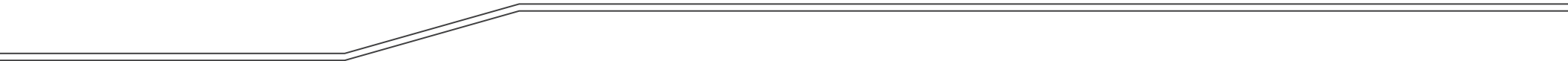


IVAN HU  
ARCHITECTURE PORTFOLIO







*"Architecture is a ride - A physical ride and an intellectual ride."*

Antoine Predock

contact



626.840.8808



ivanhu@wndesign.net

# contents

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01



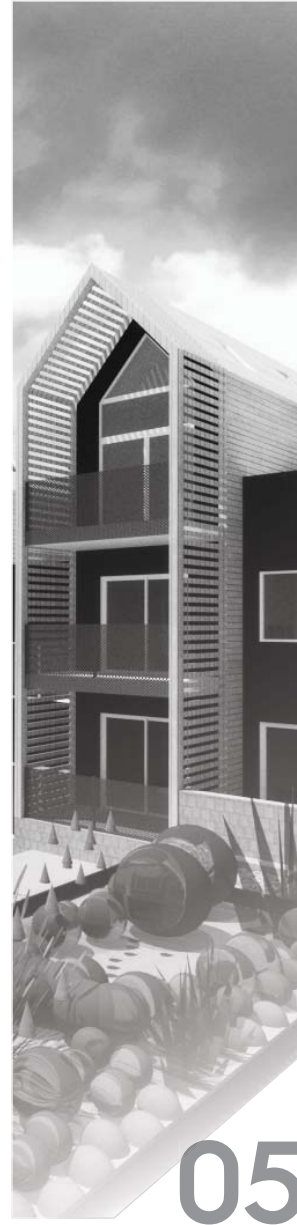
02



03



04



05



06





01

## Romberg Resurgence

Tiburon/San Francisco, CA

M.Arch 2nd Year Studio - 2018

The dynamic of creating a Visitor Center with the purpose of an Exhibition Space/Classroom setting is not the creation of the building itself, but its integration with the surrounding elements. Romberg Tiburon Center is situated at a prime location that overlooks the beauty of the bay, and maintaining that view became one of the core driver to the concept of this project. Romberg Resurgence is an approach of minimal intrusion from the architectural elements, instead utilize natural foliage to encase the building, and incorporating it not just within the site, but the connection throughout multiple programs and structures.

The purpose of studying the marine biolife and immersive study through kayak excursion is the program's attempt to bring knowledge of the marine life to our attention. The concept of Romberg Resurgence is to further that knowledge and connection, not just of the marine typology, but with all other biodiversities, including: human, marine, and nature. This is made possible by reconfiguring a different masterplan with immersive hiking paths within the thick forest, with controlled viewpoints to different spots of framed view of the bay. The building is configured through the open circulation between every space, allowing more control to the human of the different needs the space can be used for. Utilizing an open plan structure system allows any future changes to the site without massive renovation and reconstruction.

Net Zero is being done by an integrative design of evaporative cooling and green roof to maintain ambient temperature of the building. It is also site specific, by utilizing dominate and prevailing winds in the orientation of the building to create a micro-climate effect to help minimize energy use. Solar panels are integrated into the green roof without visible intrusion, providing enough energy to surpass Net Zero, and become a Net Positive design.

Site Study  
Energy Analysis  
Concept  
Design/Render  
Technical Drawings  
Layout  
Post-Rendering

### Program

Autodesk Infracore  
Autodesk Insight  
Trimble SketchUp  
Autodesk 3dsMax  
Autodesk AutoCAD  
Adobe Illustrator  
Adobe Photoshop

### Accolades

Architecture @ Zero  
NSAD  
AIA:LA

Grand Prize  
Student Showcase  
Annual 2x8 Exhibition

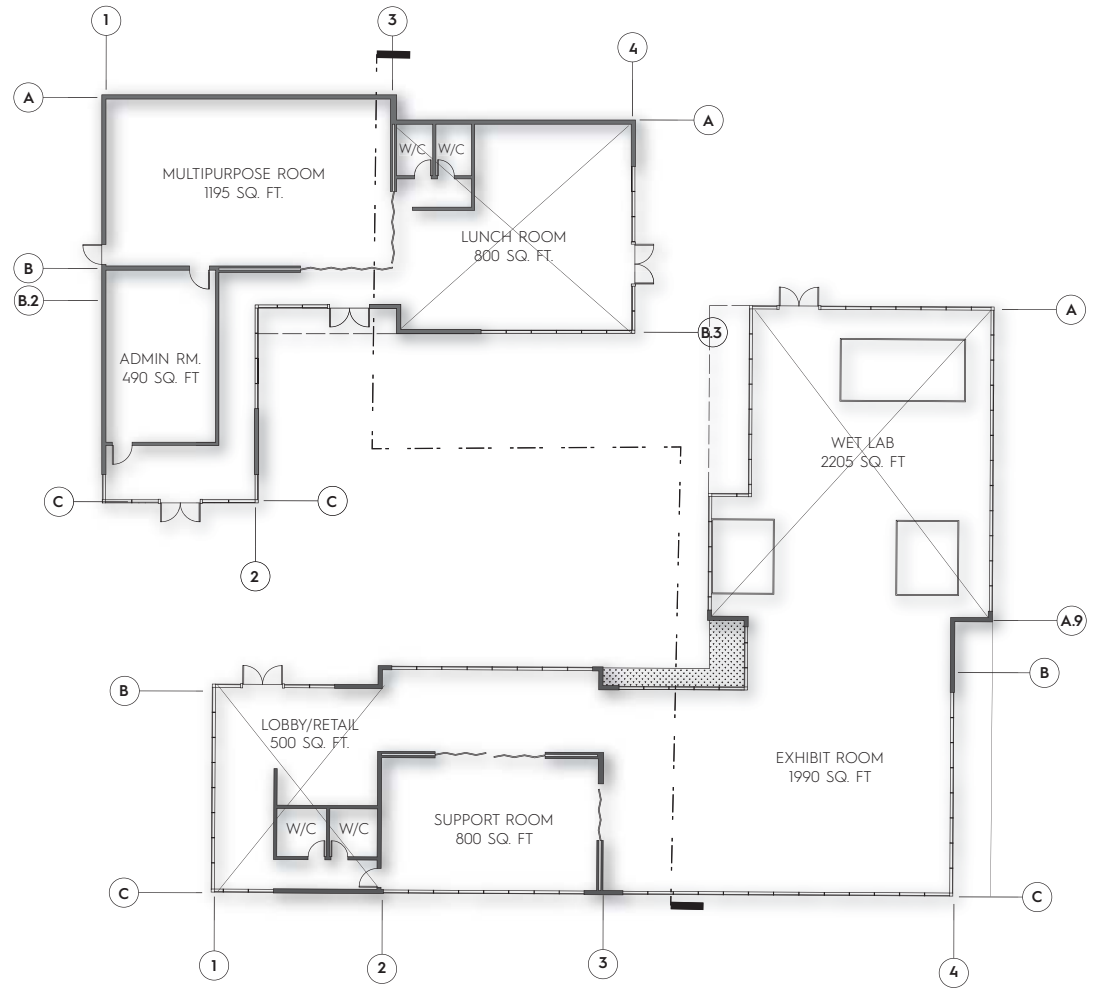


contextural map







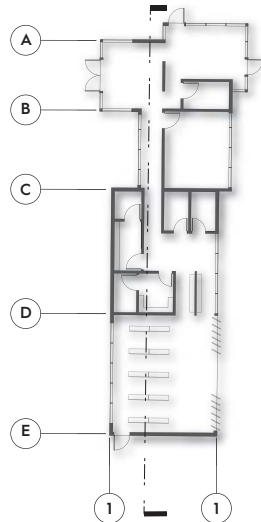


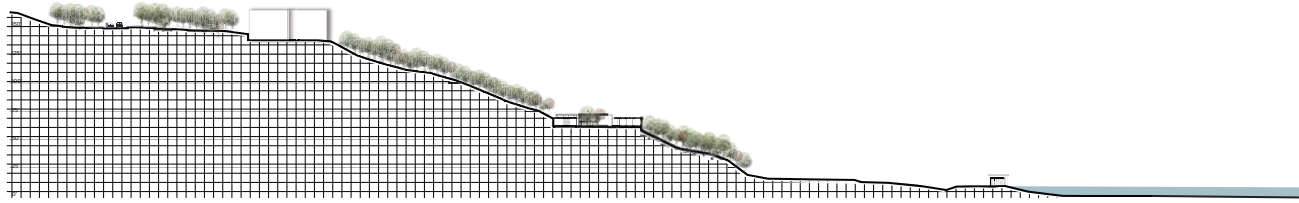
exhibition I administrative bldg.

kayak I pier bldg

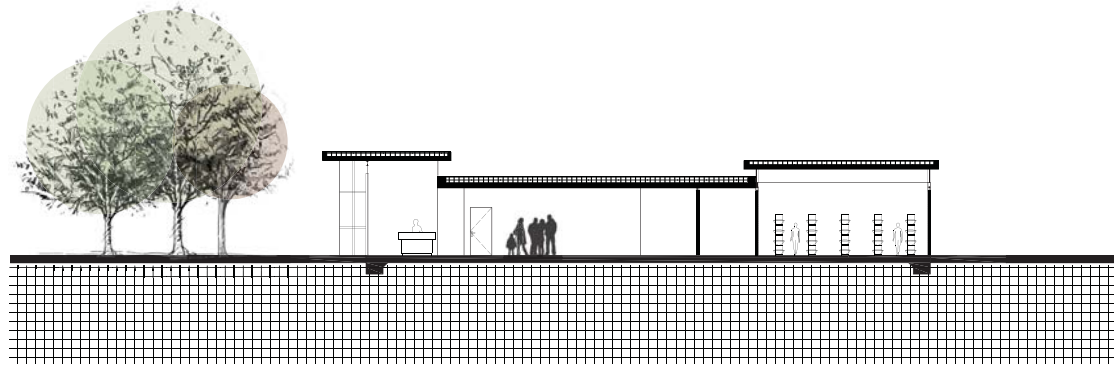
#### KEY

- 1 - RECEPTION
- 2 - LUNCH ROOM/CAFETERIA
- 3 - W/C
- 4 - ADMIN OFFICE
- 5 - PUBLIC W/C
- 6 - LOCKER ROOMS
- 7 - GEAR STORAGE
- 8 - KAYAK STORAGE
- 9 - KAYAK DOCKING BAY

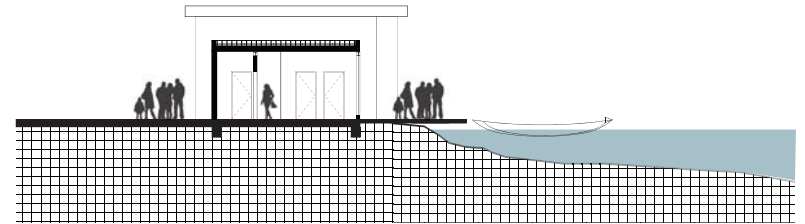




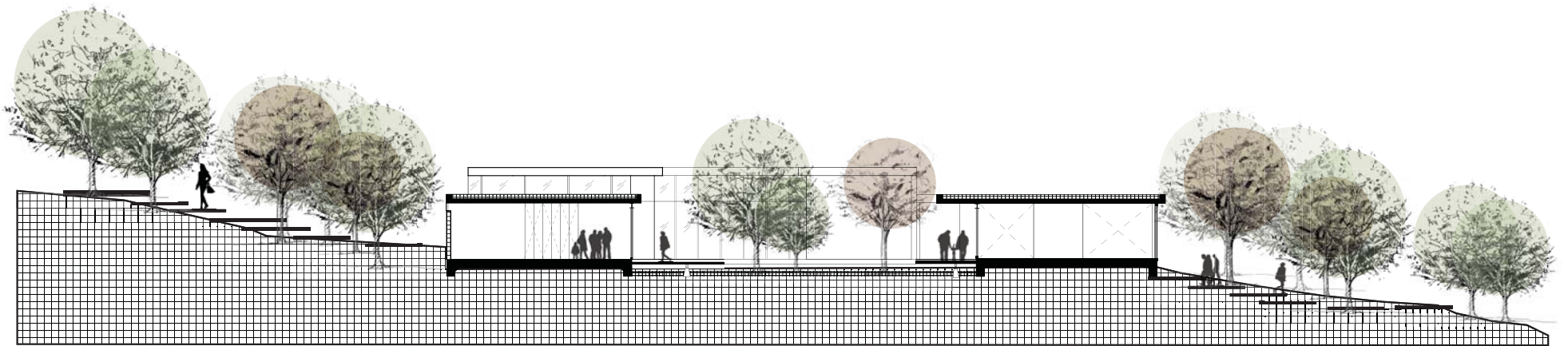
section **SITE**



section **KAYAK**



section **KAYAK**



section **EXHIBITION**



render







02

## Kairoa Brewery

San Diego, CA

Mojave Works Architecture

A family recipe and two decades of practice, owner and brother from New Zealand decides to bring their craft and delicacies from their country to the micro-brewery world of San Diego, CA. A city known for their vast amount of micro-brew, Kairoa wishes to join this trend in a small part of town at University Heights. Knowing the strong identity of San Diegan, Kairoa is designed to be dominantly family oriented, to invite the neighborhood into this establishment. Working close with multiple consultants, to customized metal work, Kairoa is aimed to be a unique brewery in San Diego.

A fully exposed interior with natural wood finishes, glorifying the brewing systems, to open glazing systems to the public street, we want a family oriented design that corresponds to the people of University Heights. Kairoa meaning Long Cloud, which is implemented with the custom canopy system on the roof.

## Program

Concept  
Design/Render  
Technical Drawings  
Layout  
Post-Rendering  
Organization

Trimble SketchUp  
Trimble SketchUp  
Autodesk AutoCAD  
Adobe Illustrator  
Adobe Photoshop  
Adobe Acrobat Pro

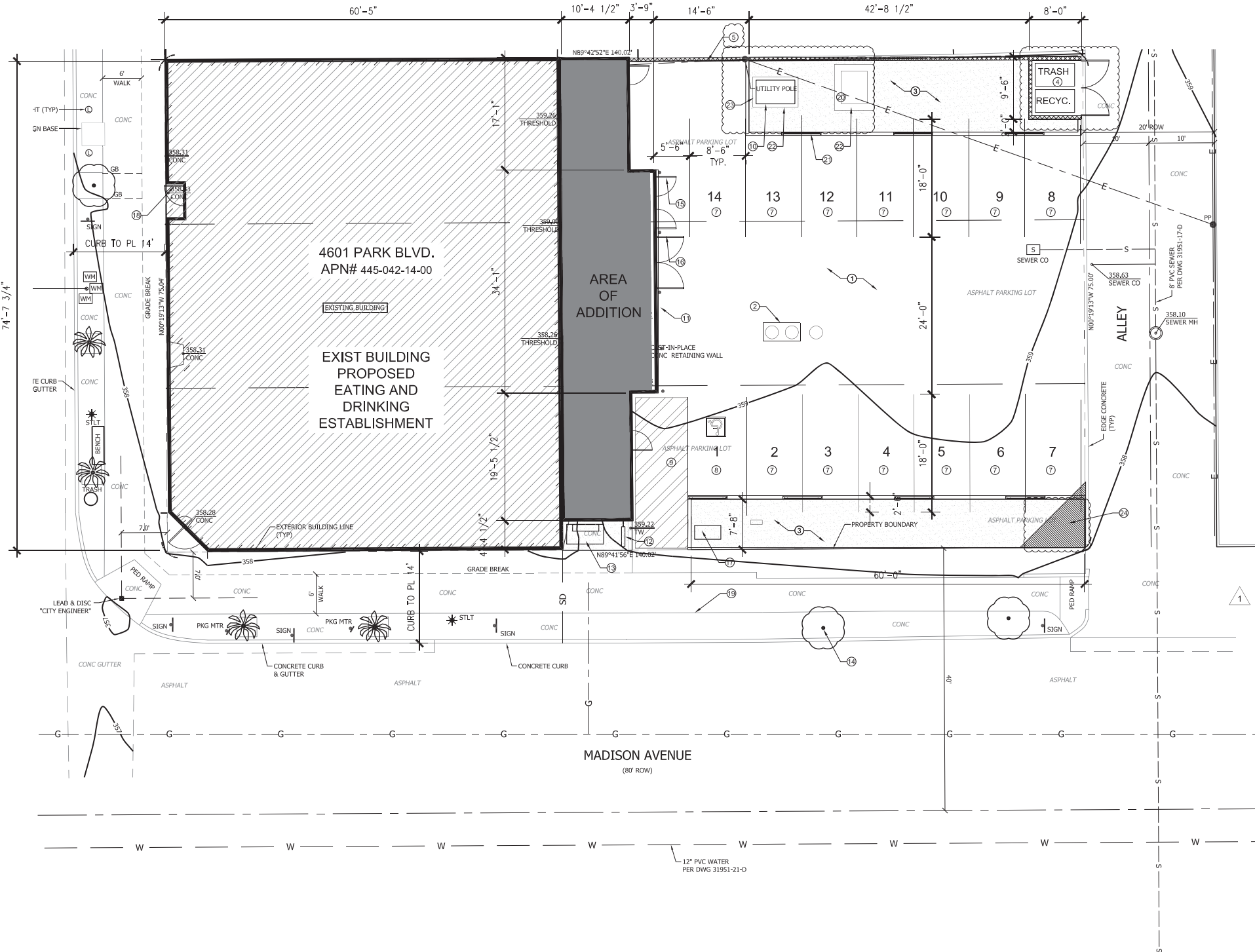
## Design Role Responsibility

Nov. 2017 - April 2018

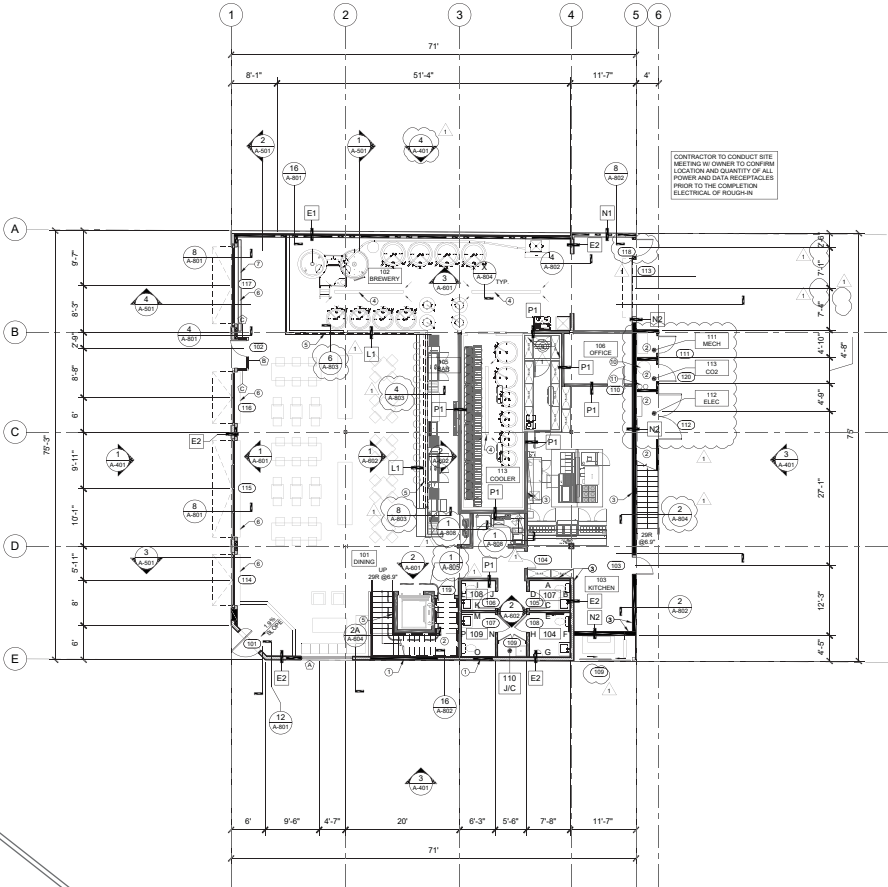
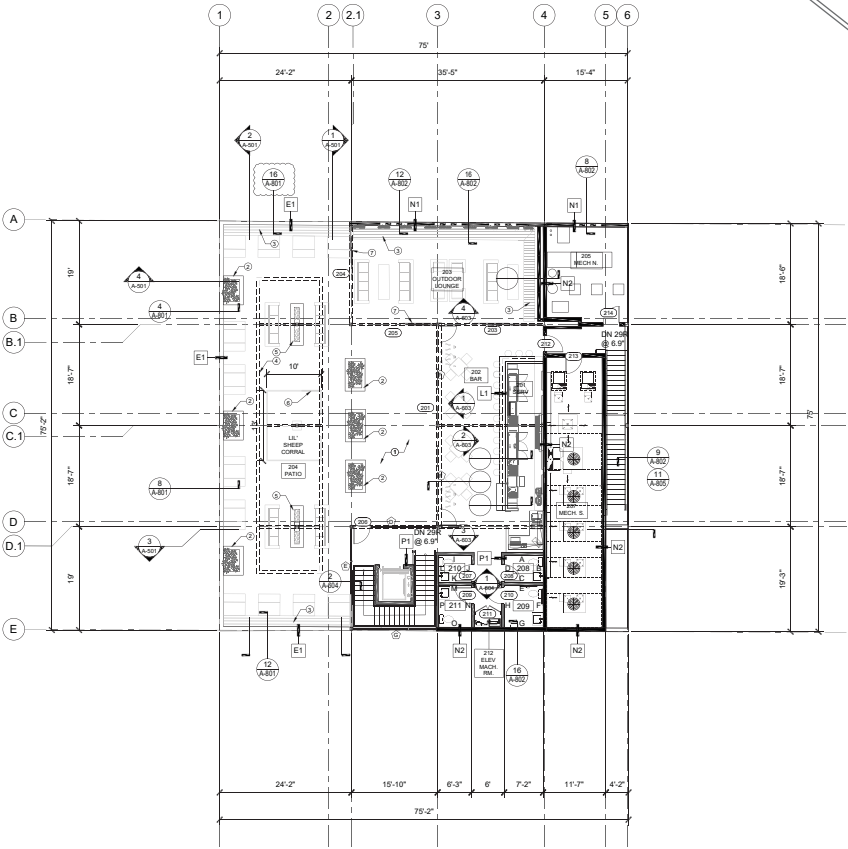
**Job Captain**

*Design Development  
Construction Documents  
Construction Administration*

site plan



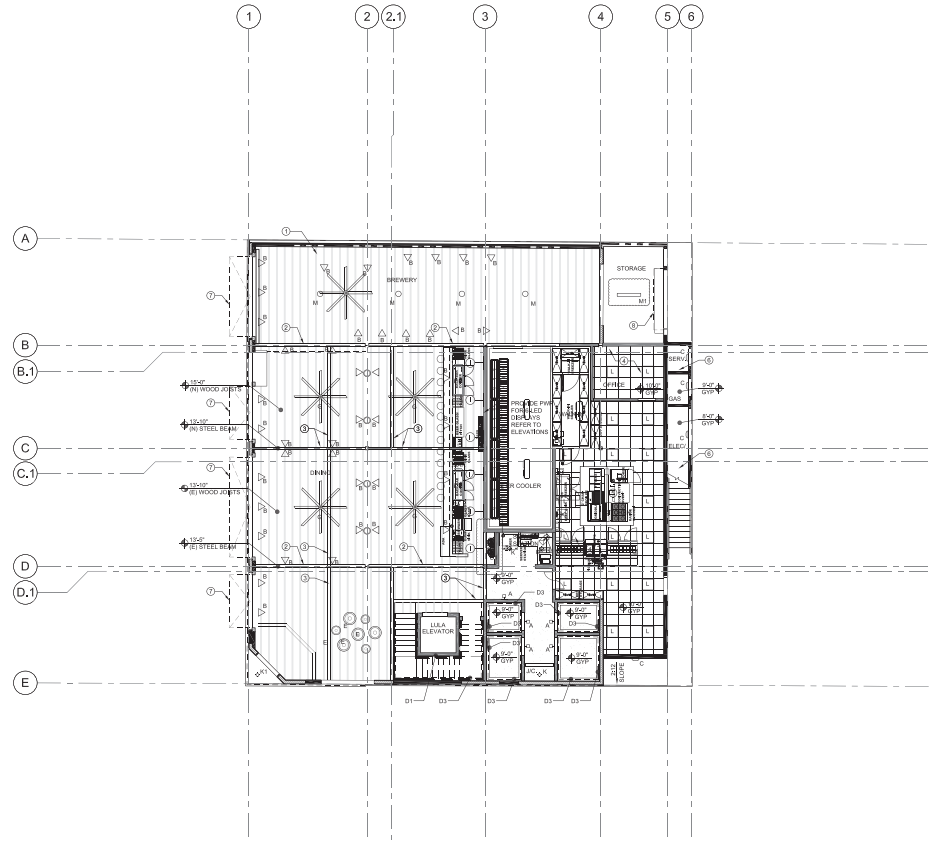
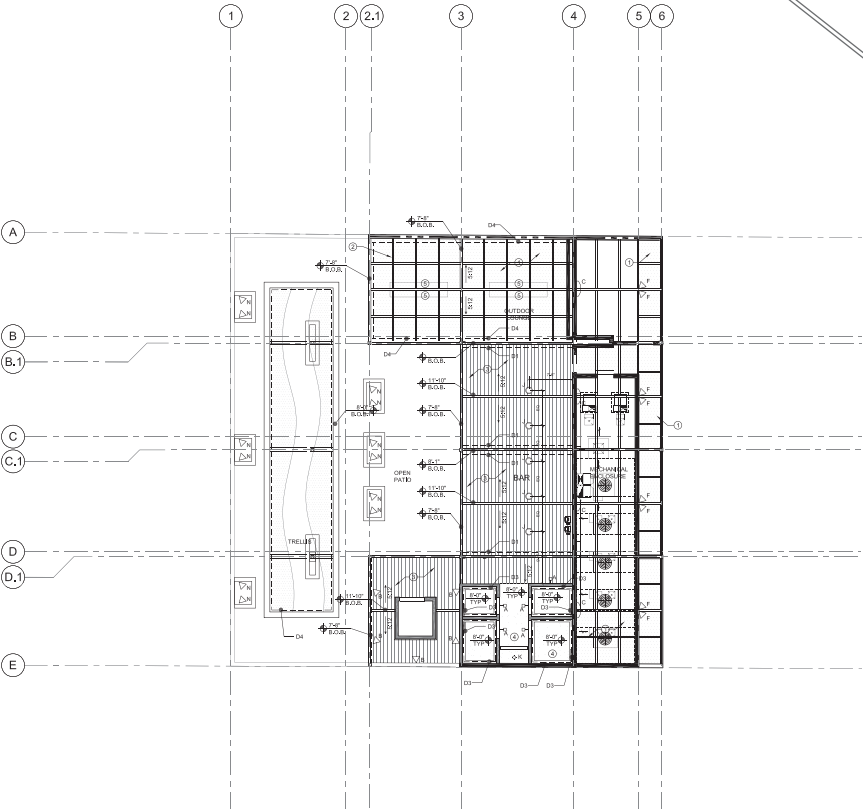
level 01 floor plan



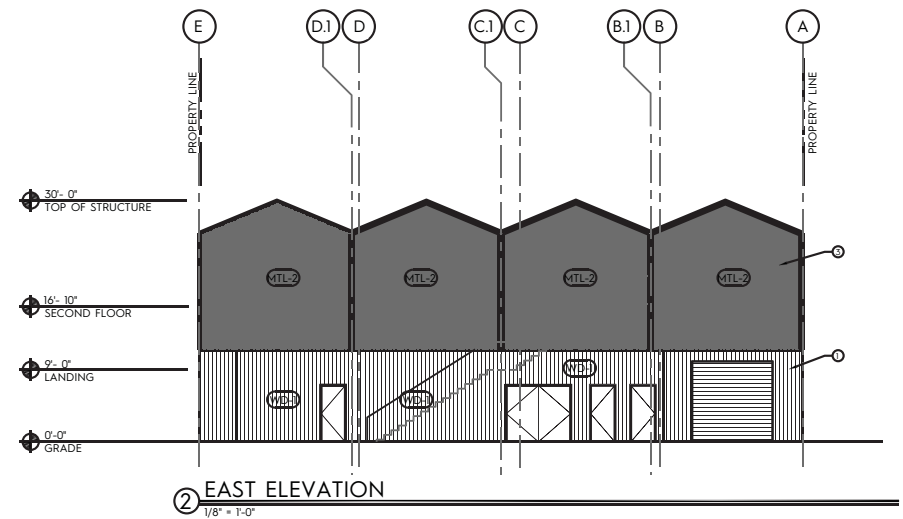
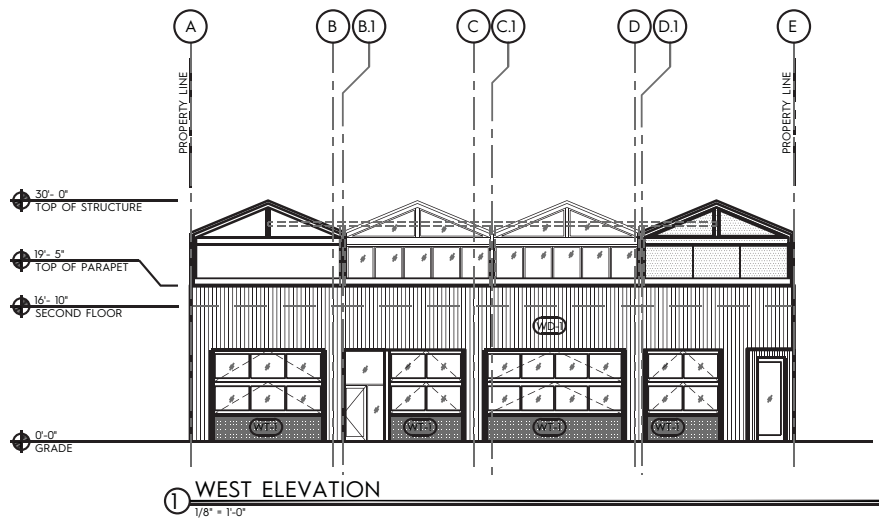
level 02 floor plan



level **01** RCP



level **02** RCP







render







## 03 [Void] Scape

Portland, OR

B. Arch 4th Year Studio - 2017

This project's approach is to explore the architectural relationship of social void spaces that exists within high density living and public realm. Through design programming intervention of these spaces, we are able to re-purpose the fabric of a city that was once industrial heavy, to fit the social lifestyle of the area.

By understanding the surrounding context of the site and the proposed intention of the Ford District of Portland, Oregon, [Void]Scape focus on the pedestrian scale by celebrating the Utopian image of the lifestyle of 'Portlanders'. This is possible from studying the historical influences along with the culture and tradition of Portland.

The process of the design revolves around an unification of multiple aspects of demographics and infrastructure that is present of Ford District; Creative Makers, Social Unity, Local Artisans, Greenscapes, and Migrating Residences. The language of the design will derive principles of social identification and interaction experienced in Italian culture and design while preserving the raw Portlandia style within.

### Program

Site Study  
Energy Analysis  
Concept  
Design/Render  
Technical Drawings  
Layout  
Post-Rendering

Autodesk Infraworks  
Autodesk Insight  
Trimble SketchUp  
Autodesk Revit  
Autodesk Revit  
Adobe Illustrator  
Adobe Photoshop

### Accolades

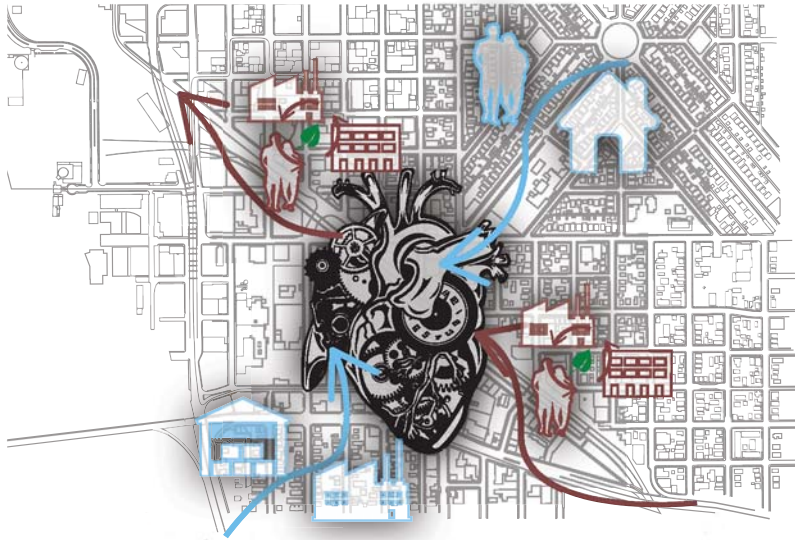
Green Globe  
NSAD  
AIA:Portland

3 Green Globe Design  
Student Showcase  
Ford District Exhibit





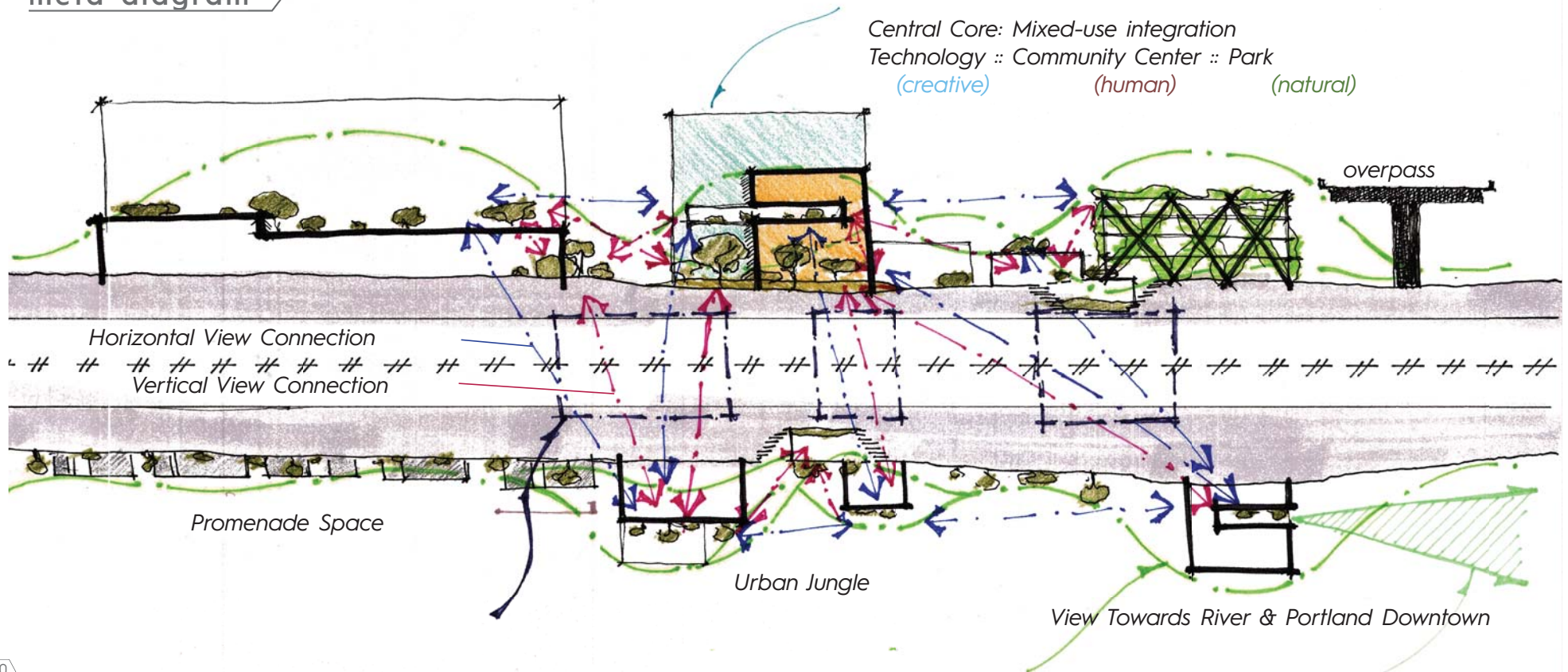
## concept



## connection

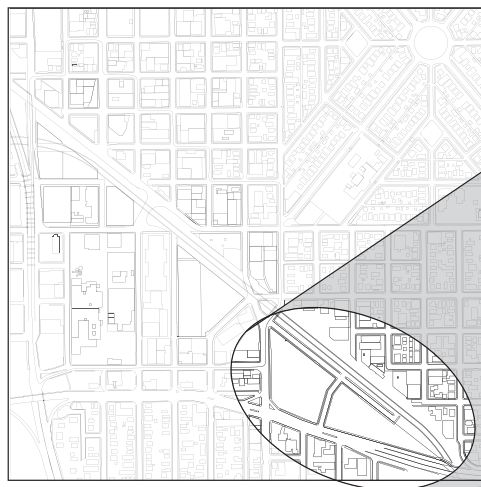


## meta-diagram

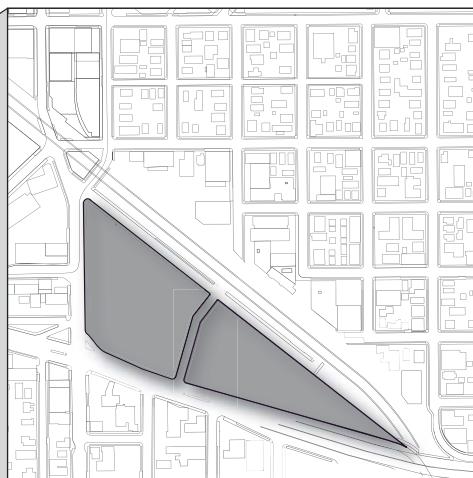




## site selection

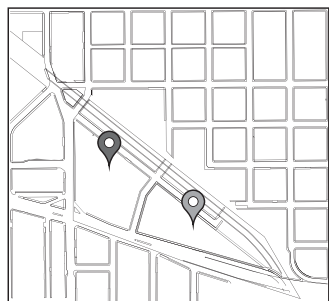


Ford District

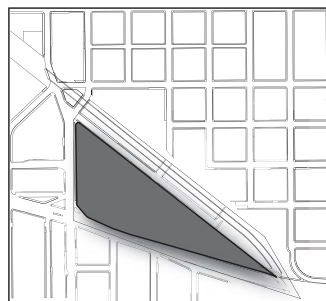


Site 10A & 10B with  
surrounding context

## site concept



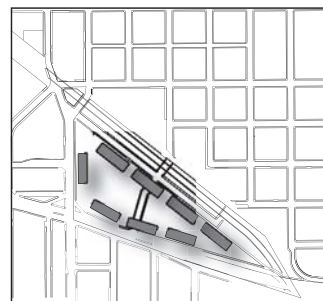
Original parcel of Site 10A &  
10B



Unifying both parcel into one  
site



Sectionalizing masterplan to  
200'x200' block, similar to  
urban scale of Portland



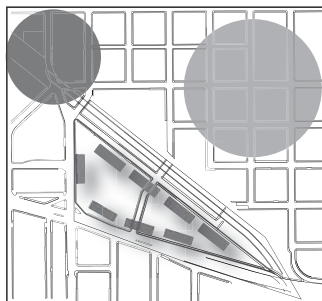
Placing blocks at the  
perimeter, connecting with the  
ground level



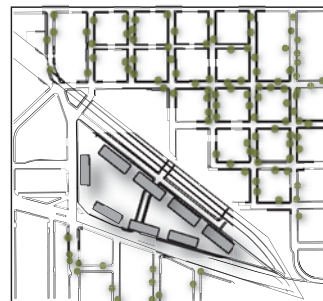
Create entrance and exit  
property throughout site



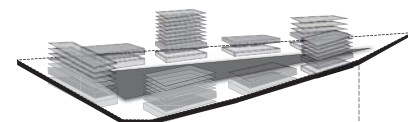
Designing the social piazza  
within the site



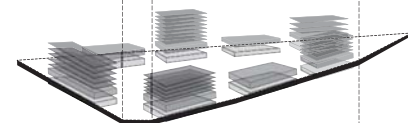
Incorporating Maker and  
Residential typology



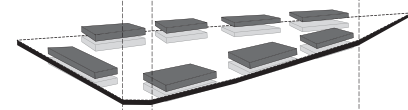
Maintain greenscape within the  
site



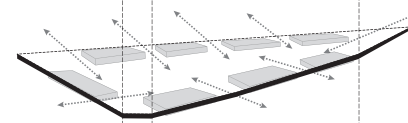
Relate Urban Void to Surrounding Building  
with Piazza Promenade



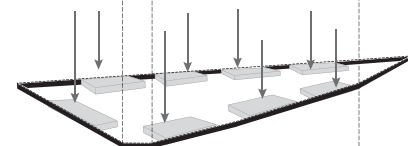
Hierarchy Differential towards  
Dynamic Infrastructure



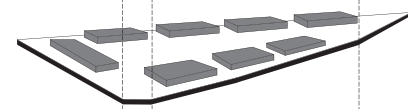
Incorporating Other Program Use  
Into the Master Plan



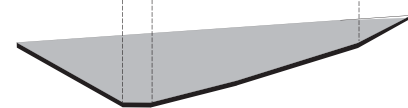
Entry Points to Void and Public  
Right of Way



Retail Space Below Grade for Security from  
Adjacent High Density Traffic



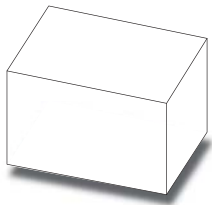
Retail at Public Level



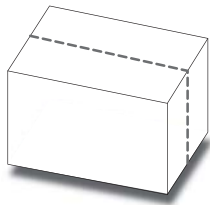
Site 10A & 10B Footprint

process: heirarchy

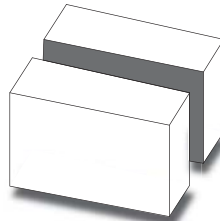
## process: form generation



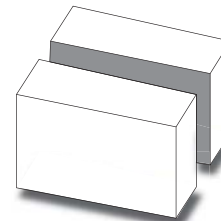
*Midrise Building Volume*



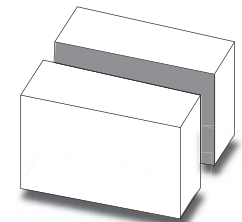
*Dividing Volume per Program Use*



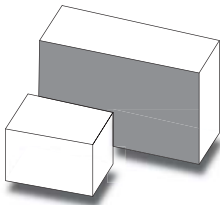
*Splitting Volume to Create Separation of Program*



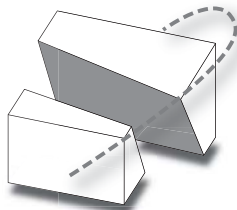
*Cavity Allows for Sun Penetration*



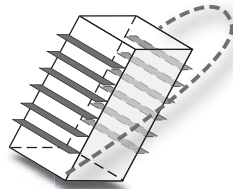
*Circulation Within and Around Building*



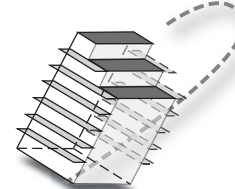
*Heirarchy of Volume Due to Program Needs*



*Tapering Building to Control Sun Exposure For Passive Energy Response*

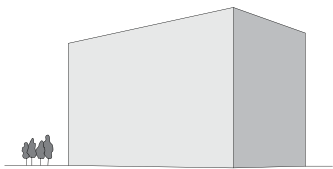


*Design Vertical Open Space in a Tapered Structure*

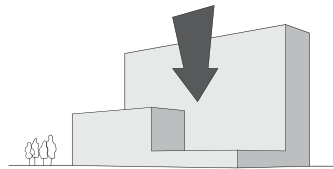


*Tapered Roof Design Allows for Roof Garden and Terraces*

## process: building integration



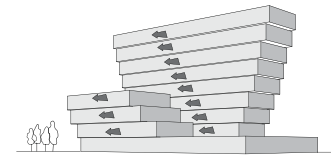
*Building Volume*



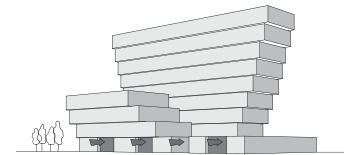
*Trimming Mass of Building to Suitable Footprint*



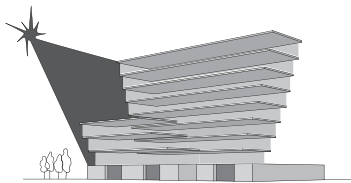
*Tapering Building by Manipulating Size of Each Level*



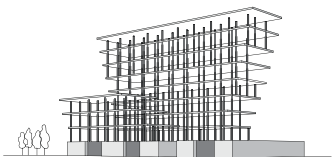
*Shifting Floor Plates*



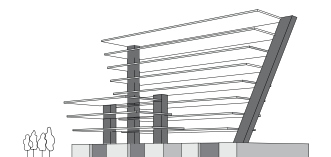
*Create Multiple Access Entries at Ground Level*



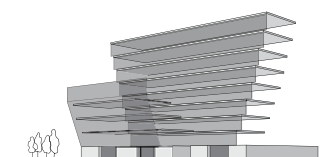
*Use Curtain Wall/Open Facade to Allow Abundant Sunlight Inside Building*



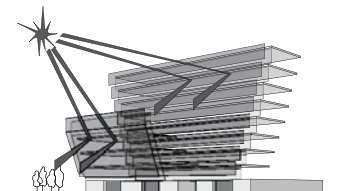
*Use Pilotis Structure to Support an Open Facade and Open Plan Design*



*Place Egress and Circulation Paths Throughout Building*

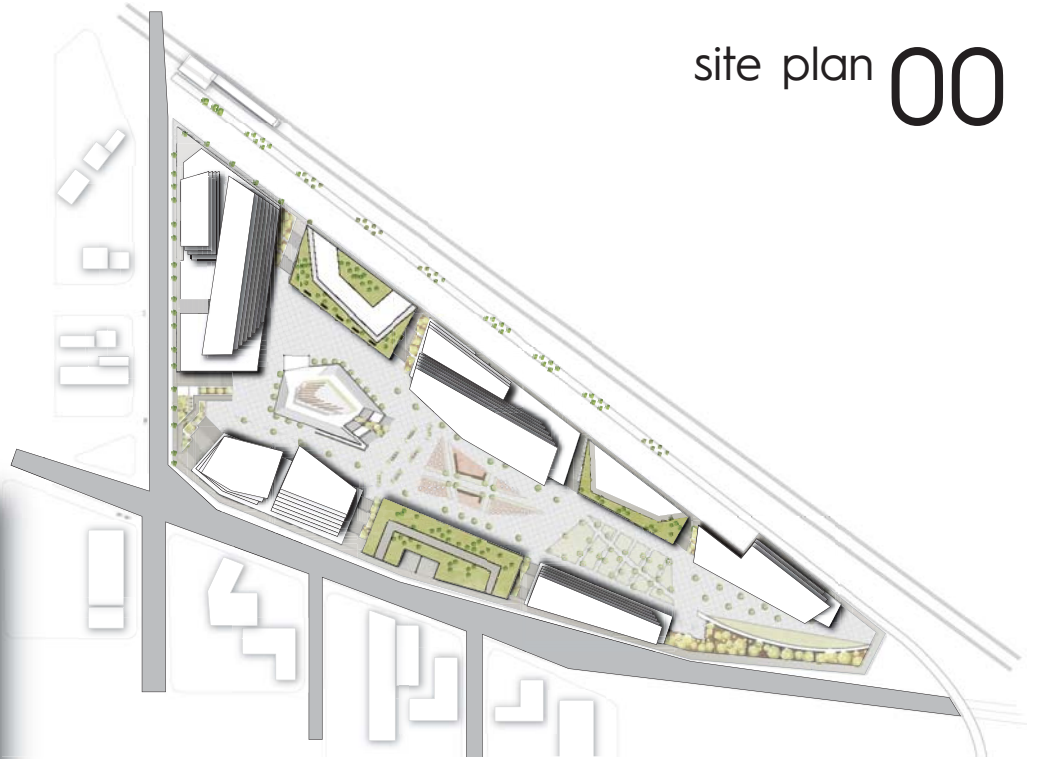


*Curtain Wall System (See Detail)*



*Utilize a Double Facade to Control Heat Gain Loss*

site plan 00



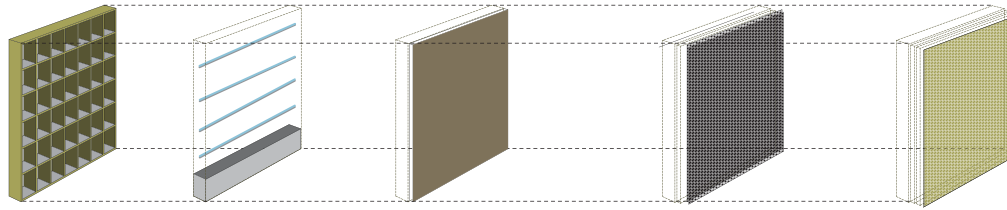
plaza plan 01





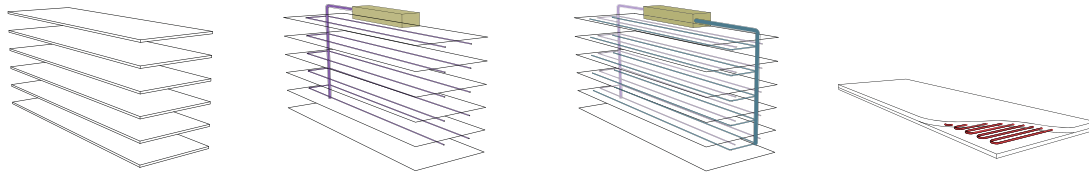
# floor plan 02





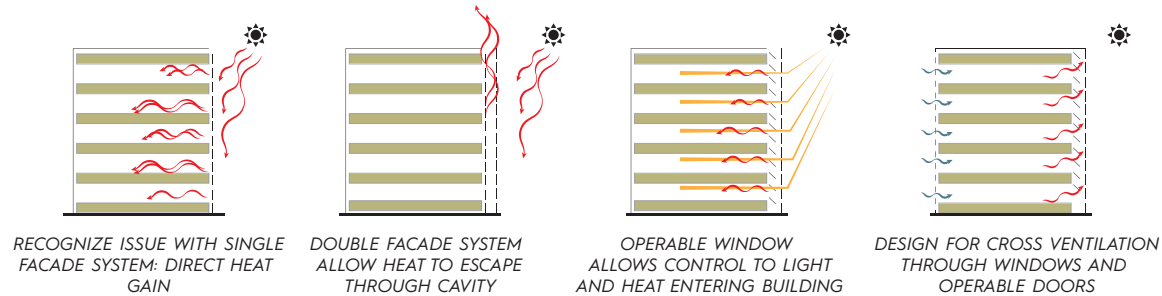
GRID SHELVING SYSTEM   IRRIGATION SYSTEM   ORGANIC FERTILIZER MULCH   WIRE MESH GRID TO RETAIN MOISTURE   LOW MAINTENANCE HIGH PHOTOSYNTHESIS GREENSCAPE

## RESIDENTIAL GREEN WALL URBAN FACADES



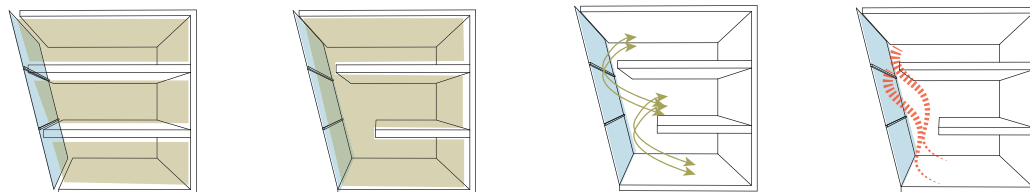
FLOOR PLATES   HVAC SYSTEM AND SUPPLY AIR DIAGRAM   HVAC SYSTEM AND RETURN AIR DIAGRAM   FLOOR PLATE WITH RADIANT COOLING AND HEATING SYSTEM

## ACTIVE COOLING AND HEATING SYSTEMS



RECOGNIZE ISSUE WITH SINGLE FACADE SYSTEM: DIRECT HEAT GAIN   DOUBLE FACADE SYSTEM ALLOW HEAT TO ESCAPE THROUGH CAVITY   OPERABLE WINDOW ALLOWS CONTROL TO LIGHT AND HEAT ENTERING BUILDING   DESIGN FOR CROSS VENTILATION THROUGH WINDOWS AND OPERABLE DOORS

## DOUBLE SKIN FACADE



CREATIVE OFFICE SPACE   PUSH BACK FLOOR PLATE WITHIN ENVELOPE   SENSORY CONNECTION OF MULTIPLE LEVEL   HIGHER CAVITY ALLOWS HEAT TO TRAVEL, REDUCING ENERGY NEED FOR COOLING

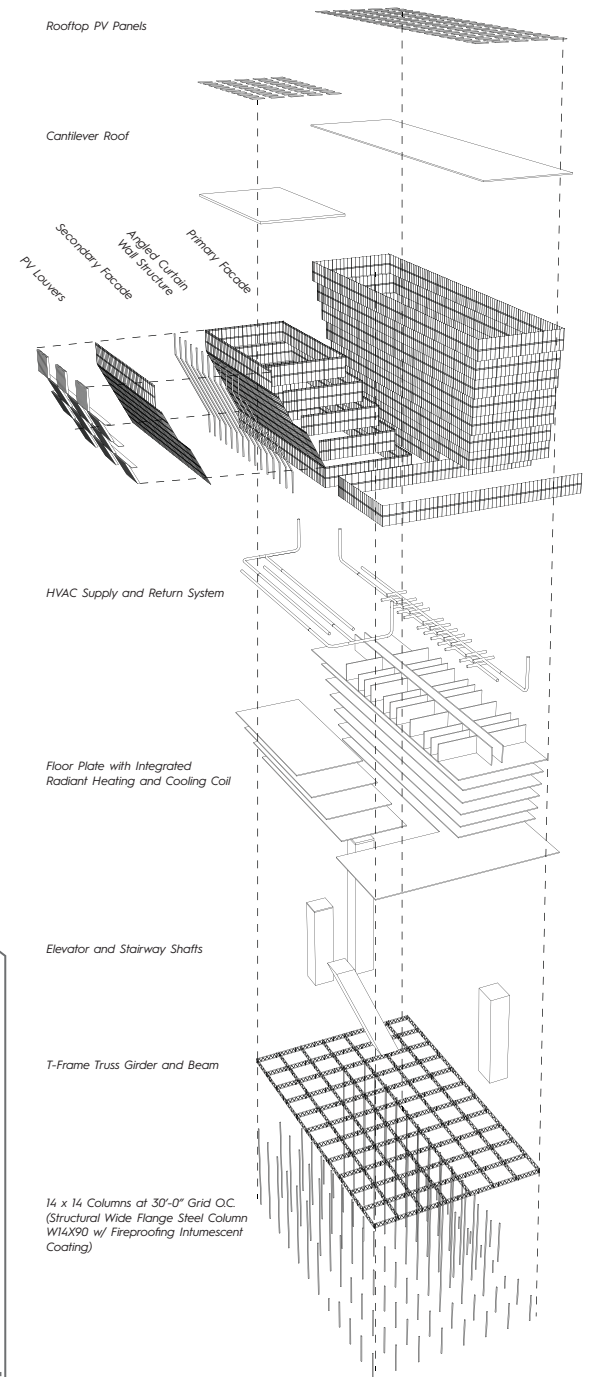
## UNIFIED SPACE CONFIGURATION



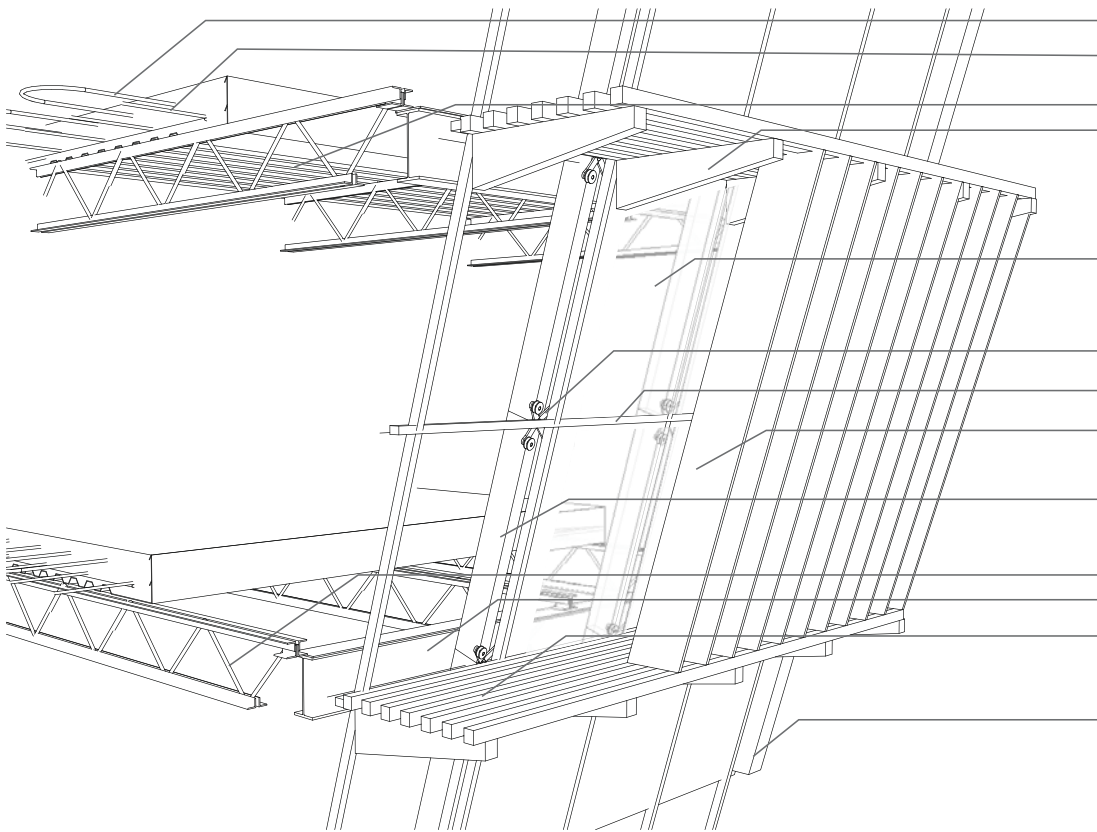
# section perspective



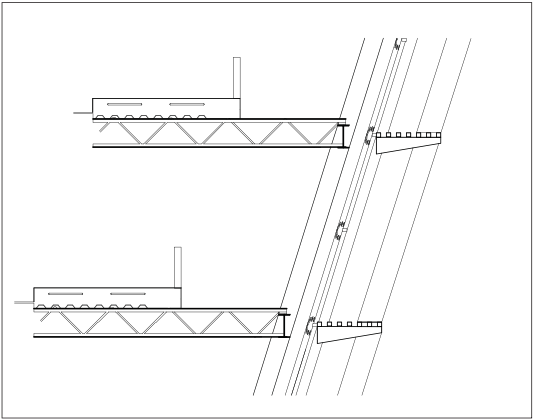
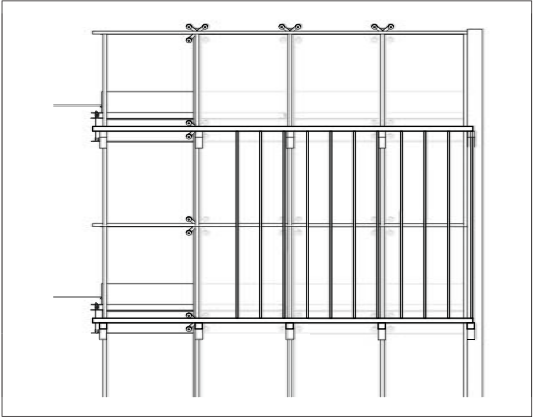
exploded axonometric



wall detail and construction



- RADIANT COOLING AND HEATING PEX TUBING
- REINFORCED REBAR GRID SYSTEM
- METAL DECKING
- GALVANIZED STEEL ARM
- UV CURTAIN SYSTEM
- CURTAIN SYSTEM SPIDER BRACING
- DUAL CHANNEL MULLION GRID SYSTEM
- FAUX WOOD PV PANEL SHADING SYSTEM
- CURTAIN PANEL STRUCTURAL SYSTEM
- TRUSS SYSTEM
- WIDE FLANGE GIRDER
- EXTERIOR ACCESSIBLE FLOORING
- STRUCTURAL COLUMN





render







## 04 Resonating Rhythm

Treasure Island, CA

Throughout time, music has allowed different cultures and demographics to unite and share common grounds. Everyone has the innate ability to understand and enjoy music, as sound can be experienced as a conversation in its own language. To translate music into an architectural composition, its structure is broken down to its core elements. Decibels, the vibration range of music becomes the movement and circulation through space; Frequency, the measure of levels in sound, translates to space volume and hierarchy; and Pitch, the audible movements becomes the control of light that individuals experience as they traverse throughout the built environment.

River Flows in You performed by renowned composer Lee Ru-ma, more commonly known as Yiruma and up and coming musical prodigy Henry Lau, provides a metaphorical relationship to the design. This musical piece was received as a reinterpretation of a predominant classical harmony by Yiruma which is redone in a modern approach through the incorporation of Henry Lau. The proposed site is located on the western shores of Treasure Island, a median point between San Francisco and Oakland, connecting the Eastern and Western ends of the Bay Bridge. This diverse area combines the hustle of the urban environment within San Francisco that often correlates to its history within Oakland's strong urban culture. Looking at the dramatic and rhythmic contrast performed by the two composers, it draws parallels to the differences of Oakland and San Francisco.

Following the idea of harmony between duality, the concept of the music center is a space that can be interpreted in both the progression and evolution of music and the unity of the adjacent cities of Oakland and San Francisco. The use of hard materials such as steel and stone in comparison to the softness of wood and glass represents the dichotomy and parallelism of the perceived space. A center that focuses on the experimentation of music to the final exhibition, Resonating Rhythm is a center that celebrates the journey of a musician as they experience their process to perfect their craft.

B. Arch 4th Year Studio - 2017

Site Study  
Concept  
Design/Render  
Computational  
Technical Drawings  
Layout  
Post-Rendering

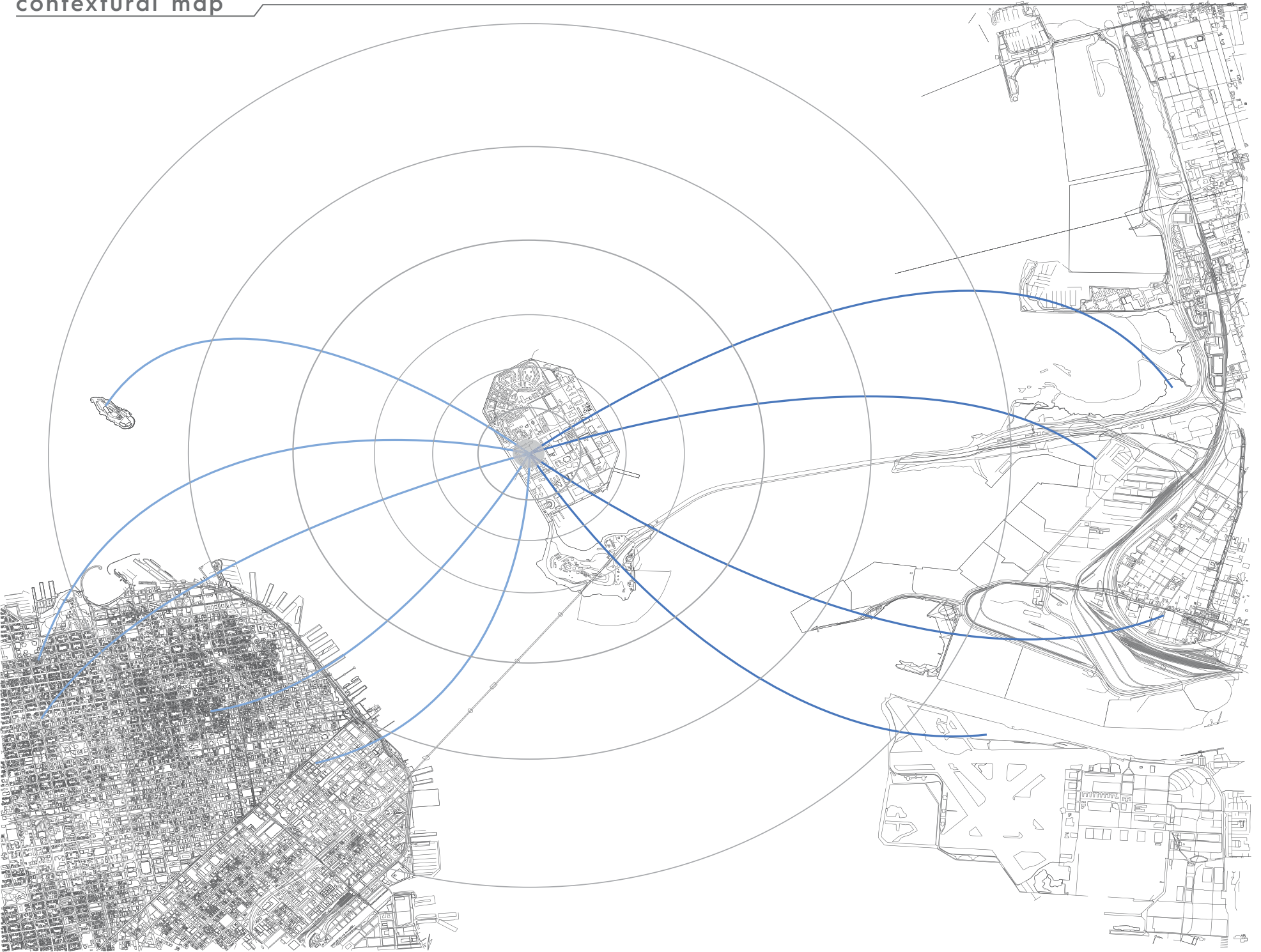
NSAD

### Program

Autodesk Infravorks  
Trimble SketchUp  
Autodesk Revit  
Autodesk 3dsMax  
Autodesk Revit  
Adobe Illustrator  
Adobe Photoshop

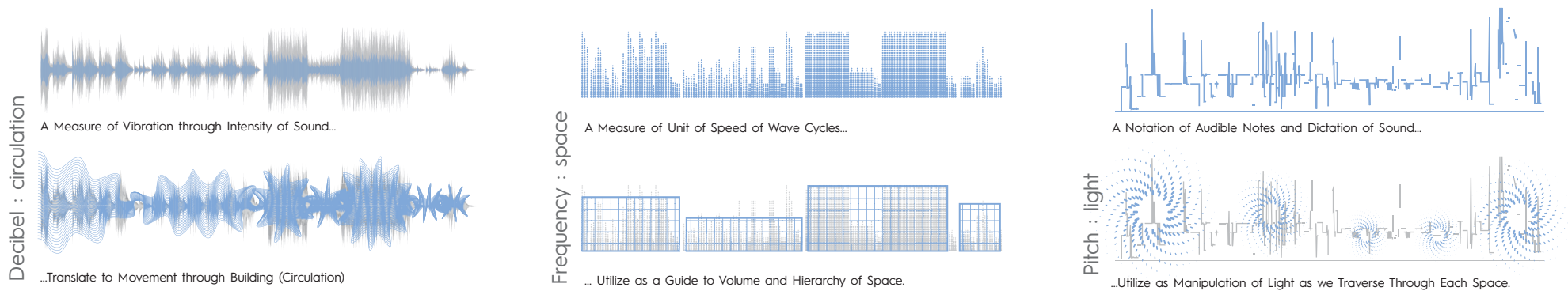
### Accolades

Senior Grad Show

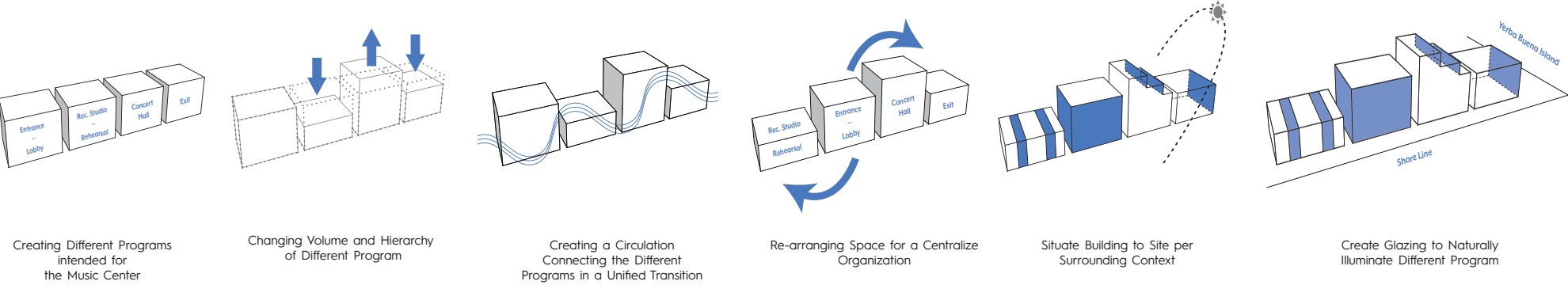




# process: methodology

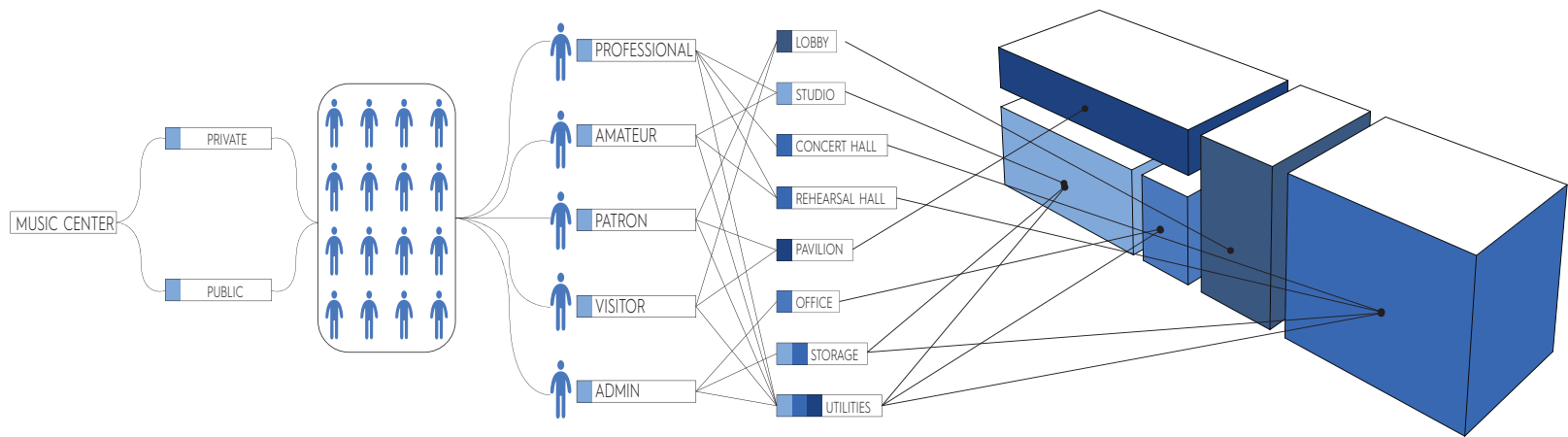


# process: organization



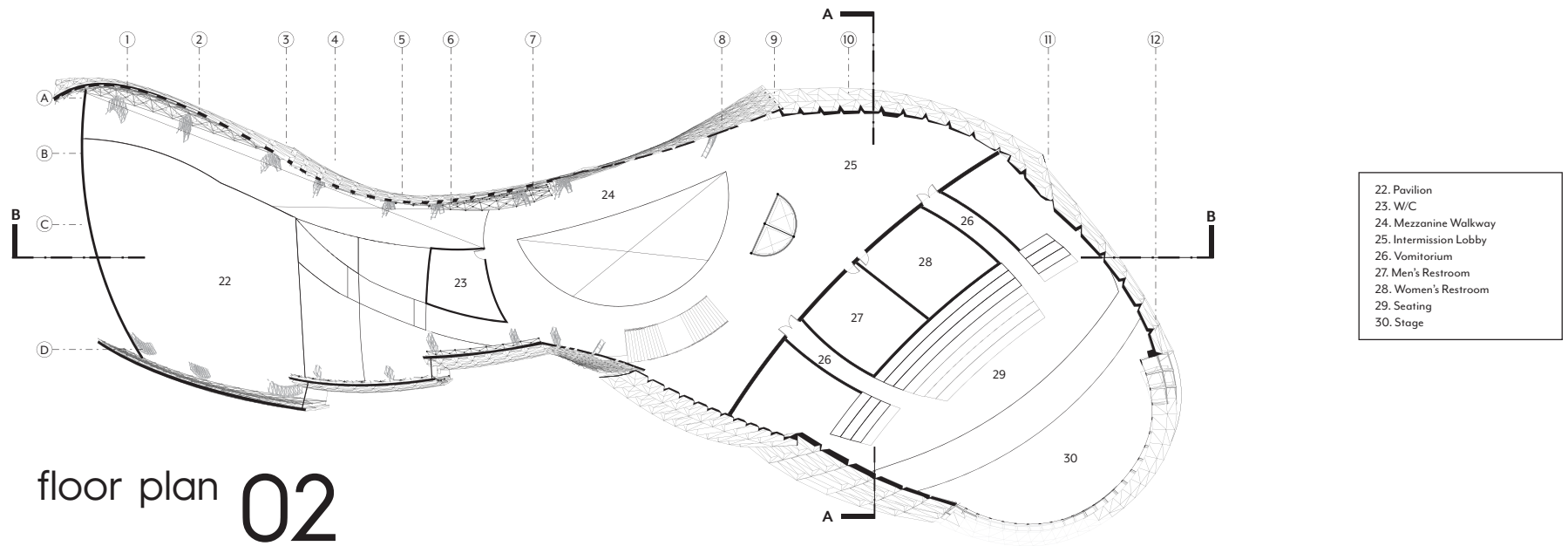


program analysis

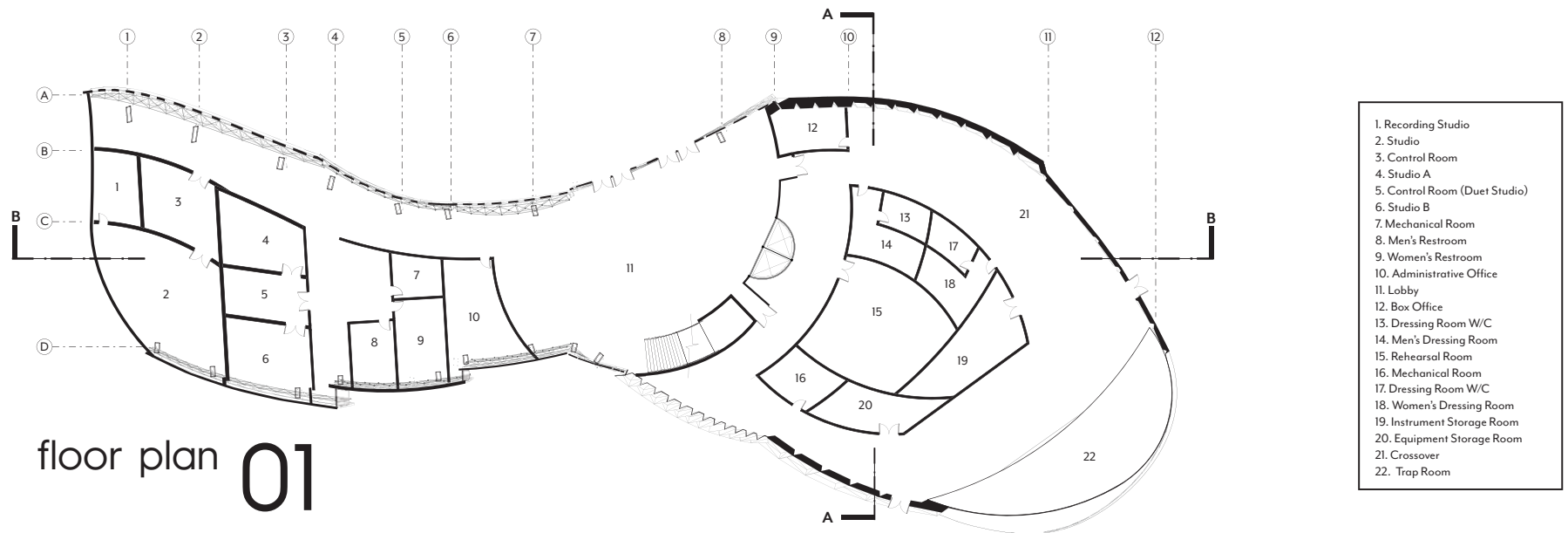


PROGRAM MATRIX

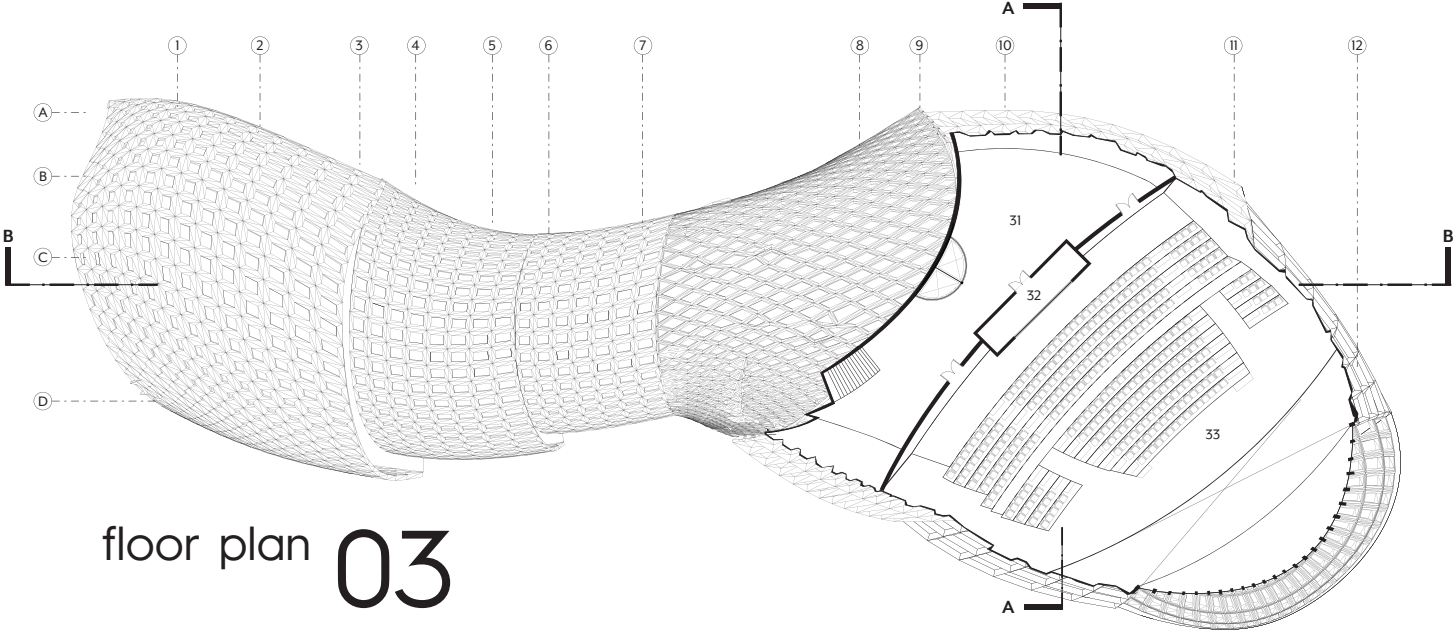
<b>Pavilion</b>	
Mezzanine Pavilion	5,975 SQ. FT
<b>Performance</b>	
Mix Studio	2,275 SQ. FT
Duel Studio	1,285 SQ. FT
Rehearsal Hall	1,180 SQ. FT
Concert Hall	10,600 SQ. FT
<b>Public</b>	
Lobby	5,005 SQ. FT
Restroom	2,480 SQ. FT
<b>Administration</b>	
Office	640 SQ. FT
Box Office	220 SQ. FT
Maintenance	430 SQ. FT
<b>Backstage</b>	
Dressing Rooms	887 SQ. FT
Storage	948 SQ. FT



floor plan 02



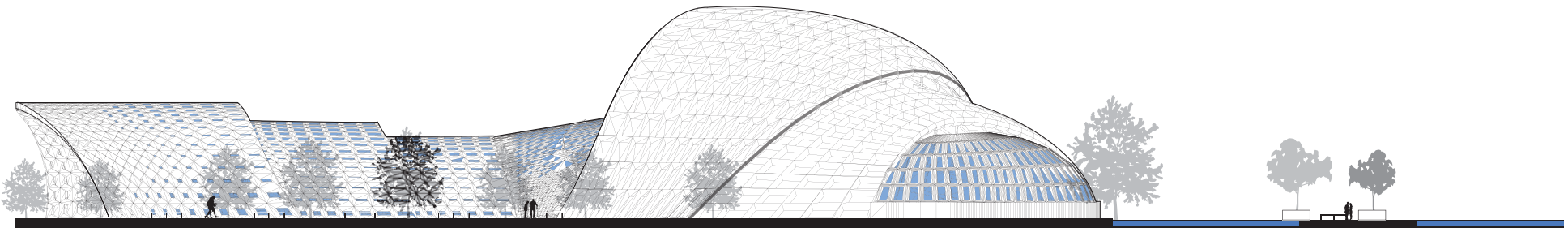
floor plan 01



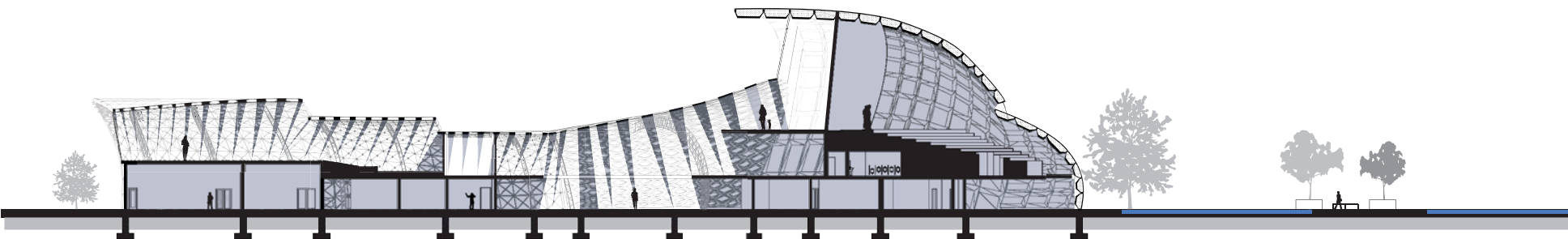
floor plan 03

- 31. Intermission Lobby
- 32. Dimmer Room/Control Room
- 33. Seating

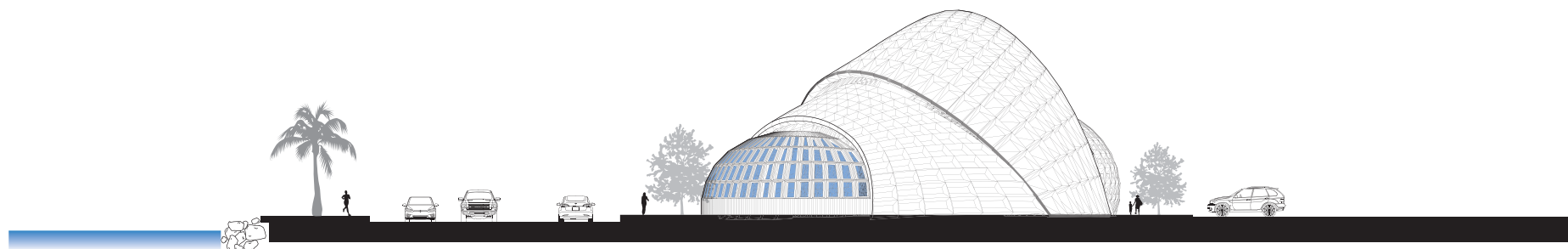




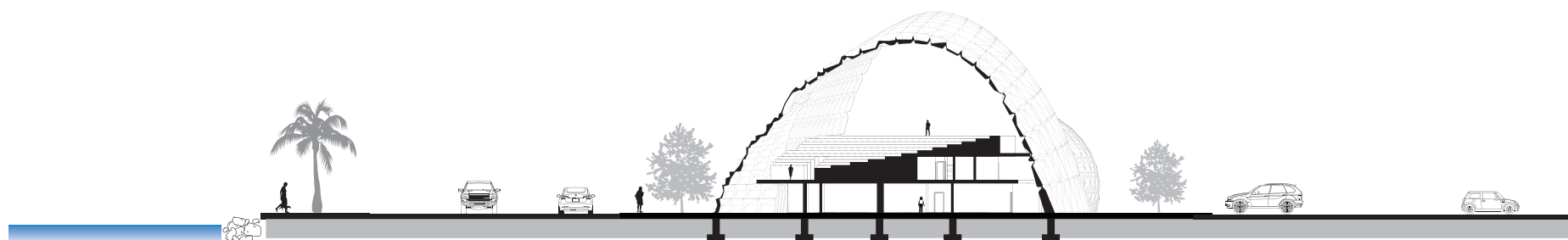
elevation **EAST**



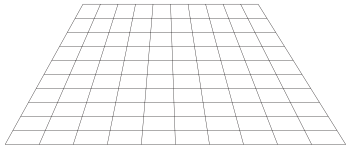
section **EAST**



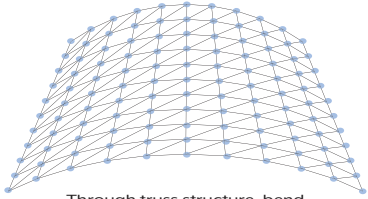
elevation **SOUTH**



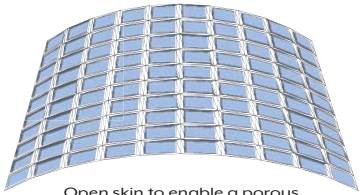
section **SOUTH**



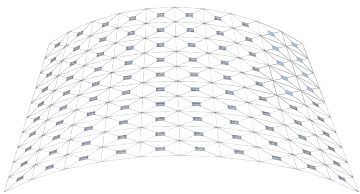
Utilize a grid guideline to manipulate facade system



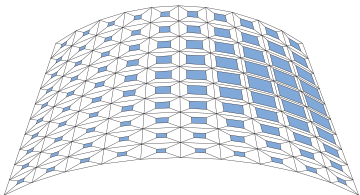
Through truss structure, bend facade to encompass internal programs



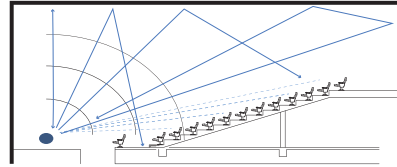
Open skin to enable a porous facade, allowing sun to penetrate the building



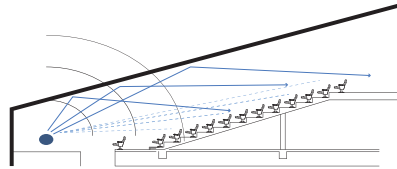
Control openings to control sun and heat gain within the structure



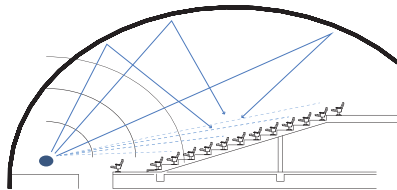
Generate facade to maximize morning sun, while minimize strong afternoon heat gain



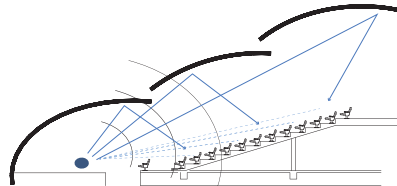
Start through generic massing and understand echo issues through orthogonal space



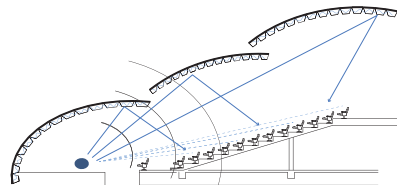
Manipulating the ceiling geometry to allow acoustic to pass throughout space



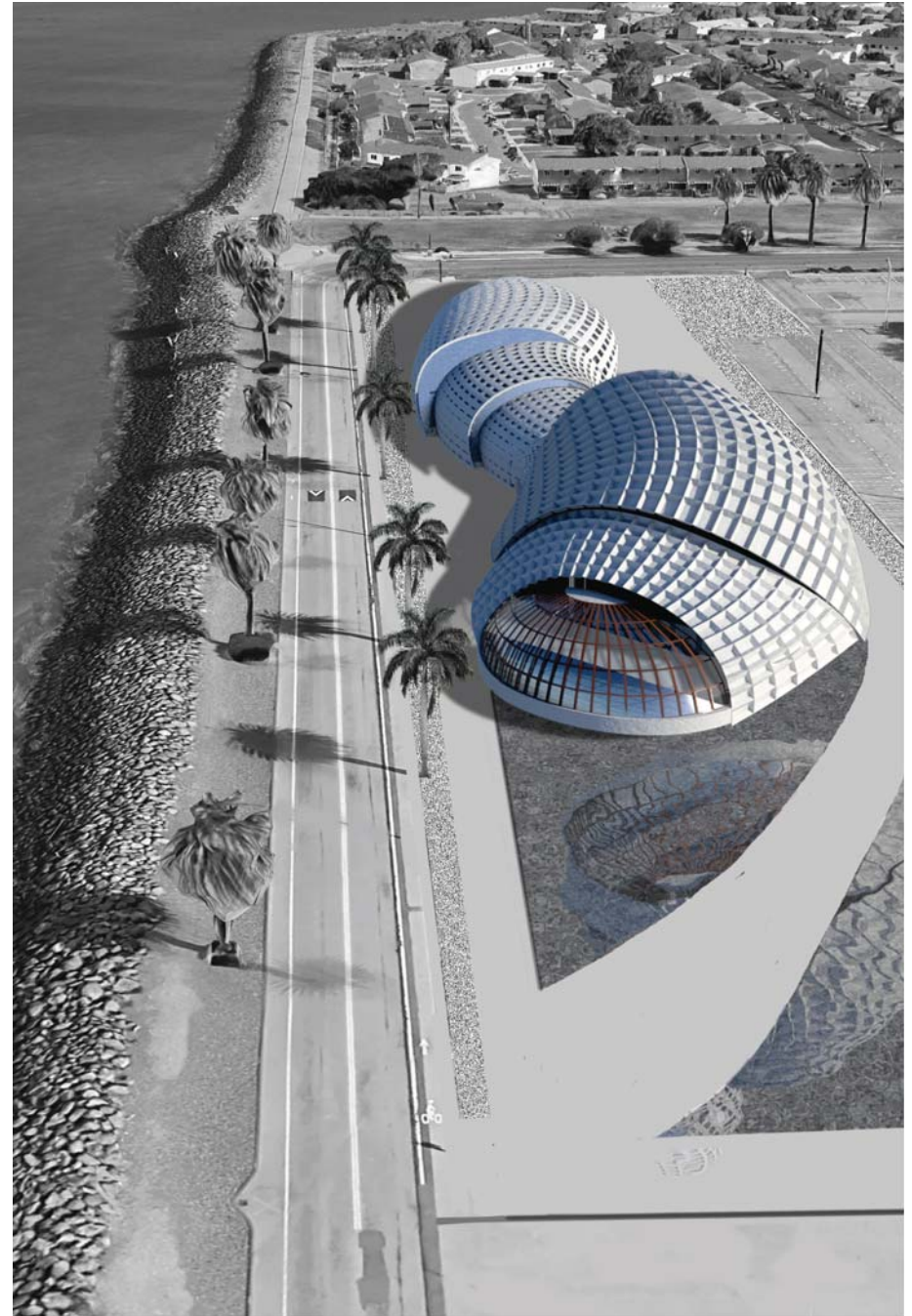
Following concept design, through utilizing a dome may create pinpoint sound travel



Fix dispersal of sound by breaking dome ceiling into separated sections



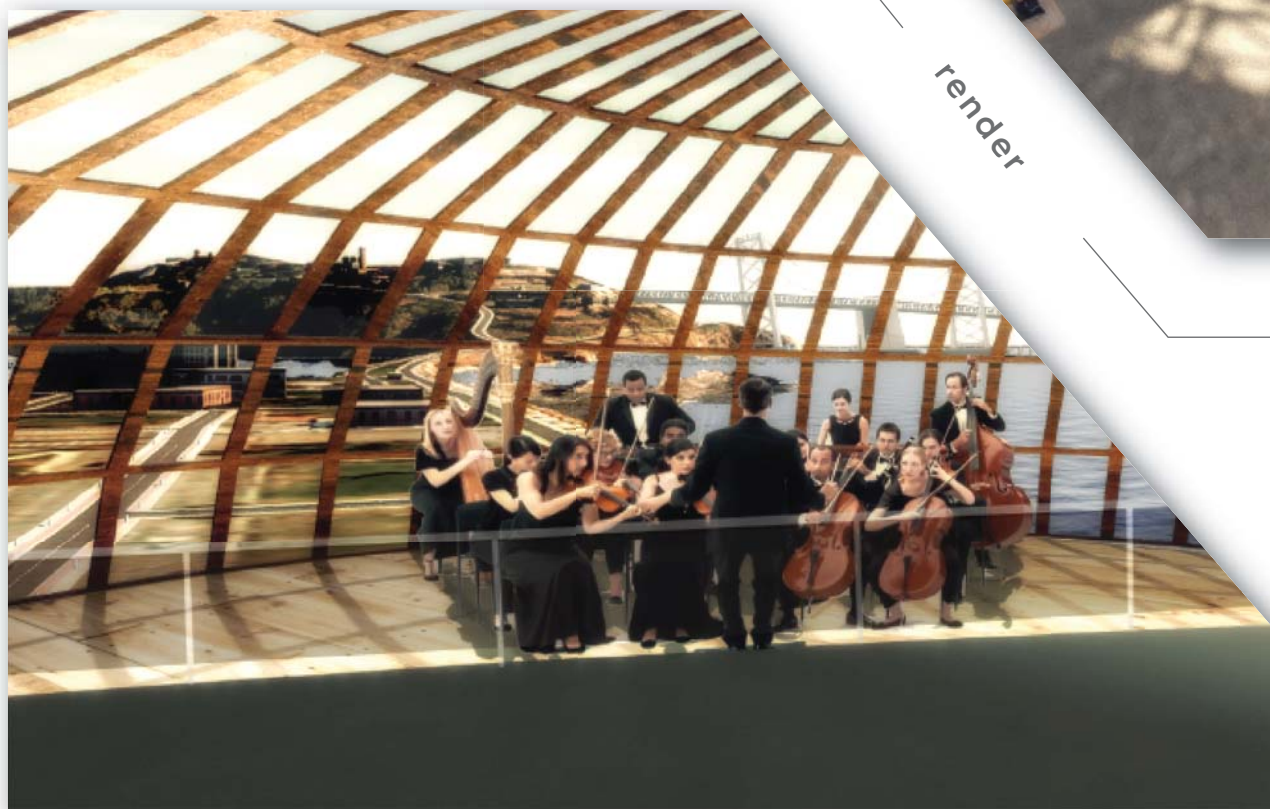
Include bass trap within skin treatment to diffuse and deflect sound with minimal negative vibration within space







render





## 05 CityLights Co-Housing

South Park - San Diego, CA

Mojave Works Architecture

Owner and Principal of Mojave Works Architecture envisions his own development in a property he owned for half a decade. With new bylaws on affordable housing, and regulations benefiting density, this property was able to pencil out in terms of its feasibility. With a Co-Housing residential model, CityLights envisions an upscale housing fit for the lifestyle of San Diego.

On the canyon of South Park, adjacent to the Hwy 94, we saw the opportunity of the site as an affordable location for young professionals fit for living in a co-op structure. Looking at existing design models such as WeWork, OpenDoor, and Element Housing, we see the potential of this model in San Diego. Consisting of three lot, our design consist of two model; a modular track house unit facing the canyon, and a terraced co-unit housing. Along with a communal garden, we focused to make a new typology of living within South Park.

### Program

Concept  
Design/Render  
Technical Drawings  
Post-Rendering

Trimble SketchUp  
VRAY - SketchUp  
Autodesk AutoCAD  
Adobe Photoshop

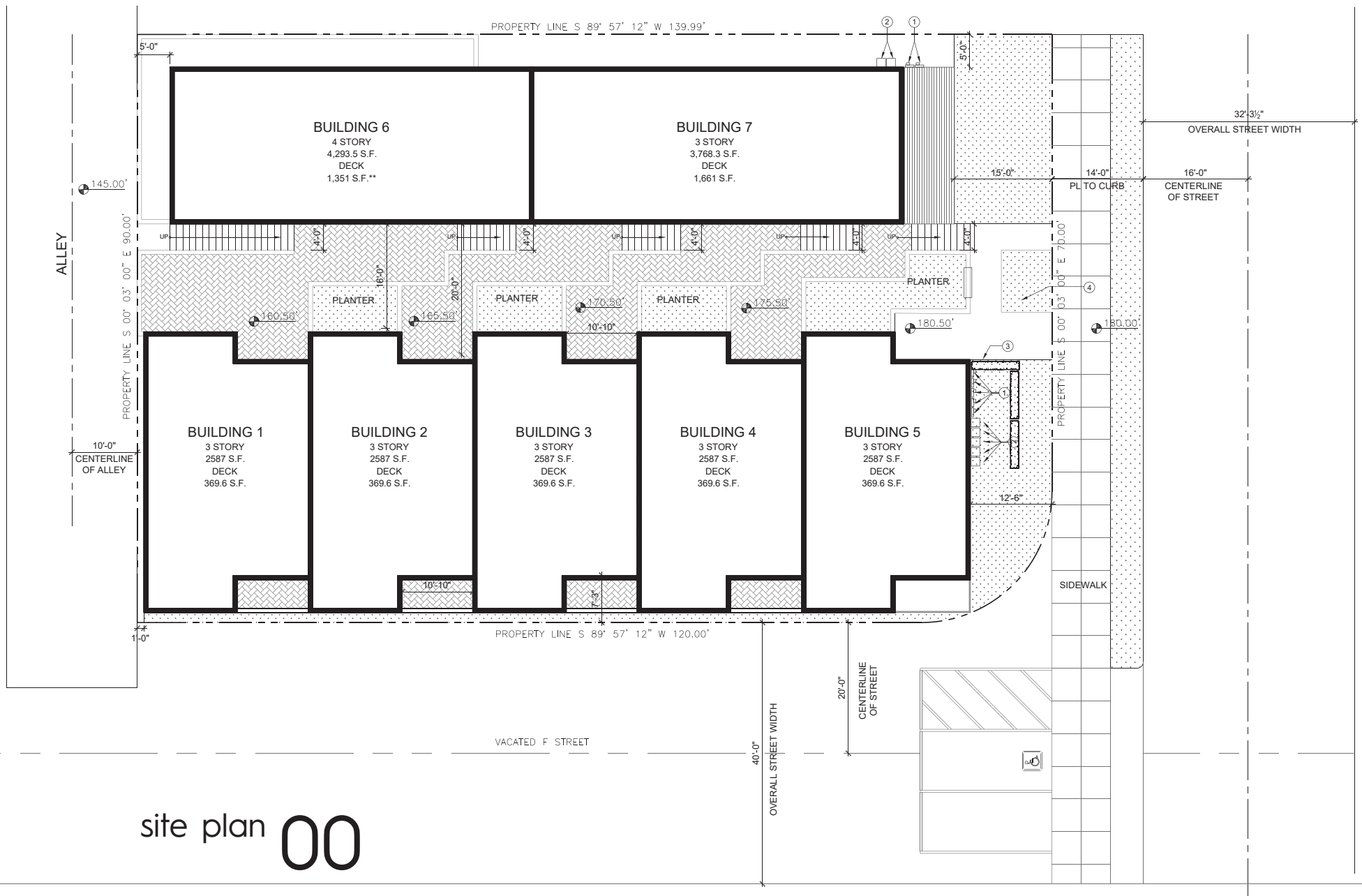
### Design Role Responsibility

Jan. 2018 - April 2018

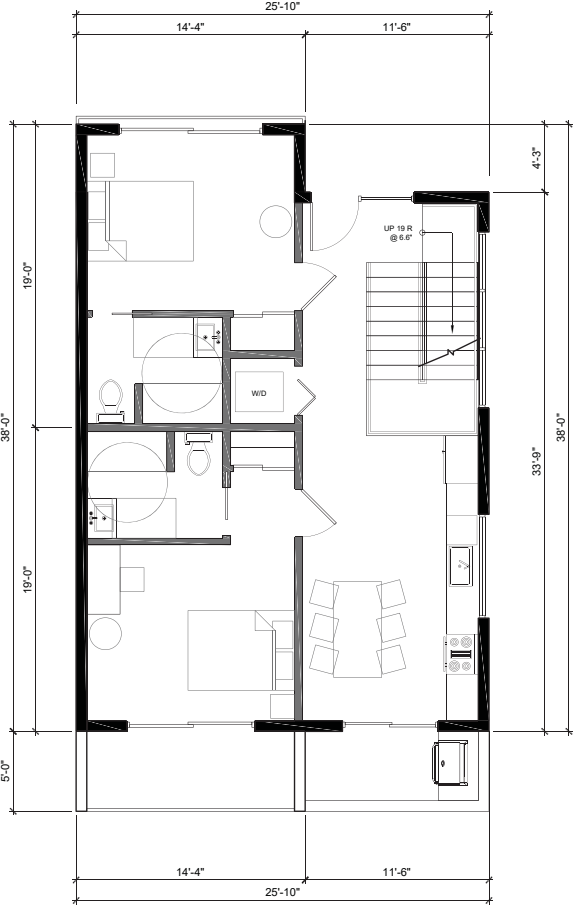
**Job Captain**

*Feasibility Study  
Schematic Design  
Design Development  
Construction Documents*

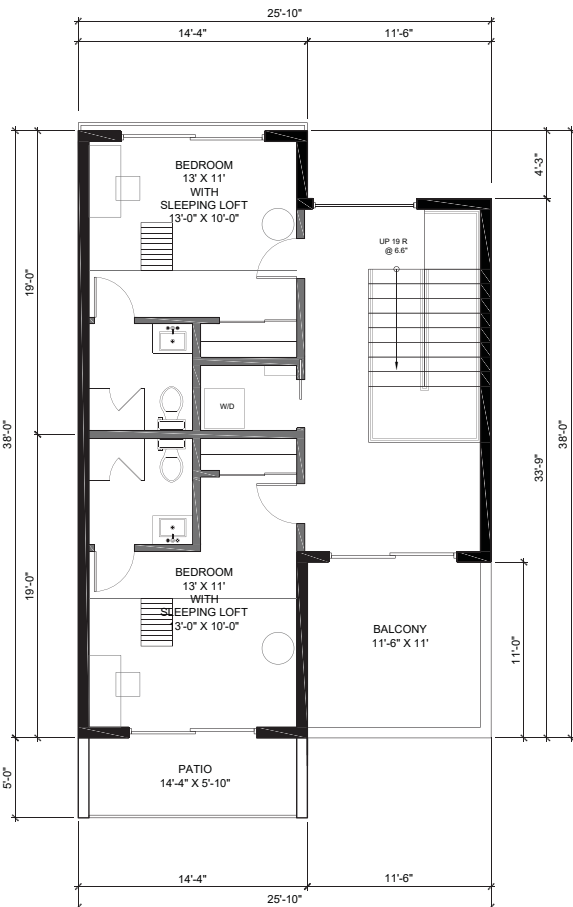




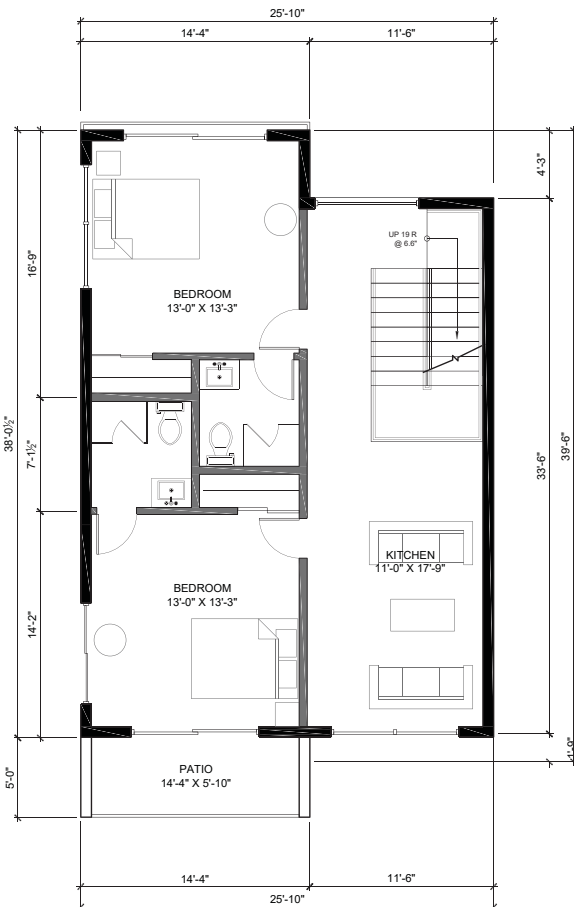




floor plan 01



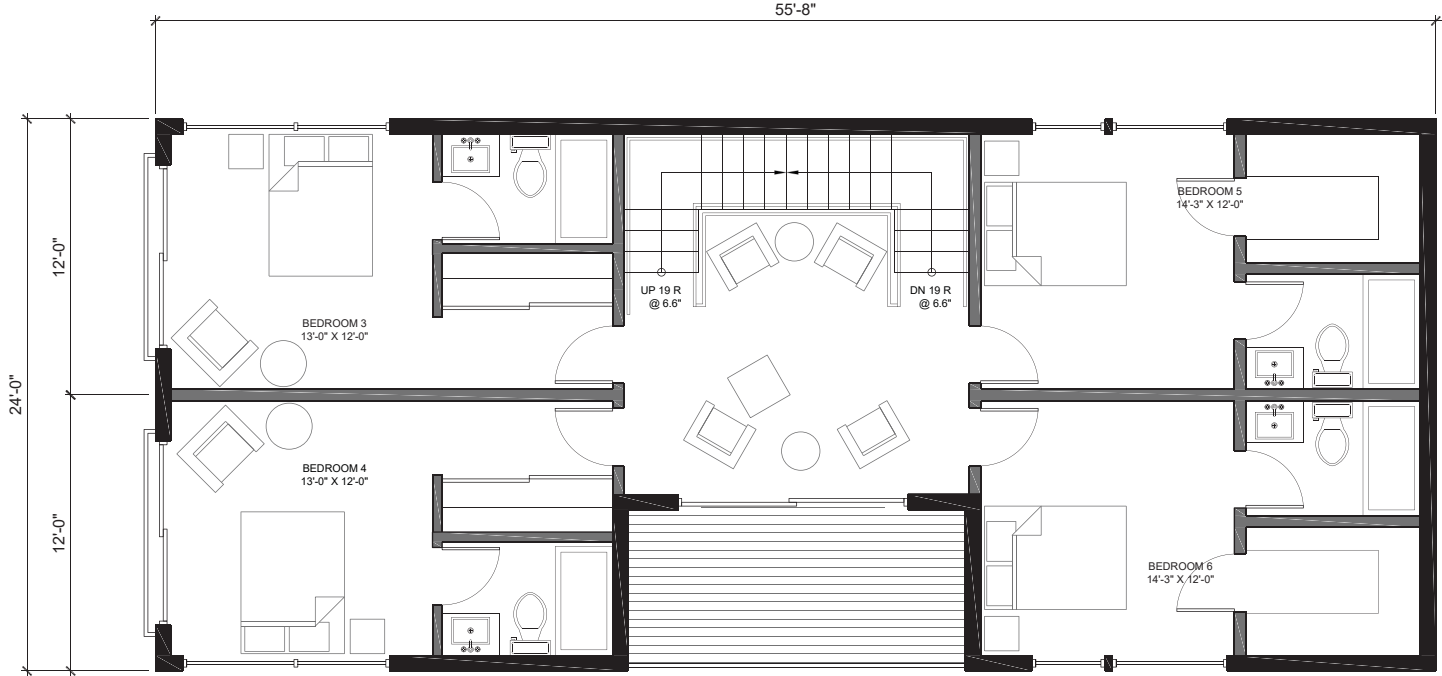
floor plan 02



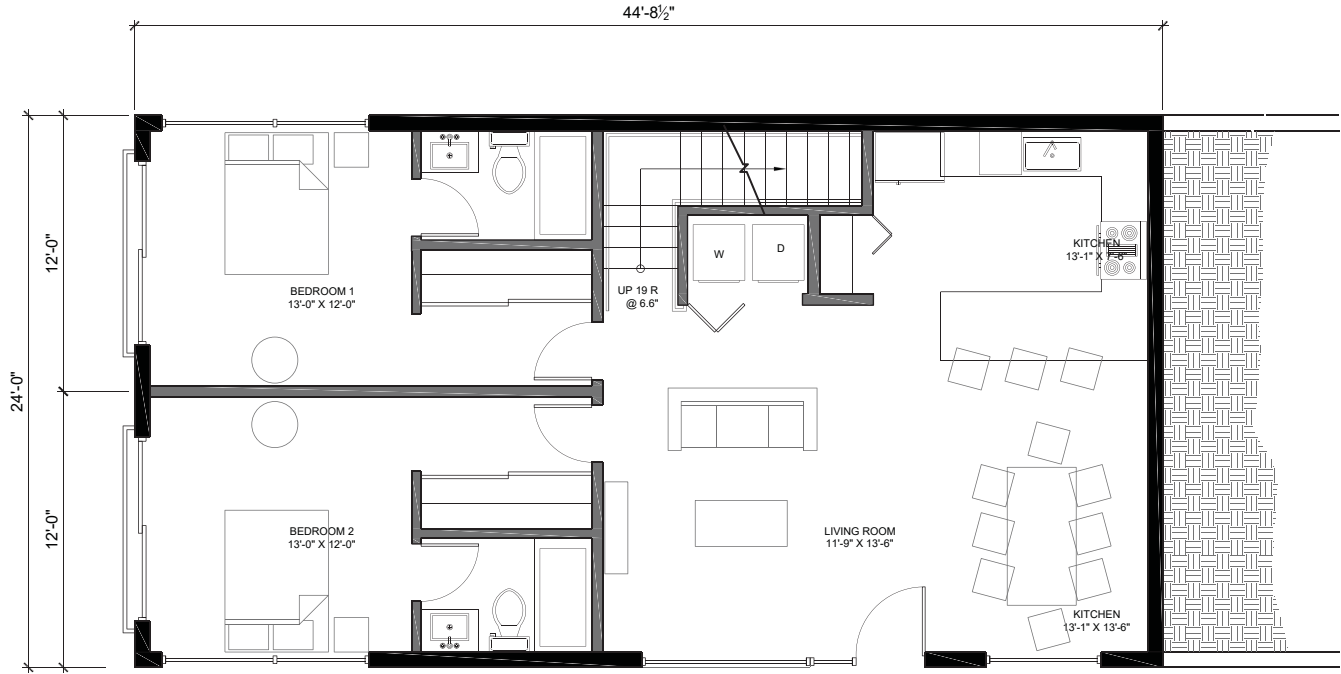
floor plan 03



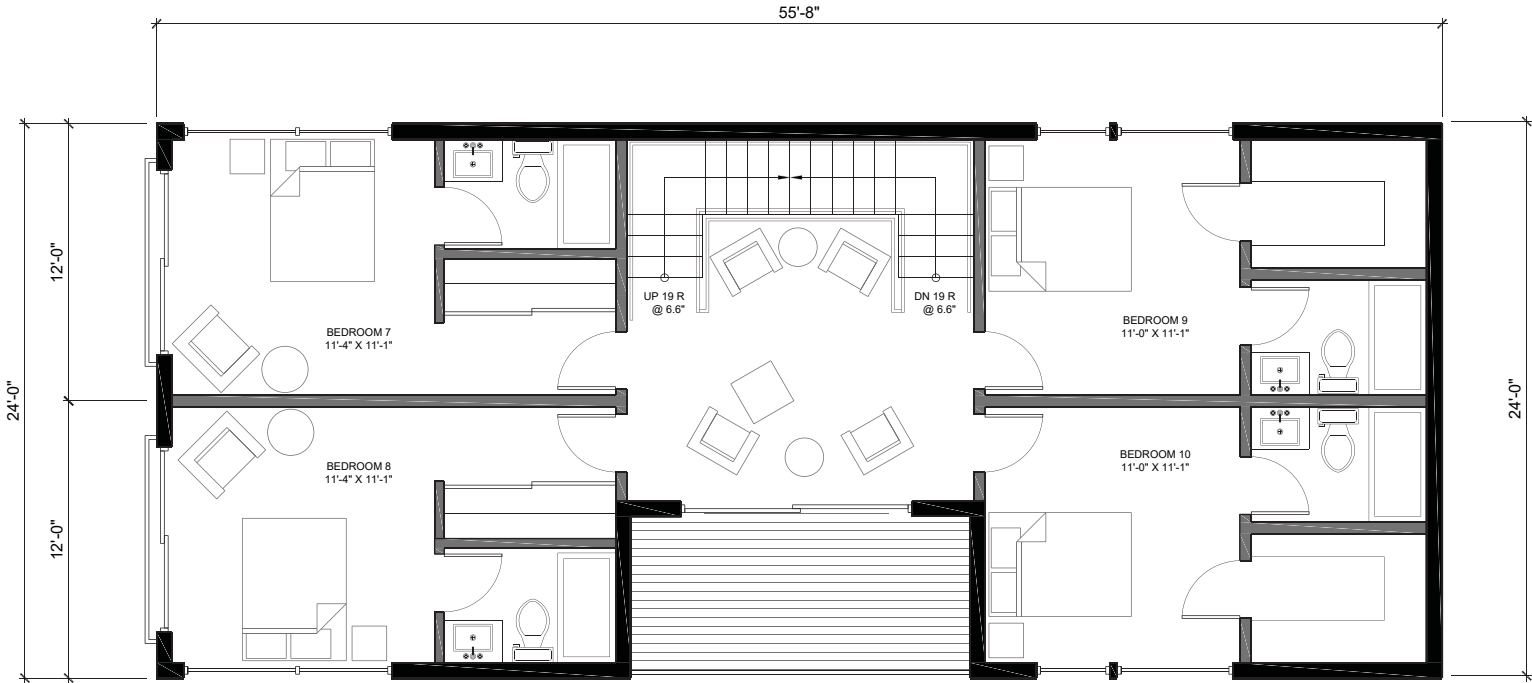
floor plan 02



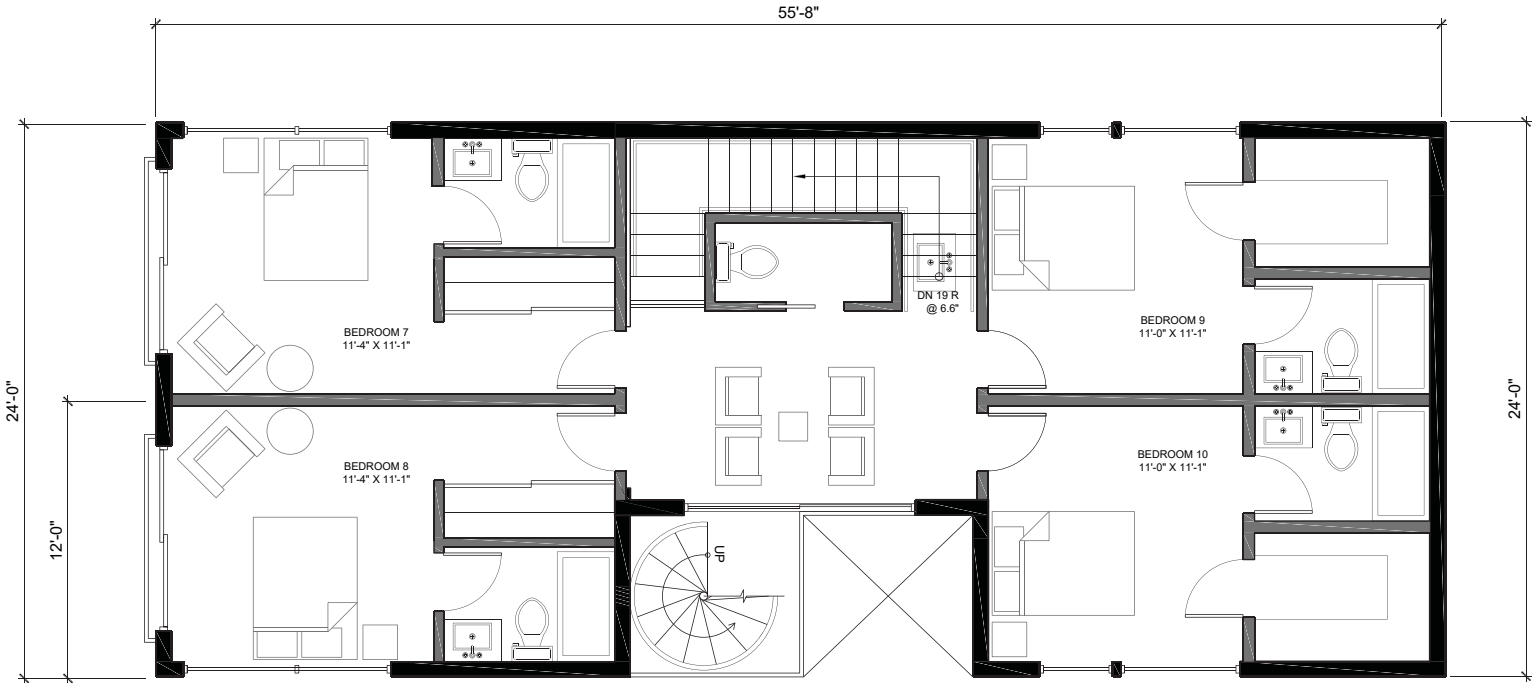
floor plan 01



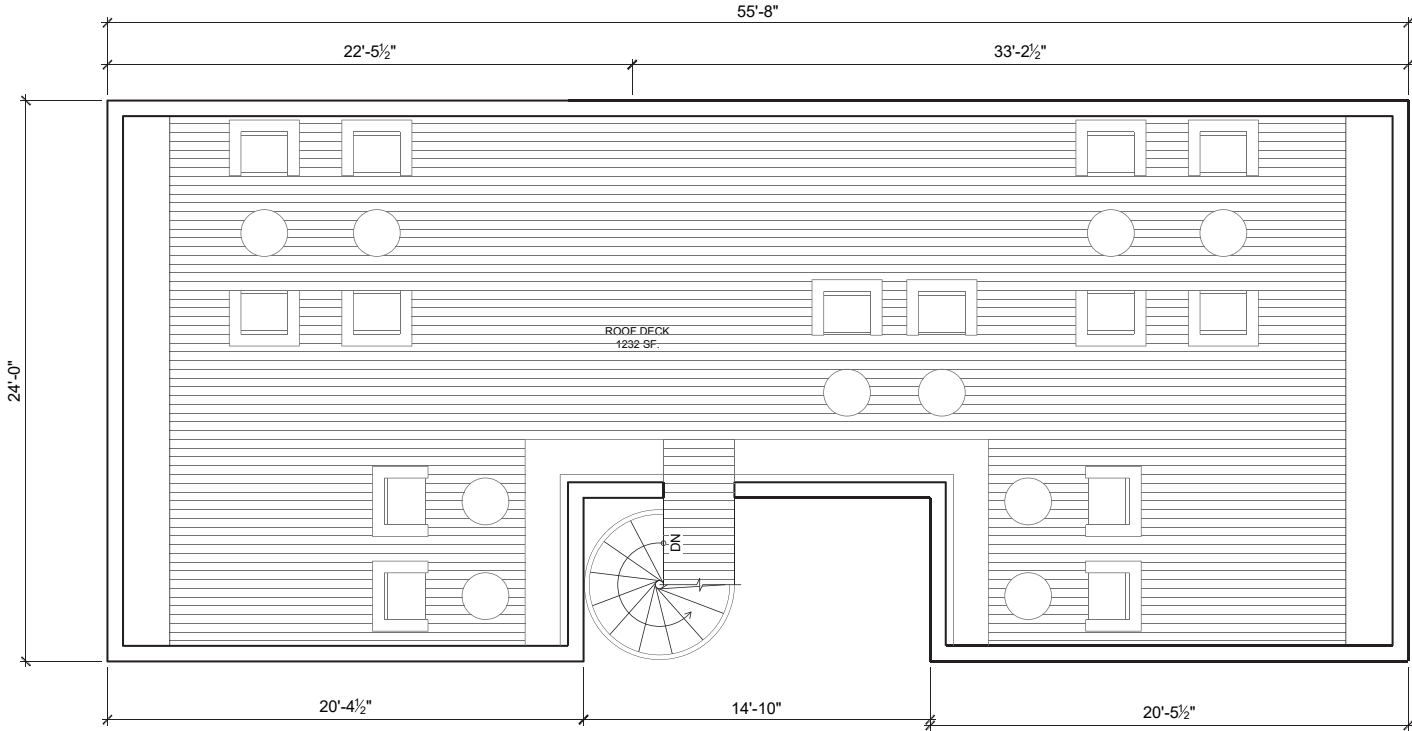




floor plan 04



floor plan 03



roof plan 05



render







06

## Weave Museum

Los Angeles, CA

M.Arch 2nd Year Studio - 2018

In the chaotic infrastructure of Los Angeles, the perception of life and design is witness in different medium, avenue, and emotions. As society starts to embrace art in different form, we question what is the identity of any object, and what is its place in our lives.

The Weave Museum is an investigative approach on bringing a canvas of art with the influence of Robert Rauschenberg. A man known for his individualism through his pursue of art, working with wide variety of mediums, and capturing unfamiliar emotion within ourselves. The museum is envisioned and designed through similar principles of Rauschenberg through the use of multiple material throughout. Rather than covering and beautifying textures and material, the building essentuates the raw characteristics of each material's property as an object, that reflects its softness or solid foundation. The building is not just a shell that contains space to store art, but also a shell that becomes art on its own.

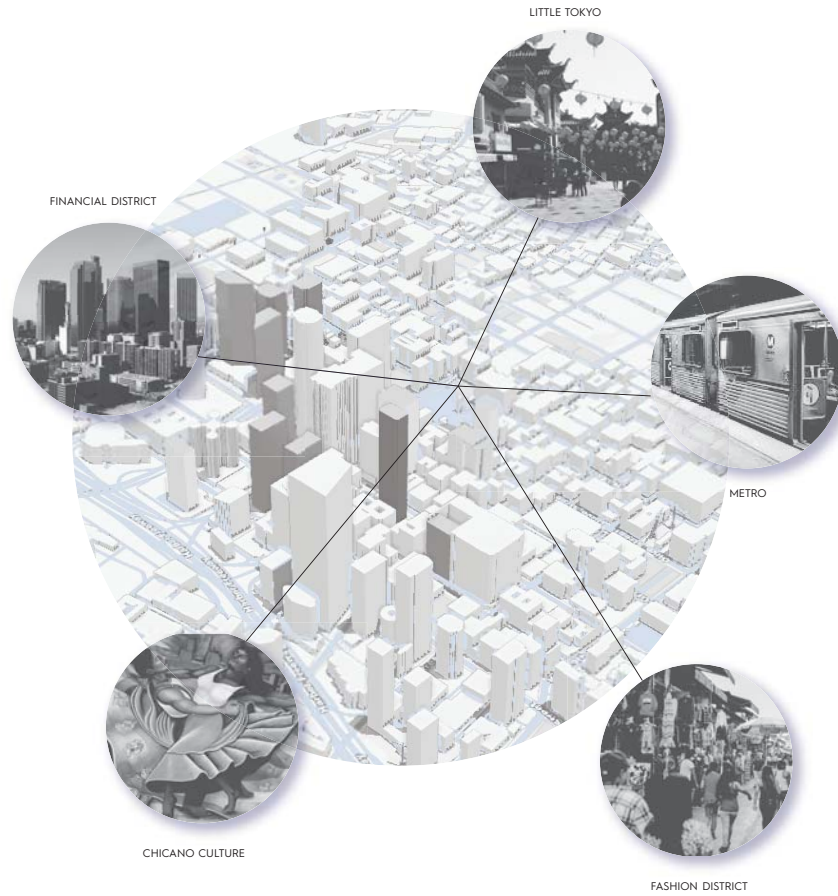
As the Weave Museum becomes a building within the city fabric of Los Angeles, a focus on the social spaces is investigated to think further than the function of a museum, but becoming an urban space for the public. A constant interaction between the function within the building and activity outside through circulation transparencies, the building becomes a dialogue for everyone around.

## Program

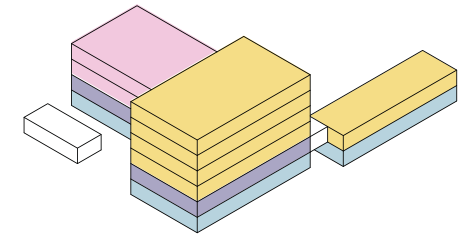
Site Study  
Concept  
Design/Render  
Technical Drawings  
Layout  
Post-Rendering  
Animation

Autodesk Infraworks  
Trimble SketchUp  
Autodesk 3dsMax  
Autodesk AutoCAD  
Adobe Illustrator  
Adobe Photoshop  
Lumion

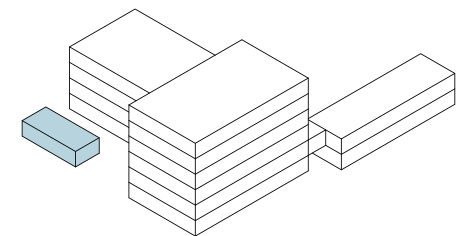
## site analysis



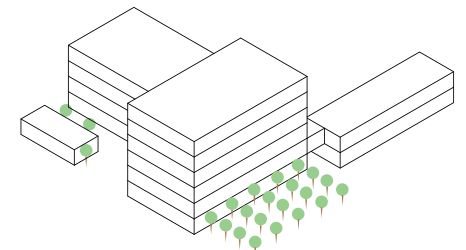
## concept



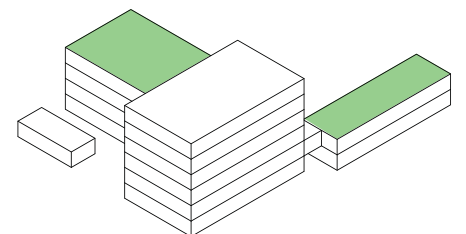
FUNCTION



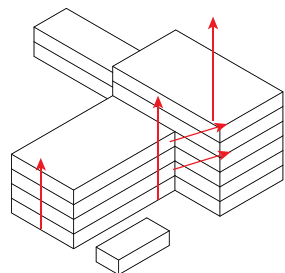
METRO



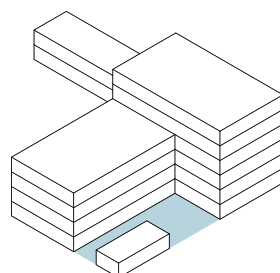
URBAN GREENSCAPE



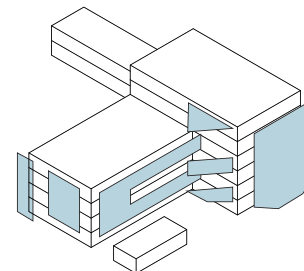
ROOF TERRACE



VERTICAL CIRCULATION

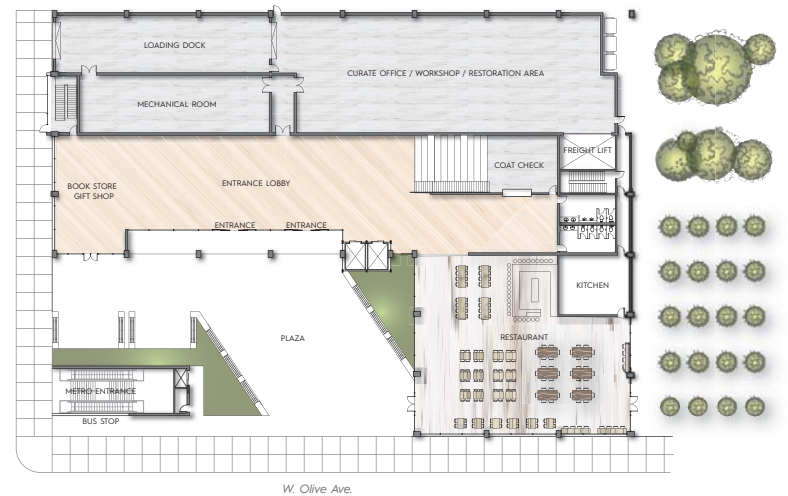
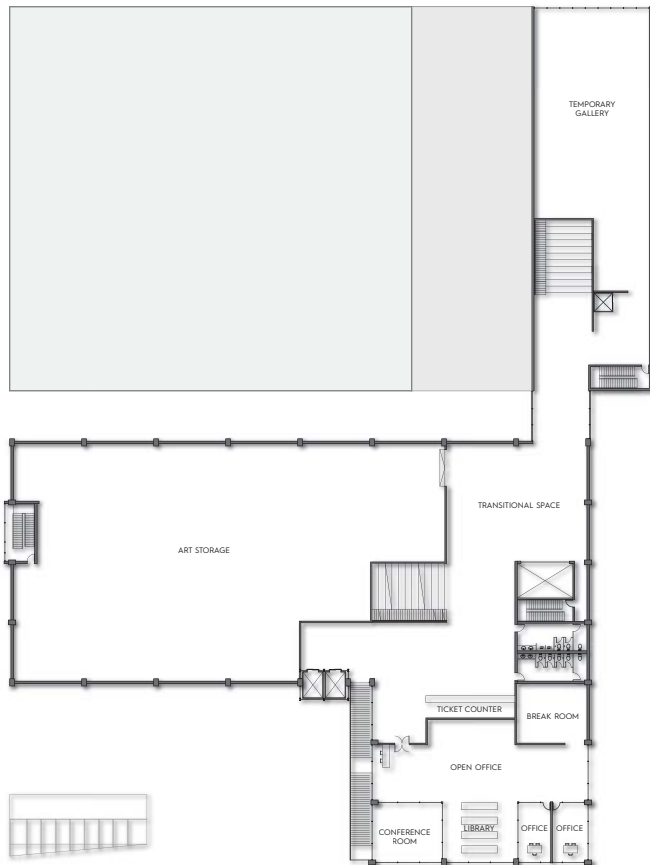


URBAN PLAZA



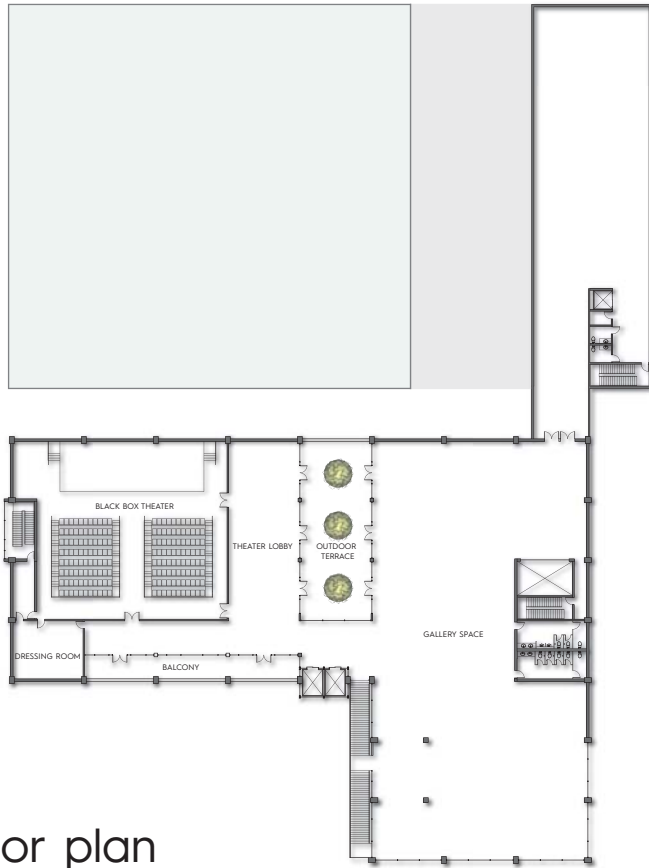
DISTINCT FACADE

# level 01 floor plan

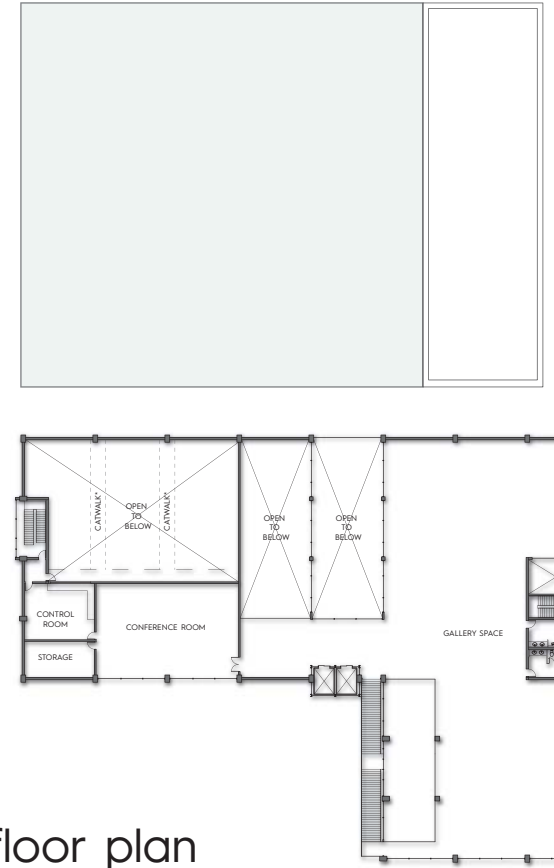


# level 02 floor plan

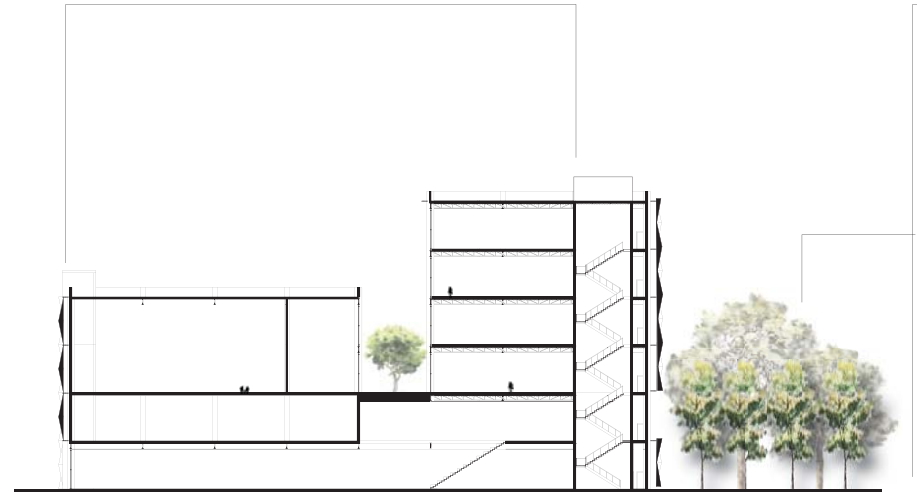




level 03 floor plan

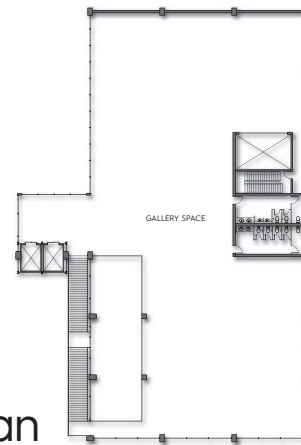


level 04 floor plan

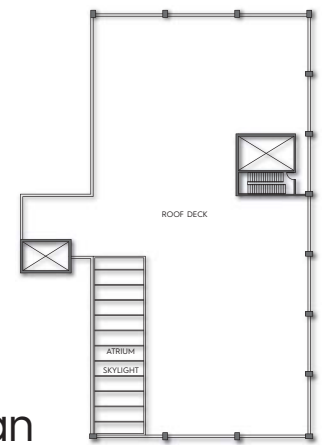




05 floor plan



06 floor plan



07 roof plan





render

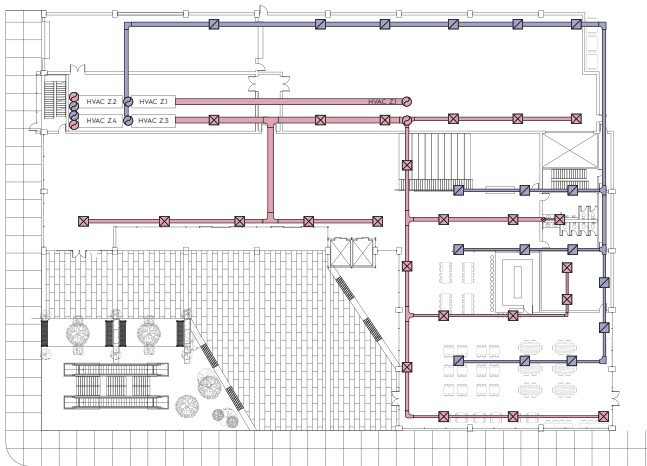




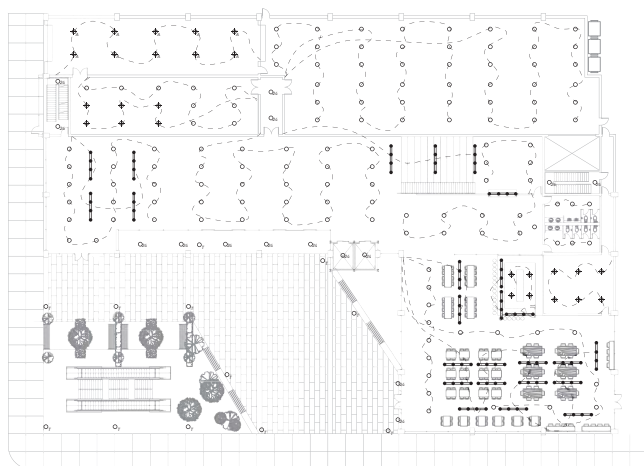
## section perspective



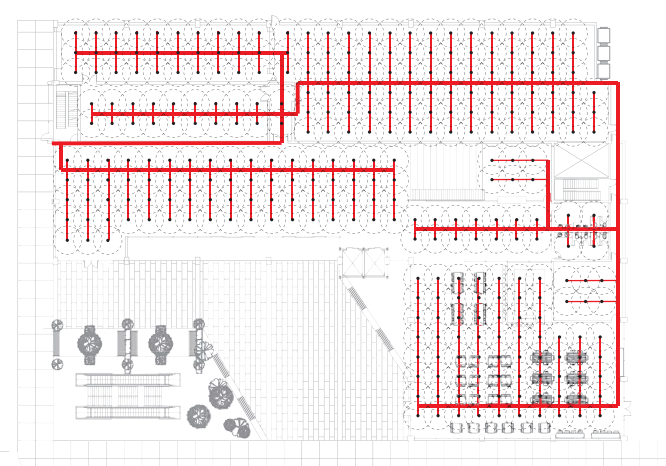
## integrated system analysis



HVAC Diagram



RCP Lighting Diagram



Fire Suppresant Diagram

wall detail



Thank You