



DYLAN SULLIVAN // DESIGN THESIS // SPRING 2017

BREAKING THE MOLD

Exploring the recreation of fitness design in a natural setting.

Can architecture create a dynamic environment for physical activity by emphasizing natural elements?

What does it mean to be fit?

fit

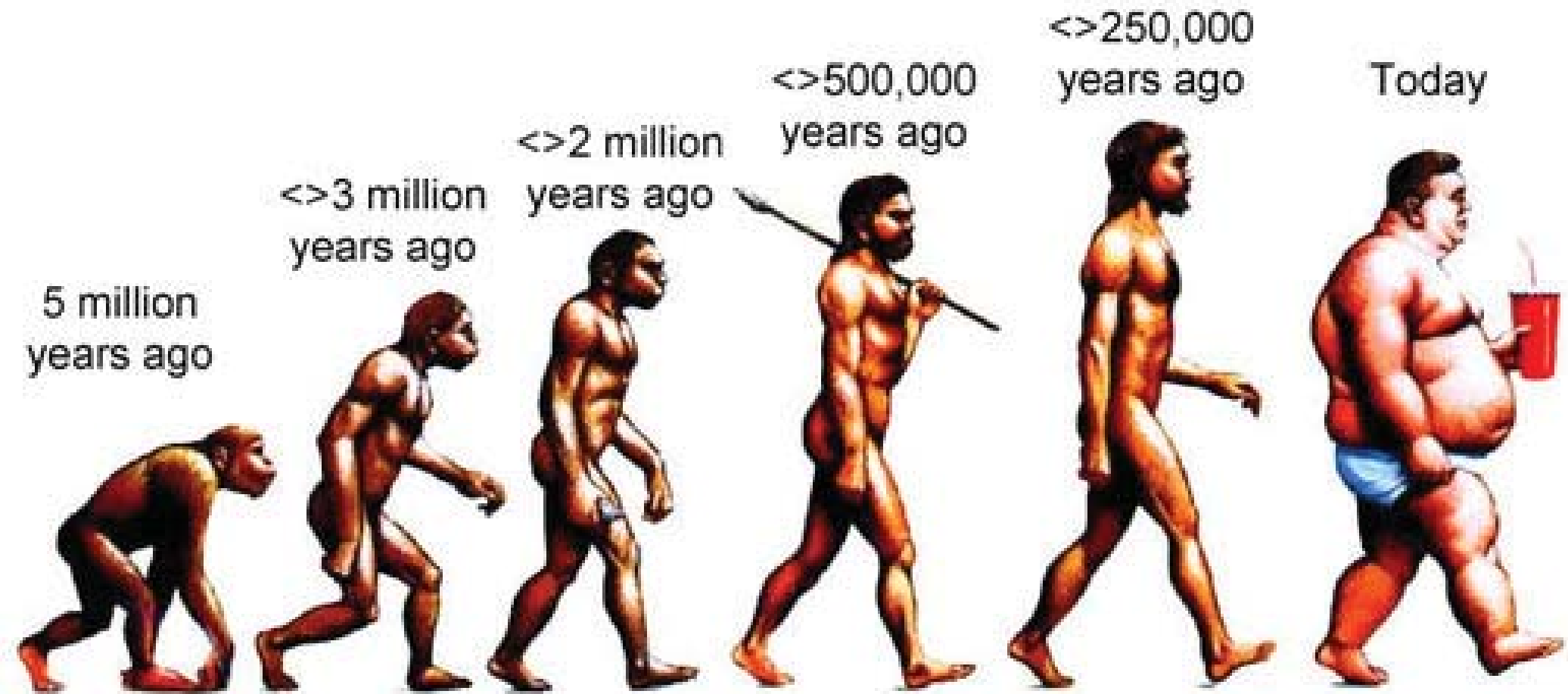
adjective

1. (of a thing) of a suitable quality, standard, or type to meet the required purpose
2. in good health, especially because of regular physical exercise

verb

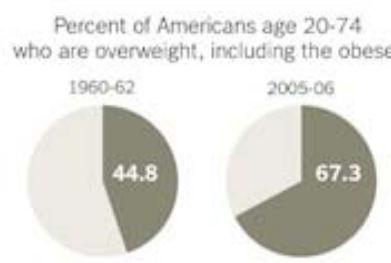
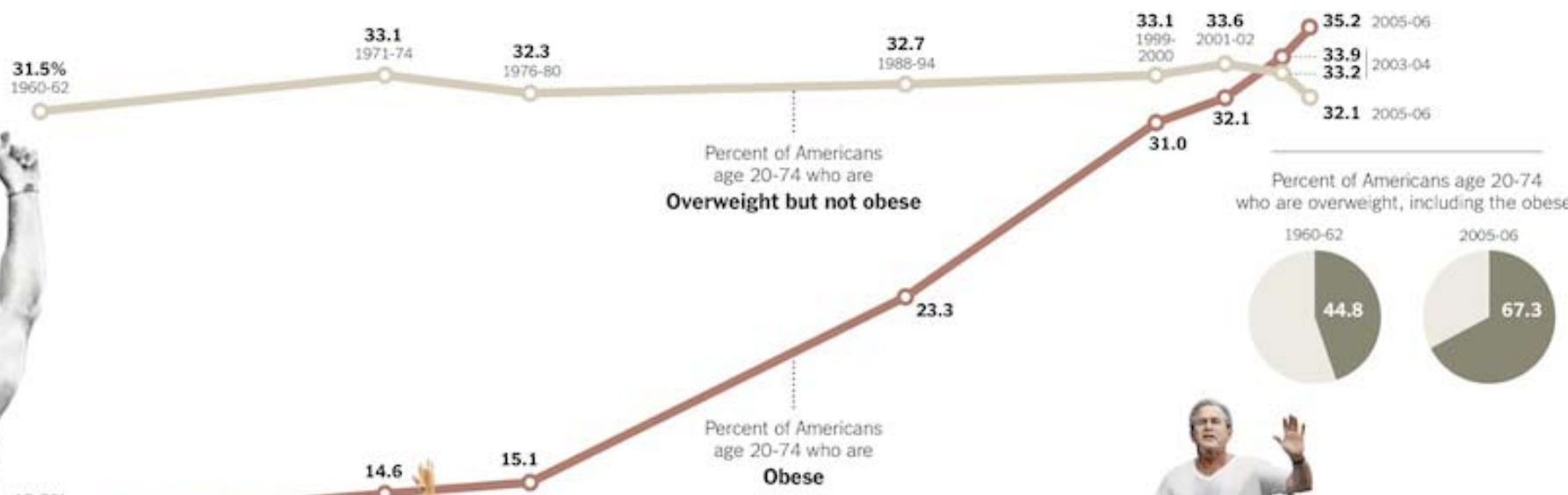
1. be of the right shape and size for

Why do we need to be fit, and why is physical activity important?



The lethargic lifestyles of the 21st century are a direct reflection of the obsession over constant commodity and innovation. Perhaps it is time to address this issue, with the health and welfare of the planet and its inhabitants depending upon it.

Why did fitness clubs originate?



1950s 1960s 1970s 1980s 1990s 2000s 2010s

1951: "The Jack LaLanne Show" begins. ▶

1961: The Kennedy administration organizes a conference on physical fitness and revamps the President's Council on Youth Fitness. (Above: LaLanne with students, early 1960s.)

1968: Kenneth H. Cooper publishes "Aerobics," which promotes running, swimming and other such exercises to improve the heart and lungs.

1974: Richard Simmons opens the Simmons exercise studio.

1981: Olivia Newton-John releases the sexually suggestive exercise-themed song "Physical."

▶ 1977: James F. Fixx publishes "The Complete Book of Running," which helps popularize competitive running.

1982: Jane Fonda releases her first exercise video, "Jane Fonda's Workout."

1996: Madonna takes up yoga to get back in shape following the birth of her daughter.

2002: George W. Bush tells Runner's World magazine that his running times became "faster right after the war began."

2006: Nintendo introduces the Wii, ushering in "lounge fitness." ▶



2010: Michelle Obama introduces Let's Move, a campaign to fight childhood obesity.

Where did we lose our way?

Current Problem:

As people age, they are getting less physical activity, social interaction, and exposure to the exterior environment.

Today's fitness clubs fail to fully engage users and create an interactive experience by tightly packing them into a mundanely static space, cut off from the outdoor environment.

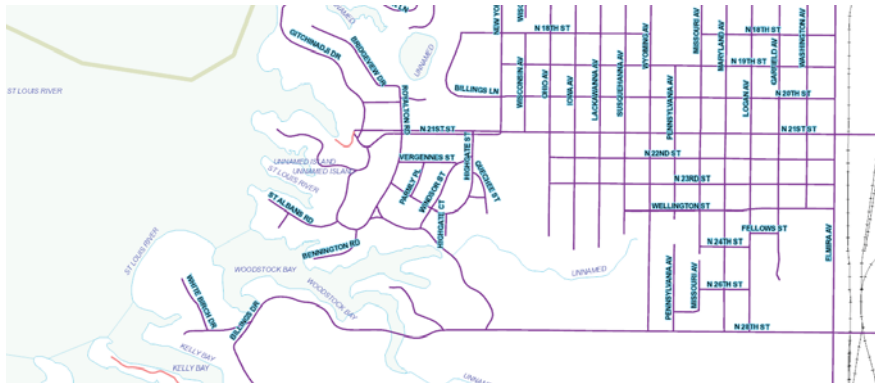
How can I get people to move?



THE SITE - SUPERIOR, WI

A beautiful transition from Lake Superior into the St. Louis River provides a unique meandering coastline, marking the division between WI and MN. Superior and Duluth are the predominant cities in the area.

The site lies just Southwest of the city of Superior. A large state forest resides to the South. Residential plots dominate the area to the Northwest, before dissipating to the core of the city. North 25th street turns into Billings drive, providing direct access to the site from the city.



Currently, the site serves as an underutilized boat launch. Tucked back in the woods, only a handful of houses are in direct view along the surrounding coastline. This separation from a typical gym setting provides an array of opportunities for architectural innovation.





DESIGN THINKING

SITE PHOTOS

SAN WAYAO COMMUNITY SPORTS CENTER

CSWADI, 2015



DESCRIPTION

The large sports complex is tightly tucked in a highrise- residential community. Its soft appearance provides a comfortable experience that is well-lit within, and equally striking out. The building takes what little footprint it has and is able to create both a fitness center and greenspace that functions as one.

STRUCTURE/ SPACE

The relationship between structure and space portray a beautiful balance of form and function. The u-shaped glass panels provide a translucent facade that gently shows off its large cross-braced structural elements. The simple arrangement of columns and beams open the space volumetrically as well as illuminated naturally. Every piece of steel is painted to show off its strength and beauty within the larger complex of spaces.



CASE STUDY 1 // SICHUAN SHENG, CHINA

DESIGN THINKING

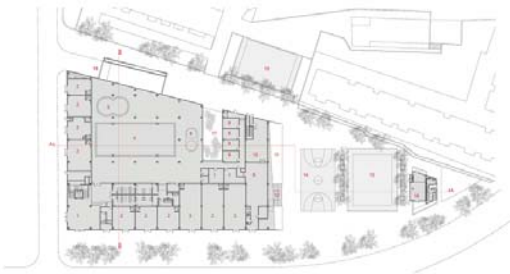
PROGRAM

The numerous functions are neatly divided in layers vertically, staggering its uses throughout.



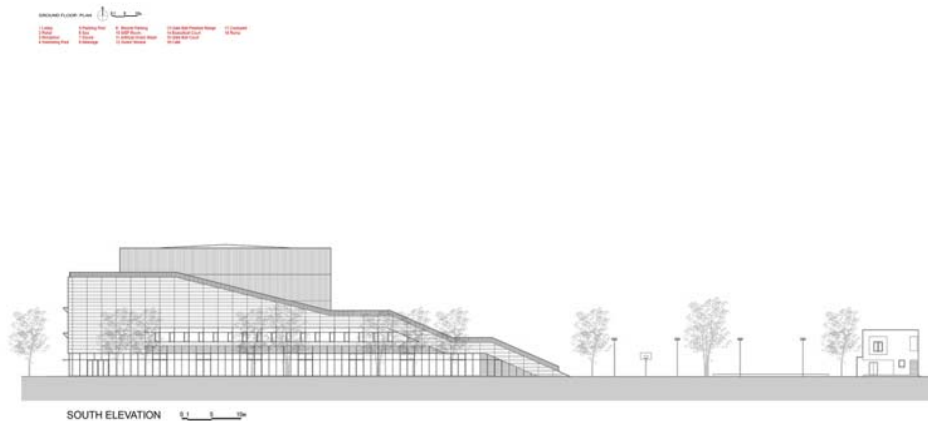
INSPIRATION

Having the idea of literally pushing more space out of the building and site create a unique cohesiveness between the two.



ORIENTATION

The south facade allows for optimal solar gain and views, while still allowing the tiered effect on the stepped greenspace. The building funnels its shape to the East exterior focal point.



REGENT PARK AQUATIC CENTER

MJM ARCHITECTS, 2012



DESCRIPTION

As part of a redevelopment project, this small scale community center brings together many nearby residents of all ages. The transparent facades, open floorplan and streamline shape highlight the area.

AESTHETIC/ COMPOSITION

The level of detail put into every inch of the building shows throughout the quality of its interior spaces. The numerous layers of partitions and their varying transparencies offer a stimulating gradient rather than the usual monolithic separations. The increase of visibility provides a degree of safety and certainty while engaging the buildings environment. Quality natural light softly penetrates the building facades and corridors creating a natural ambient feel.

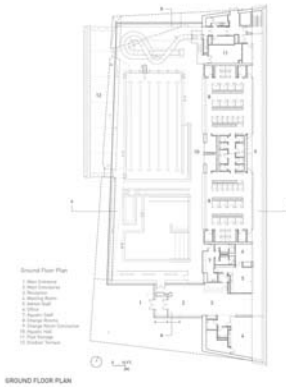
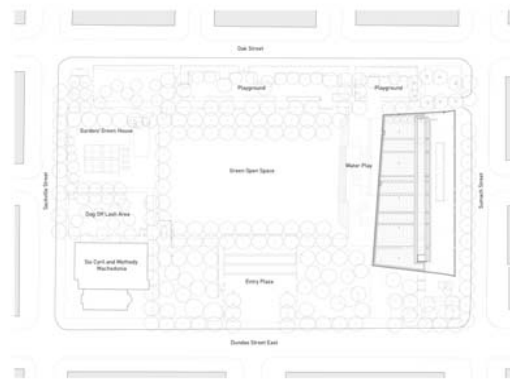


CASE STUDY 2 // TORONTO, CANADA

DESIGN THINKING

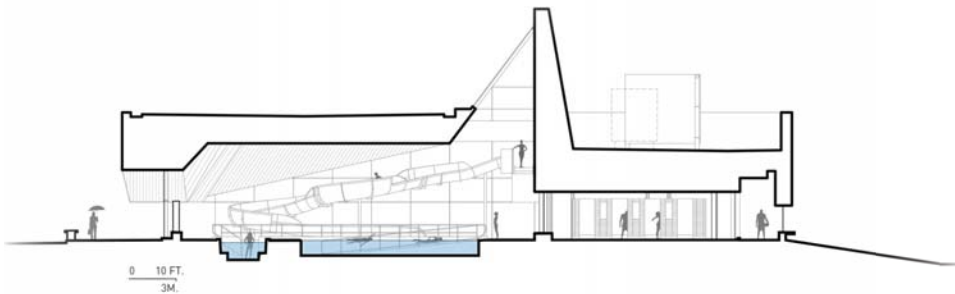
SITE

The treatment of the site as a whole provides a unique experience for the community. People can come together inside for a swim, or head to one of the many outdoor greenspaces.



NATURAL LIGHT

One of the most captivating features of this structure is its legantly handled dorsal-fin skylight. Not only does this give an iconic feature to view from the surrounding community, but it also provides an abundance of daylight into the space. Nearly eliminating the use of artificial light saves money, and provides an indoor pool with an outdoor feel.



CONCLUSION

Balancing the use of openings for both natural light and visibility is crucial in creating a space that emulates the outdoors. The dynamic ceilings and overhead conditions create interesting volumetric spaces within the enclosed environment.



ROCK GYM

NEW WAVE ARCHITECTURE, 2014



DESCRIPTION

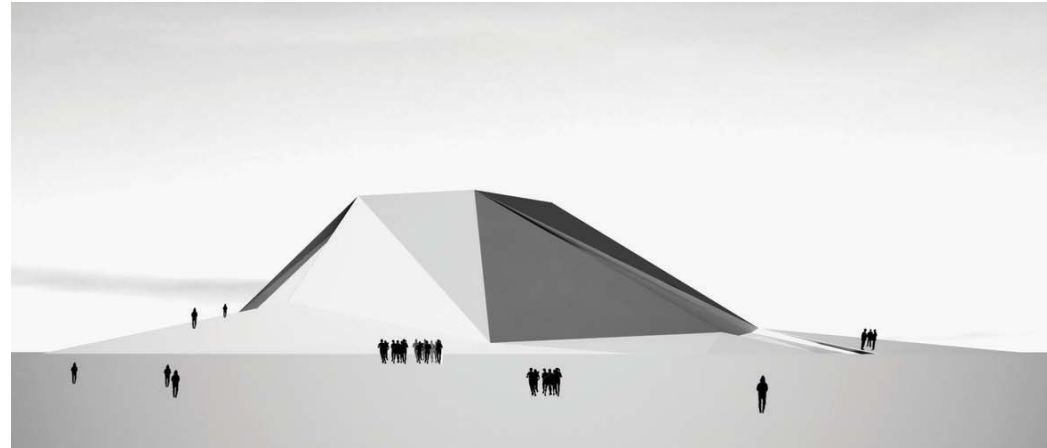
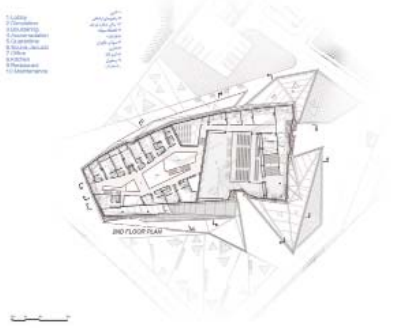
The radical design proposal features a fractured facade that allows light to penetrate into the building, while giving numerous views to the rocky, snow-ridden landscape that surrounds the cement structure.



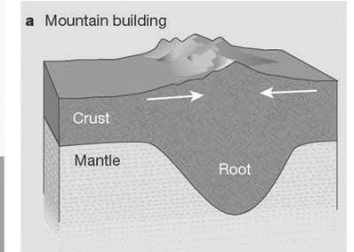
AESTHETIC/ COMPOSITION

Completely reshaping the way different types of fitness is practiced in doors, this organically angular facility lets the architectural elements become the platforms or obstacles for physical activity.



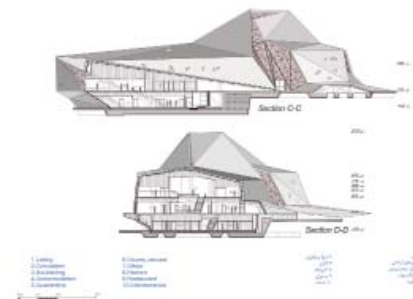


The geological process of the large-scale movements of the earth's crust and its tectonic forces, all end up to initial clues...



IDEOLOGY

Relating the architecture to the Earth and its processes gives this project a deeper meaning that resonates with the building itself.



CONCLUSION

Not only can users experience an interactive adventure with the buildings inner face, but the concept also speculates the ability to scale the exterior facade for a completely revolutionary site and building experience. Taking the building from serving a purpose primarily for shelter and adding the ability to traverse this manufactured landscape in a new way provided a great amount of inspiration in formulating the fitness center of the future.



DESCRIPTION

The \$38 million dollar project brought numerous aspects of campus life together under one roof. Complete with a variety of workout, flex spaces, classrooms, offices, a three-court gym, and scenic jogging track. This highly efficient facility achieved LEED certification through a variety of technology and systems including an air quality system and low-e coated glass.

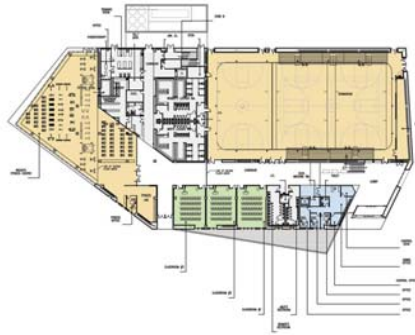
AESTHETIC/ VIEWS

One of the most profound aspects of this building are its beautiful lines of sight, due to the angular composition that compliments its setting. The natural essence of the structure and the large expansive windows allow the facility to breathe as one with the environment, never provoking the feeling of isolation. The rich color palette and local materials allow both the interior and exterior to blend as a single, naturally cohesive element within its surroundings.



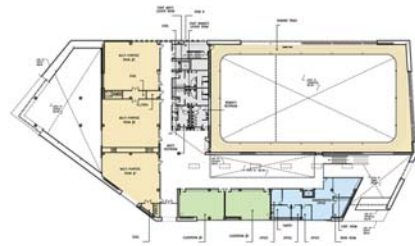
PROGRAM

A culmination of various spaces push for collaboration among multiple disciplines. The floorplan is a conglomerate of four different zones, beginning to change the limits of a typical fitness facility.



ORGANIZATION

The angular nature of the area begins to breathe into the the rigid configuration of the architecture. The spontaneous variability of space uses encourages chance interaction.



CONCLUSION

Incorporating a strong relationship between site and structure is crucial, particularly in dealing with projects like these in unique settings. Pulling apart the building to encourage random social encounters, as well as opening up the space both physically, and visually will provide a strong basis for connecting the project to nature. Using proper scale to construct dynamic spaces can be highly effective, along with a rich color palette.



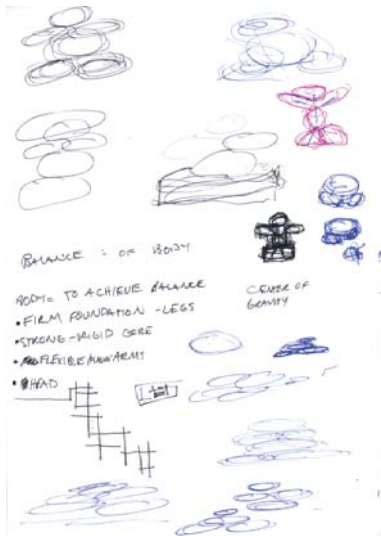
1 campus approach

OWNONDESIGN

LACC MISSION COLLEGE MISSION COLLEGE

DESIGN THINKING

CASE STUDY 4 // LOS ANGELES, CA



INSPIRATION

The key to being physically fit is all about finding and staying at a point of balance. Everyone achieves this point of homeostasis through a different journey or path of decisions and experiences. The idea of perceiving a stack of rocks in balance is symbolically powerful through the realization of its ability to transcend its composition, based on your perspective, yet still remain in balance.



BALANCE



BALANCE INSPIRATION

DESIGN THINKING

Thefuntheory.com



An initiative of Volkswagen

This site is dedicated to the thought that something as simple as fun is the easiest way to change people's behaviour for the better. Be it for yourself, for the environment, or for something entirely different, the only thing that matters is that it's change for the better.



MOTIVATING WITH FUN

Making things fun is perhaps the simplest way to adjust one's behavior, no matter the situation. Something as easy as the slightest twist on a traditional object or practice can provoke interest and its encourage its use.

FUN THEORY

DESIGN THINKING

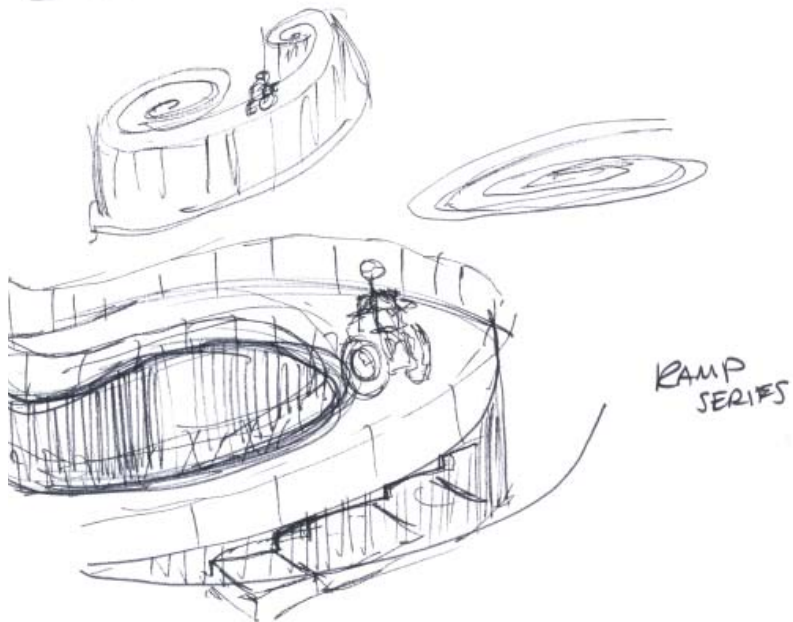
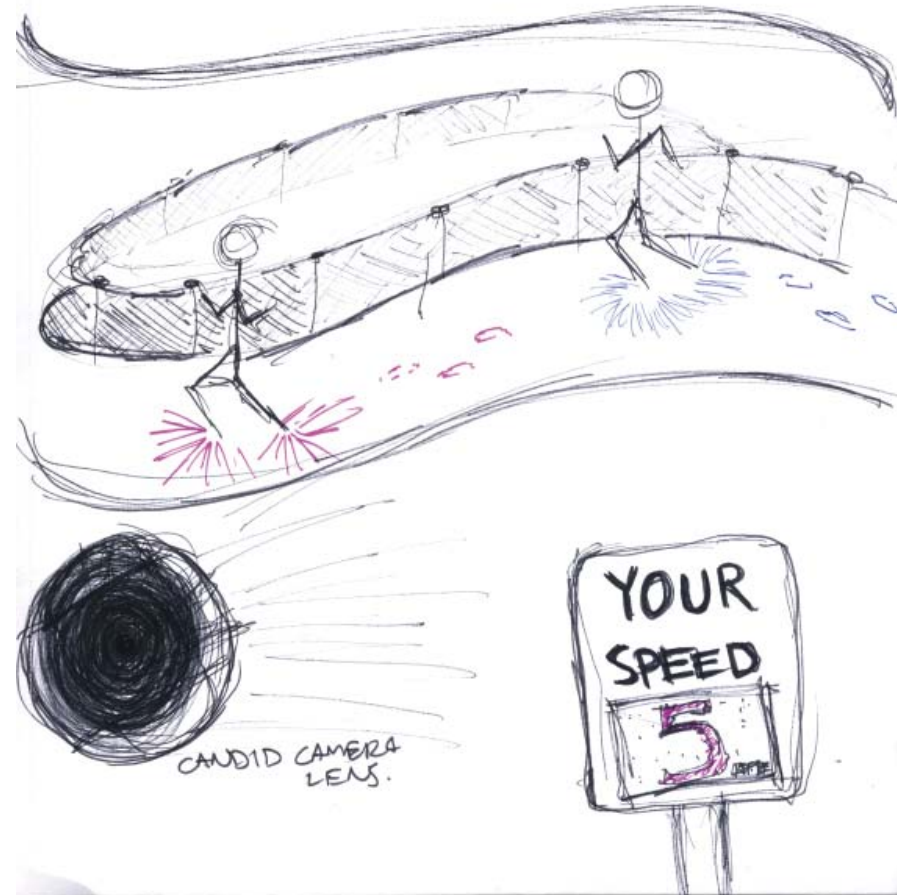
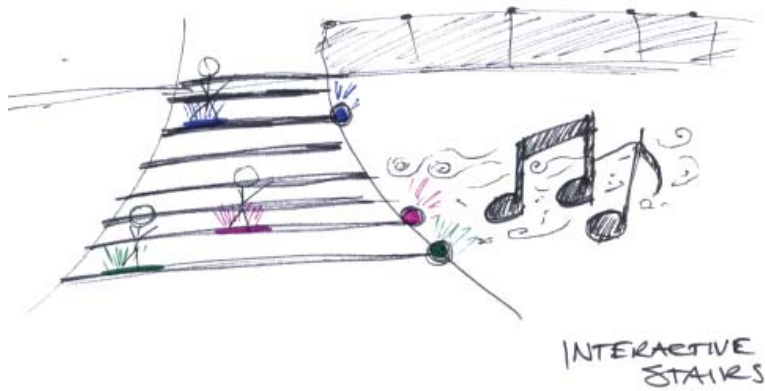


INNOVATIVE THINKING

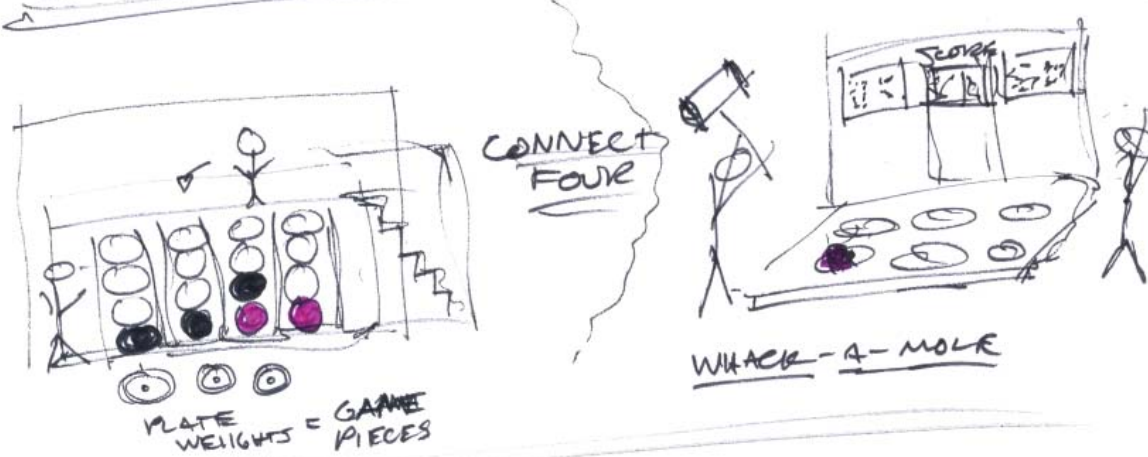
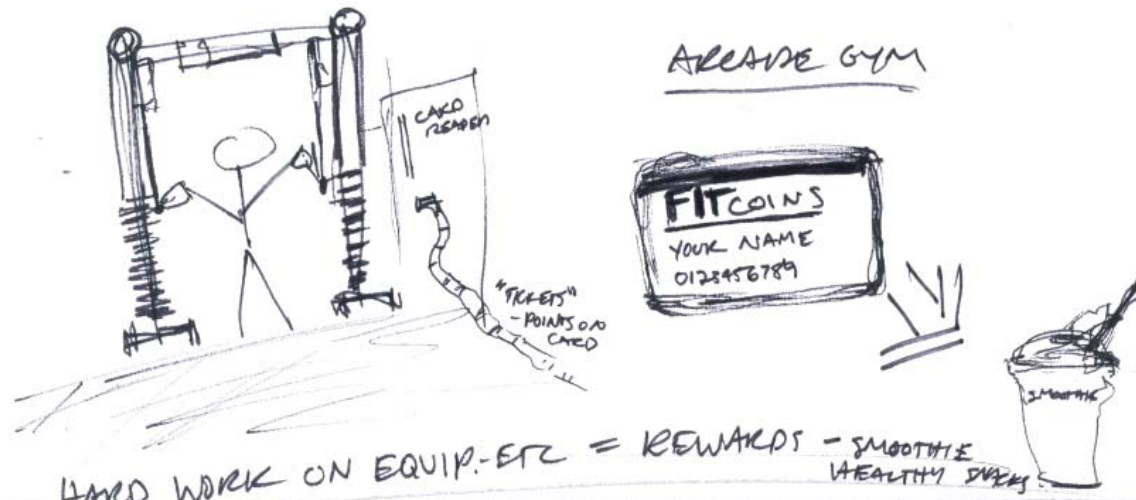
A little creative inspiration can go along way when talking about changing people's behavior for the better. Not everyone believes working out is enjoyable, although introducing the element of fun through architectural innovation using this type of thinking is crucial in predicting the solution for the fitness club of the future.

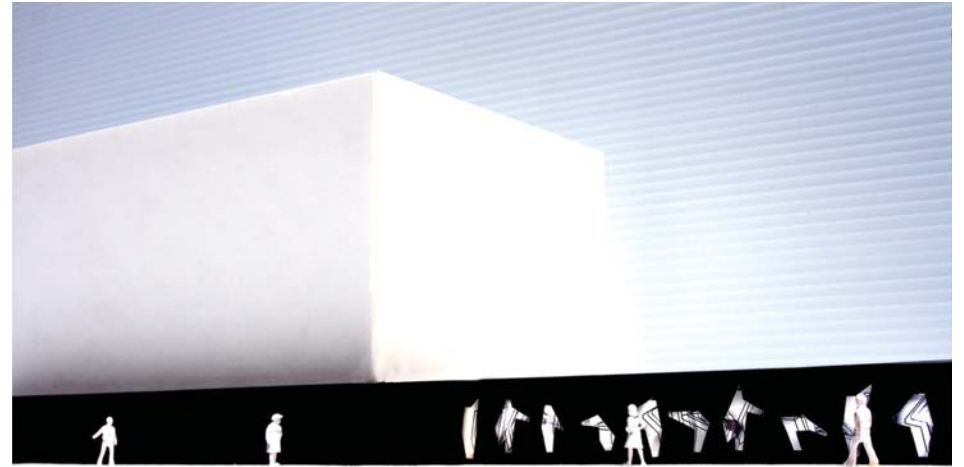
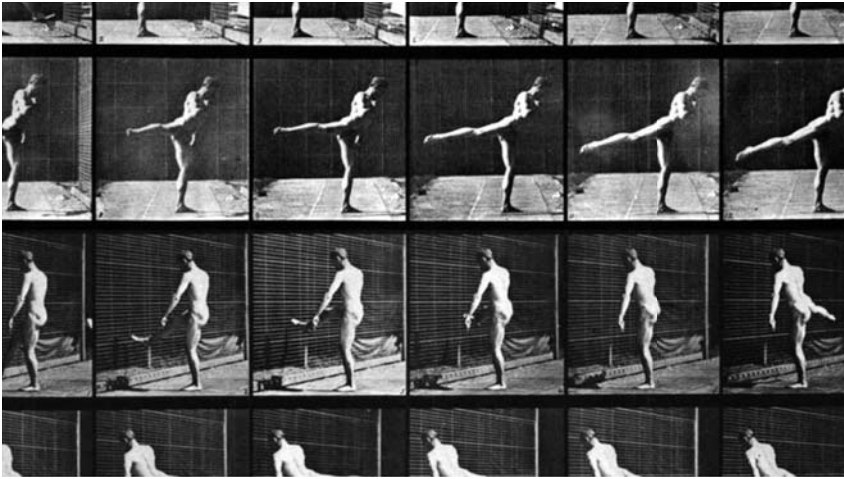
DESIGN THINKING

FUN THEORY



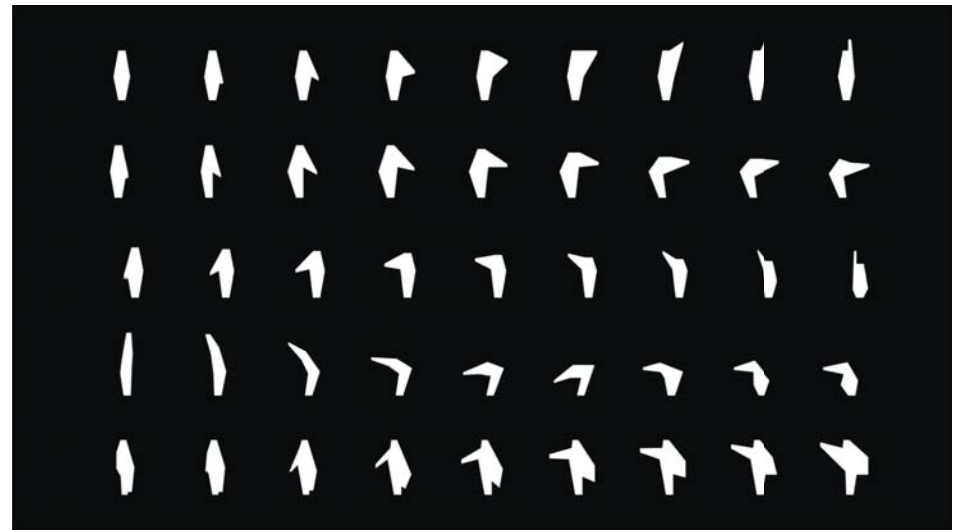
As a way of approaching the problem from a different perspective, I tried to put my own spin on some architectural elements found in fitness clubs in hopes of inspiring their use through fun engagement. Utilizing each and every sense the human body has at its disposal provided a springboard for numerous ideas of varying effects. While these strategies may not have been carried through my project, they are important to its development and the ideals behind such.





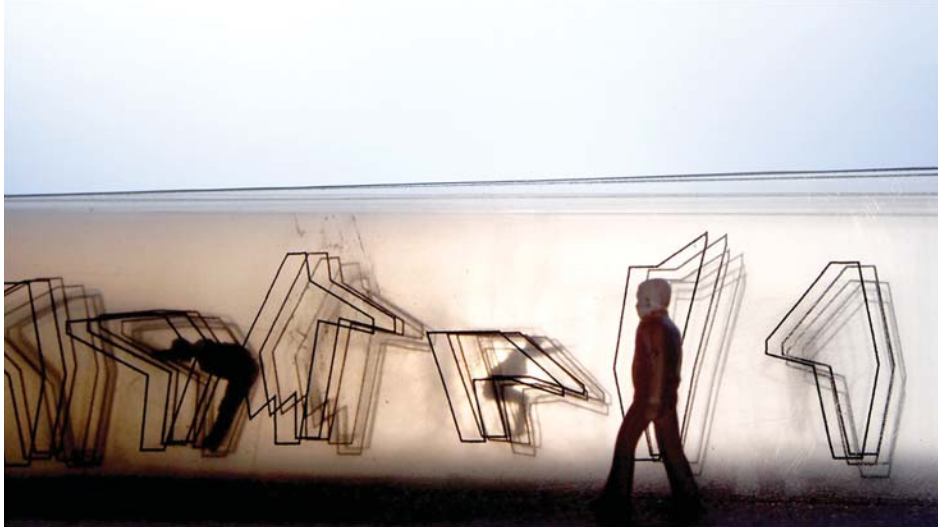
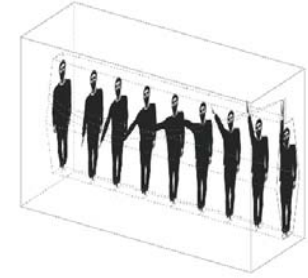
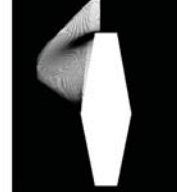
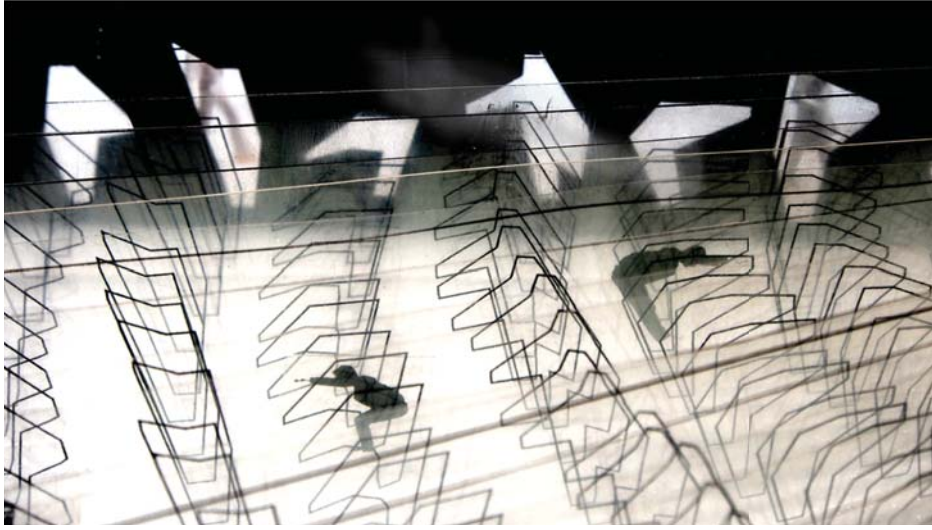
JACOB ESOCOFF

Health Club



JACOB ESOCOFF // HEALTH CLUB

DESIGN THINKING



DESIGN THINKING

JACOB ESCOFF // HEALTH CLUB

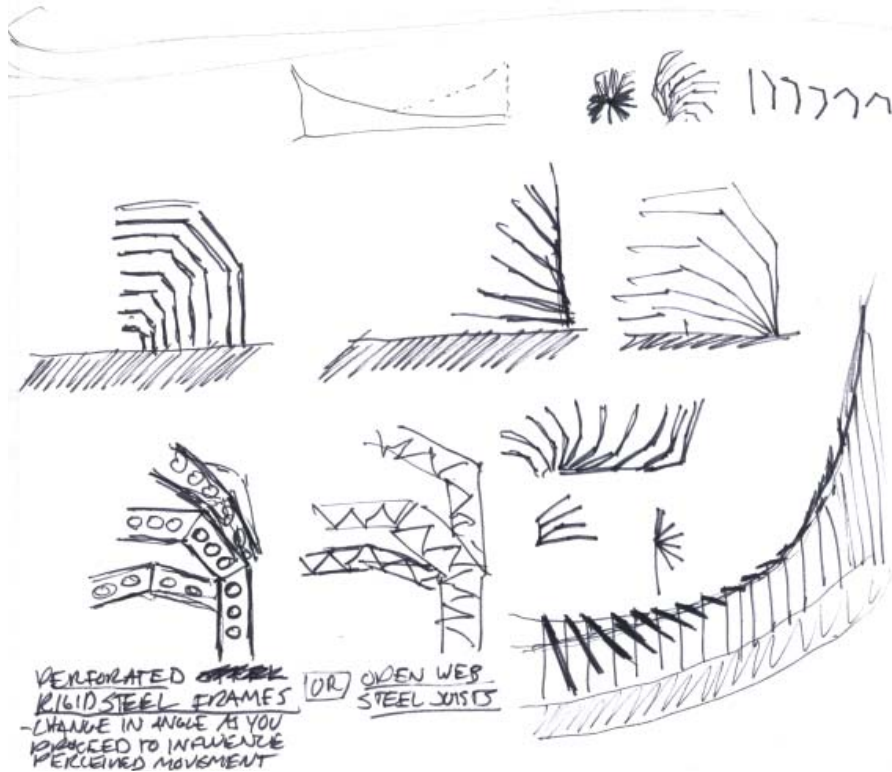
"HEALTH CLUB" - JACOB ESCOFF

*USE THE EXPLORATION OF PHYSICAL FORM BOUNDARIES TO INSPIRE MOVEMENT IN MY PROJECT.

- INCORPORATE THE FORMAL QUALITIES OF THESE TUNNEL BOUNDARIES INTO MY PROJECTS:

- *SPACE
- *FORM
- *STRUCTURE
- *MEET
- *ETC.

*NOT TO BECOME A STATIC "FORM" OF THE SPACE OR STRUCTURE - BUT RATHER AN ARRAY OF THESE PIECES THAT CHANGE INCREMENTALLY AS YOU PROGRESS THROUGH SPACE.
PROGRESSION OF INSPIRED/EMULATED MOVEMENT



"HALLWAY" PASSAGE

PLAN

SECTION

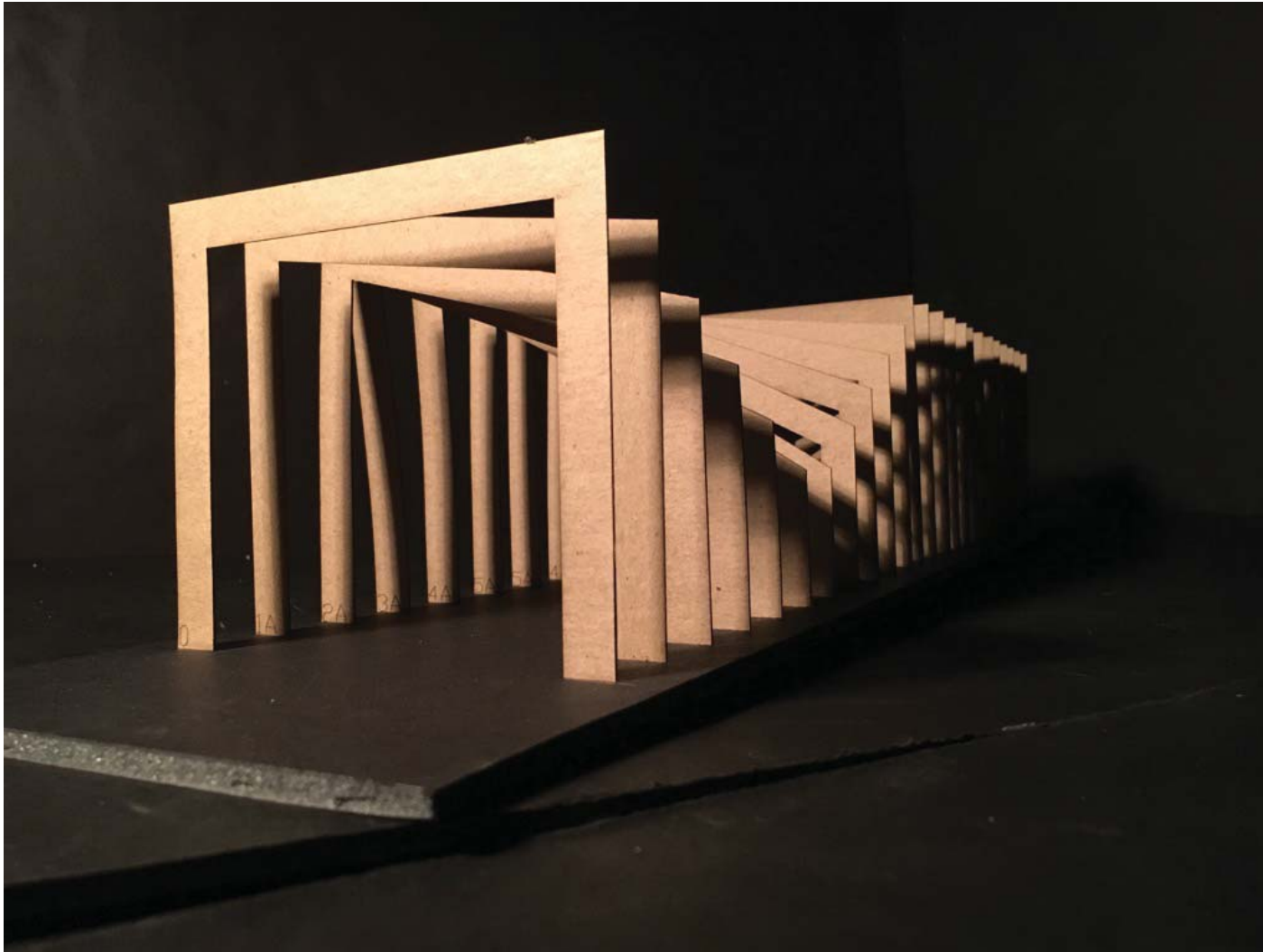


CREATES SPACE OR SUCCESSION OF SPACES THAT DYNAMICALLY CHANGES ITS SHAPE AS YOU PROGRESS THROUGH IT.
-SPACE FRAME STRUCTURE

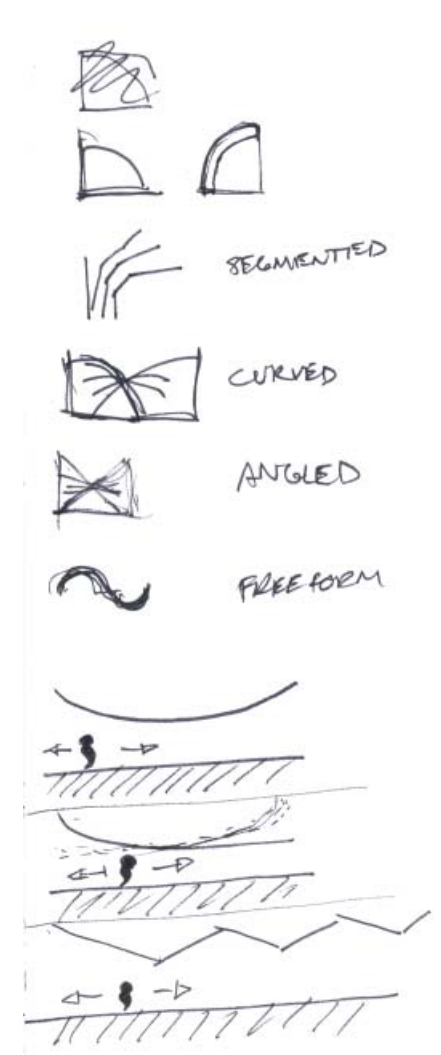
INSTEAD OF FORCING THESE VERY SPECIFIC MOVEMENTS IMPLIED BY SPACE TUNNEL BOUNDARIES, I INTEND TO USE THAT IDEA OF A SLOWLY CHANGING SHAPE THROUGH A SEGMENT OF SPACE THAT CREATES A VISUAL SENSE OF MOVEMENT - THEN INSPIRING ITS USERS TO MOVE AS WELL.

CURVE INSPIRED BY DRYING MUD CHIPS CURLING EFFECT.

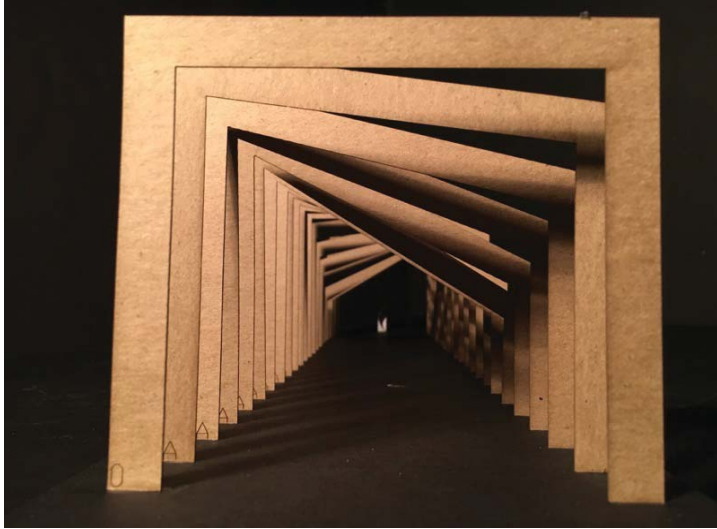




MOVEMENT MODEL



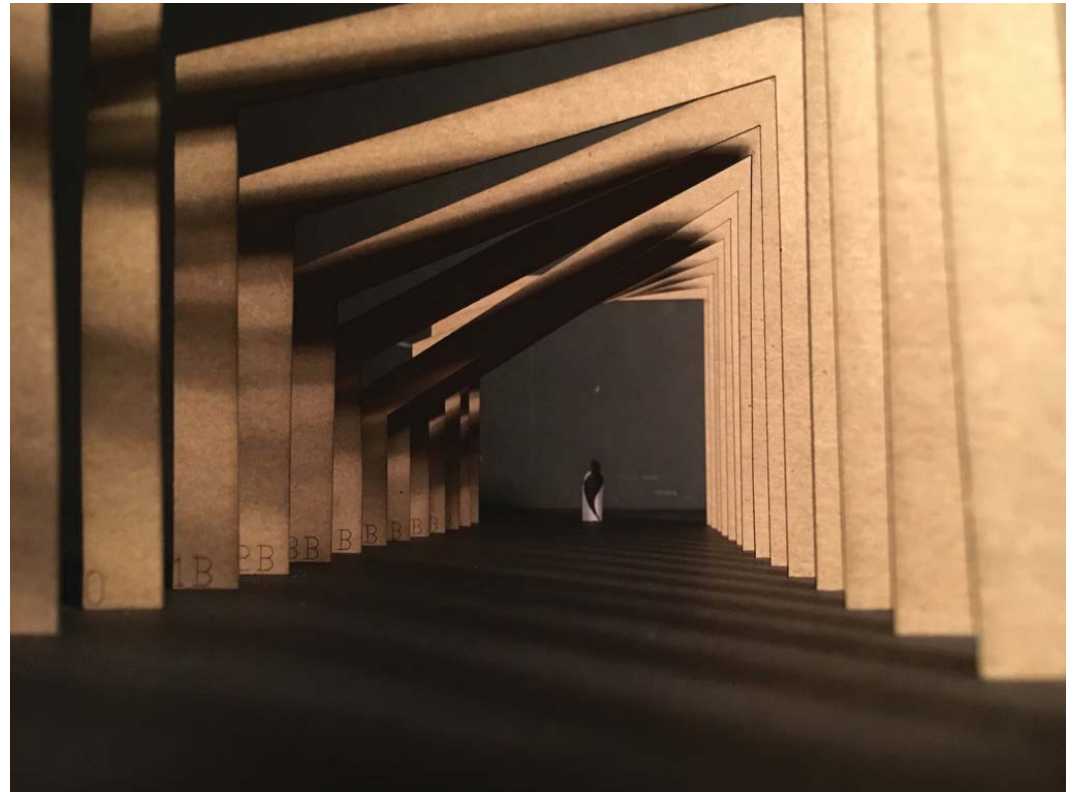
DESIGN THINKING



The angular form was chosen after coinciding with the design intent inspired by the cracking mud found on-site. Interestingly enough, the progression of angles takes on a curved profile when arrayed and viewed from the interior or exterior perspective. This balance of curved gestures within the rigid form mimics what we see in nature.

Light plays a critical role in enhancing the ability of simple architectural forms to inspire movement. As the light (or sun) moves throughout the day, so do the shadows cast, constantly changing the way the space is perceived. The repetition creates a strong allure, inviting exploration, along with the required effort to move through it.

DESIGN THINKING

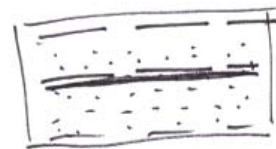


MOVEMENT MODEL

SPACIAL ORGANIZATION

The typical arrangement of fitness spaces can lead to a mundane and even uncomfortable experience. Being tightly enclosed in a space with rows of bulky equipment can be vastly overwhelming to the user. Breaking up the space into separate areas would allow for a more dynamic experience with an increased sense of space and privacy.

INTERPRETATION (CONT.)

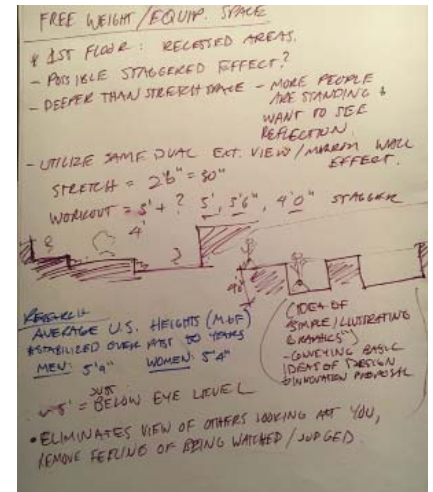


TYPICAL "LINEAR" GYM LAYOUT

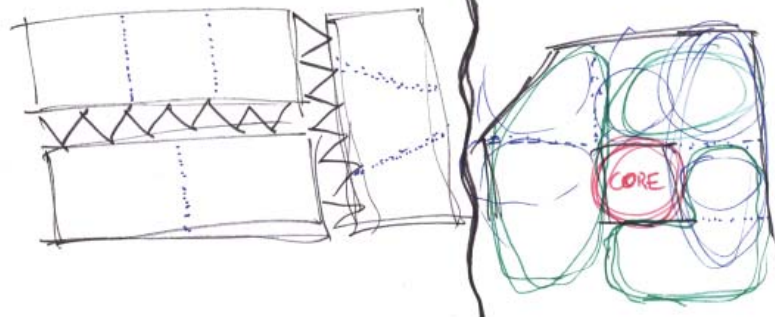


NEW "DYNAMIC" FLEX GYM LAYOUT

SOCIAL CORE -

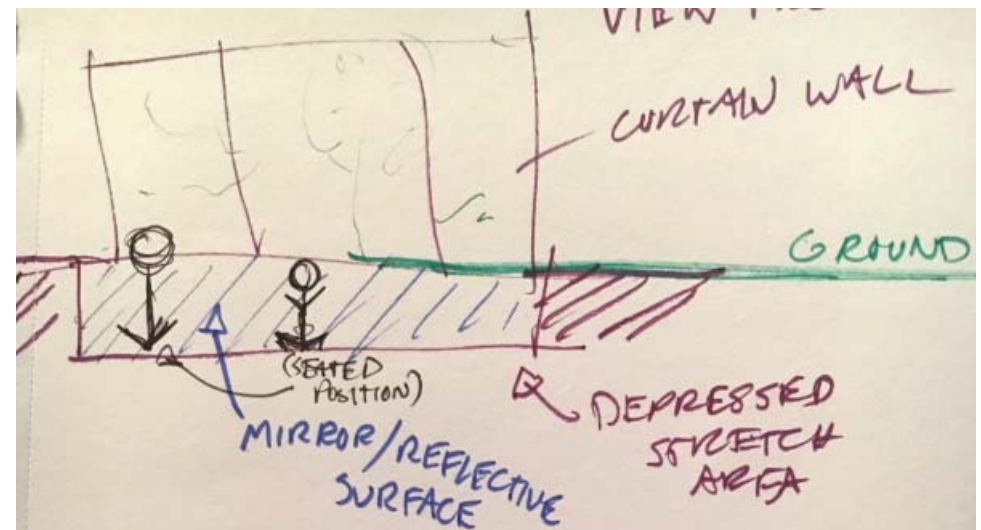


INTERPRETATION (CONT.)



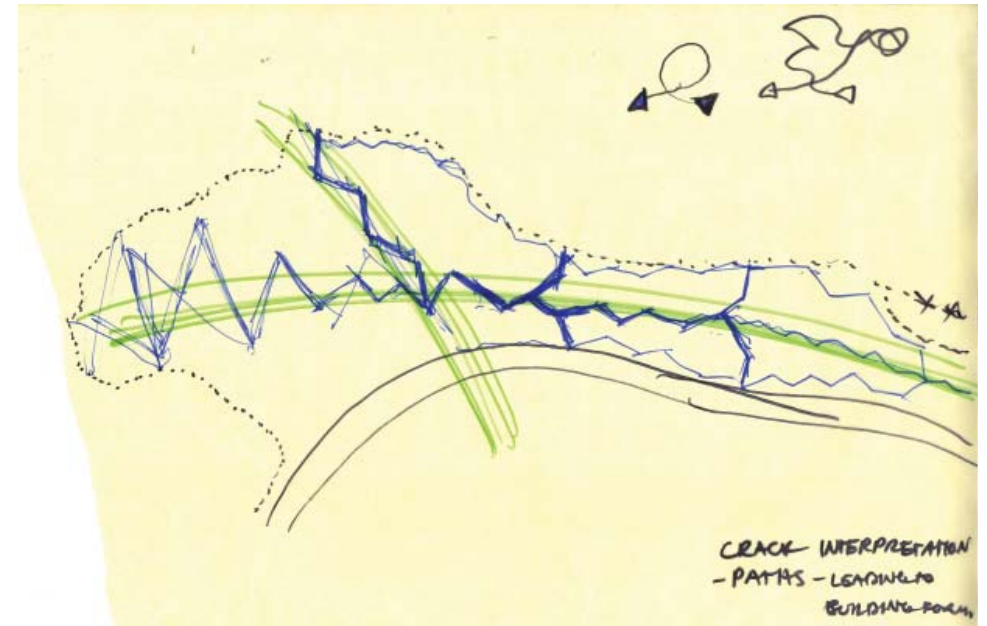
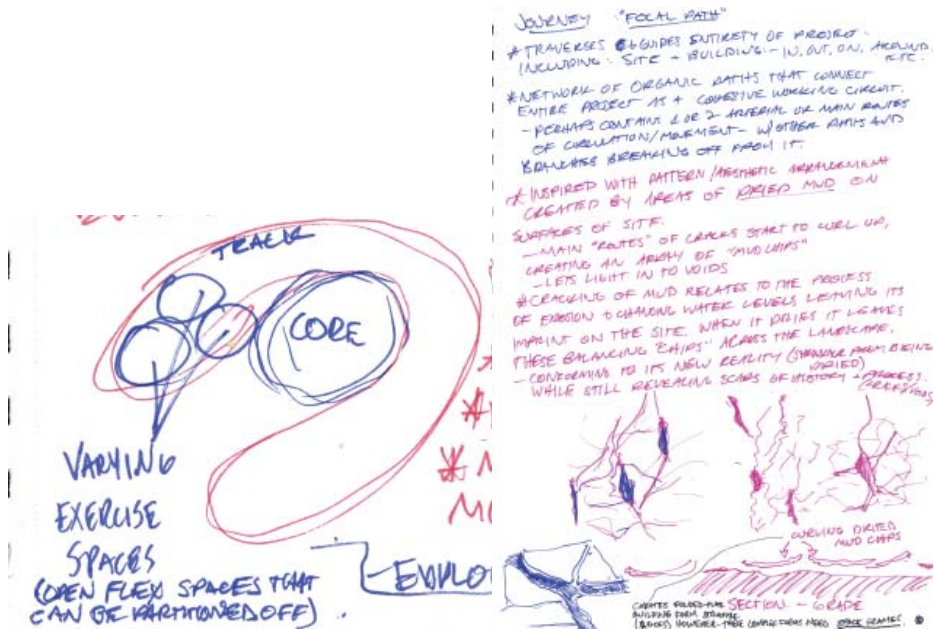
SECTIONAL QUALITY

Manipulating fitness spaces vertically can help break the monotony of the indoor environment, and allow an increased sense of privacy when in the space.



BREAKING THE MOLD

DESIGN THINKING



Circulation

Thinking about the circulation of a building as an opportunity for physical activity and movement, rather than just a means of travel is the main focus of this design. Being that humans are especially known for being a bipedal species, it would only make sense that we focus on the use of our legs as a primary form of movement for physical fitness.

Taking the typical arrangement of an oval shaped track and instilling cues from nature can make the spaces for circulation a journey of meandering through the building, rather than a never-ending loop. The aim is to simulate these dynamic outdoor environments in a controlled architectural setting that inspires activity in the same way nature does.





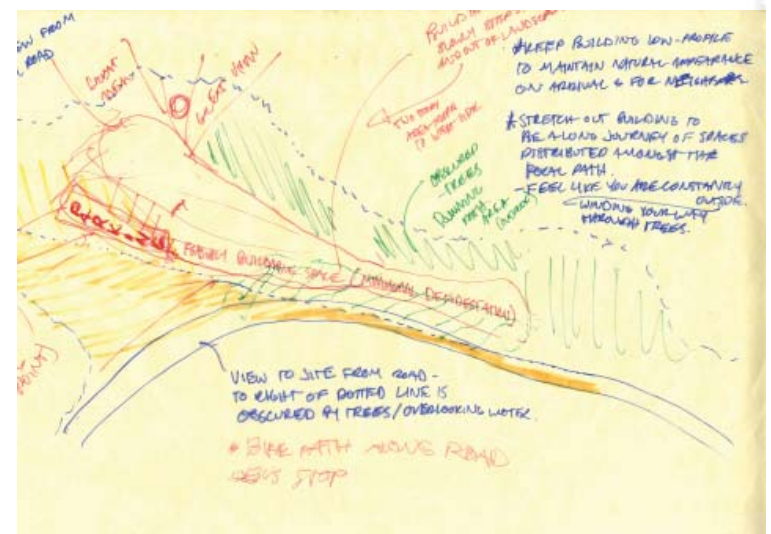
VIEWS

Perhaps the most prevalent element of design noticeable in my project is the constant use of framing great views using the openings of architecture. The dynamic track experience takes its angular formation by meandering the user through a progression of implied views using various angles, also inspired by the cracked path or journey.

Specific zones - or hot spots - were noted, and received a great amount of focus in the design. These areas offer plentiful views to the exterior in almost every direction.

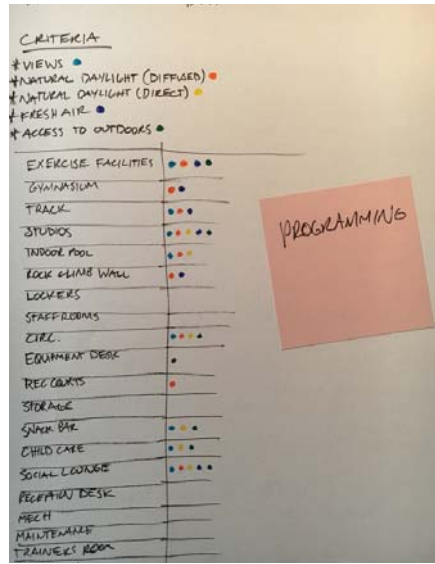
EXISTING SITE

Leaving the site in the most fertile state is incredibly important to the natural surroundings of this secluded facility. Making use of as much current vegetation as possible, along with reusing the beat-en-down trails previous human-activity on site is important in perpetuating this natural notion.



SITE CONSIDERATIONS

DESIGN THINKING



SPACE MATRIX

	EXERCISE FACILITIES	GYMNASIUM	TRACK	STUDIOS	INDOOR POOL	ROCK CLIMBING WALL	LOCKERS	STAFF ROOMS	CIRCULATION	EQUIPMENT DESK	REC COURTS	STORAGE	SNACK BAR	CHILD CARE	SOCIAL LOUNGE	RECEPTION DESK	MECHANICAL	MAINTENANCE	TRAINER'S ROOM	RESTROOMS
EXERCISE FACILITIES	■			●	●	●	●	●	●	●	●	●							●	●
GYMNASIUM		■	●				●			●		●	●						●	●
TRACK			■		●	●														●
STUDIOS		●		■						●	●	●							●	●
INDOOR POOL					■					●	●	●	●	●	●				●	●
ROCK CLIMBING WALL						■				●	●	●			●				●	●
LOCKERS		●	●	●	●	●	■		●	●	●	●							●	●
STAFF ROOMS		●			●	●	●	■		●	●								●	●
CIRCULATION		●		●	●	●	●	●	■	●	●	●	●		●	●			●	●
EQUIPMENT DESK		●	●		●	●	●	●	●	■	●	●								●
REC COURTS							●			●	■	●			●					●
STORAGE		●		●	●	●				●	●	■	●							●
SNACK BAR			●		●				●				■		●	●	●	●	●	●
CHILD CARE					●									■	●	●			●	●
SOCIAL LOUNGE					●	●			●	●			●	●	■	●			●	●
RECEPTION DESK									●	●			●	●	●	■				●
MECHANICAL					●								●				■		●	
MAINTENANCE		●	●		●	●	●	●	●				●	●						●
TRAINER'S ROOM					●				●			●							■	●
RESTROOMS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●	●

CLOSE PROXIMITY
 SOME PROXIMITY
 UNNECESSARY

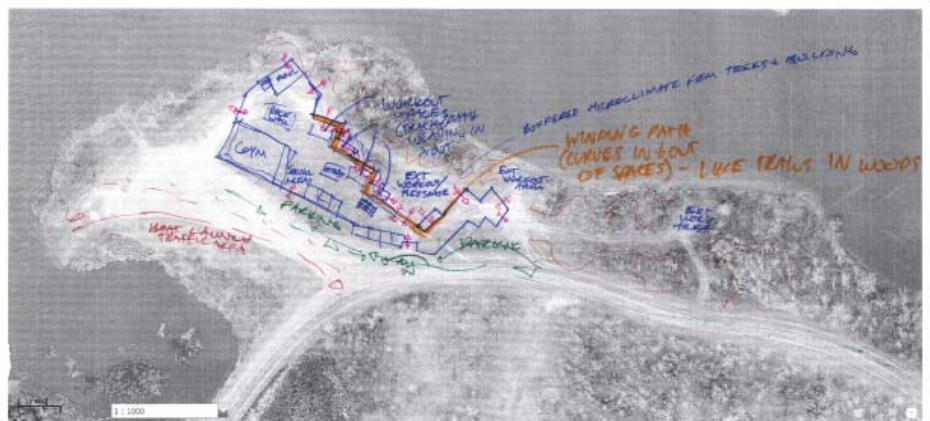
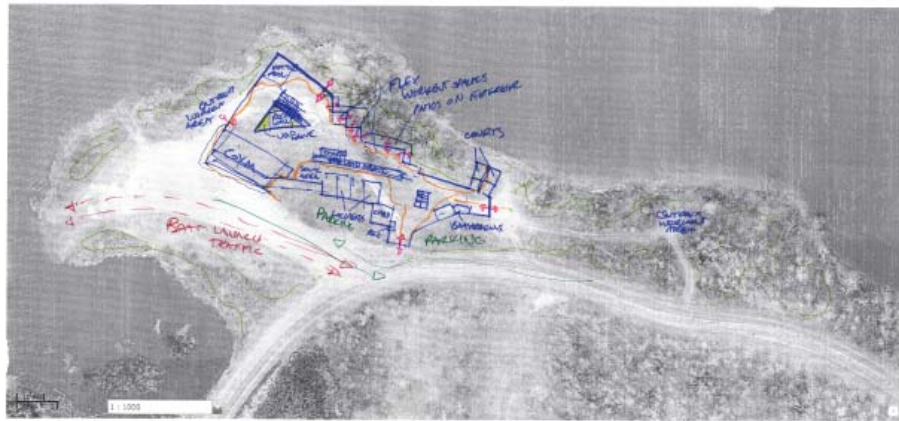
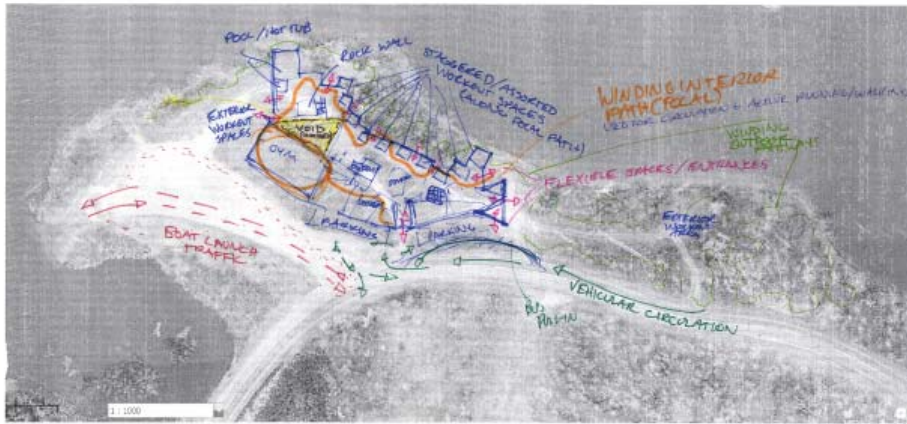
PROGRAM

Initially, the spaces I wanted to incorporate into my building were represented by the graphic to the right. Although, once the focus and certain aspects of my building began to define themselves, the corresponding interior requirements (along with their names) began to change. Rather than having a plethora of rooms with pre-defined functions, many spaces are considered flexible and suitable for a number of uses.



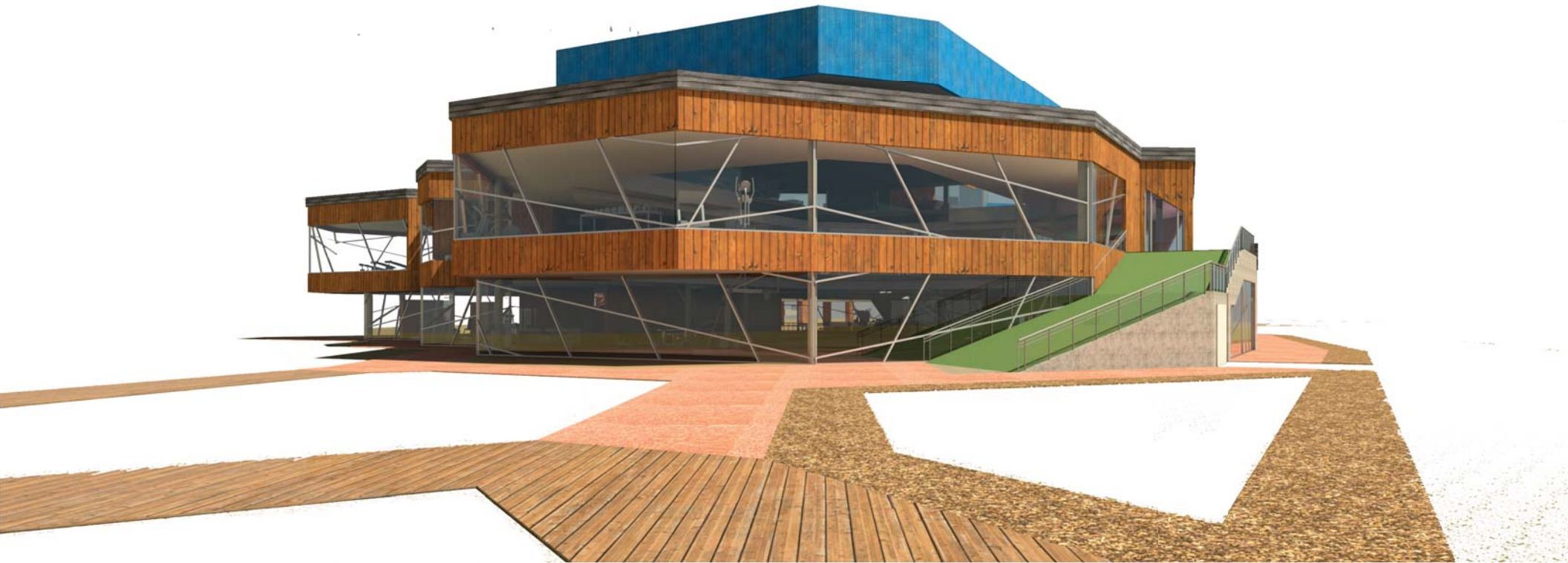
SPACE PLANNING

DESIGN THINKING



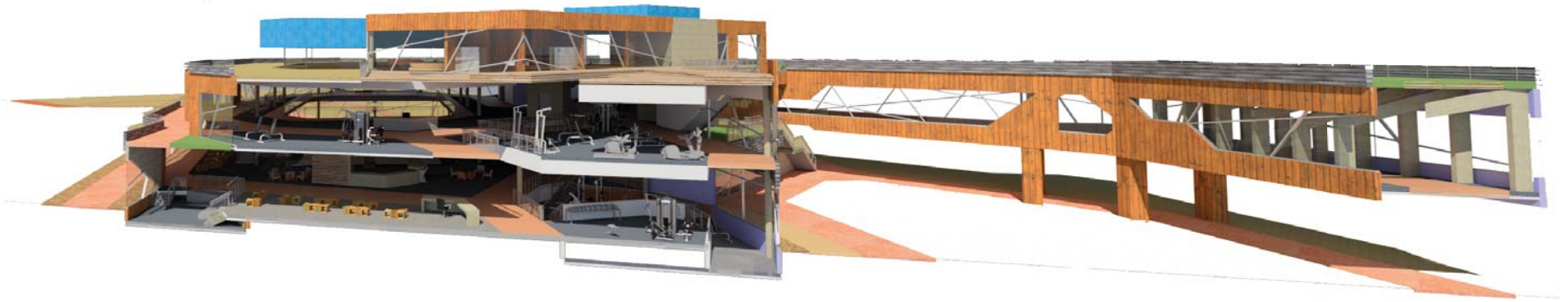
DESIGN THINKING

FORMAL DEVELOPMENT



BOARDWALK //

DESIGN SOLUTION



DESIGN SOLUTION

// SECTION CUT



GROUND LEVEL // SITE PLAN

DESIGN SOLUTION



// ENTRY



RECEPTION //



DESIGN SOLUTION

GROUND LEVEL // SITE PLAN



RECESSED RESISTANCE AREA //



// RECESSED FLEXIBILITY AREA



GROUND LEVEL // PLAN

DESIGN SOLUTION



// DYNAMIC MOVEMENT AREA



GROUND LEVEL // SITE PLAN

DESIGN SOLUTION



// FLEXIBLE STUDIO SPACE



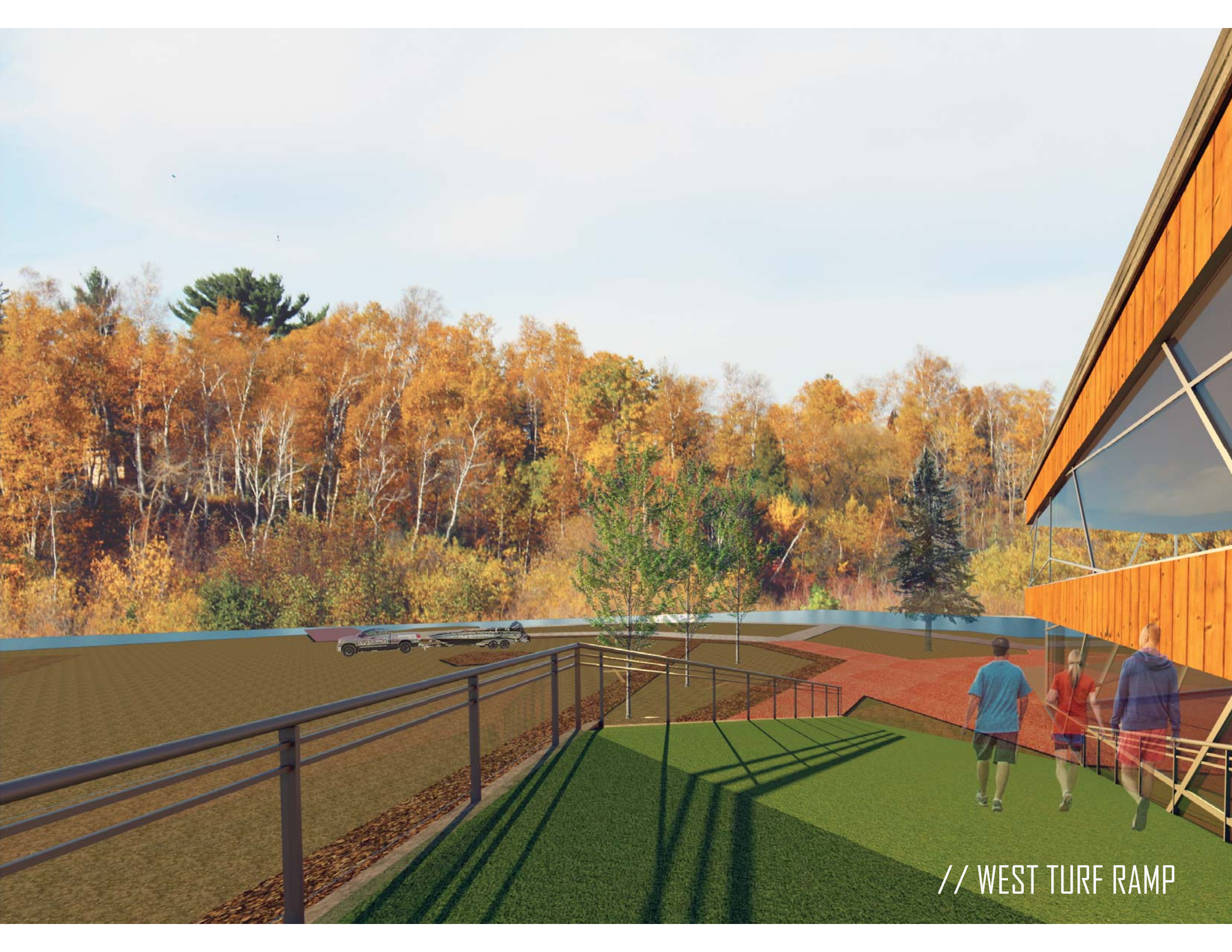
EAST TURF RAMP //



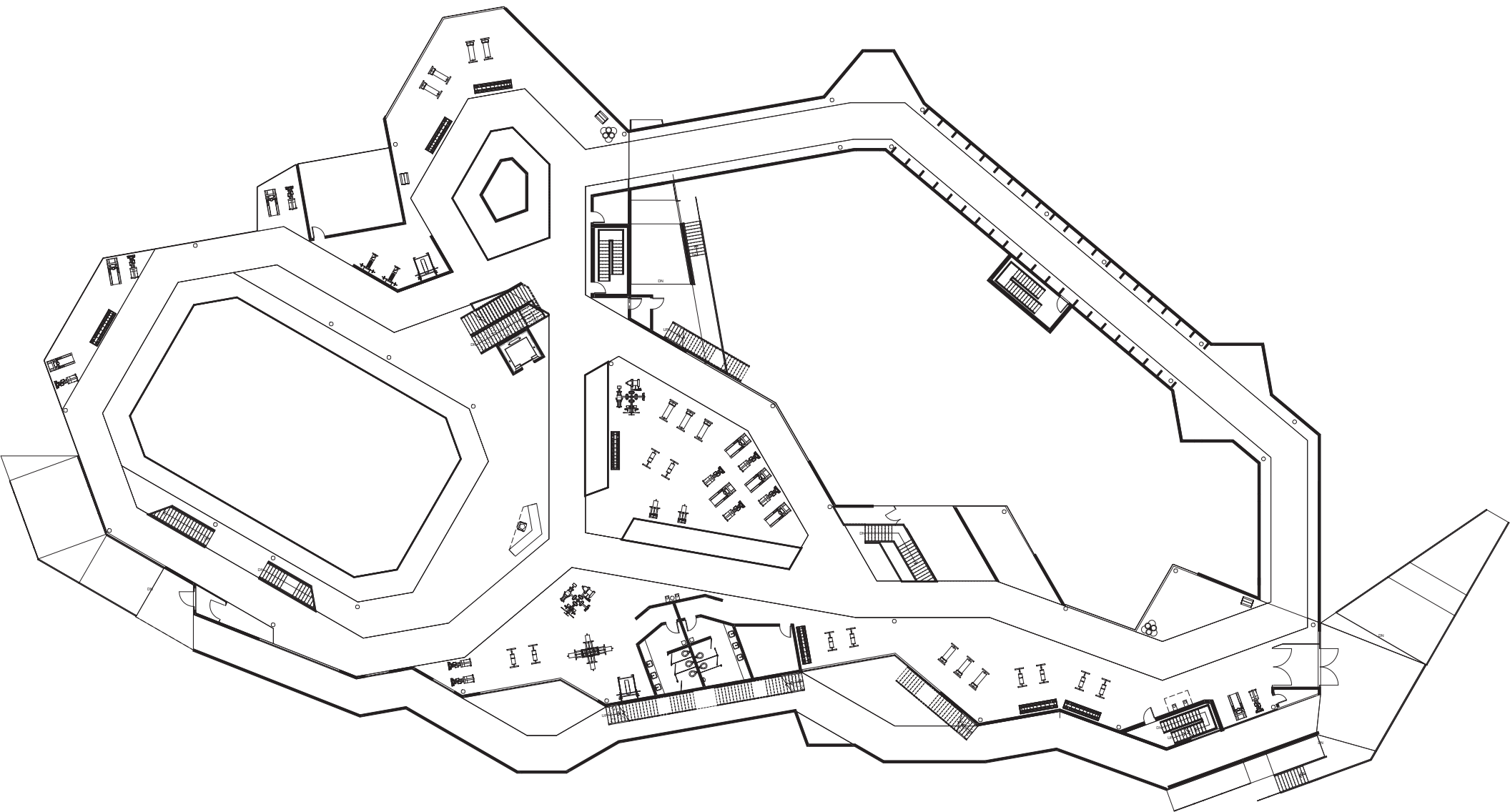
// COMMUNITY SPACE



MOVEMENT MODEL



// WEST TURF RAMP



LEVEL 2 // PLAN

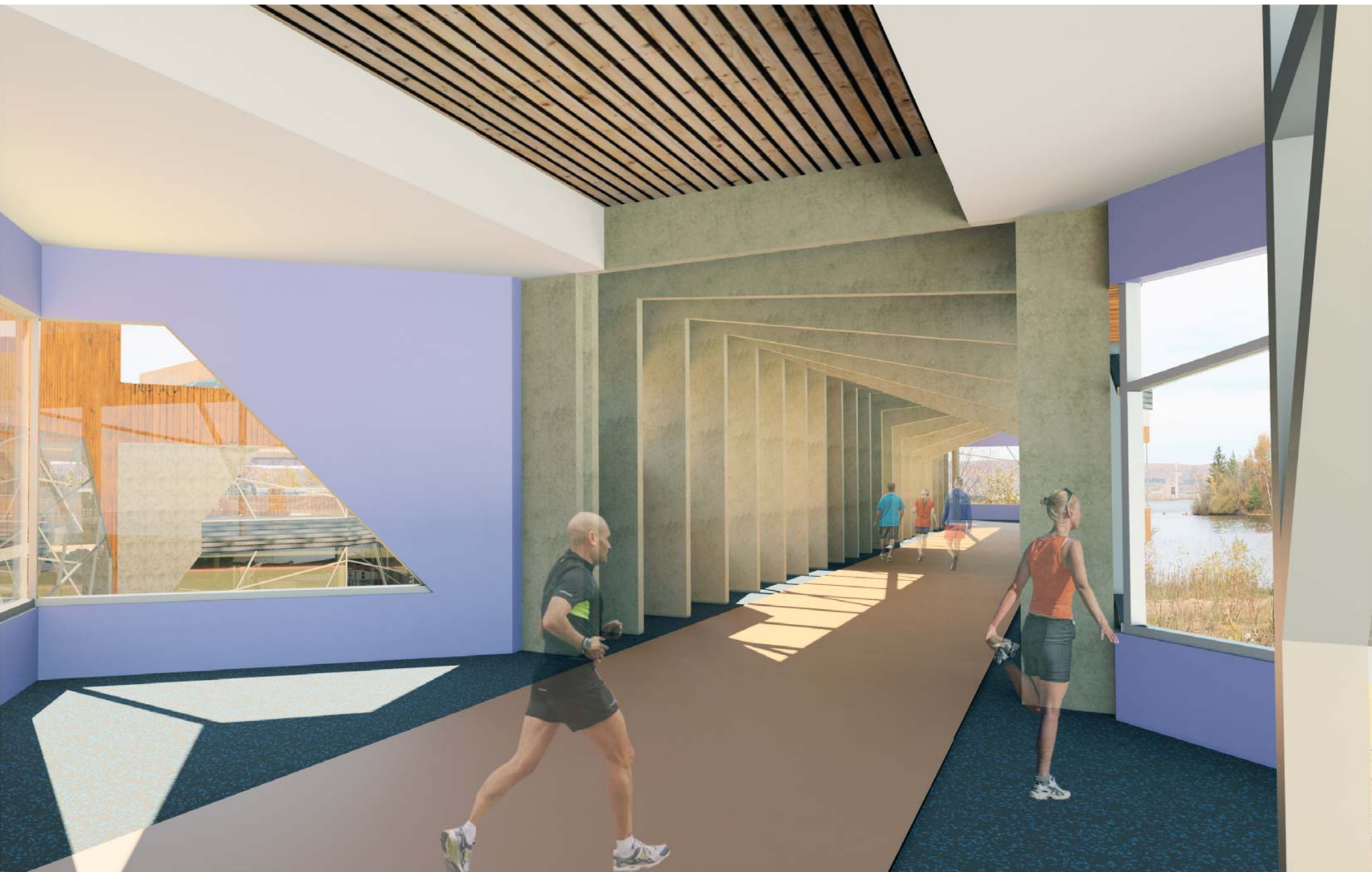
DESIGN SOLUTION



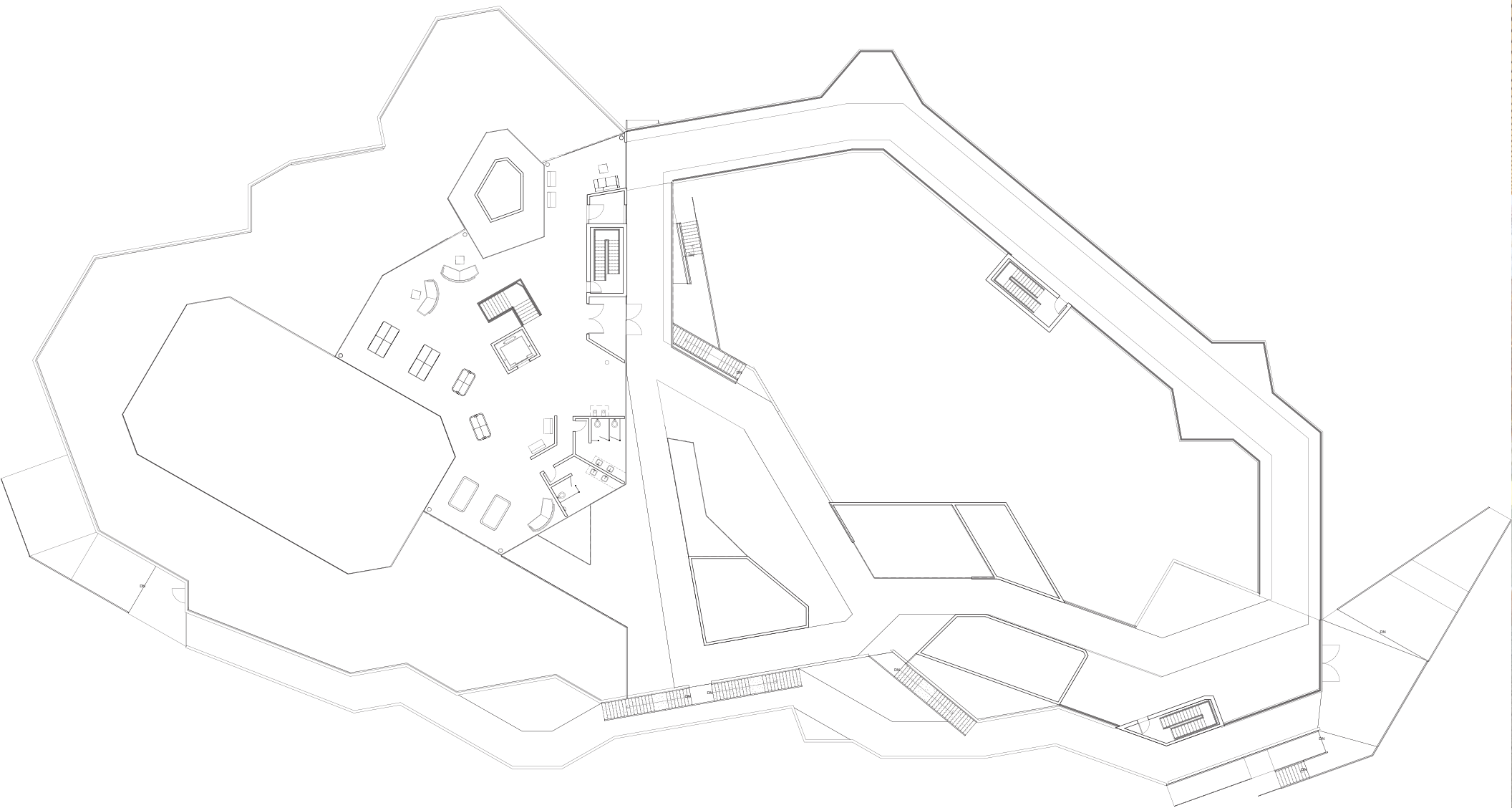
// ELEVATED FITNESS AREA



THE BREAK // VIEW 1



THE BREAK // VIEW 2



LEVEL 3 // PLAN

DESIGN SOLUTION

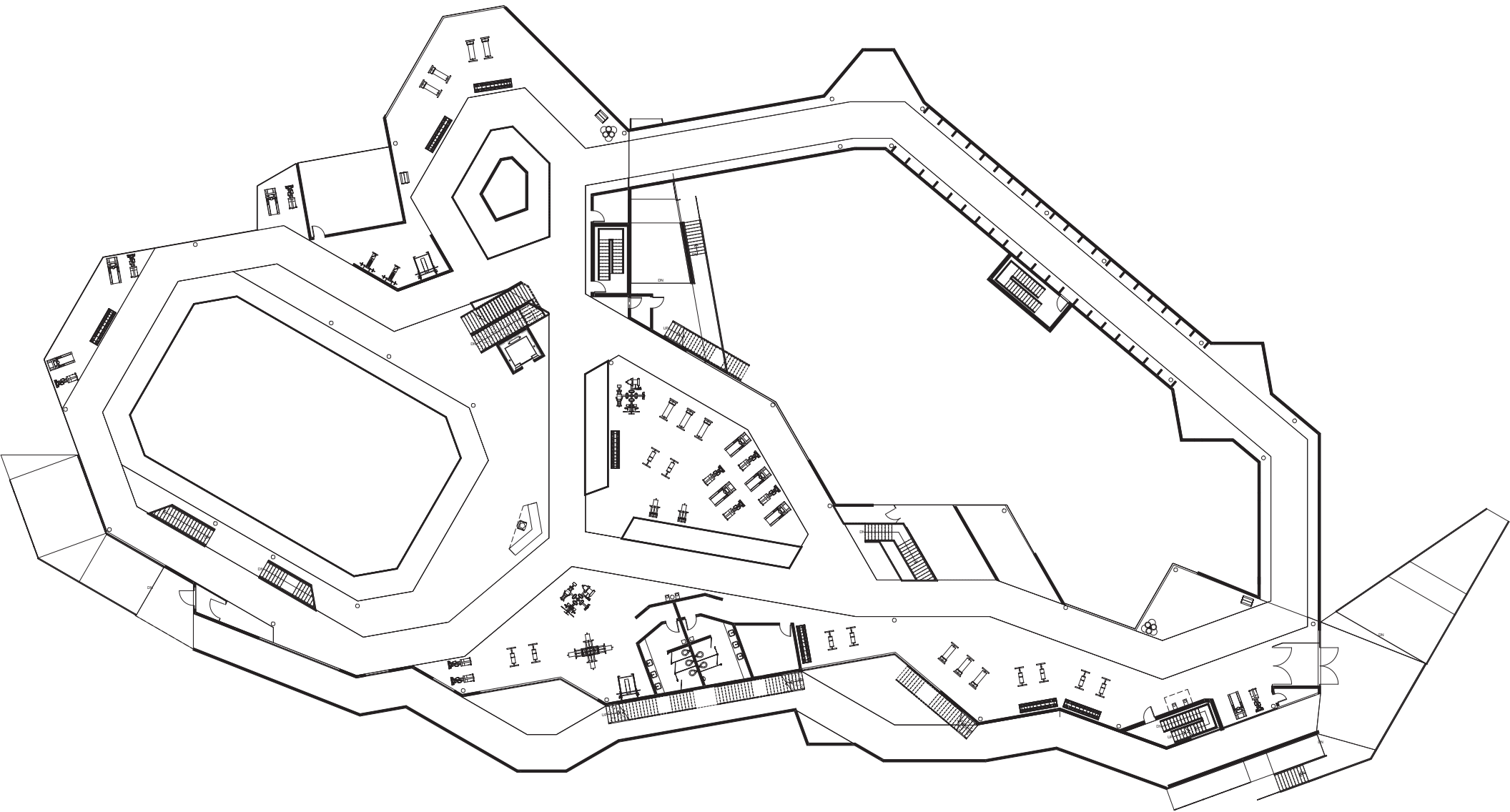


// RELAXATION AREA



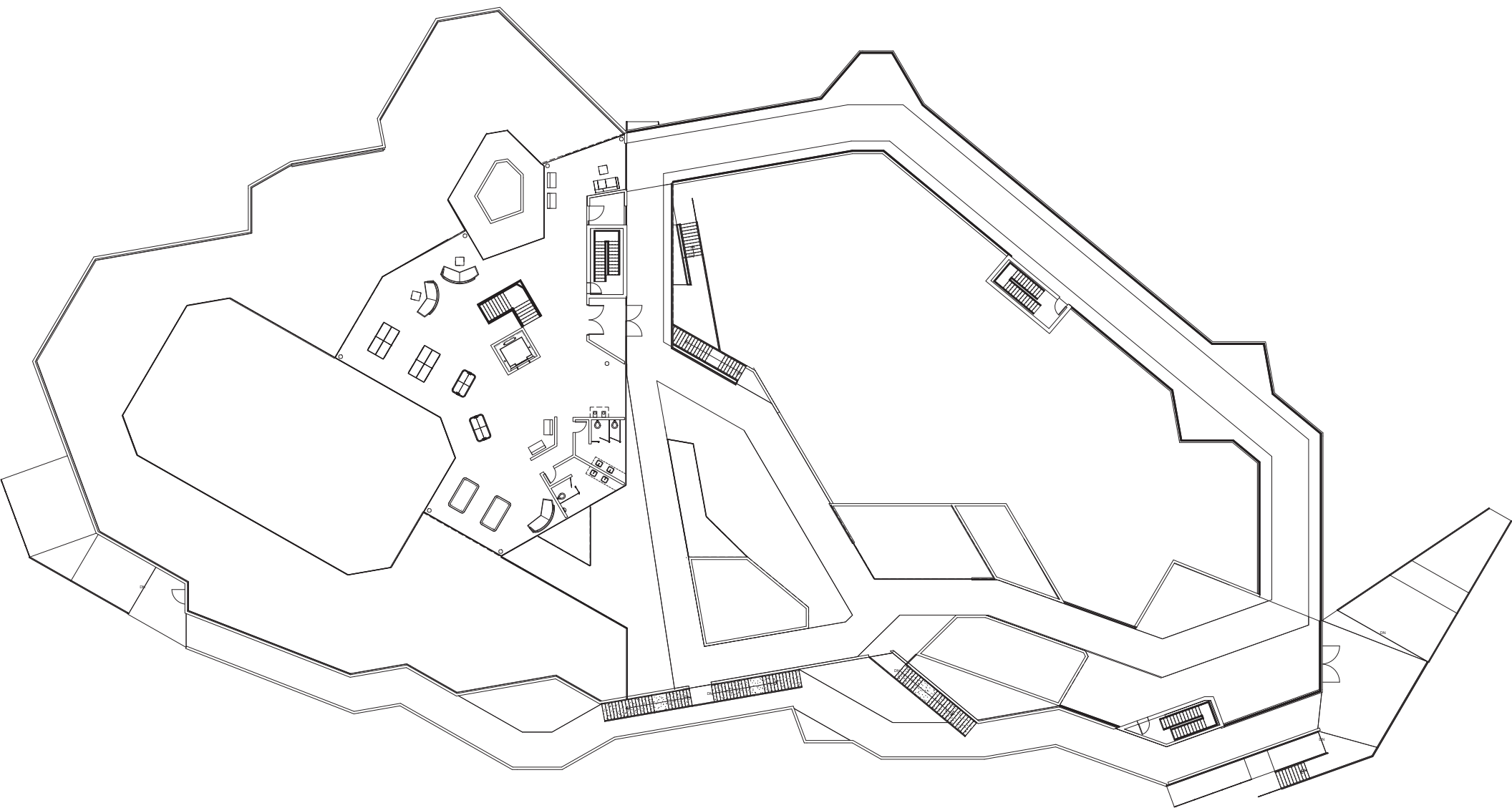
MOVEMENT MODEL

DESIGN THINKING



DESIGN THINKING

MOVEMENT MODEL



WELLNESS
PERSONALIZATION
COMMUNICATION
RELATIONSHIPS
GROWTH
LANDSCAPE
INCLUSIVE
NATURE
FRIENDSHIPS
SOCIAL
ENVIRONMENT
COMFORTABILITY
ADAPTABLE
FLEXIBILITY
WELCOMING
COMMUNAL
TEAMWORK