENIOR THESIS

DOOR ELEVATIONS & SCHEDULES

| | |
|---|---|
| DRAWN | CARYN BRAHAMS |
| CHECKED | |
| DATE | 4/29/15 |
| SCALE | VARIES |
| JOB NO. | XXX |
| SHEET | I-2.4 |

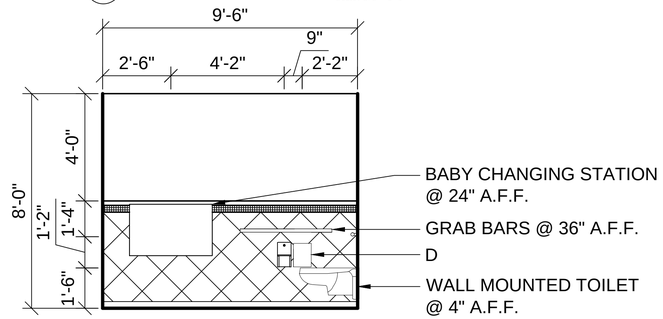


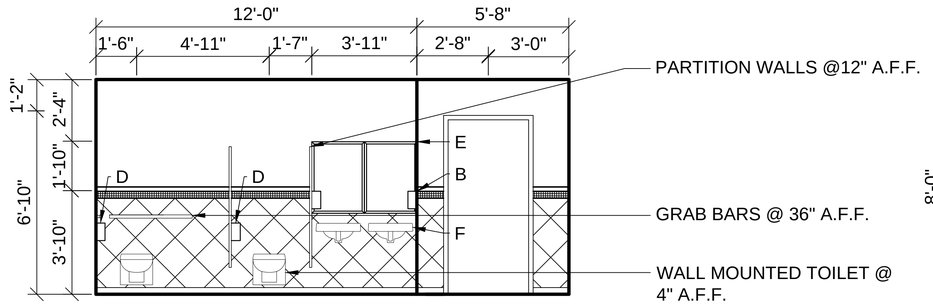




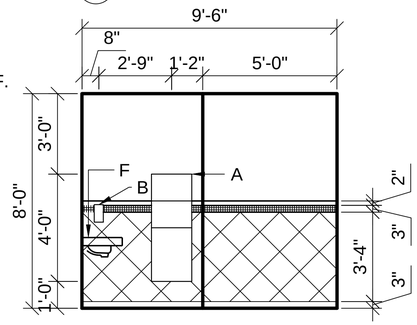
1 MEN'S SOUTH ELEVATION
Scale: 3/8"=1'-0"




2 MEN'S EAST ELEVATION
Scale: 3/8"=1'-0"



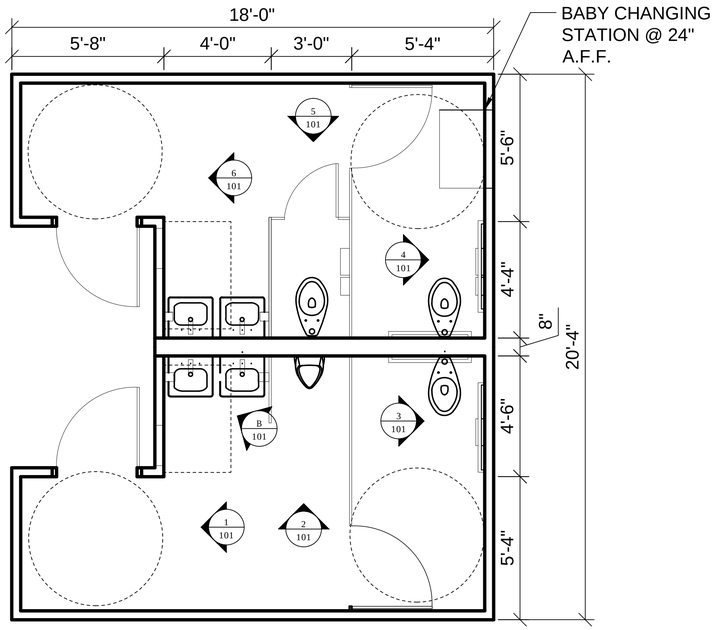

3 MEN'S NORTH ELEVATION
Scale: 3/8"=1'-0"



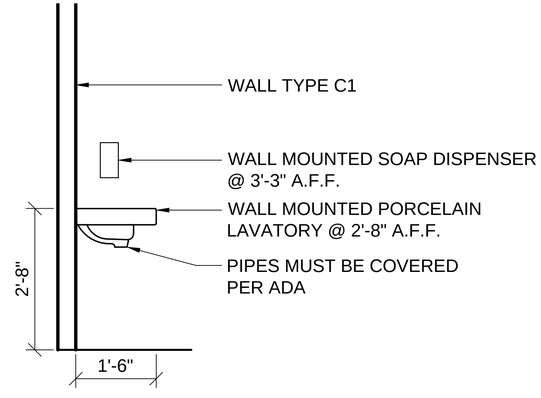

4 WOMEN'S NORTH ELEVATION
Scale: 3/8"=1'-0"

5 WOMEN'S WEST ELEVATION
Scale: 3/8"=1'-0"

6 WOMEN'S SOUTH ELEVATION
Scale: 3/8"=1'-0"




A RESTROOM PLAN
Scale: 3/8"=1'-0"




B COUNTER HEIGHT DETAIL
Scale: 3/8"=1'-0"

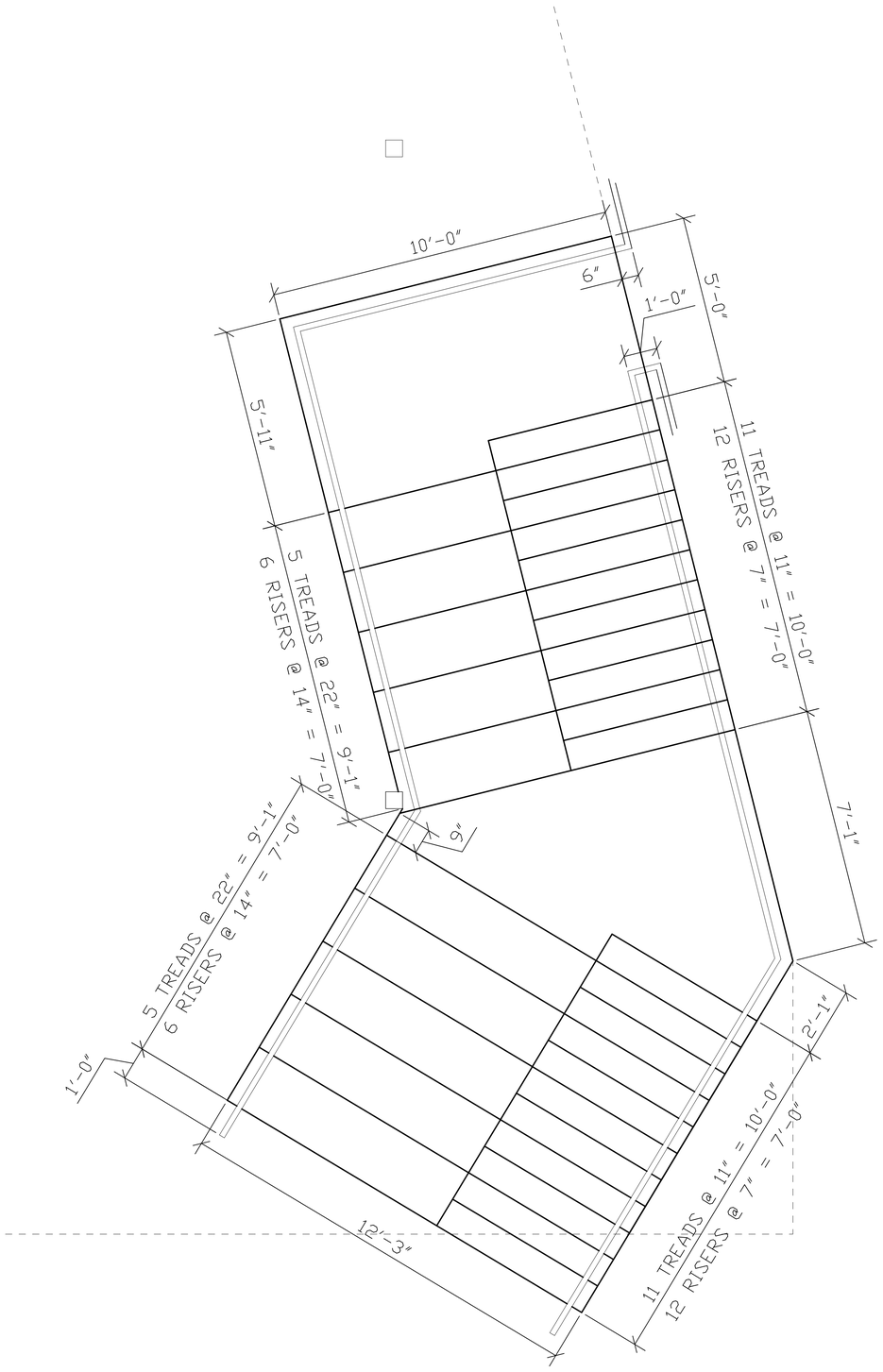
| ACCESSORY LEGEND | | |
|---|---|---|
| KEY | DISCRIPTION | MOUNTING HEIGHT |
| A | TOWEL DISPENSER/ RECEPTICLE | 1'-0" A.F.F. |
| B | SOAP DISPENSER | 3'-3" A.F.F. |
| C | TOILET PAPER DISPENSER | 2'-0" A.F.F. |
| D | TOILET PAPER DISPENSER AND NAPKIN DISPOSAL | 2'-0" A.F.F. |
| E | MIRRORS | 3'-0" A.F.F. |

BY
REVISIONS
DATE

SENIOR THESIS: IEL CENTER

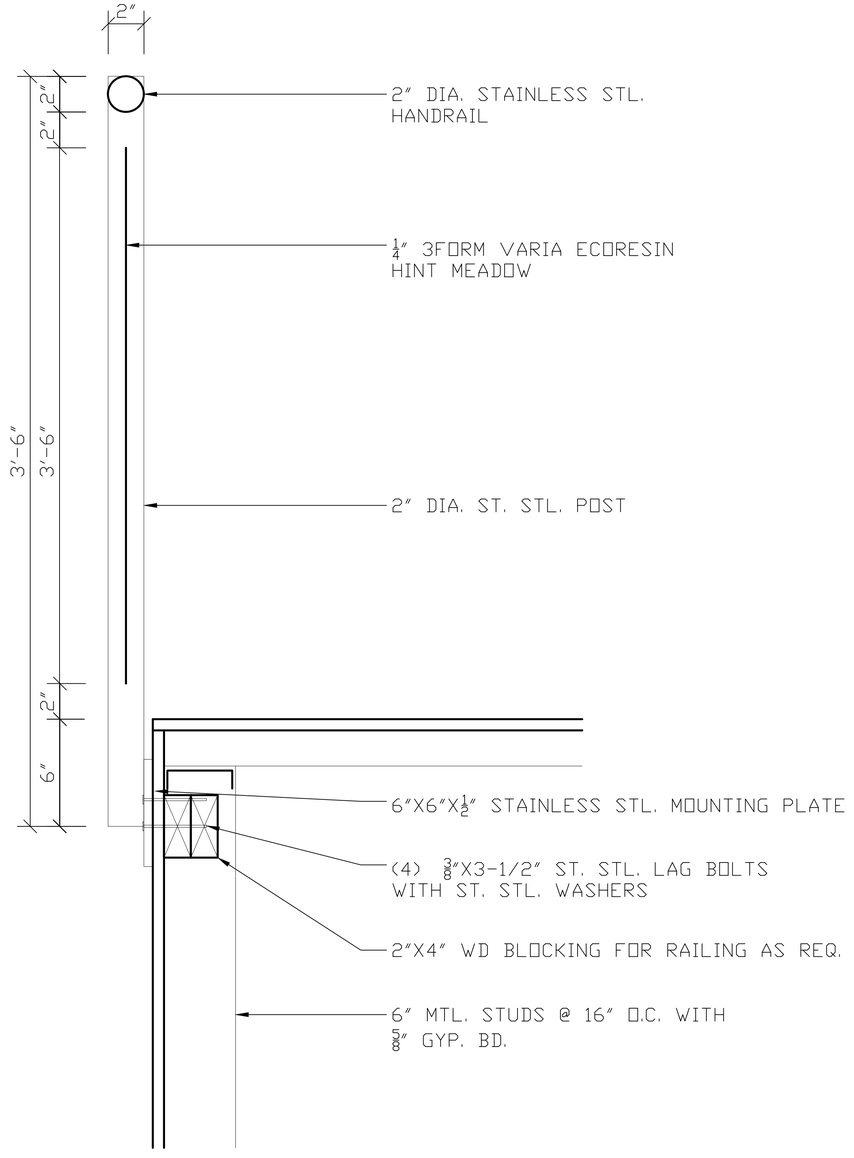
# ENLARGED BATHROOM PLAN & DETAILS

DRAWN
CARYN BRAHAMS
CHECKED
DATE
04/29/15
SCALE
VARIES
JOB NO.
XXX
SHEET
**I-2.5**




1 ENLARGED STAIR PLAN

Scale: 1/2" = 1'-0"




2 HANDRAIL DETAIL

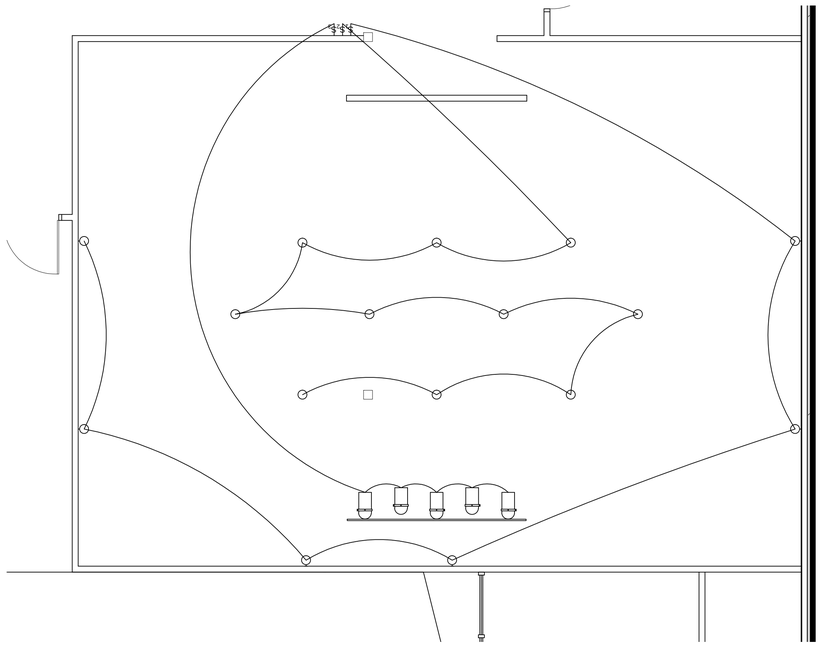
Scale: 3" = 1'-0"

| REVISIONS | BY | DATE |
|---|---|---|
| | | |

IEL CENTER - SENIOR THESIS

ENLARGED STAIR PLAN & DETAILS

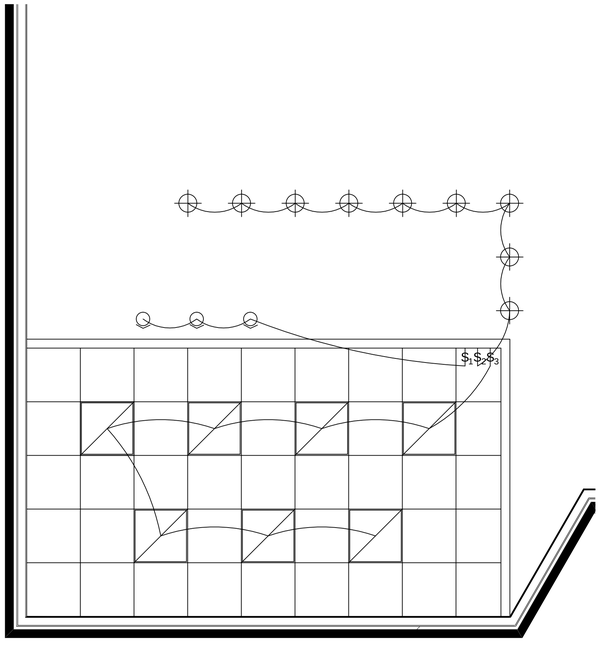
| | |
|---|---|
| DRAWN | CARYN BRAHAMS |
| CHECKED | |
| DATE | 4/29/15 |
| SCALE | VARIES |
| JOB NO. | XXX |
| SHEET | I-2.6 |



1 THEATRE LIGHTING PLAN

Scale: 1/4" = 1'-0"

| LIGHTING SYMBOL LEGEND | | | | |
|---|---|---|---|---|
| SYMBOL | QUAN. | MANUF. | DESCRIPTION | PROD. NUM. |
| | 7 | NEO-RAY | 2'X2' FENESTRA 204 RECESSED LINEAR DOWNLIGHT - TWIN TUBE | 204-BX40W |
| | 3 | HALO | 6" DIA. LED RECESSED ADJUSTABLE GIMBAL - 90 CRI - VWFL BEAM - 3000K - WHITE | RA5606930WH |
| | 9 | HOME DECOR COLL. | PAXTON PENDANT - BLACK | |
| | 10 | HALO | 6" DIA. LED RECESSED DOWNLIGHT - 90 CRI - 3000K | SLD606930WH |
| | 6 | CORBETT | VERTIGO ONE LIGHT WALL MOUNTED SCONCE | |
| | 5 | STRAND | ACCLAIM AXIAL MARK II ZOOMSPOT | |



2 CAFE LIGHTING PLAN

Scale: 3/8" = 1'-0"

| REVISIONS | BY | DATE |
|---|---|---|
| | | |

IEL CENTER - SENIOR THESIS

LIGHTING PLANS & DETAILS

DRAWN: CARYN BRAHAMS

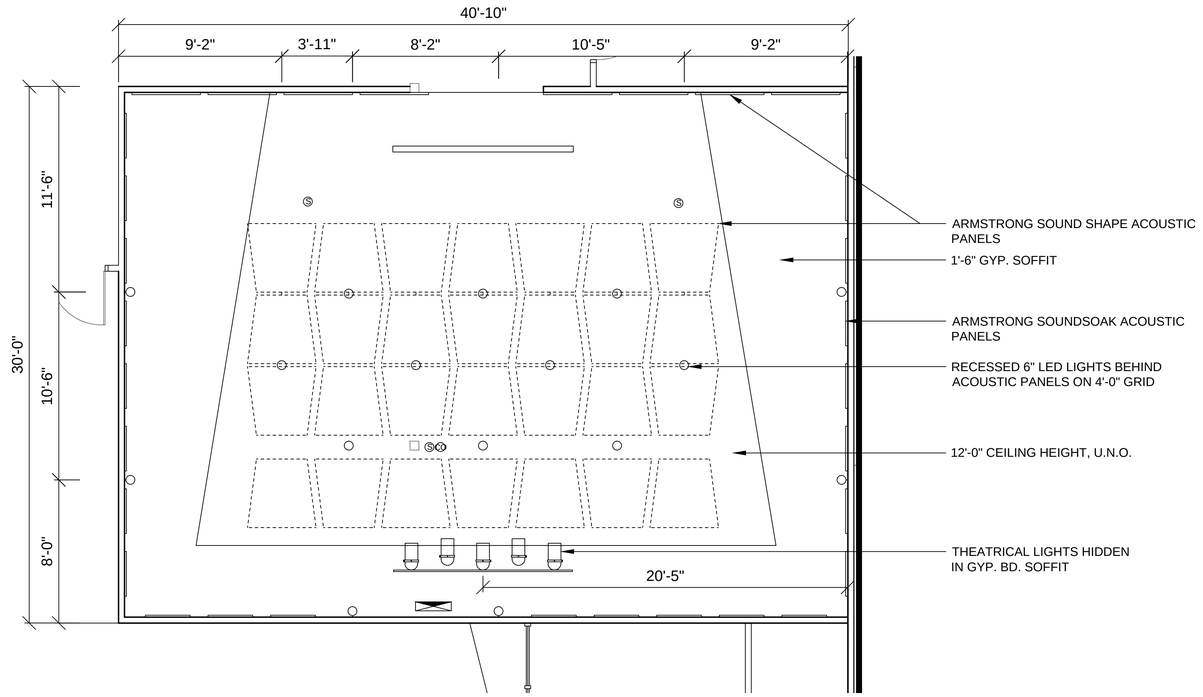
CHECKED:

DATE: 4/29/15

SCALE: VARIES

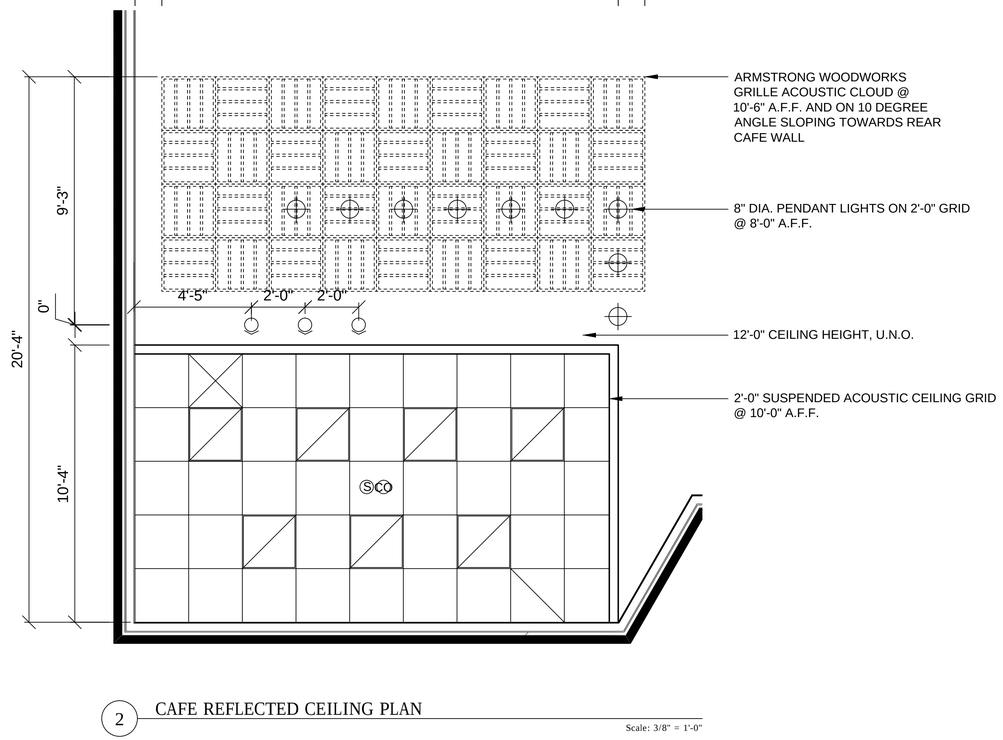
JOB NO.: XXX

SHEET: I-2.7




1 THEATRE REFLECTED CEILING PLAN

Scale: 1/4" = 1'-0"




2 CAFE REFLECTED CEILING PLAN

Scale: 3/8" = 1'-0"

## SYMBOL LEGEND

- SPRINKLER HEAD
- EXIT SIGN
- CO2 AND SMOKE DETECTOR
- SUPPLY AIR
- RETURN AIR
- 2'X2' LED RECESSED FIXTURE
- 6" DIA. LED RECESSED ADJUSTABLE FIXTURE
- 8" DIA. PENDANT FIXTURE
- 6" DIA. LED RECESSED FIXTURE
- WALL MOUNTED SCONCE
- THEATRICAL FIXTURE

| BY | REVISIONS | DATE |
|---|---|---|
| | | |

IEL CENTER - SENIOR THESIS

REFLECTED CEILING PLANS

DRAWN: CARYN BRAHAMS
CHECKED:
DATE: 4/29/15
SCALE: VARIES
JOB NO.: XXX
SHEET: I-2.8