

EZDEHAR

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Interactive getaway hub for pregnant women to
engage in physical activity |

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Concept Statement **الفكرة**

An interactive getaway that encourages physical activity for expectant women in Qatar, that empowers and actively promotes a holistic approach towards a healthy lifestyle during pregnancy.

إن لجسدك عليك حق

Your body has a right over you



Figure 1: 7th trimester pregnancy

Abstract

Having a sedentary lifestyle that lacks physical activity dominates pregnant women's lives in Qatar. Prolonged sitting and lying down with minimal physical activity can lead to various health issues for both mother and fetus. Fazzi et al. state sedentary behavior has an adverse effect on mental wellbeing, including depression.¹ Experiencing depression during pregnancy greatly elevates a strong risk factor for the development of postnatal depression. Over the course of pregnancy, the majority of expectant women, in Qatar, experience for a long period of time stress, depression and anxiety. The lack of proper treatments cause depression in expectant mothers which may cause negative impacts on the fetus. Physical inactivity is accompanied by excessive weight gain, gestational diabetes and postpartum depression & high blood pressure that may reach to a dangerous level that may cause a health deterioration for both expectant mothers and their future infants. Kolomanska, Zarawski and Mazur-Bialy is a group of researchers who has shown that exercises performed during pregnancy have a positive impact on the health of mother and child, regular physical activity also minimizes the risk of developing depression.² These are also the factors that affect a pregnant woman's day to day lifestyle. Current interventions for pregnant women in Qatar often focus on medical or obstetric outcomes. The advancement of science has developed medications that are now part of interventions for pregnant women. Unfortunately, the lack of emphasis on physical activity in these interventions has resulted in pregnant women to intake these medications as an alternative to address their health needs. This emphasizes neglecting the importance of physical activity during pregnancy.

Pregnant women in Qatar are sedentary. Sayegh, Van Der Walt and Al - Kuwari points out that Females in Qatar are less active due to certain cultural restrictions and other social factors.³ One of the cultural beliefs is emphasize the importance of a relaxed and calm demeanor for expectant women. This cultural expectation often translates into a perception that physical activity during pregnancy should be minimized or avoided. The community discourages expectant women from participating in strenuous physical activities, aligning with the overarching cultural norm of prioritizing maternal rest during pregnancy. This social pressure, reinforced by family, friends, and community members, plays a pivotal role in shaping the behavior of pregnant women and influencing their decision to adopt a more sedentary lifestyle. Expectant mothers in Qatar are sedentary and lack motivation for physical activity & exercise. Women's decisions to partake in a regular routine physical activities and to live a healthy lifestyle are shaped not only by their cultural beliefs but also by values and practices and also by their social positions within a particular society & the fear of engaging in activities. Golkowska states, "Interest in active participation in sports and regular exercise has always been low in the region. Especially in the case of Muslim women, contrary to stereotypical beliefs, Islam encourages taking care of one's body and does not restrict the right of women to engage in physical activity."⁴ Physical activity is not only seen as a means of preserving one's health but is also viewed favorably within the Islamic framework.

According to Naja et al 2021, "Low health literacy is common among pregnant women in the state of Qatar."⁵ Studies have examined methods to improve the health of pregnant women by placing high importance on their diet during pregnancy. A research by Marshall, et al. 2021 reported that women who follow a healthy diet during pregnancy "have fewer pregnancy complications and adverse child health outcomes."⁶ Researchers Poudevigne and Connor, state " Up to 60% are inactive during pregnancy."⁷ Many expectant mothers are at a high risk of experiencing a range of health issues and complications. Meander et al. 2021 states that "Physical activity during pregnancy has been associated with decreased risks of adverse health outcomes for the pregnant women and her offspring."⁸



Figure 2: Prenatal exercising class

Rationale |

Physical inactivity is the fourth-leading risk factor for early mortality⁹ worldwide. Physical inactivity impacts a pregnant woman's well-being in various ways. Echlos's study revolves around physical activity during pregnancy and has shown “physical inactivity during pregnancy can cause maternal obesity and creates a higher risk for preterm birth, emergency cesarean delivery and preeclampsia.”¹⁰ In pregnancy, exercise lowers one’s risk for a range of pregnancy complications, improves a woman’s overall health and helps with postpartum recovery. The more active and fit expectant women are during pregnancy, the easier it will be for them to adapt to changes in shape and weight gain and build self confidence. It will also help to cope with labor.

Sedentary expectant mothers contribute to a more sedentary lifestyle during pregnancy due to; fear of miscarriage, preterm labor, growth restriction, pre-pregnancy sedentary lifestyle, modern lifestyle: more time on social media, lack of knowledge among health care providers (HCP), occupation related, physical discomfort, pain, nausea, vomiting and influence from family and society due to lack of knowledge and awareness.¹¹ Physical activity during pregnancy has been associated with decreased risks of adverse health outcomes for the pregnant woman and her offspring. Scientific evidence has proven that physical activity in pregnancy is beneficial for the mother and her unborn child.¹² Benefits include reduced risk of excessive gestational weight gain, gestational diabetes, and preeclampsia. Physically active pregnant women have lower rates of preterm birth, altered fetal growth, miscarriage, prolonged cesarean section and postpartum recovery, and risk of injury for both mother and baby.¹³

Leading a sedentary lifestyle is known to contribute to depression. New evidence also suggests that sedentary behavior has an adverse effect on mental wellbeing, including depression.¹⁴ Depression in pregnancy is a significant public health problem; pregnancy and childbirth are some of the factors that contribute to the development of depression.¹⁵ Physical activity can serve as a natural antidepressant by boosting mood and reducing symptoms of depression. The occurrence of depression among expectant mothers fluctuates depending on the specific trimester of pregnancy. Factors of depression include, e.g., postpartum depression after previous deliveries, the occurrence of depression in the family, a pregnancy at a young age, an unplanned pregnancy, a previous miscarriage, a lack of or limited support of the environment and partner, conflicts with the father of the child, a low level of education, lack of work.¹⁶

Motherhood holds a particularly important place in Qatar’s culture and in Islam where women are ultimately responsible for protecting and promoting fertility and for producing healthy children.¹⁷ The social status of a Muslim woman, her dignity and her self-esteem are closely related to her procreation potential in the family and in society as a whole.¹⁸

Decisions regarding adopting regular physical activity are not solely influenced by cultural beliefs but are also deeply rooted in Qatar’s culture values. There is a stigma associated with

pregnant women engaging in strenuous physical activities in some cultural contexts, in Qatar. Some people may hold traditional beliefs that pregnant women should prioritize rest and minimize physical exertion to ensure a smooth and healthy pregnancy.

The fear of judgment or negative perceptions from their community or family can deter women from being physically active during pregnancy. Women are encouraged by those around them to observe various rules to ensure their health and safety, successful conception and viability of the pregnancy, an easy delivery, and a healthy child.¹⁸ Sheikah, a 27 years old was interviewed about pregnancy and movement and the relation. Sheikah reported: According to old people, pregnant women should rest and sit; but this is wrong, as the pregnant woman should move. The majority of interlocutors reported that limiting activity was important for a healthy pregnancy.¹⁹ Indeed, it was the older generation that lack of activity may harm a pregnancy. Mothers, Mothers-in-laws and grandmothers often suggested that life was easier for contemporary Qatari women.

Pregnant women are thus vulnerable by their very nature: their pregnancy illustrates their fertility, which may attract jealousy and the evil eye.²⁰ Many women in Qatar who are pregnant avoid physical activity during pregnancy due to the concerns from the public perception regarding their physical appearance and health. Some believe that by exercising, they can demonstrate their commitment to a healthy and fit pregnancy while effectively managing their time for exercise during this crucial period. Pregnant bodies are especially vulnerable, particularly to evil eye.²¹ Pregnancy brings out changes in body image and self-esteem. Pregnant women suffer from a lack of physical activity socially due to their self-esteem and confidence levels are negatively affected by how they look and feel. To improve women’s physical activity behavior during pregnancy, it is important to listen to what women have to say about their physical activity experiences and needs within the context of their daily lives in families and communities.²² Engaging in physical activity can help expectant mothers maintain a positive body image which leads to having an improved self-esteem. Feeling more confident during pregnancy can contribute to a healthier mental state.

By emphasizing the significance of physical activity in Qatar this proposal can contribute to better maternal health outcomes for pregnant women. This approach will serve as an educational opportunity for a better and healthier lifestyle during pregnancy for expectant mothers benefitting both mothers and their unborn children. Interviews, literature reviews studies will be conducted to understand the needs of pregnant women to be engaged in physical activities. To implement this approach effectively, a comprehensive strategy can be devised. Qatar can take significant strides toward improving the well-being of pregnant women, reducing misconceptions and barriers related to physical activity, and ultimately ensuring healthier pregnancies and childbirth experiences.



Figure 3: Prenatal exercising class

Approach |

Physical inactivity is the fourth-leading risk factor for early mortality worldwide.¹ Physical inactivity impacts a pregnant woman's well-being in various ways. This proposed study aims to address, and seeks to improve and aid maternal health outcomes for pregnant women in Qatar, by adopting and emphasizing the importance of physical activity among pregnant women. Improving maternal lifestyle and wellbeing and allowing pregnant women to learn to adopt a healthy lifestyle will benefit them during the pregnancy and after pregnancy. However, this proposal will be heavily weighted on qualitative research data gathered through semi - structured interviews, precedent studies and literature reviews. This research approach can serve as an educational opportunity for expectant mothers to adopt a healthier lifestyle during pregnancy, benefiting both the mother and the unborn child.

This proposal will conduct literature reviews such as research articles and reports that highlights how pregnant women deal with lack of physical activity, the effects that it has on pregnant women, and how their performance in physical activity during pregnancy is effective. In order to understand the social and cultural beliefs in Qatar. Different pieces of literature are collected, such as “Why a Sedentary Lifestyle Could Be Harmful during Pregnancy” by Dr Raja Gangopadhyay the Founder of The International Forum for Wellbeing In Pregnancy emphasizes the importance of physical activity and how to prevent having a sedentary lifestyle during pregnancy and the effects that are built up due to sedentary lifestyle. This source gives essential information on how to engage in prenatal activities for pregnant women. “Cultural Expectations of Pregnant Women in Qatar” by Kilshaw, a report that has taken place in Qatar, talks about a pregnant body and the social role of the pregnant woman is explored in the proposal. This will help identify some of the issues that pregnant women deal with such as mental health and sociocultural issues. The intent is to gather information regarding the effects of lack of physical activity and having a sedentary lifestyle during pregnancy in order to base the proposal on evidence.

Precedent Studies

To address this issue secondary data collection will be conducted to bridge research gaps and gain insight into how interior design can enhance the well-being of pregnant women who lead a sedentary lifestyle. Exploring analytical precedent studies and by looking into similar existing spaces, centers and organizations that have successfully incorporated physical activity for pregnant women. By examining and analyzing precedent studies, such as Yoga Studio by Kostas Chatzigiannis Architecture a Yoga Studio in Shanghai, China. This project aims to provide a serene sensory experience for expectant mothers. More than the feeling of exercise, the Another project is Tru3 Yoga Studio by ITGinteriors. This project incorporates elements that cater to the needs of pregnant women considering that pregnancy often invites a softer approach to physical practice. Both projects will provide insights into how organizations have successfully incorporated physical activity programs

for expectant women, improving their overall health and well-being. In order to gain and understand strategies and challenges and outcomes associated with such initiatives. Understanding these studies help understand how these organizations work.

Interviews

Qualitative data will be collected from interviews with professionals that specialize in physical activity in pregnancy. One-on-one interviews with experts in physical activities for pregnant women and prenatal yoga specialists. This data may help identify effective programs and classes for promoting physical activity among pregnant women. Interviewing specialists such as Marli Yana who is in Qatar, who teaches and specializes in fitness and physical activity in yoga for pregnant women during pregnancy and postpartum. Will provide helpful information on the psychological impacts and the need of pregnant women to fill the gaps in literature.

Conclusion

Finally, conducting thorough research, including literature review, precedent studies and conducting interviews will be great in integrating a space and creating an ideal interior environment that addresses the specific needs of pregnant women in order to enhance their quality of life and wellbeing. To gather additional information for the research proposal, resources such as the VCUarts Qatar library, books and Google Scholar can be utilized, especially when it comes to a research question heavily invested in the Qatari culture.



Figure 4: Yoga Prenatal exercising class

Literature Review |

Introduction

Lack of physical activity among pregnant women is a significant concern that has been extensively studied. Research has consistently shown that physical activity levels tend to decrease throughout pregnancy.²³ Low health literacy is common among pregnant women in the State of Qatar.²⁴ A considerable number of pregnant women unintentionally develop a sedentary lifestyle without noticing. Physical inactivity impacts a pregnant woman's well-being in multifaceted ways.

Notably, Qatar grapples with a pronounced challenge as low health literacy is common among pregnant women within its borders. This complexity amplifies the potential health risks associated with reduced physical activity during pregnancy, emphasizing the need for a comprehensive investigation. In response, there is a pressing need to cultivate a nurturing environment tailored to the unique needs of pregnant women, a process in which the physical design of spaces assumes a pivotal role. The purpose of this collective literature review is to address the importance of nurturing environments for expectant mothers and to explore the effectiveness of physical activity interventions on expectant mothers. As well as, cultural and social factors that influence physical inactivity among pregnant women.

The Importance of Nurturing Environments for Expectant Mothers

The importance of nurturing environments for expectant mothers cannot be overstated. A nurturing environment is a supportive and conducive space that prioritizes the physical, emotional, and psychological well-being of pregnant women. Francis in his research has shown that variations in maternal care can have a significant impact on the stress reactivity of offspring across generations.²⁵ This suggests that providing a nurturing environment during pregnancy can have long-lasting effects on the well-being of both the mother and the child. A study by Lof emphasized that “pregnant women were also found to spend significantly more time exhibiting sedentary behavior compared to non pregnant women.”²⁶ Chan on the other hand states that “this data indicates a reduction in physical activity level among pregnant women and suggest the potential existence of barriers for these women to perform sufficient exercise during their pregnancy.”²⁷

Another example, a study by Brotherson states that “practicing healthy behaviors during pregnancy can provide both the mother and child with a head start in life, develop a pattern of healthy living that you can carry over into your life following your pregnancy and delivery.”²⁸ Consequently, it becomes evident that maternal care and the nurturing environment play a pivotal role in promoting the holistic well-being of expectant mothers, setting the stage for a positive lifestyle that transcends the pregnancy and delivery phases. Both studies provide an insight into how interplay underscores the profound importance of nurturing environments during pregnancy and their potential to leave an enduring legacy of

well-being. A nurturing environment during pregnancy can have a significant influence & encourage physical activity and support mental health for expectant mothers to experience a holistic sense of well-being & promote a positive lifestyle.

Effects of physical inactivity among pregnant women and their babies

Physical inactivity in pregnancy has been associated with excessive gestational weight gain, hypertensive disorders, gestational diabetes mellitus and postpartum depression.²⁸ Physical inactivity among pregnant women is attributed to have adverse effects on their health and well-being, and their babies’ development. It is attributed that physical inactivity can increase the risk of various complications and adverse outcomes for pregnant women and their babies, such as gestational diabetes, pre-eclampsia, cesarean delivery, low birth weight, and childhood obesity and the effects can have short-term and long-term implications for the quality of life and survival of the pregnant women and their babies.²⁹ This is evident by Michelle F. Mottola et al., pointed out that regular exercise during this crucial period helps in promoting “cardiovascular fitness, strengthening muscles, improving flexibility, and enhancing stamina as these physiological adaptations not only assist expectant mothers during labor but also aid in postpartum recovery.”³⁰ This source shows the importance and benefit of physical activity for pregnant women and her fetus. Another study, by Okafor and Ter Goon shows the role of physical activity in managing pregnancy weight gain is paramount and how it empowers expectant mothers to control excessive weight gain. “Engaging in physical activity plays a pivotal role in managing weight gain during pregnancy as by increasing energy expenditure through exercise, pregnant women can effectively control excessive weight gain while ensuring the healthy growth and development of their baby.”³¹ This shows a deeper understanding relationship between physical activity and pregnancy outcomes, emphasizing its significance for both maternal and fetal health.

Effectiveness of Physical activity interventions on pregnancy

Interventions that provide pregnant women with opportunities to access and participate in physical activity have been shown to be beneficial to their health.³² Regular physical activity has been demonstrated to contribute to physical and psychological health. Physically active pregnant women are more likely to perceive themselves as achieving a better health status than sedentary women, and they have a lower risk of developing perinatal depression.³³ There is a need to put in place interventions aimed at boosting the self-confidence of pregnant women in terms of increasing their physical activity levels. A study by Chan demonstrates theand context can either limit or facilitate physical activity participation among

pregnant women, effectiveness of physical activity on pregnant women. Furthermore, they are potentially useful in alleviating pregnancy-related pain and psychological symptoms, “various physical activity interventions dedicated for pregnant women on pregnancy-related issues, including gestational weight gain, pain and depression, physical activity level, and quality of life among these individuals.”³⁴ The importance of these interventions extends beyond encouragement of physical activity; it encompasses self-confidence. Interventions that focus on bolstering the self-assurance of expectant mothers regarding their ability to increase their physical activity levels are essential. These interventions provide the necessary support and guidance, helping pregnant women overcome their concerns and enabling them to embark on a more active lifestyle during pregnancy. The American College of Obstetrics and Gynecology (ACOG) guidelines for exercise during pregnancy indicate that 30 min or more of moderate activity on most, if not all, days of the week is recommended as long as the pregnant woman does not have any medical or obstetric complications.³⁵ This can be prenatal yoga classes through exercise or one-on-one individual exercise plans. These interventions encompass a spectrum of strategies, including exercise routines, lifestyle modifications, and counseling.

Cultural factors that influence physical inactivity among pregnant women

Cultural factors are shared values, beliefs, norms, and practices of a group of people that shapes the perceptions and expectations of physical activity and pregnancy. Cultural norms surrounding pregnancy are said to vary across different communities and societies, where some cultures may emphasize the importance of rest and relaxation during pregnancy, leading to a decrease in physical activity levels among expectant mothers, while others might encourage active lifestyles during pregnancy, promoting regular exercise as beneficial for both the mother and baby.³⁶ Some of the specific cultural factors that may discourage or prevent Qatar’s pregnant women from engaging in physical activity are gender roles, social norms, and religious beliefs. Serour states “Women are encouraged by those around them to observe various rules to ensure their health and safety, successful conception and viability of the pregnancy, an easy delivery, and a healthy child.”³⁷ Physical activities are not solely influenced by cultural beliefs but are also deeply rooted in Qatar’s cultural values. There is a stigma associated with pregnant women engaging in strenuous physical activities in some cultural contexts. Some people may hold traditional beliefs that pregnant women should prioritize rest and minimize physical exertion to ensure a smooth and healthy pregnancy. The fear of judgment or negative perceptions from their community or family can deter women from being physically active during pregnancy. It is important to recognize and address these cultural factors to ensure the well-being of pregnant women and provide appropriate support and resources for maintaining a healthy lifestyle during pregnancy.

Social factors that influence physical inactivity among pregnant women

Another factor that influences the physical inactivity among Qatari pregnant women is their social environment and context, which are external factors that affect the opportunities and barriers for physical activity among individuals and groups, such as availability of facilities, accessibility of services, quality of information, or social support. The social environment depending on their characteristics and needs and some of the specific social factors that may limit or facilitate physical activity participation among pregnant women are availability of facilities, accessibility of services, quality of information, and social support.³⁸ There is limited access to physical activity facilities for women, such as gyms or prenatal yoga classes, parks, or pools, due to their location, or quality contributes to physical inactivity among pregnant women.³⁹ These social factors are not necessarily fixed or immutable for pregnant women, but they may vary depending on their circumstances and preference and as such, it is recommended that it is important to understand how these social factors affect the physical activity level and behavior among pregnant women, and how they can be modified to improve their health and well-being.

Conclusion

Many points were highlighted across the various sources in this literature review, allowing for a more in-depth understanding of the importance of physical activity among pregnant women and the significance of having a nurturing environment for pregnant women and the social and cultural factors that are faced by Qatari pregnant women. In addition, it provides an insight into how the community in Qatar can be improved or utilized to help sedentary pregnant women to be engaged in physical activity and adapt a healthy lifestyle. It has unintentionally developed a sedentary lifestyle among pregnant women in Qatar, highlighting the urgent need for strategies and solutions informed by successful international practices. Strategies and solutions should be employed from other countries and must be taken into consideration, for example, many European countries do have a large population of pregnant women that engage in physical activity. There are a number of recommendations regarding how to improve the physical activity involvement among pregnant women to enhance women’s health and well-being, and their babies’ development. By incorporating elements that encourage physical activity and support mental health, expectant mothers can experience a holistic sense of well-being and promote a positive lifestyle in an expectant mothers daily life. Some of the recommended interventions are increasing awareness and education, providing counseling and intervention programs, and improving the availability and accessibility of facilities and services. Improving availability and accessibility of facilities and services can also provide women with more opportunities and options for physical activity during the prenatal period, and to access them easily and conveniently.



Figure 5: Yoga Prenatal pilates class

Precedent Study 1 |

Project Description:
Yoga Studio by Kostas Chatzigiannis

Location: Yangpu, Shanghai, China
Project Year: 2017
Client: Yoga Retreat
Gross Floor area: 480 m²
Category: Sports, Fitness center
Architect in Charge: Kostas Chatzigiannis Architecture
Design Team: Candy Chen
Manufacturers: Dulux, Mirador

Relevance of Study

- Utilization of spaces
- Sustainability in desiign
- Outcome experience
- Materiality

Goal of the Design:
The Yoga Studio by Kostas Chatzigiannis is an efficient space designed to promote a thriving environment for yoga practice and holistic well-being. Kostas Chatzigiannis has created a Yoga Studio in Shanghai that aims to provide a serene sensory experience in contrast to the dense surrounding urban environment. More than the feeling of exercise, the experience of relaxation and well-being are deemed to match better with the practice of yoga.⁴⁰



Figure 6 : Interior View of Yoga Studio at, Yangpu, Shanghai, China

Project Description

Yoga Studio is located in the heart of the bustling urban center of Shanghai, China. Also offering a serene retreat from the city's fast-paced lifestyle. It seamlessly integrates elements of nature, tranquility, and flexibility, all of which are fundamental aspects of yoga practice. Its floor plan and room layout are meticulously organized, encompassing areas such as a welcoming reception, community-focused lounge, diverse yoga studios, mindfulness spaces, changing and wellness areas, and administrative offices.

Project Description

Kostas Chatzigiannis's Yoga Studio in Shanghai is an excellent example of how interior design can influence and support physical activity and overall well-being, especially in the context of pregnancy. It creates an environment where individuals can thrive, connect with nature, and experience the profound impact of yoga and mindfulness. Respite from the chaos of city life it supports a healthier, more balanced lifestyle for its community. In this case, expectant women seek, run from life to rejuvenate their energy and maintain a healthy lifestyle,workout and to improve overall well-being.

The studio's focuses on fostering a mind-body connection which aligns with the holistic approach to pregnancy. Physical activity during pregnancy is not just about the body but also about mental well-being. The proposed studio's design principles s upport relaxation and mindfulness, which can be particularly beneficial for pregnant women who are dealing with the physical and emotional changes that pregnancy brings.



Figure 7 : Yoga Studio

Goal & Achievement |

The goal of Kostas Chatzigiannis's Yoga Studio project is to establish a harmonious and sustainable space that fosters physical, mental, and spiritual well-being in a bustling urban setting. The interior organization of the space is designed to resemble a cityscape, with rooms acting as buildings and public areas occupying negative space. The design prioritizes safety, accessibility, and comfort, encouraging a sense of community and connection with nature.

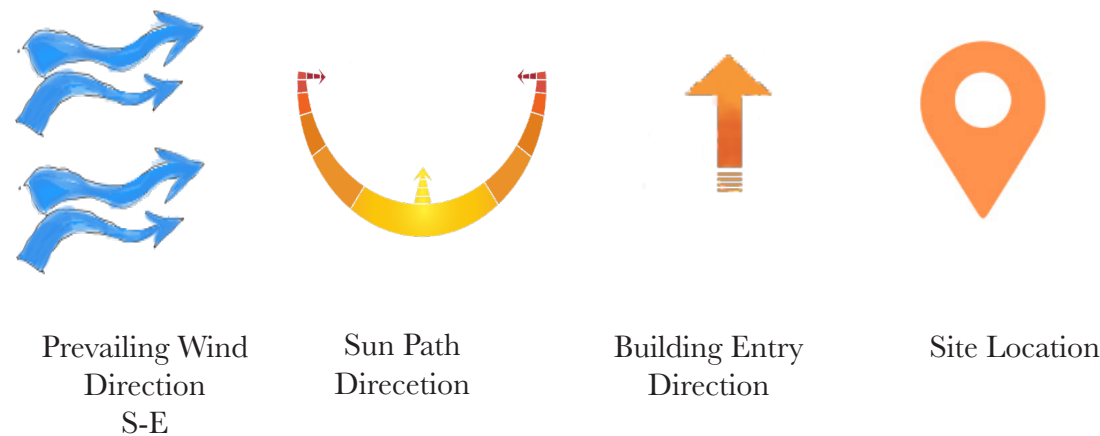
Understanding the fundamental components of the Yoga Studio project involves incorporating the use of rough and warm materials, a cityscape interior organization, diffused light, and bamboo blinds. These elements are carefully chosen to create a harmonious and calming space for yoga practice. The rough and warm materials add a natural and organic feel to the space, while the cityscape interior organization reflects the urban environment of Shanghai. The diffused lights help to create a serene atmosphere, and the bamboo blinds add a touch of traditional Chinese design. Together, these components aim to provide a sensory experience that contrasts with the dense urban surroundings.



Figure 7 : Interior View of Yoga Studio

Site Analysis

LEGEND



Location

The project is located in the bustling urban center of Shanghai, China. It is strategically placed in the heart of the city. This strategic location in a vibrant and dynamic neighborhood provides a serene and tranquil retreat from the city's fast-paced lifestyle, offering an oasis for individuals seeking balance and well-being.

Climate

The climate in Shanghai is generally described as a humid subtropical climate. Shanghai, China, experiences a humid subtropical climate with four distinct seasons. Spring brings mild and pleasant weather, while summer is hot, humid, and prone to heavy rainfall. Autumn is comfortable and relatively dry, making it an ideal time to visit. Winters are cool and damp, with rare instances of snow but can be chilly and overcast. It's important to consider the season and weather conditions when planning activities in Shanghai.

Address:

Jiayu, 1286 Yinxing Road, Yangpu District, Shanghai
804, Building 02, International

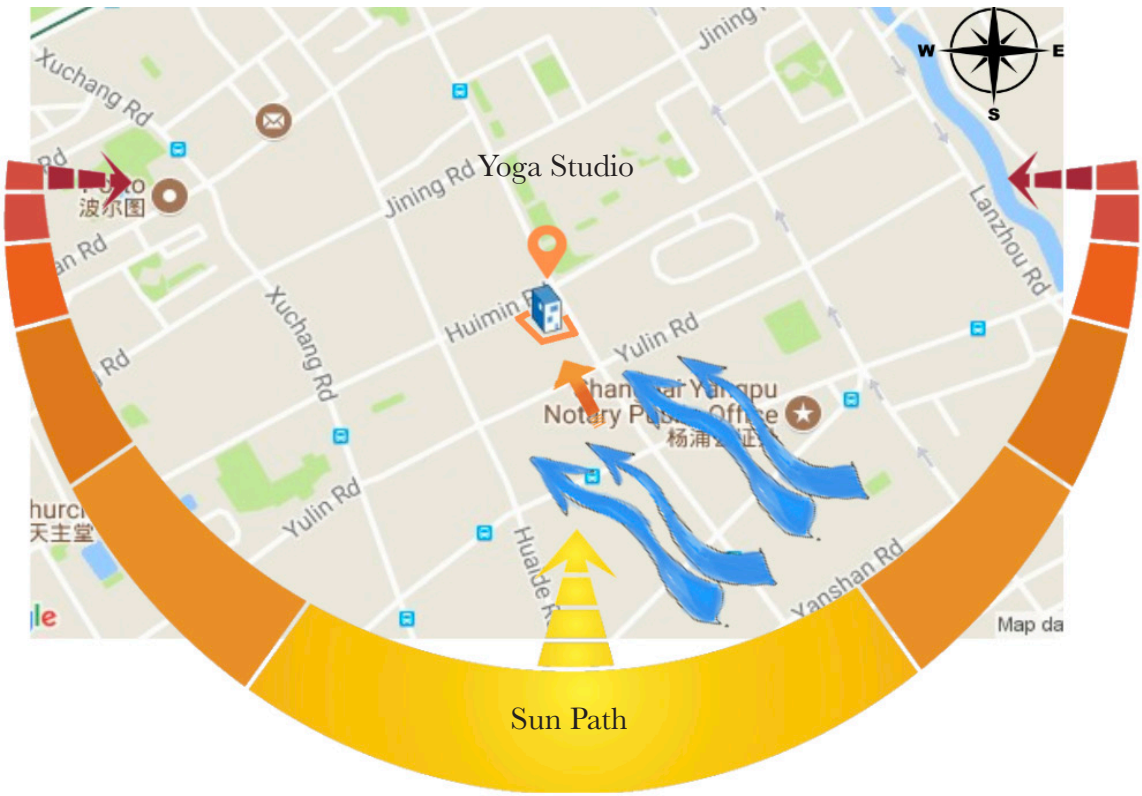


Figure 8 : Map Overview

Space Planning |

The Yoga Studio, features a well-thought floor plan and room layout that enhances the functionality and user experience of the space. Space planning is thoughtfully designed to accommodate various yoga practices, including considerations for zoning, furniture and equipment placement, circulation, flexibility, aesthetics, accessibility, safety, and technology integration. The studio's space planning prioritizes the creation of a serene, versatile, and well-organized environment that supports the physical and mental well-being of practitioners and aligns with the studio's goals of promoting mindfulness, inclusivity, and sustainability.

The studio includes a welcoming reception area, a communal lounge for socialization, multiple yoga studios catering to different styles, dedicated mindfulness spaces, changing and wellness areas, and administrative offices. The layout prioritizes natural light, eco-friendly materials, and sustainability features. It creates an environment that promotes inclusivity and well-being, fostering a sense of community and mindfulness in the midst of the city's urban bustle.

LEGEND

- 1 - Entrance
- 2- Reception
- 3 - Yoga Classroom
- 4 - Pilates Room
- 5 - Lounge Area
- 6 - Juice Bar
- 7 - Rest Area
- 8 - Male Changing Room
- 9- Female Changing Room
- 10- Pantry
- 11-Office

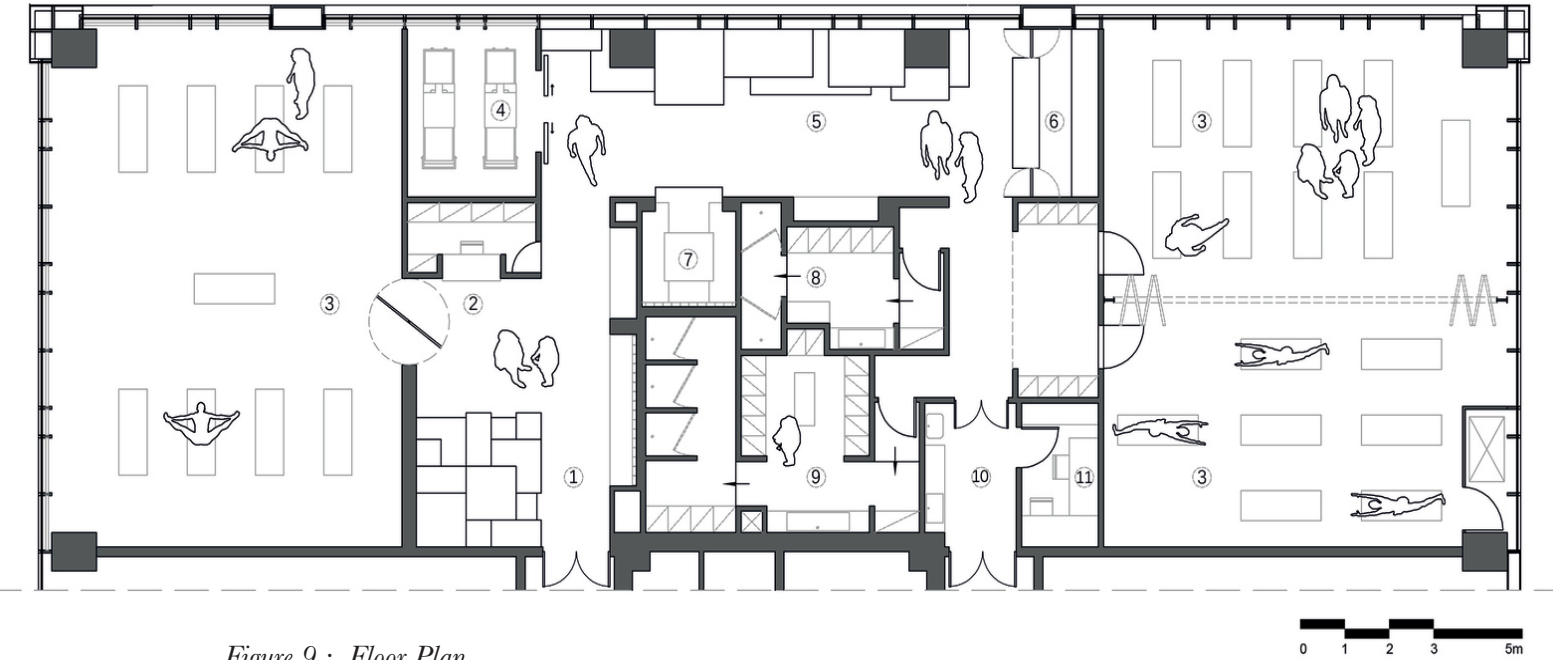


Figure 9 : Floor Plan

Zoning

- Public
- Private
- Semi Private

The entrance welcomes visitors with aesthetics and comfort, leading to a reception area equipped with schedules and promotions. Within the studio, distinct spaces include a yoga classroom with quality equipment, a dedicated Pilates room, and a lounge area for relaxation and reading. A health-focused juice bar offers nutritious refreshments, complemented by a rest area for post-session unwinding. Separate changing rooms for males and females, equipped with showers, ensure convenience. The pantry caters to staff needs, and an administrative office facilitates managerial tasks. This thoughtful spatial design aims to provide a comprehensive and culturally sensitive experience for patrons in the Shanghai yoga studio zone.

- 1 - Entrance
- 2- Reception
- 3 - Yoga Classroom
- 4 - Pilates Room
- 5 - Lounge Area
- 6 - Juice Bar
- 7 - Rest Area
- 8 - Male Changing Room
- 9- Female Changing Room
- 10- Pantry
- 11-Office



Figure 10 : Floor Plan

Circulation |

- 1 - Entrance
- 2- Reception
- 3 - Yoga Classroom
- 4 - Pilates Room
- 5 - Lounge Area
- 6 - Juice Bar
- 7 - Rest Area
- 8 - Male Changing Room
- 9- Female Changing Room
- 10- Pantry
- 11-Office

LEGEND

- Primary Circulation
- Secondary Circulation



Figure 11 : Floor Plan

Sections

1. Resting Area

Both figures are having some rest on the tatami platform which is used for people to rest and lie down in between yoga classes.

2. Pilates classrooms

has a balance between privacy and openness, to the city view. 2 One Figure is closing the curtain to start the class and the other figure is waiting for the class.

3. Male Changing room

The Figure is waiting outside the male changing room

4. Wall seating resting area

The figure is sitting in the wall seating area which is between the male changing room and Juice Bar Area.

5. Juice Bar Area

The figure is having some time to sip juice.

6. Yoga Class

The figure is exercising yoga.

7. Lounge Seating Area

Figures are having some rest on the tatami platform area.

8. In the yoga room

Clusters of lamps and woven baskets drop down from the ceiling and, together with the fly yoga fabrics, to create an immersive visual experience

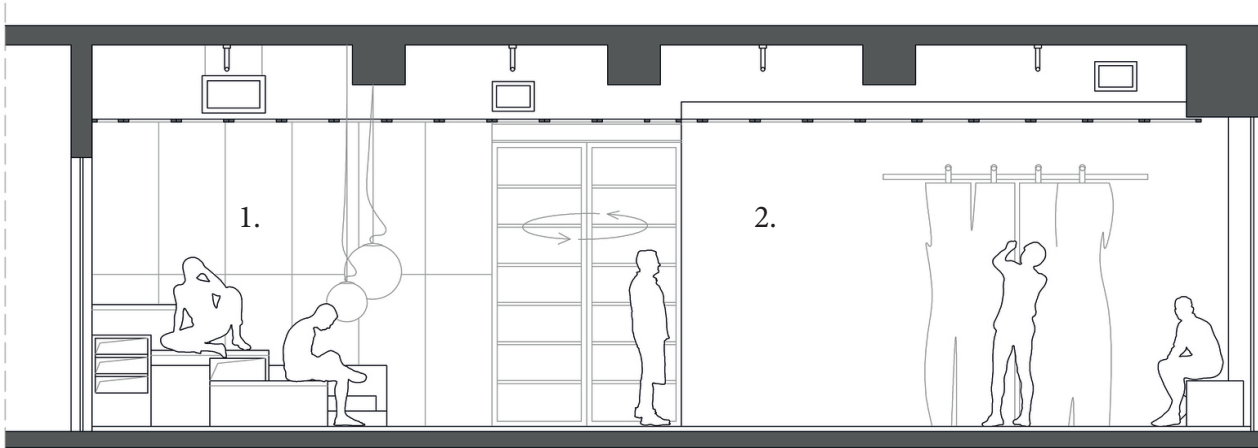


Figure 11 : Section A

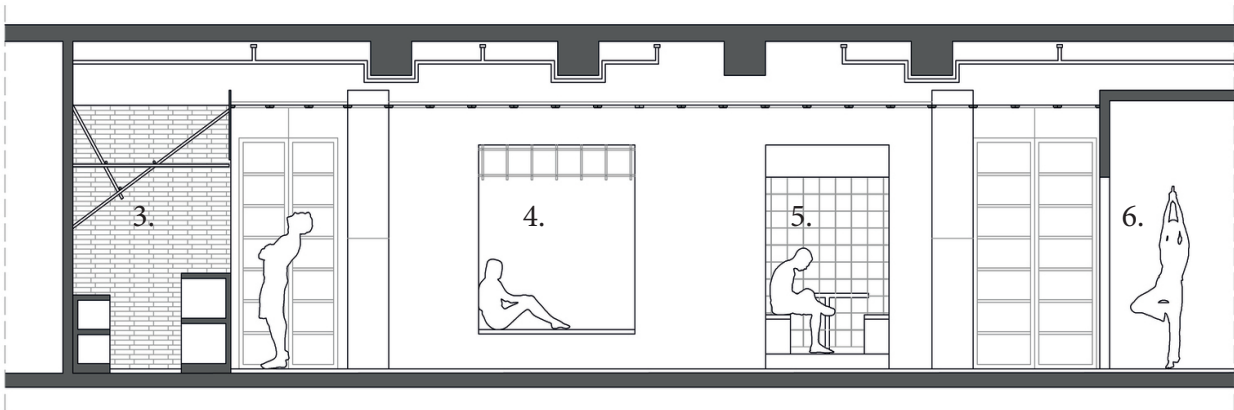


Figure 12 : Section B

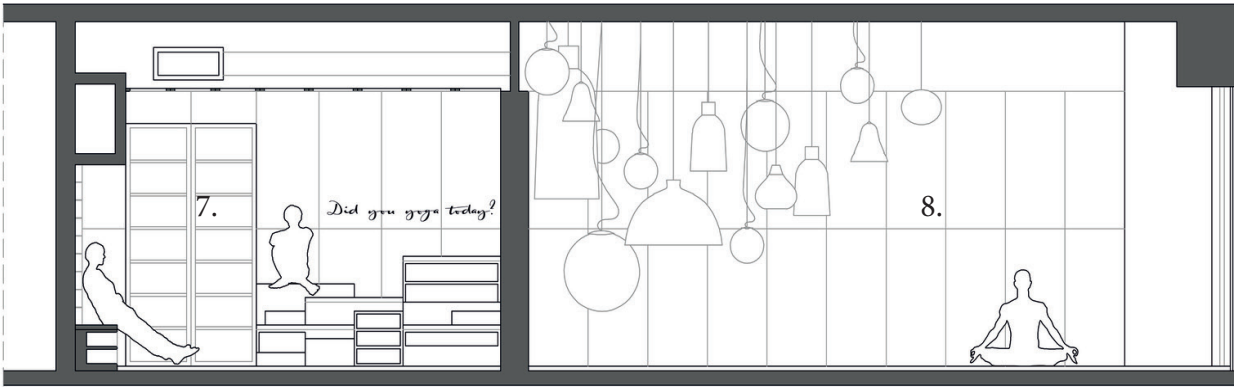


Figure 13: Section B - B

Materials |

The material and color palette of the space is in further dialog with the city as most of these materials are found in Shanghai's 20th century architecture, both local and colonial. An Asian touch is introduced in terms of materials, colors, textures and light quality, centered around the main principle of tranquility.⁴¹ The overall design focuses on the materiality of things. The interior walls and floors are covered with pebble stones, terrazzo and cement, to emulate further the exterior feel of buildings as one walks around a city. This roughness is counter-balanced with the use of warmer materials such as wood, bamboo, woven straw and tatami mattresses. In the rest and reception areas, the irregular wood and tatami platforms are used as seating benches where people rest and lie down in between yoga classes. In those areas, the warm western light is diffused through the bamboo blinds and creates a peaceful atmosphere, in line with yoga principles. Texture, pattern, and the tactile qualities of materials play a significant role in the sensory experience of a space. The use of materials can also influence the play of natural and artificial light within a space, affecting its atmosphere and functionality.

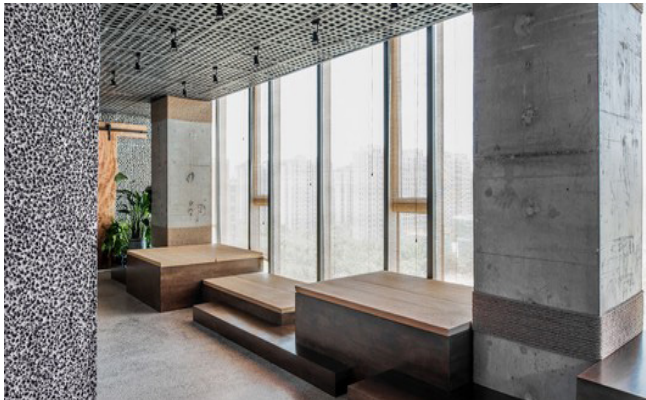


Figure 14: Resting Area



Figure 15: Hallway to Pilates Room



Figure 16: Material of Facade



Figure 17: Yoga Class



Figure 18: Resting Area Tatami Platform

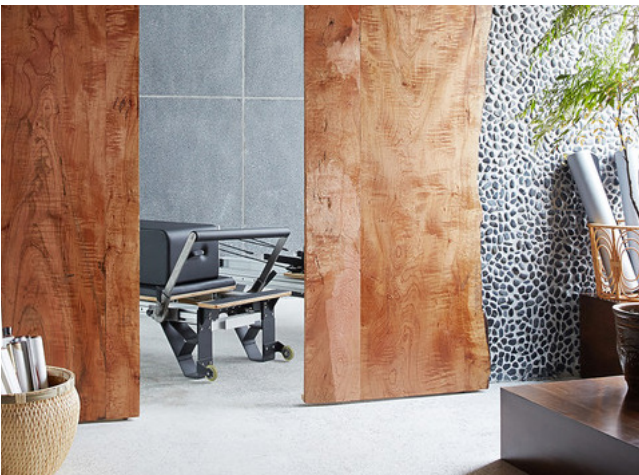


Figure 19: Pilates Room

Perspectives |

The perspectives highlights the significance of a well-organized spatial design, ensuring each area serves its intended purpose efficiently, contributing to a seamless user experience.

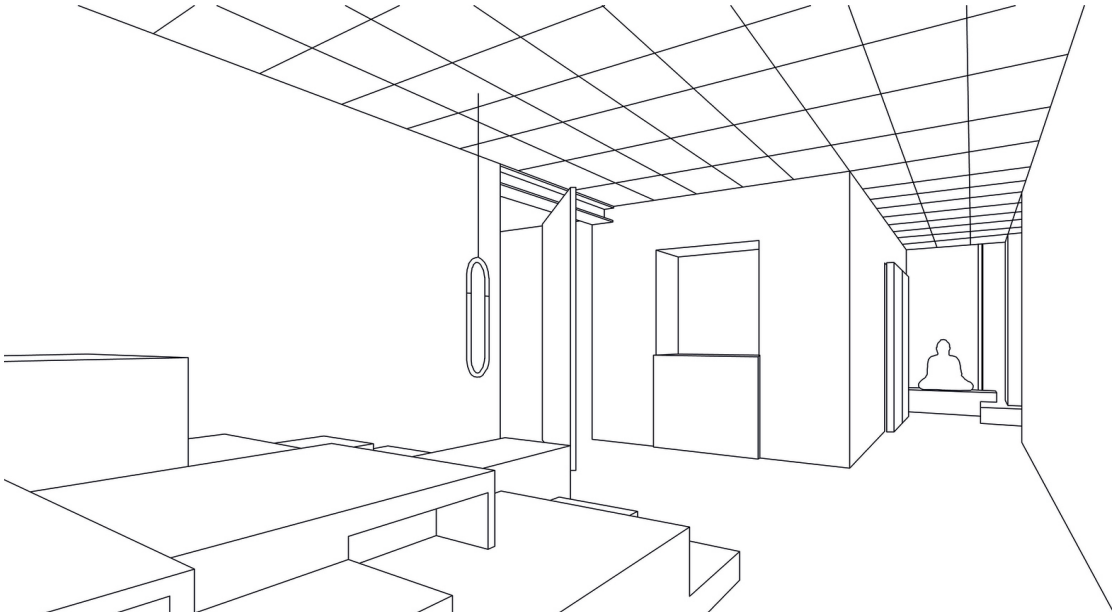


Figure 20: Perspective of resting lounge

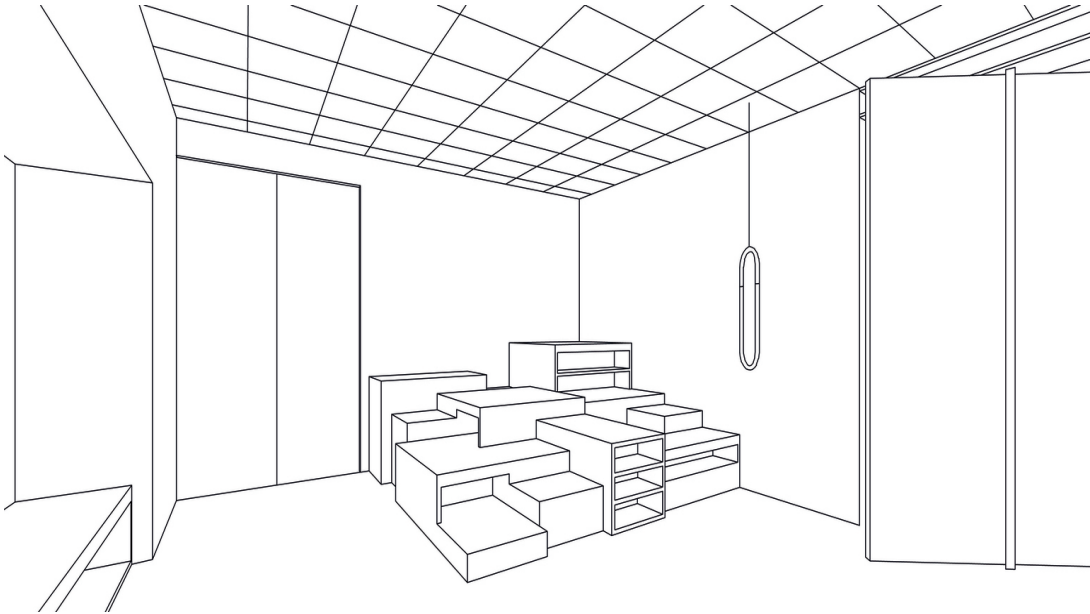


Figure 21: Resting lounge benches and yoga class on the right

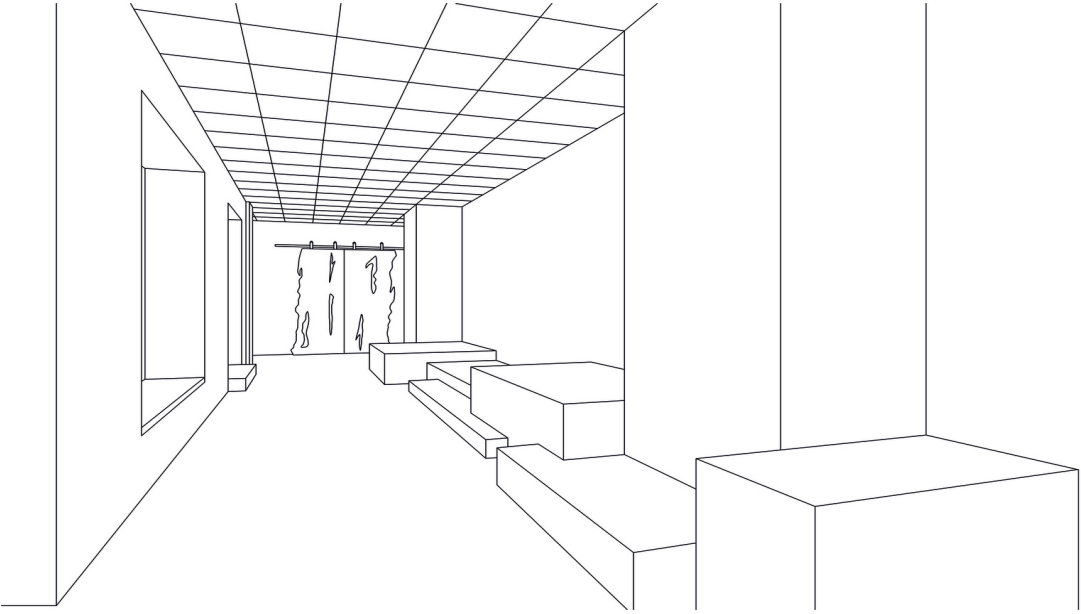


Figure 22: Wall Resting Area with chair tatami chairs platform

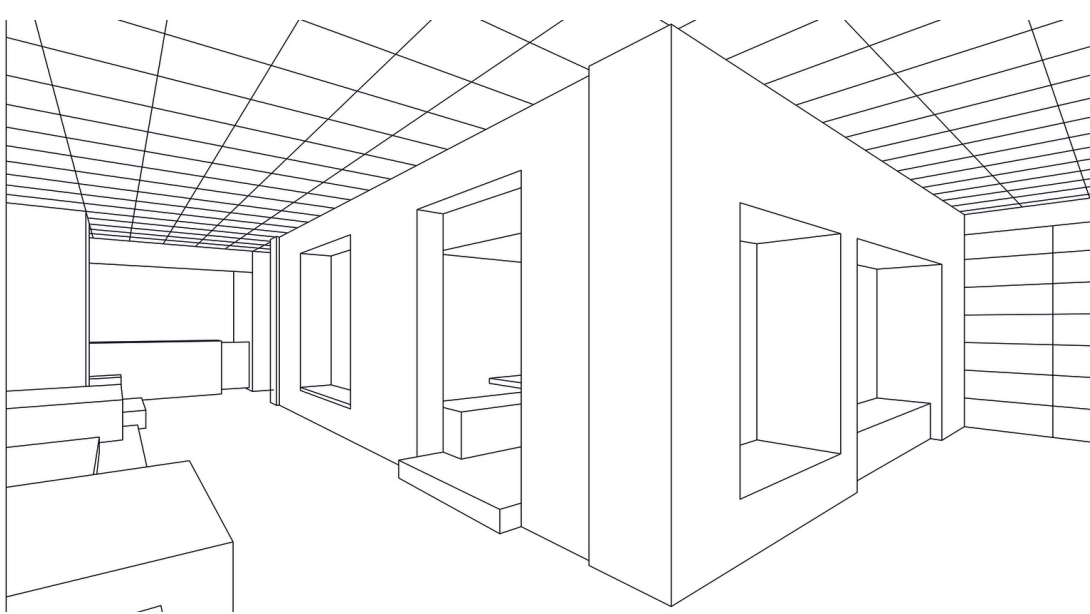


Figure 23: Two point perspective

Precedent Study 2

Project Description:
Tru3 Yoga Studio by ITGinteriors

Location: Salmiya, Kuwait

Project Year: 2019

Gross Floor area: 257 m²

Category: Sports , Fitness center, mental well being

Architect in Charge: ITGinteriors

Manufacturers: Forbo Flooring Systems, BOSE, Bongio, Hi-Macs, MUJI

Relevance of Study

- Utilization of spaces
- Outcome experience
- Mood of Environment
- Sustainability in desiign
- Materiality
- Encouraging Physical activity

Goal of the Design:

Tru3 Yoga is an efficient project that showcase its applied holistic design approach by following a Japanese design principles in terms of a minimal material palette and overall simplicity. "Tru3 Yoga is influenced by the Japanese slow living or “Ikigai,” a Japanese term translated to “reason for being” or finding truth and happiness," said ITGinteriors.⁴² The design of the space is segregated into distinguished areas which accommodates the wellbeing of the mind, body, and soul which makes users evoke a sense of purpose and spiritual fulfillment,



Figure 24 : Interior view of yoga studio

Project Description

Tru3 Yoga is a studio located around the coastline of Kuwait.⁴³ Tru3 Yoga Studio is a yoga space known for its distinctive interior design that prioritizes in creating an atmosphere conducive to well-being, relaxation, and physical activity. The main concept of the design is inspired by the curvaceous body forms integrated within the Yoga practice while connecting to three factors: mind, body, and soul. The studio's design aims to create an environment that supports mental serenity, physical wellness, and spiritual connection, aligning with the core principles of yoga. The interior is divided into different areas that cater to the mind, body, and soul, including a tea room, sun room, and moon room. The use of natural light, oak wood, concrete, and greenery adds to the overall aesthetic of the studio.

Relevance of Project

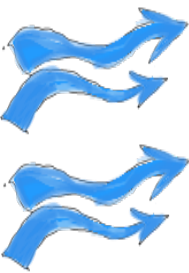
The project's relevance to physical activity among pregnant women lies in its potential to provide insights into creating safe and supportive environments for expectant mothers. By examining the interior design of Tru3 Yoga Studio and its impact on well-being, This will offer valuable information on how to encourage and accommodate physical activity during pregnancy. This can contribute to a more comprehensive understanding of how the design of spaces can promote and enhance the well-being of pregnant women engaging in physical activity, thereby potentially improving their overall health and fitness. The mood that is set is engaging and powerful giving sense of strengibility. The choice of color palette is soothing for the eyes in this case this is a perfect place for expectant mothers to engage in physical activity. The choice of materials is safe for the sake of pregnant women.



Figure 25 : Interior view of yoga studio

Site Analysis

LEGEND



Prevailing Wind
Direction
S-E



Sun Path
Direceton



Building Entry
Direction



Site Location

Location

is located in Kuwait. The studio is situated within a residential complex, specifically in Salmiya, a coastal area of Kuwait.

Climate

Kuwait has a hyper-arid desert climate with four distinct seasons. Summers in Kuwait are long, sweltering, and extremely hot. Frequent winds from the northwest are cool in winter and spring and hot in summer.

Address:

Building 33 floor 1, Ras Salmiya block 1 street 2 Demna tower, Salmiya, Kuwait



Figure 26 : Map Overview

Project Goal

In order to nurture the well-being of the body, mind, and user spirit. Tru3 applied a holistic design approach which is inspired and follows a Japanese design principles in terms of a minimal material palette and overall simplicity. The aim of Tru3 Yoga Studio is to embrace and create diversity in its rich and minimal color palette. By adopting a minimal color palette this creates a serene and calming environment for the users. The use of neutral colors such as whites, greys, and earth tones enhances the sense of tranquility and allows users to focus on their yoga practice without distractions.

The heart of the studio includes a reception area where the bold curvaceous form of the counter, bronze tinted glass blocks, lavish use of greenery, and delicate earth tones, welcomes one into the space.⁴⁴ The design of the space is segregated into distinguished areas which accommodates the wellbeing of the mind, body, and soul. The designers aimed to achieve a sense of fluidity of movement within the design due to the curvaceous forms; a recurring feature adapted further into the ceiling and the walls. The designers used forbo vinyl flooring on the main corridor that suits the aesthetic of the space, which acts as the spine that aids in connecting the distinguished areas of the yoga studio. The choice of materials is connecting the different areas seamlessly.



Figure 27 : Reception & Main corridor



Figure 28 : Seating in corridor

Project Design Considerations

The lighting is designed in a way that it is adjustable to cater the functions of the various yoga practices and also sets the mood of the studio. The lighting fixtures are strategically placed throughout the studio to provide optimal illumination for different activities such as meditation, relaxation, and yoga sessions.

The sun room is the biggest studio which targets the body to create a tranquil and serene atmosphere. Large windows are strategically placed to allow ample daylight to filter into the space, creating a calming and uplifting ambiance. The natural light not only enhances the overall aesthetic appeal of the studio but also contributes to the well-being of the practitioners. The studios incorporates natural light as much as possible.

"Strong reflective elements such as mirrors are purposely avoided in the functioning studios so people are able to focus more on achieving their full potential without being self-conscious."⁴⁵ This decision is based on the belief that people can better focus on achieving their full potential without being self-conscious. By eliminating mirrors, individuals are encouraged to turn their attention inward and connect with their bodies and minds, rather than getting distracted by external appearances or comparing themselves to others.

The design of the space is segregated into distinguished areas which accommodates the wellbeing of the mind, body, and soul. For instance, the tea room is the representation of the mind. Inspired by a traditional Japanese tea house with its low height table and seating units; this space is ideal for individuals to enjoy and connect with the community.



Figure 29 : Main corridor



Figure 30: Sun Room



Figure 31: Tea Room

Space Planning

Tru3 Yoga in Kuwait, takes careful consideration given to the arrangement and organization of the space. The design of the space is segregated into distinguished areas which accommodates the wellbeing of the mind, body, and soul.

The project provides a serene and calming atmosphere for its practitioners. Key areas, including the yoga practice space, reception, changing rooms, and relaxation zones, require careful organization. The practice area should allow free movement and an inward focus. The reception area serves as the first point of contact, requiring a welcoming design. The changing rooms should offer privacy and convenience, while relaxation zones provide a space for unwinding. Efficient circulation paths ensure easy movement, accessibility, and a holistic approach to studio layout. This thoughtful arrangement fosters relaxation, focus, and overall well-being for visitors.

LEGEND

- 1 - Reception
- 2- Waiting Area
- 3 - Moon room (small studio)
- 4 - Sun room (large studio)
- 5 - Changing room area
- 6 - Office room
- 7 - Tea room



Figure 32: Floor Plan

Zoning |

- Public
- Private
- Semi Private

LEGEND

- 1 - Reception
- 2- Waiting Area
- 3 - Moon room (small studio)
- 4 - Sun room (large studio)
- 5 - Changing room area
- 6 - Office room
- 7 - Tea room

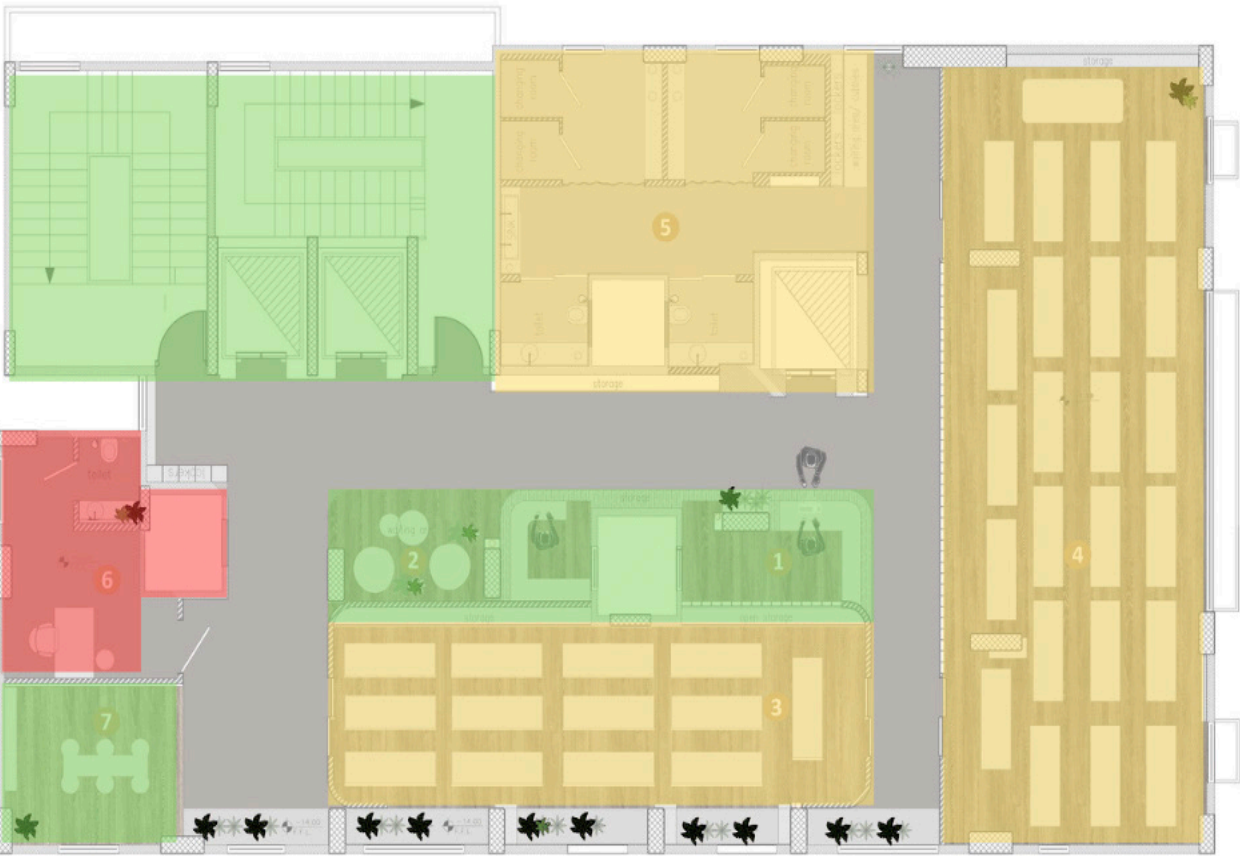




Figure 33: Floor Plan

Circulation



LEGEND

-  Primary Circulation
-  Secondary Circulation

Primary Circulation indicates the main pathways or routes that are essential for moving through and accessing major spaces within a building. These routes typically connect key areas such as entrances, lobbies, major hallways, and the rooms. Whereas the secondary circulation indicates the pathways that provide access to less critical or specialized spaces within a building. These routes connect to primary circulation but may serve smaller rooms and offices.

LEGEND

- 1 - Reception
- 2- Waiting Area
- 3 - Moon room (small studio)
- 4 - Sun room (large studio)
- 5 - Changing room area
- 6 - Office room
- 7 - Tea room



Figure 34: Floor Plan

Elevation & Perspectives

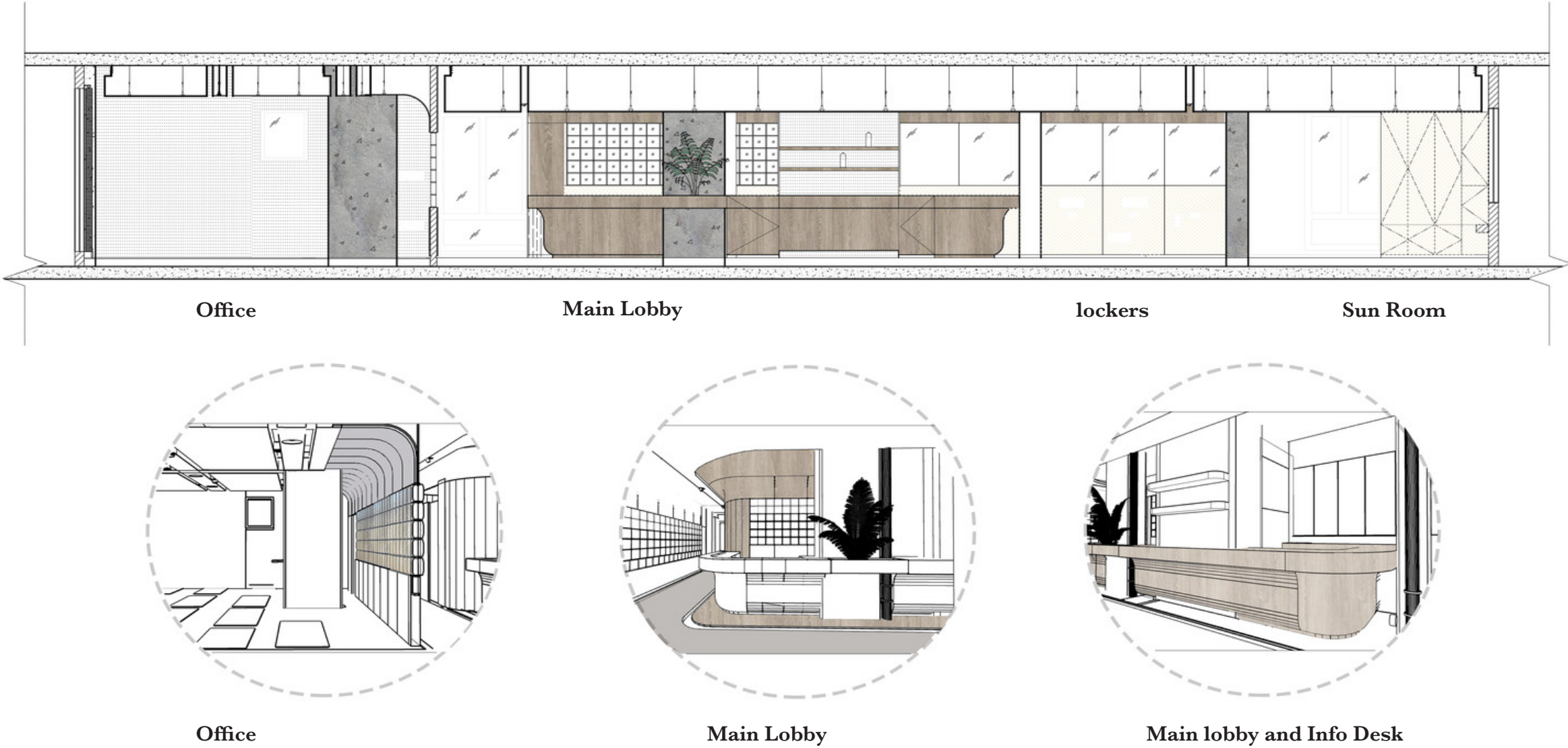


Figure 35 : Lobby and main entrance elevation & 3 perspectives of yoga class and main lobby

Conceptual Diagram |

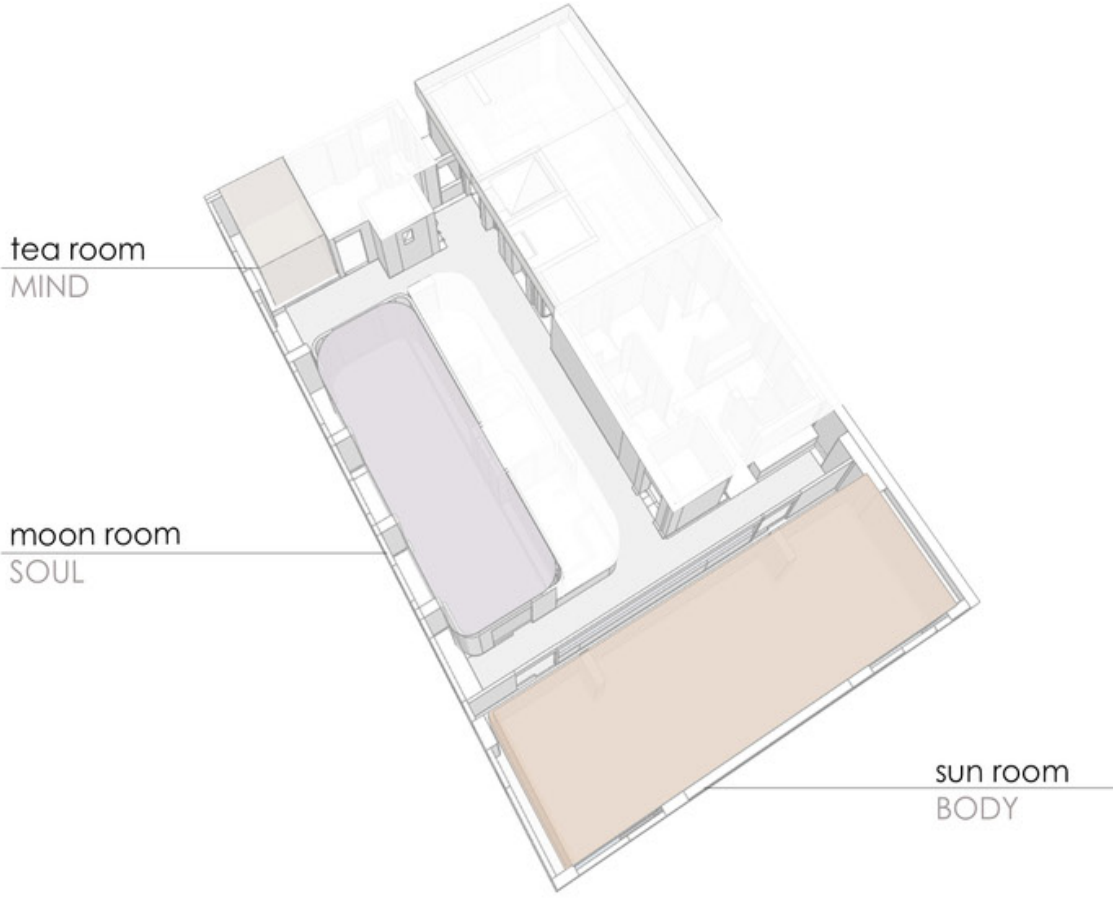
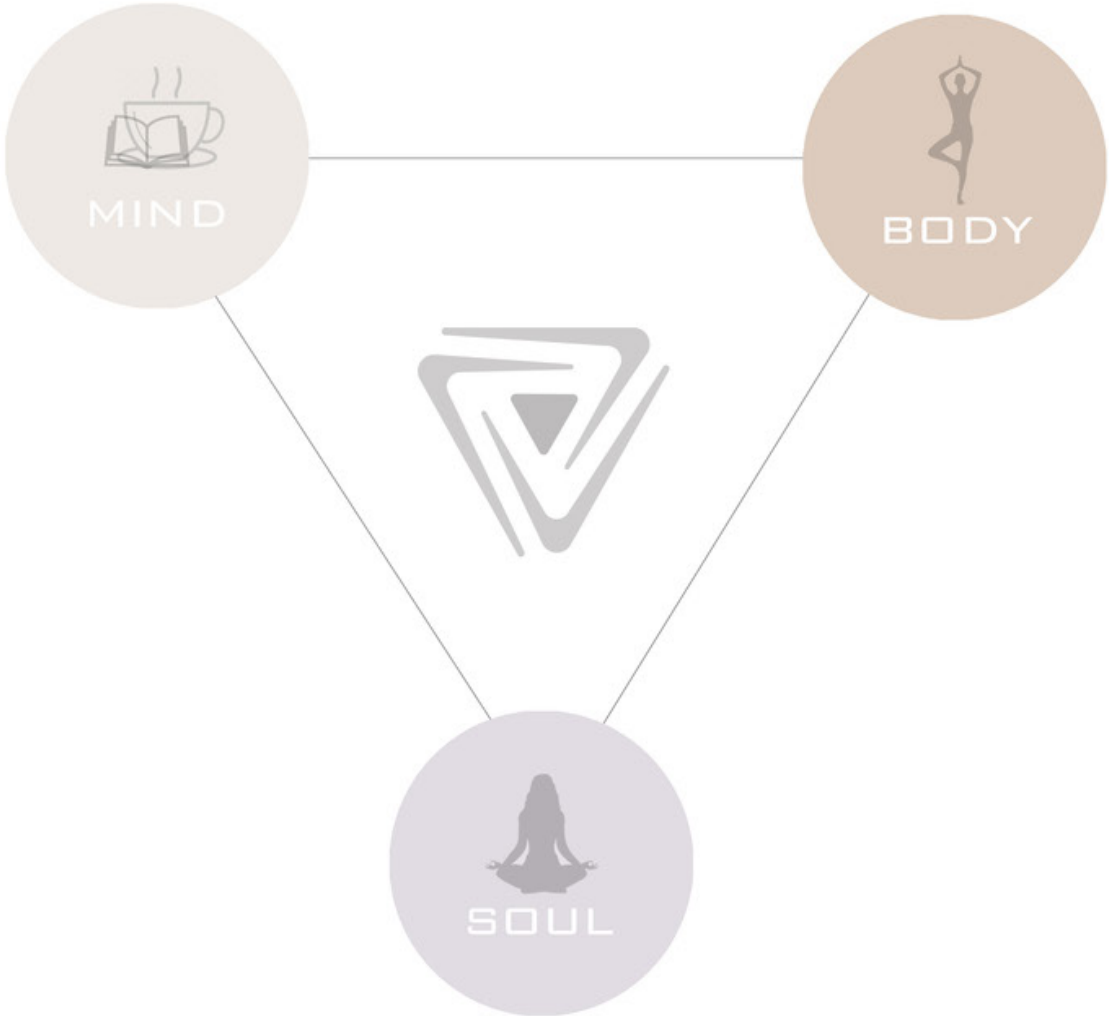


Figure 36 : Mood and Space planning - shows how the rooms are spaced out in the plan each room for a specific use

Zoning Diagram

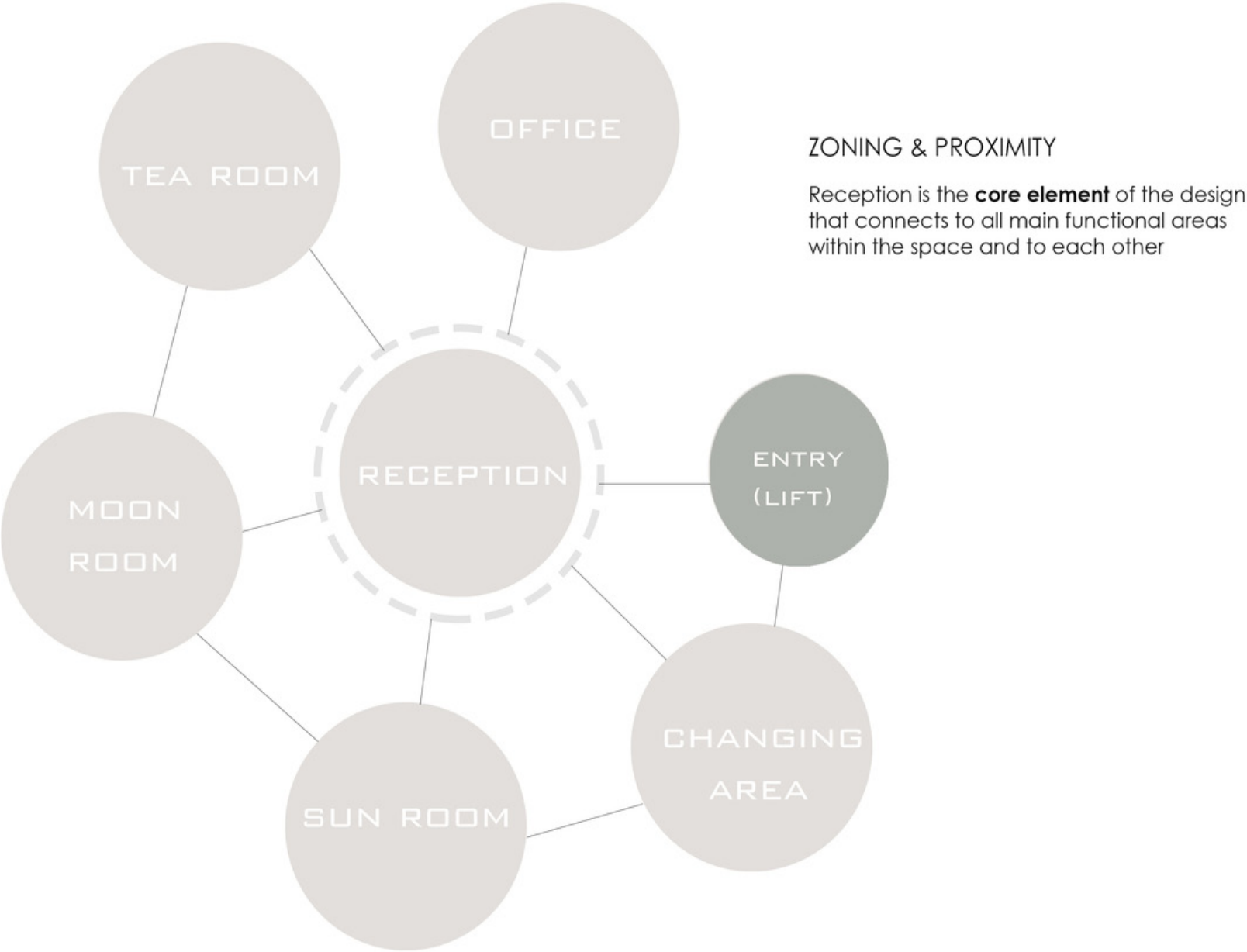


Figure 37 : Space planning in bubble diagram



Figure 38 : Prenatal pilates class

Interview 1 |

Date: October 26, 2023

Type: Face to face

Duration: 28 minutes

Interviewee Name: MarliYana

Position: Pre/Postpartum Physical activity teacher & Yoga Teacher

- **Tell me more about yourself and what made you want to be an expert in your current position ?**

I am currently a full time yoga teacher in Doha who specializes in Prenatal and Postpartum Yoga with a background in Hatha Vinyasa training. I started practicing yoga in 2009 in Singapore to cope with a hectic working lifestyle and to share the beautiful philosophy of Yoga to others. My classes are designed to be challenging and invigorating for students at all levels with an element of surprise and/or challenge and a lot of compassion.

- **Can you provide an overview of your experience and expertise in working with pregnant women in Qatar, particularly in the pre/postnatal phase, in terms of physical activity and exercise?**

I have had the privilege of guiding pregnant and postpartum woman in Doha for their yoga practice since 2019 in a group and private setting. The pace of the practice is gentle and mindful for mummies to connect with their babies. It includes meditation where breath and specific body positions are used to help connect the mind and body.

- **What are the potential benefits of regular physical activity for expectant mothers and how does it contribute to their overall well-being and pregnancy outcomes?**

Prenatal yoga and physical activity can bring about many potential benefits for both mummy and baby. For example, it helps to lower their blood pressure, reduce stress levels increase muscle and flexibility. Studies have shown that a pregnant woman's heart rate and blood pressure lowers after doing prenatal yoga. Women who do yoga — including breathing exercises, posture positions and meditation — for one hour a day have been shown to have a lower preterm labour rate, as well as lower risk of pregnancy-reduced hypertension, compared with women who spent the same amount of time walking. The breathing exercises that the practice during yoga can be calming when it comes the time to push baby out.

- **Are there any specific challenges or barriers that pregnant women in Qatar commonly face when trying to engage in physical activity, and how do you address these challenges in your practice?**

Pregnant women in Qatar may face challenges such as cultural norms, extreme weather, limited awareness, access to facilities, and work-family obligations when engaging in physical activity. In my practice, I address these challenges by incorporating cultural sensitivity, offering weather-adapted indoor practices, providing education on prenatal fitness benefits, ensuring accessible classes, and offering flexible scheduling to accommodate diverse lifestyles and schedules.

- **What are the key considerations and cultural factors that that may influence pregnant women's attitudes and behaviors towards physical activity ?**

The culture in Doha is still very conservative with regards to doing any physical activity during their pregnancy especially among the local women. I have students who are keen to start doing yoga during their pregnancy but was told by their mothers or mother in laws or grandmothers that they should limit or do any form of exercise during their term of pregnancy. However, with the booming of the fitness industry here, there seem to be an increase of interest and awareness of how movement can benefit them in the long term, before and after pregnancy.

- **How does the climate and weather in Qatar affect the feasibility and preferences for physical activity ?**

As there is a slight increase in body temperature in pregnant women, we tend to tone down the practice in summer as we do not want to further increase their fatigue and reduce the energy levels. I have observed that the mummies tend to be more breathless and tired during the summer season due to the heat. It will be a more mindful and meditative practice with gentle yoga stretches.

- **In your experience, what are the most common misconceptions or concerns that pregnant women in Qatar have regarding physical activity during their pregnancy and postpartum period?**

There was one interesting event when a pregnant student was afraid to sit on the floor for her practice as she was told by her elders that it could cause a miscarriage. Others few mummies before joining, told me that they are advised to not move and sit only because this is what their mothers and relatives see correct and what they have done during their pregnancy. The other many misconception was that any form of movement is bad for both mummy and baby and they should opt for as much bed rest as possible during their term of pregnancy.

- **Can you share any success stories or testimonials from pregnant women you have worked with, highlighting the positive impact of physical activity on their pregnancy experience and postpartum recovery?**

I have a couple of mummies who has mentioned that the breathing exercises were helpful during their labour and contractions. One of the mummies was grateful that we have helped her not only mentally during her pregnancy journey, but it has helped to kickstart her yoga practice. She has continued to practice yoga even after giving birth as she feels energize and calm after every session. Mummies also mentioned that they enjoyed they appreciate the stillness and bonding moments with their babies in their womb during the session and were looking forward to meeting their babies at the end of their pregnancy term – turning the birth experience from fear and pain to a exciting, positive one.

- **How do you assess the individual needs and capabilities of pregnant women when designing an exercise program for them during their pregnancy and postpartum recovery?**

It is definitely easier to teach one to one as compared to a group class. In a group class, there are many pregnant women who may have varying conditions in their pregnancy and they are usually in the different stages of their journey. In a group setting, I will usually get them to introduce themselves, how far along they are in their pregnancy journey and if they have any underlying medical conditions. For example, if one of the mummies in the group class has a prolapse condition, there will not be any squatting poses such as Malasana/Yoga Squat or goddess pose as this could aggravate the condition. However, practicing in a group setting helps the mummies create a community and support each other. I Have seen some mummies who have continue to build their friendship after giving birth and have playdates for their children.

- **In your expert opinion, what are the areas where further research is needed to enhance the understanding of physical activity among pregnant women in Qatar?**

There should be more awareness on women's physiotherapy and aftercare for postpartum women. Most birth aftercare is usually centered on babies and we tend to forget about our recovering mummies. Women's physiotherapy could help in mitigating conditions such as diastasis recti and pelvic floor dysfunction- which some women don't even know they have it postpartum. Postpartum women should also have a practical timeline of recovery after giving birth as they are still recovering internally- some of their organs might have shifted or their deep scar tissues might still be healing after a c-section and losing weight immediately like how some celebrities do might not be healthy at all – if we take 9 months to carry a baby, we may also take another 9 months or more for recovery. In addition, certain exercises such as boat pose or a full plank might not be ideal for postpartum as they will need to strengthen their deep core/transverse abdominis first as their deep tissues are still recovering.

- **Lastly, do you have any final thoughts or recommendations for researchers like me who are studying this topic or for pregnant women in Qatar seeking to maintain a healthy and active lifestyle during pregnancy and postpartum**

Perhaps hospitals or healthcare providers could reach out to our prenatal and postpartum mummies and advise them on the benefits of active movement during and after pregnancy. For example, back home in Singapore, healthcare providers tend to partner with women's physiotherapy and yoga/fitness centres to create awareness on prenatal and postpartum care. There should also be further studies on postpartum depression and how a women's circle or community can make a difference in supporting these women.

- **Key Takeaway:**

The key takeaway is that prenatal yoga offers numerous benefits for both the mother and the baby. Prenatal yoga provides numerous benefits for mothers and babies, including stress reduction and improved physical health. Despite the challenges like cultural norms and extreme weather, the practice addresses these by incorporating cultural sensitivity, indoor adaptations, education, accessibility, and flexible scheduling. . However, there's a need for increased awareness of postpartum care and community support, as well as further research on postpartum depression. Overall, prenatal yoga is a safe and recommended form of exercise during pregnancy that promotes the overall well-being of both the mother and the baby.

Interview 2 |

Date: November 9, 2023

Type: Face to face

Duration: 23 min

Interviewee Name: Sanela Glavan

Position: Physical Therapist

Pilates, Yoga , Pre.Postnatal , Human Physical activity Specialist & Teacher

- **Tell me more about yourself and what made you want to be an expert in in your current position ?**

I am Sanela, and my current position is a physical therapist/teacher for pregnnat women. Positive impact of physical activity on overall well-being has been a driving force in my career. I actively seek opportunities to apply my knowledge, helping diverse populations to achieve their fitness goals. What brings me fulfillment is witnessing individuals overcome challenges and improve their health through personalized exercise programs. In my current role, my focus is on contributing to the well-being of pregnant women. I achieve this by designing and implementing customized fitness plans, aiming to foster healthier and more active lifestyles.

- **Can you provide an overview of your professional journey in becoming a physical activity teacher, and how did you develop your specialization in yoga and Pilates, especially for pre/postnatal clients?**

Through my experience, I've crafted fitness programs to address the specific needs of expectant and new mothers. My work in Qatar has allowed me commitment, to empower women by promoting not only physical health but also mental and emotional well-being. In my role, I prioritize creating personalized fitness plans to positively impact the overall health of pregnant women. I am working with, fostering healthier and more active lifestyles during these crucial phases of pregnancy. Through meditation, I help them harness the power of breath and specific body positions to unite their minds and bodies, fostering a strong sense of harmony.

- **Qatar has a diverse population. How do you tailor your physical activity therapy programs to cater to the cultural and demographic aspects of your clients in Qatar?**

In crafting physical activity therapy programs, I adopt a culturally sensitive and adaptable approach. This involves accommodating diverse movement preferences, using inclusive

language, and addressing the unique needs of various demographics. Actively engaging with the community further informs my approach, ensuring that my programs not only align with cultural values but also remain responsive to the evolving health and fitness needs of Qatar's dynamic population.

- **What are the potential benefits of regular physical activity for expectant mothers a and how does it contribute to their overall well-being and pregnancy outcomes?**

Engaging in regular physical activity during pregnancy offers expectant mothers various benefits, positively impacting overall well-being and pregnancy outcomes. These advantages include improved cardiovascular health, better management of gestational weight, enhanced mood and mental well-being, improved sleep quality, reduced risk of gestational diabetes, increased strength and endurance for labor, better posture, and faster postpartum recovery. Importantly, staying active not only supports physical health but also positively influences mental and emotional states, contributing to a more positive pregnancy experience.

- **Are there any specific challenges or barriers that pregnant women in Qatar commonly face when trying to engage in physical activity, and how do you address these challenges in your practice?**

The challenges include cultural perceptions, limited access to resources, weather considerations, potential social stigma, lack of awareness, and the need for individualized approaches. I mitigate these issues by integrating cultural norms into exercise programs, providing guidance on accessible attire and equipment, adapting to indoor activities in extreme weather, fostering a supportive environment to counter social stigma, prioritizing health education, and adopting personalized approaches tailored to each woman's unique circumstances.

- **How do you integrate yoga and Pilates into your therapy sessions, and what benefits have you observed, particularly in the context of pre/postnatal care?**

The integration of yoga and Pilates into therapy sessions is a meticulous process. Mindfully adapting these practices to the unique needs of individuals during pregnancy and postpartum is important. I modify exercises to accommodate the physical changes associated with these stages, with a focus on core strength, stability, and pelvic floor health. Incorporating breath work and mindfulness from yoga contributes to stress reduction and emotional well-being. Overall, this integration enhances body-mind connection, positively impacting flexibility, stress levels, and core strength in pre/postnatal clients, fostering a holistic approach to their well-being.

- **Are there specific cultural considerations or preferences in Qatar that influence your choice and adaptation of yoga and Pilates in your practice?**

I meticulously consider and adapt yoga and Pilates practices to align with specific cultural considerations and preferences. I am mindful of modesty in exercise attire, respecting gender segregation norms by creating inclusive spaces. Regular community engagement allows me to stay attuned to evolving cultural preferences, creating an environment that respects and incorporates the cultural values of the community.

- **In your practice, how do you incorporate evidence-based approaches to ensure the efficacy and safety of your programs, especially considering the sensitive nature of pre/postnatal fitness?**

Continuous education keeps me updated on the latest research, and collaboration with healthcare professionals ensures alignment with each client's specific health considerations. I modify traditional exercises to accommodate the unique needs of pregnancy and postpartum recovery, providing individualized plans that empower clients with knowledge and confidence in their fitness journey.

- **In your expert opinion, what are the areas where further research is needed to enhance the understanding of physical activity among pregnant women in Qatar?**

In my expert opinion, further research is crucial in Qatar to understand cultural perspectives on exercise during pregnancy. Additionally, exploring the impact of education and awareness

programs can enhance our understanding and guide the development of targeted strategies to promote safe and beneficial physical activity for pregnant women in the region.

- **How do you assess the individual needs and preferences of your pre/postnatal clients, and how does this information guide the development of personalized therapy plans?**

Thorough consultations, physical assessments, and understanding their lifestyle and activity preferences. Open communication and goal setting guide the development of personalized fitness plans, with a focus on monitoring pregnancy progress for expectant clients. Regular feedback and periodic reassessments ensure continuous adaptation, and the integration of yoga and Pilates practices is customized based on individual preferences, making the therapy journey both effective and enjoyable.

- **Key Takeaway:**

Acknowledge the essential requirement for community awareness to facilitate community involvement, ensuring the inclusion of expectant mothers in physical activities. Pilates and yoga exercises can be both integrated in one exercise which has more benefits for pre/postnatal mothers. Engaging with the community, about physical activity and to educate mothers into fitness programs will empower mothers with comprehensive knowledge for a smoother transition into the postpartum period, encompassing both physical and mental aspects.



Figure 39 : Prenatal exercising class



Figure 40 : World Map

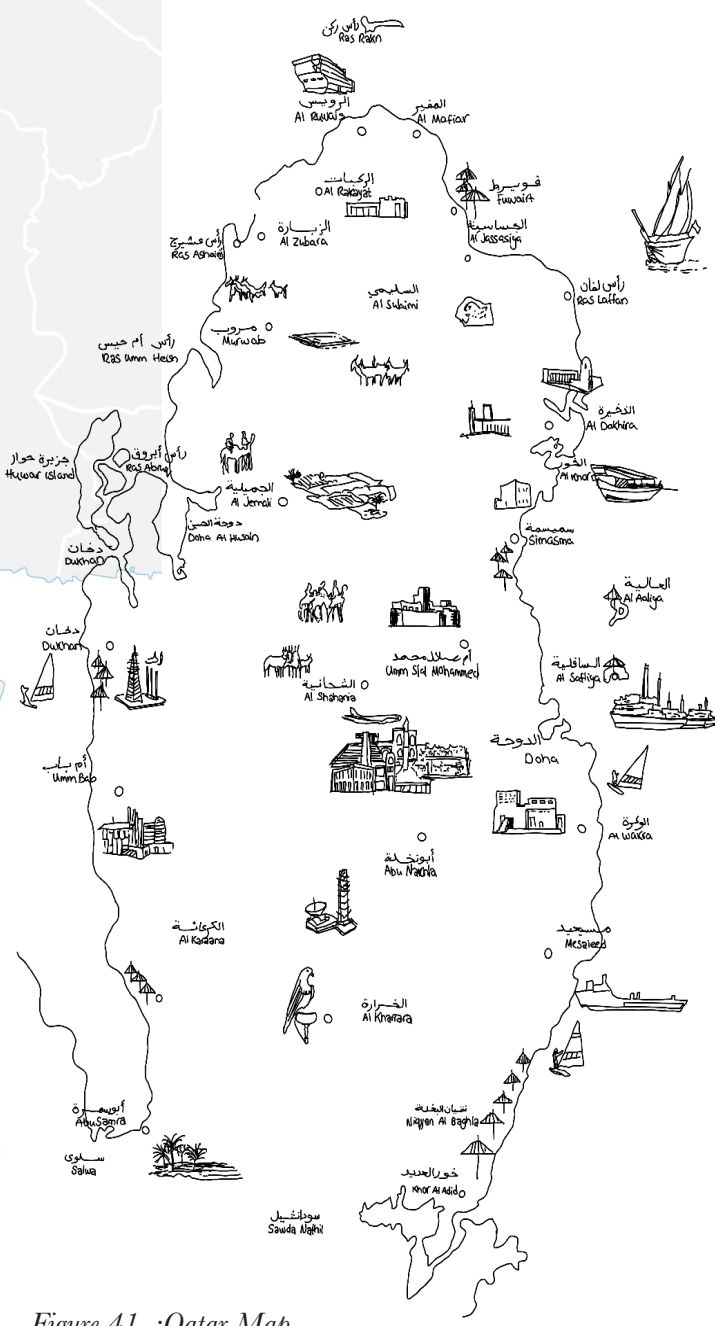


Figure 41 : Qatar Map

About Qatar

Capital: Doha

Region: Asia

Geogrpahy: Qatar is a peninsula of 11,586 square kilometres located Geography: Qatar is a peninsula of 11,586 square kilometres located on the South shore of the Persian Gulf. It is centrally placed among the GCC countries.

Area: 4,489 sq mi (11,627 sq km).

Language: Arabic is the official language of Qatar, with Qatari Arabic or Gulf Arabic the local dialect

Literacy Rate: 93.46 %

Religion: Islam

Populataation: (2023 est.) 3,210,000.

Currency: Qatari Rial (QAR)

Qatar's Climate

Considering the impact of climate is essential, as it plays a vital role in shaping design and indoor air quality. Particularly true for material choices, environmental conditions in Qatar could potentially reduce the durability of certain materials. This underscores the need for a comprehensive understanding of how materials interact with the local climate to ensure not only the longevity of the design but also the well-being of the occupants.

Temperature History in Qatar

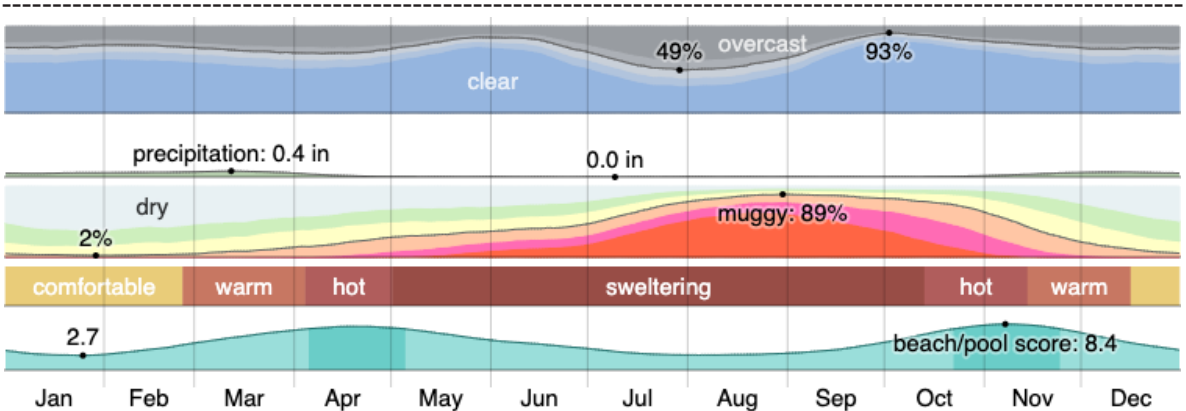


Figure 42 : Diagram showcasing per-month reach certain temperatures in Qatar

Summers are long, sweltering, muggy, arid, and partly cloudy and the winters are comfortable, dry, windy, and mostly clear.

Sunrise & Sunset with Twilight in Qatar

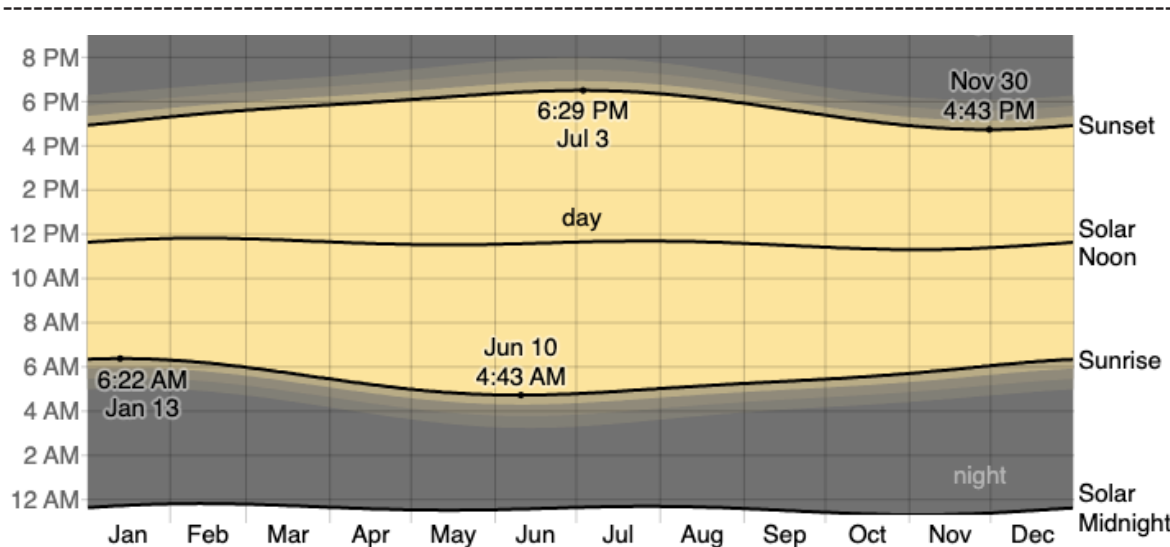


Figure 44 : Diagram showcasing solar day over the course of the year 2023

Earliest Sunrise is at 4:43 AM on June 10 and the latest Sunrise is 1 hour, 39 minutes later at 6:22 AM on Jan 13. Earliest Sunset is at 4:43 PM on Nov 30, the latest Sunset is 1 hour,46 min later at 6:29 PM on July 3.

Hours of Daylight and Twilight

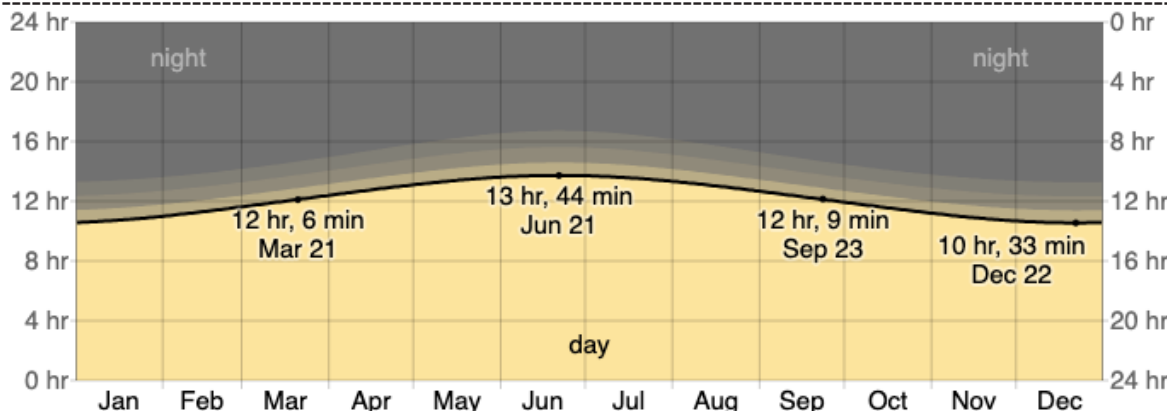


Figure 43 : Diagram showcasing number of hours which the Sun is visible

Shortest day is December 22, with 10 hours, 33 minutes od daylight. The longest day is June 21, with 13 hours, 44 minutes of daylight.

Cloud Cover Category in Qatar

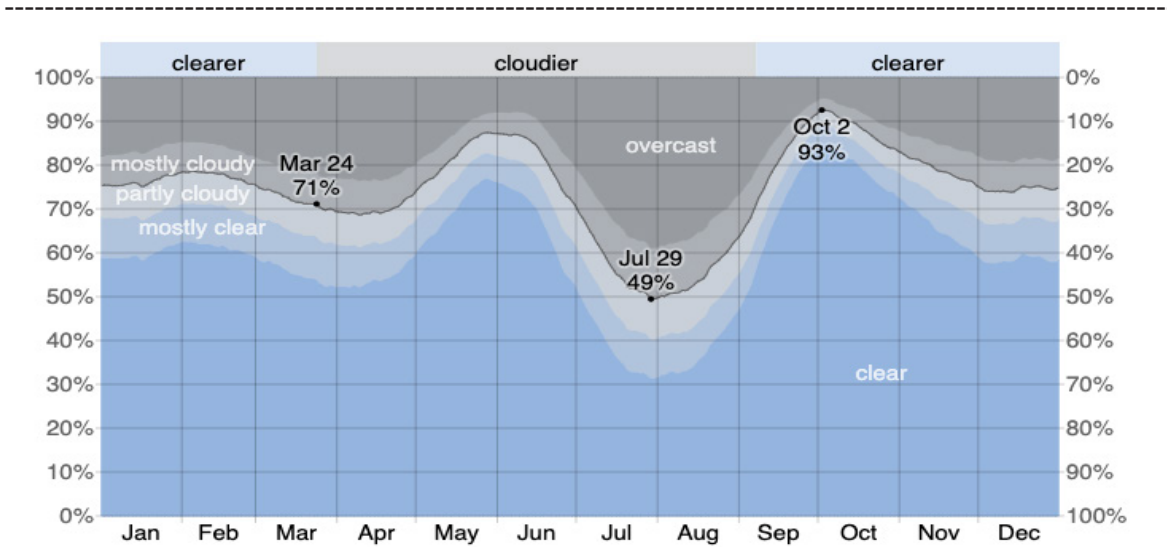


Figure 45 : Diagram showcasing the percentage of the sky covered by clouds

The average percentage of the sky covered by clouds experiences significant seasonal variation over the course of the year.

Daily Chance of Precipitation in Qatar

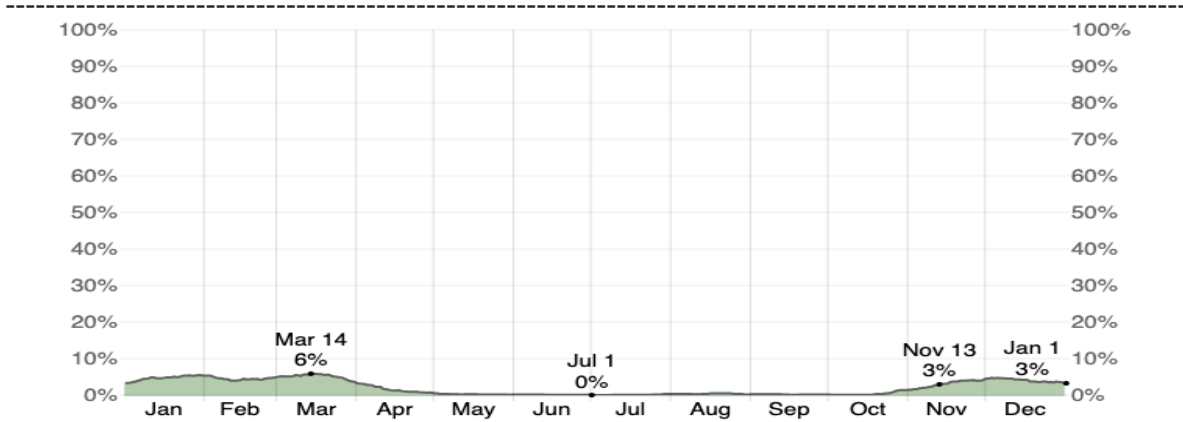


Figure 46 : Showcasing percentage of days in which Qatar does not experience significant seasonal variation in the frequency of wet days.

Average Monthly Rainfall in Qatar

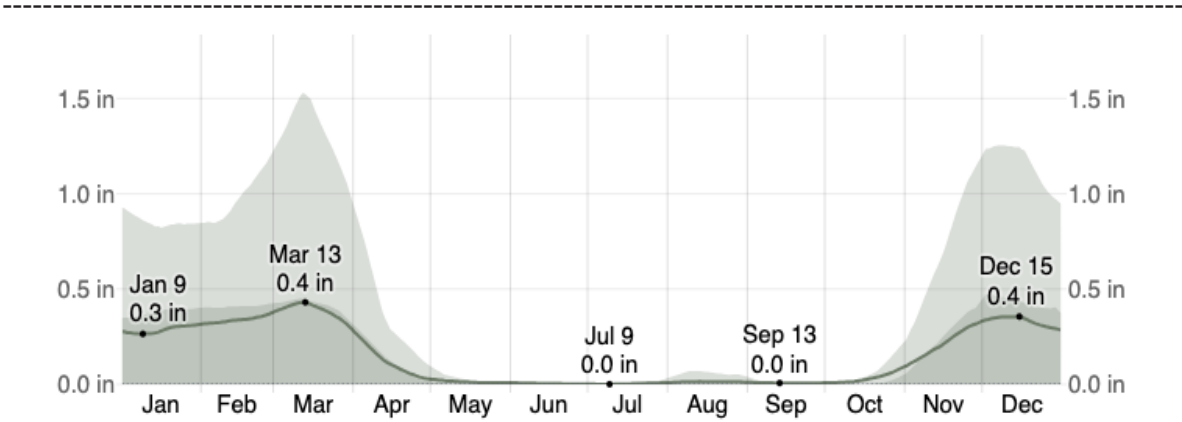


Figure 47 : Showcasing average rainfall accumulated over the course of 31-day period Qatar experiences some seasonal variation in monthly rainfall.

Wind Speed

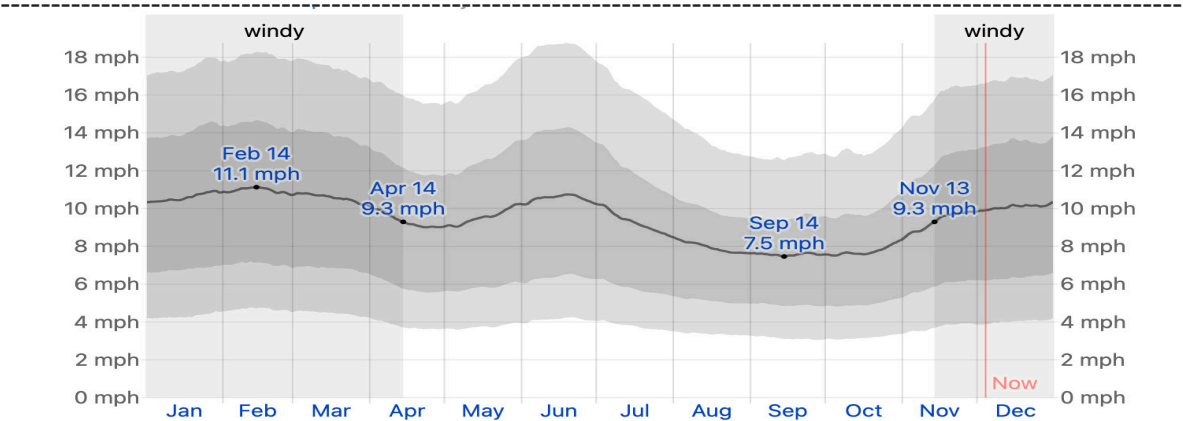


Figure 48 : Diagram showcasing average of mean hourly wind speeds The average hourly wind speed in Qatar experiences significant seasonal variation over the course of the year.

Average Monthly Rainfall in Qatar

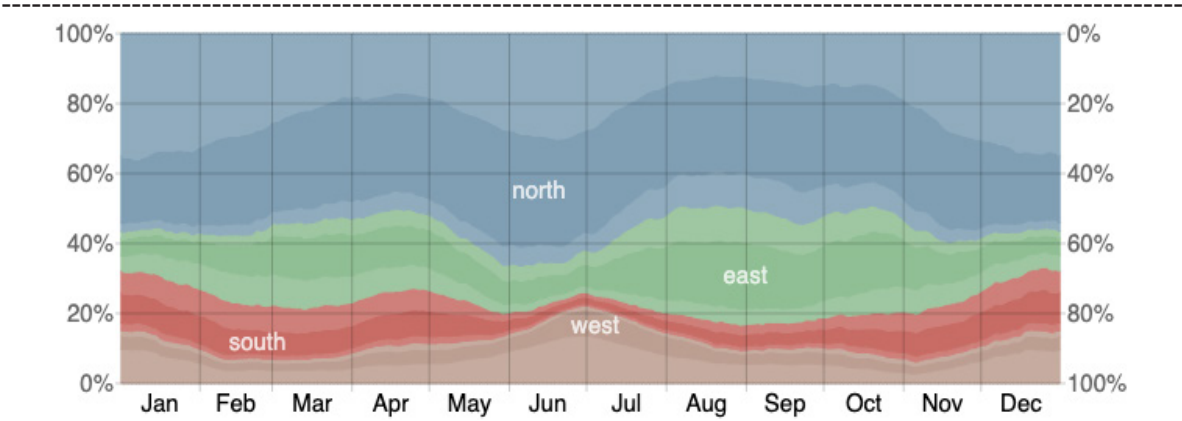


Figure 49 :Average hourly wind direction in Qatar is from the north throughout the year. The percentage of hours in which the mean wind direction is from each of the four cardinal wind directions, excluding hours in which the mean wind speed is less than 1.0 mph.

Chosen Site & Building

Where is it Located?

Located in Katara Cultural Village
Boho Social in Katara
Doha, Qatar

Why at Katara Cultural Village?

Katara Cultural Village, situated in Doha, Qatar, serves as a symbolic representation of the country's commitment to preserving and promoting its rich cultural heritage. The village's blend of contemporary amenities and traditional aesthetics, creates a unique environment conducive to the exploration of cultural narratives and their intersection with modernity. The decision to choose Katara Cultural Village is by promoting inclusivity, creating a relaxed and welcoming atmosphere. This aligns with the cultural village's goal of engaging diverse communities and fostering a sense of belonging. It has a view of the Katara beach which enhances the overall appeal of the venue, making it a more desirable destination for pregnant women.

Why at Boho Social?

Boho Social is Located in Katara Cultural Village. Boho Social has a modern eclectic food Restaurant with an Arabian twist. Boho Social is a fine casual Bohemian inspired restaurant, lounge & terrace.⁴⁴ A new social place and food destination, housed in a circular structure on top of Katara Beach club. Stunning bohemian chic interiors by award winning interior designer Paul Bishop.⁴⁵

Boho Social is selected due to its practical features, including versatile indoor and outdoor spaces for activities, a private space for pregnant women, and a location away from crowds in the middle of Doha. The building's second-floor open space offers a scenic view of the sea and Qatar, making it suitable for morning and night classes. The organic shape of the building enhances the overall harmony and integration of the project.



Figure 50 : macro and micro map of site and building

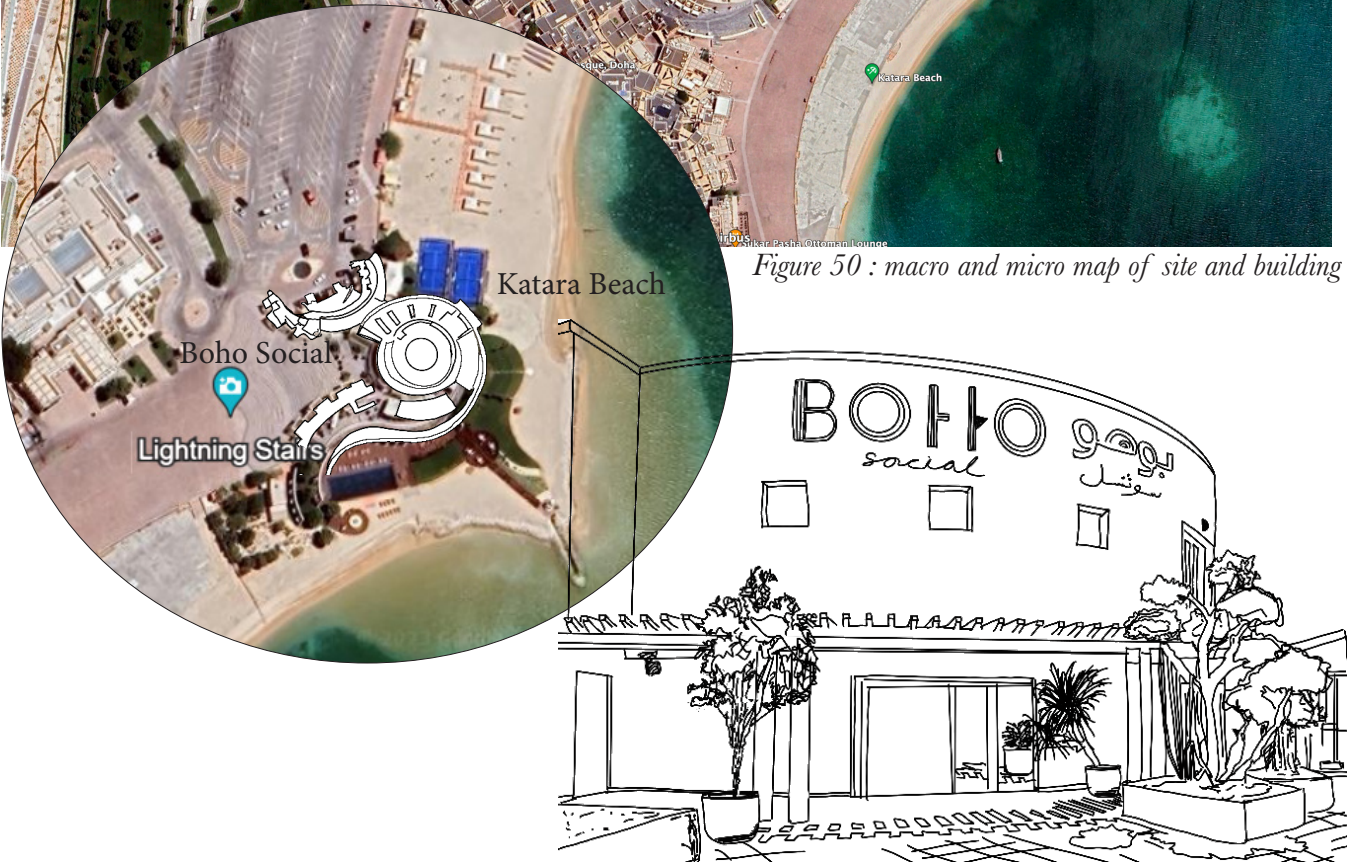
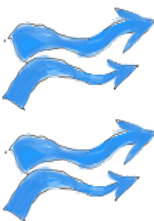


Figure 51 : Hand drawn sketch of building

Site Analysis

LEGEND



Prevailing Wind
Direction
S-E



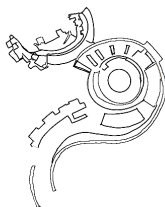
Sun Path
Direceton



Building Entry
Direction



Site Location



Building

Climate

Summers are extremely hot, with temperatures exceeding 40 degrees Celsius and low humidity. Winters are milder, with daytime temperatures ranging from 19 to 25 degrees Celsius, providing a more comfortable climate. Coastal areas benefit from sea breezes, and northerly winds known as the “shamal” bring cooler air during winter.

Address:

Boho Social, Katara Cultural Village, Shakespeare St, Doha



Figure 52 : Site Analysis of Boho Social

Construction Documents

- LEGEND**
- 1. Elevator
 - 2. Coffee Shop ENtrance Lobby
 - 3. Main Kitchen
 - 4. Office
 - 5. Servery
 - 6. Cold Storage
 - 7. Mechanical Room
 - 8. Male Toilet
 - 9. Foyer
 - 10. Female Toilet
 - 11. Coffee shop indoor seating
 - 12. Coffee shop preparation & service
 - 13. Coffee shop outdoor seating

Circulation:
➡ Primary Circulation

Private / Public

- Public Space
- Semi - Public Space
- Private Space
- Toilets

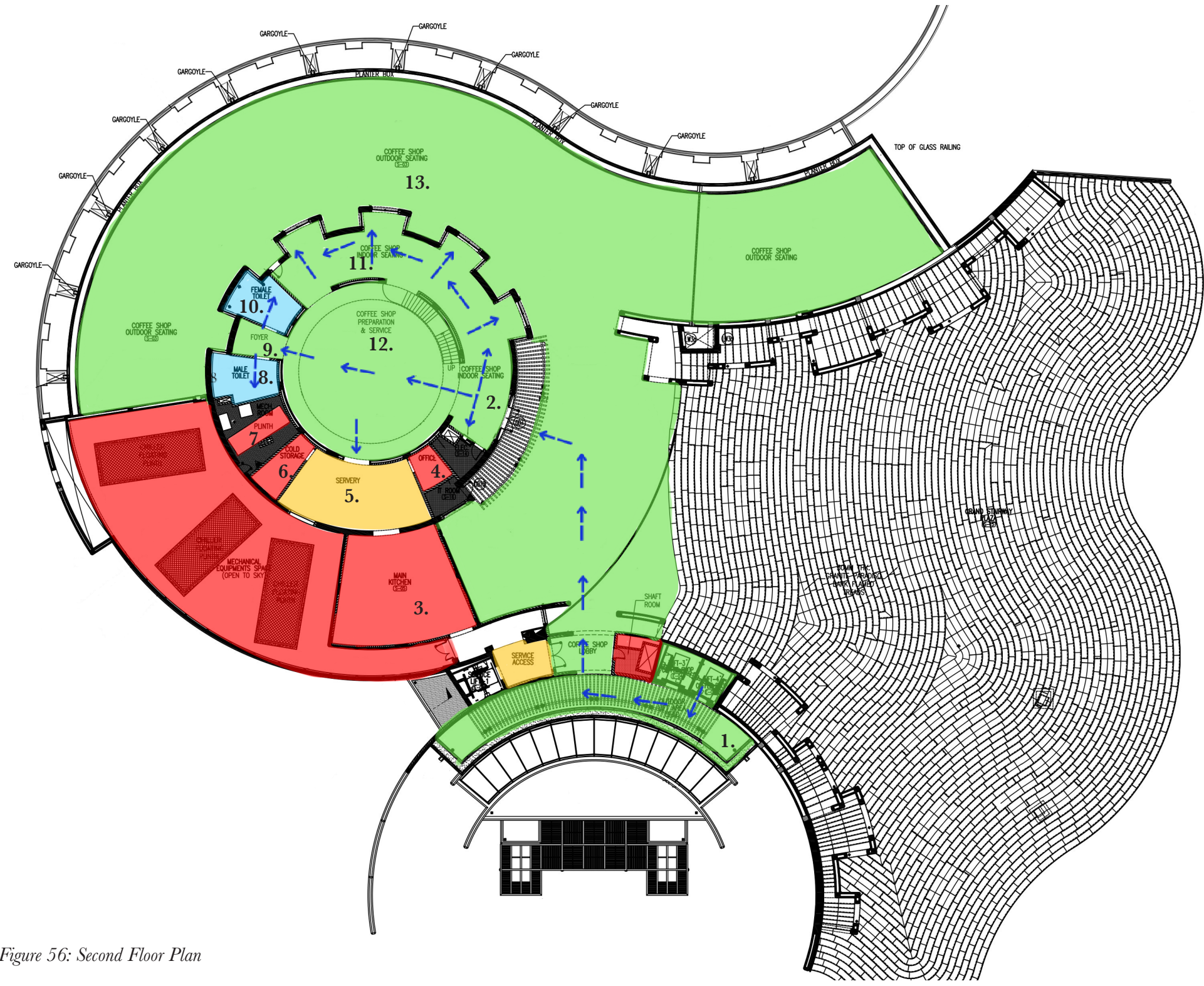


Figure 56: Second Floor Plan

- LEGEND**
- 1. Mezzanine Open Dinning Area
 - 2. Lift Shaft
 - 3. Kitchen
 - 4. Mechanical Room
 - 5. Outdoor Seating Area

Circulation:

➡ Primary Circulation

- Private / Public**
- Public Space
 - Semi - Public Space
 - Private Space

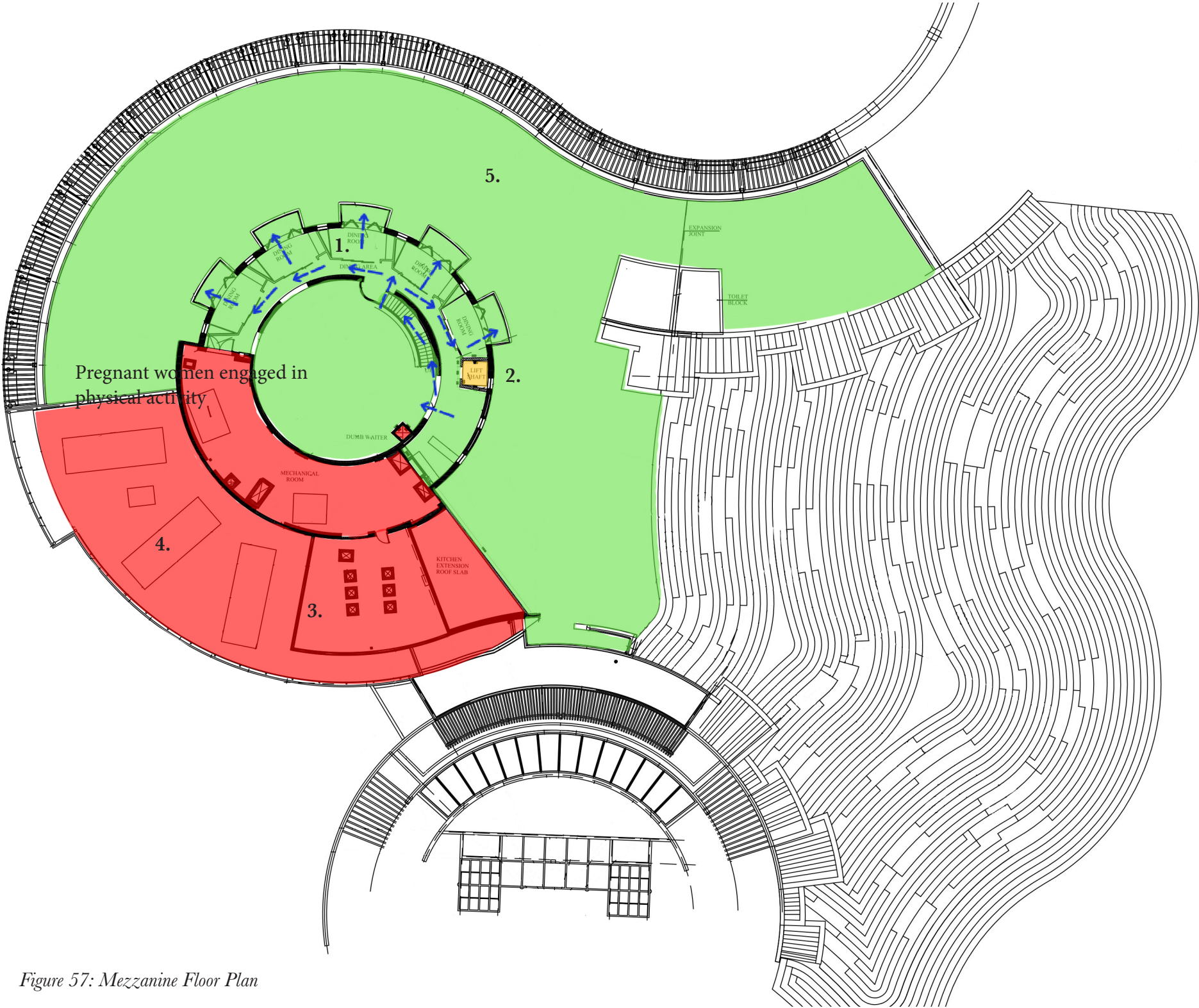


Figure 57: Mezzanine Floor Plan



Figure 58: Boho Social Exterior Elevations

Exterior Shots |



Figure 59: Boho Building with Katara Beach Club in one building

The natural light plays a large role in the space, making the building feel welcoming. Exposure to natural light has been linked to improved mood and well-being.



Figure 60: The entrance of Boho Social

Building has an organic shape, which evokes a sense of flow and continuity which helps to move easily in the building.



Figure 61: Ground Floor of Boho, where to park the car and use the elevator in order to take to second floor

The curved walls create an interesting play of light and shadow throughout the day, adding a dynamic element to the building's appearance.



Figure 62: Outdoor Seating Area

Earthy materials such as stone, wood, clay, and natural fibers create a warm and organic aesthetic. These materials have textures and tones that resonate with nature.



Figure 63: Outdoor Terrace Seating Area

Earthy colors are often associated with calmness and stability, promoting a sense of well-being. This can have a positive psychological impact on pregnant women.



Figure 64: Outdoor Dining Seating Area

The outdoor terrace can be used for moon yoga nights and walks because it's a large space and is open to the sea.

Interior Shots |



Figure 65: Second Floor Main Lobby and seating

Warm, earthy tones like beige and terracotta as a base, complemented by vibrant jewel tones, warm metallics, and nature-inspired greens makes the place earthy.

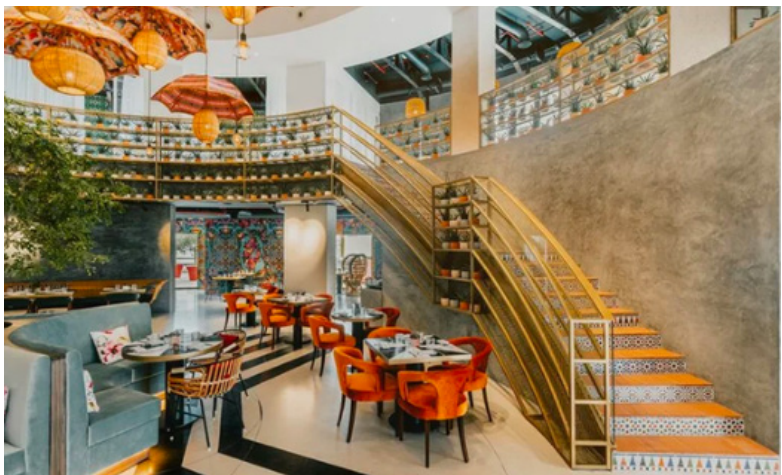


Figure 66: Staircase take up to Mezzanine Area

Copper and Brass: elements for lighting fixtures, door handles, and other decorative accents. These warm metals add a touch of sophistication

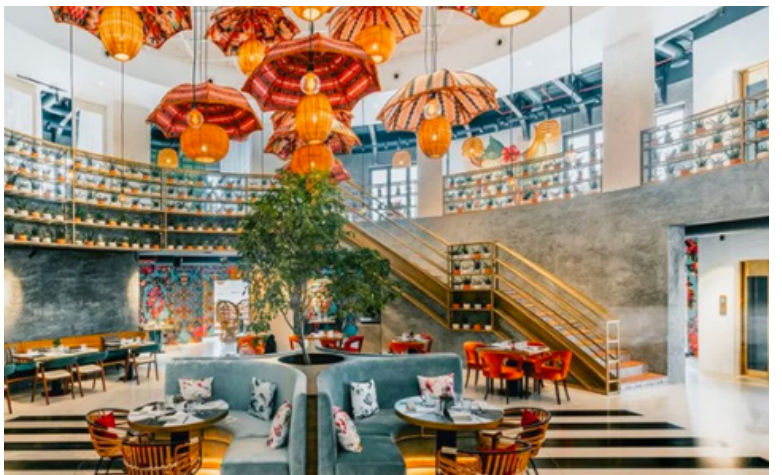


Figure 67: Seating in Second Floor

An indoor tree brings a direct connection to nature, It can improve expectant mothers well-being and create a more pleasant environment.



Figure 68: Mezzanine Dining Area

Large windows allow ample natural light to flood the interior spaces making the space very energetic



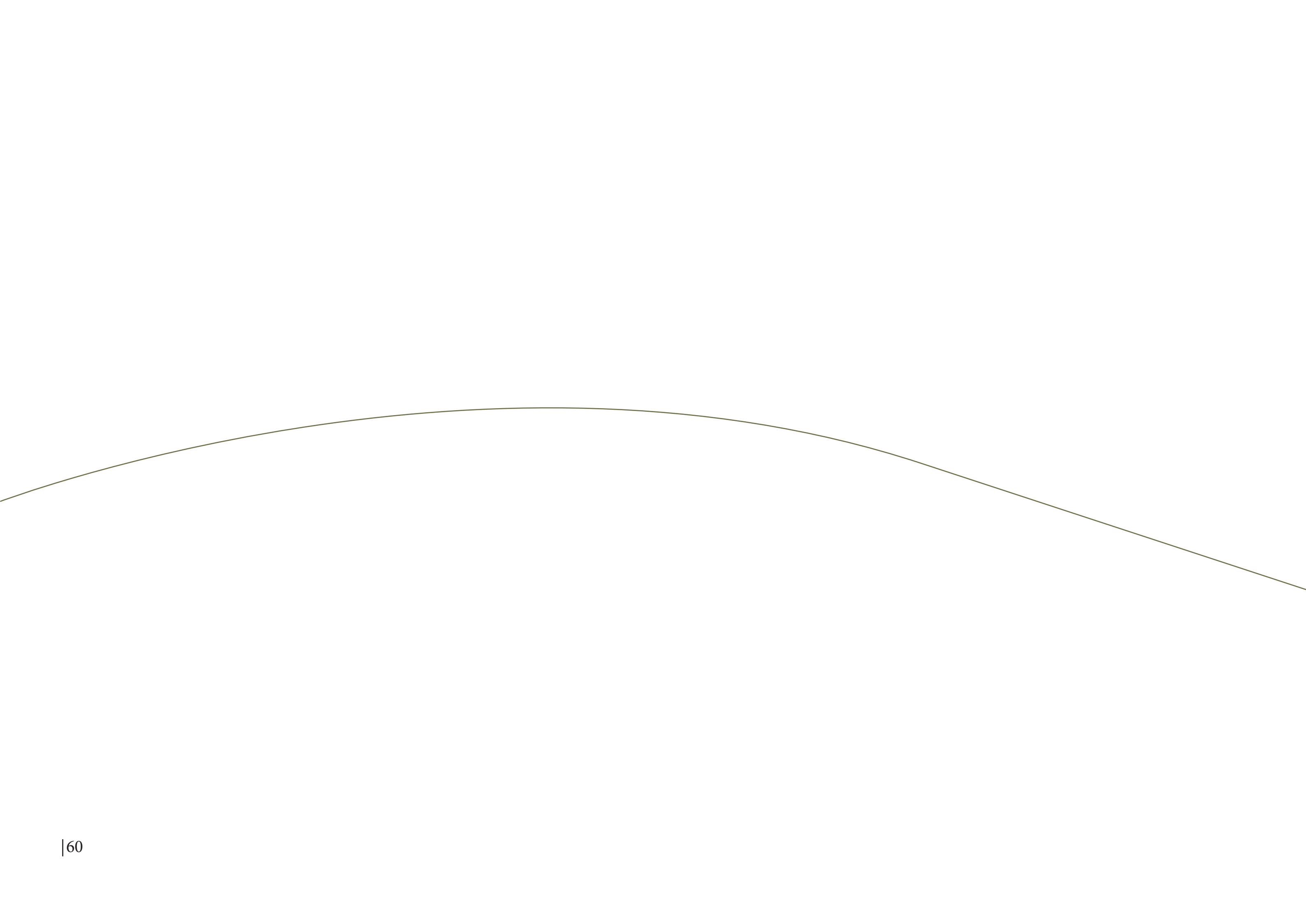
Figure 69: Mezzanine Floor Dining Area



Figure 70: Dining Area in Mezzanine Floor



Figure 71: Prenatal Class





قعدى

زىن

مب

ياىما

ما تترك

تقعد

الحامل

المرأة

Thesis Roadmap

Ezdehar

Reflects the project’s deep commitment of supporting pregnant women in maintaining a healthy lifestyle for expectant mothers to have a transformative experience during pregnancy. The name “Ezdehar” evokes the idea of growth, flourishing.

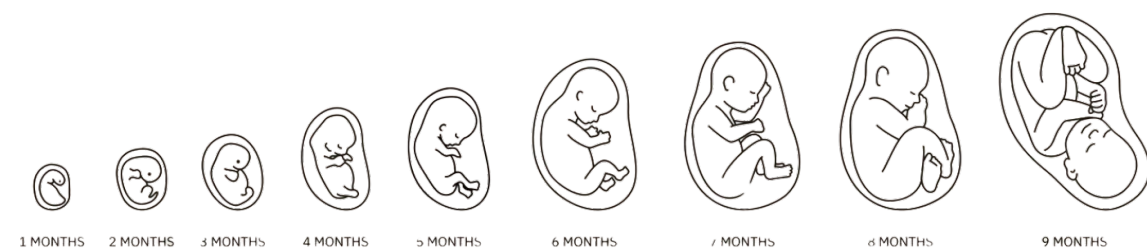


Figure 1:Undergo Similar transformation when nurtured

Concept Statement

Interactive getaway that aims to encourage & educate expectant mothers in Qatar about the importance of physical activity during pregnancy to promotes a healthy lifestyle.



Figure 2: Pregnant women engaged in physical activity

Project Objective

This project endeavors expectant mothers in Qatar about the importance of physical activity during pregnancy, offering an interactive getaway that aims to encourage and educate, promote a healthy lifestyle.



Figure 3:Interactive wellness retreat prenatal workshop

Design Concept

Inspired by the undulating form of the waves of the Doha sea, which symbolizes calmness, power and transformation.

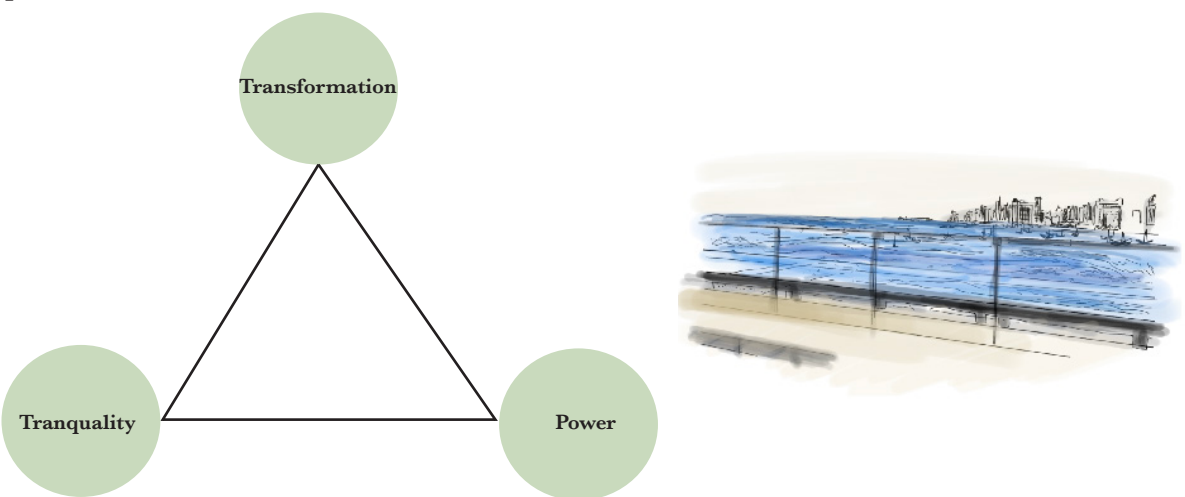


Figure 4: Haping a dynamic relationship across various aspects of life and personal experiences

Projects Scope

Incorporating activities such as educational awareness workshops and wellness retreat workshops. Studio classes that hold prenatal yoga classes, stretching, meditation classes which has benefits for both maternal and fetal health.



Figure 5: Activities (yoga, meditation, educational work shops, excersing)

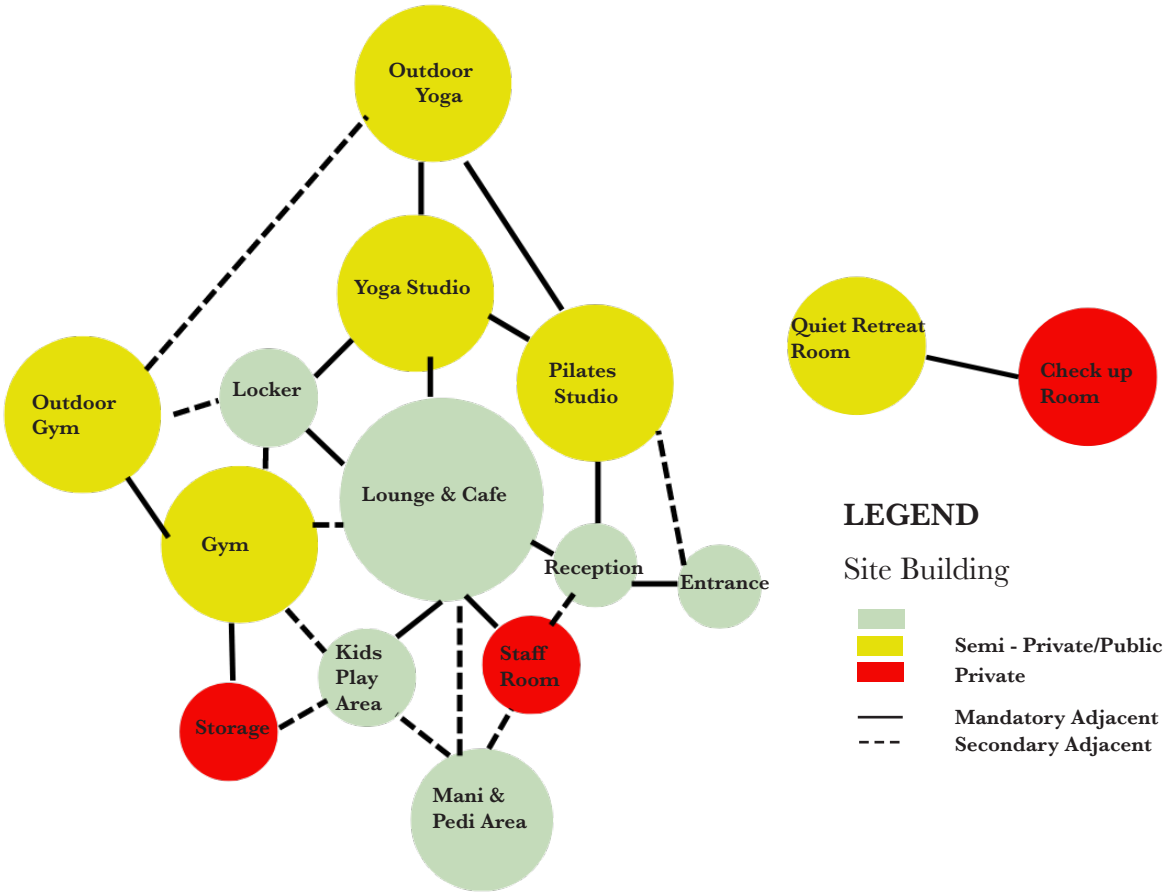


Figure 6: Spaces that will be used in proposed project to tackle the issue

Site Information

- Located at Katara Cultural Village, the building is Boho Social.
- Strategic place detached from the residential and busy crowd commercial facilities
- View - Beach & Katara's skyscraper - Helps in productivity
- Sunlight - exposure contribute to improved mood, reduced stress, enhanced mental well-being, increased productivity ¹

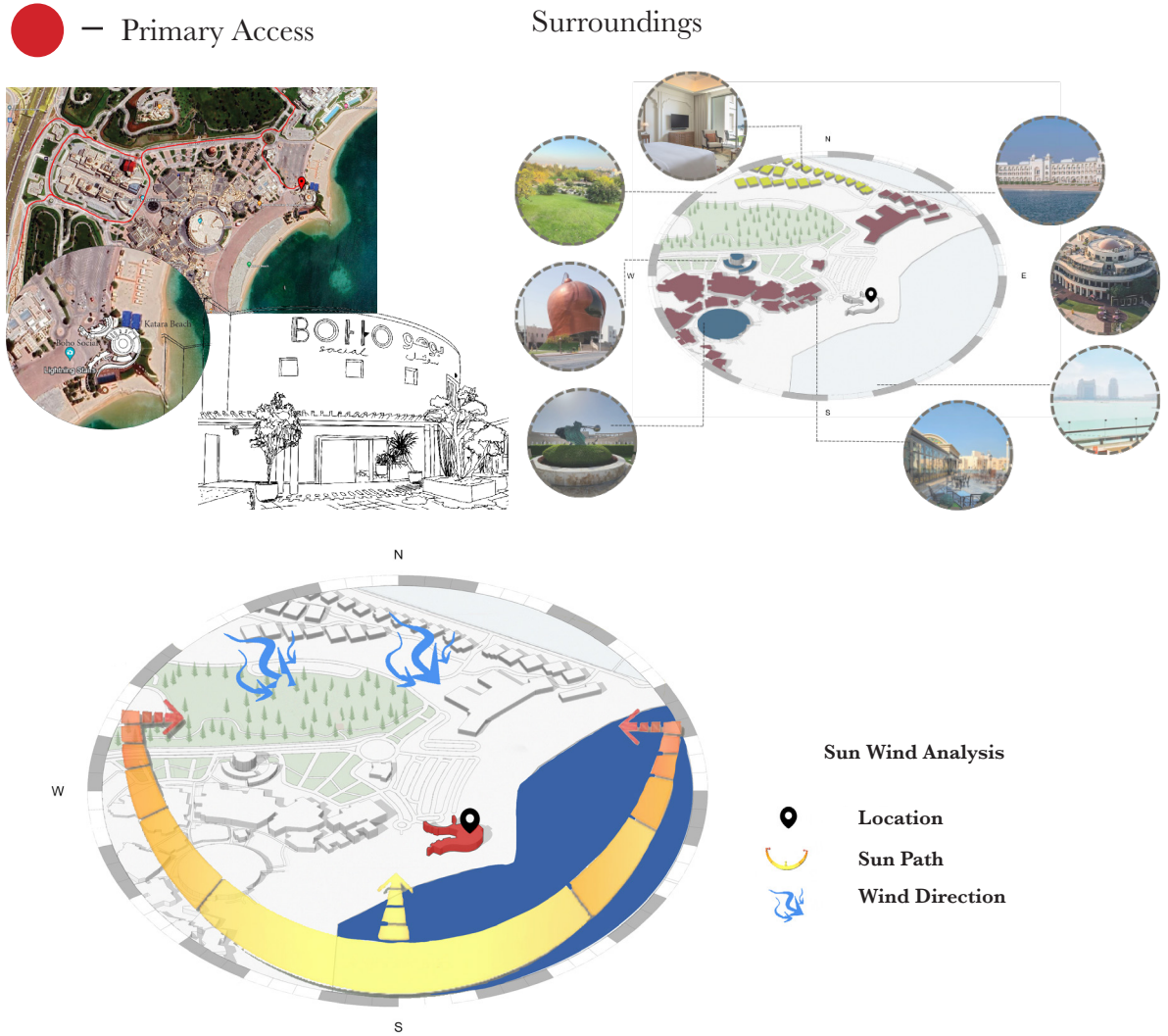


Figure 7: Building Analysis

Design Considerations

- Flooring materials for studios such as vinyl plank wood slip resistance flooring- safety for pregnant women
- Acoustical materials such as carpeting breaks up sound waves
- Acoustical acoustical ceiling curtains - reduce the transmission of sound²
- Lighting - natural light benefit - health and maintains high attention levels & productivity

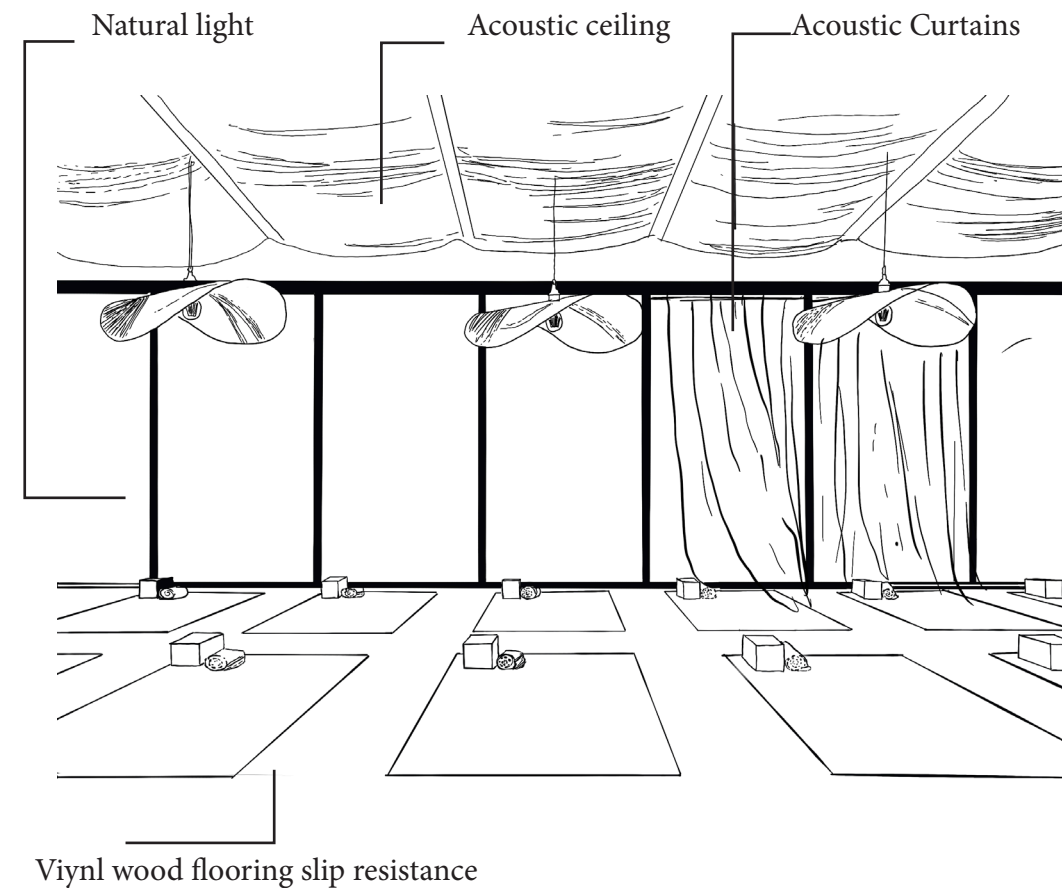


Figure 9: Design elements integrated into the space for users safety and experience

Overall Road Map Diagram

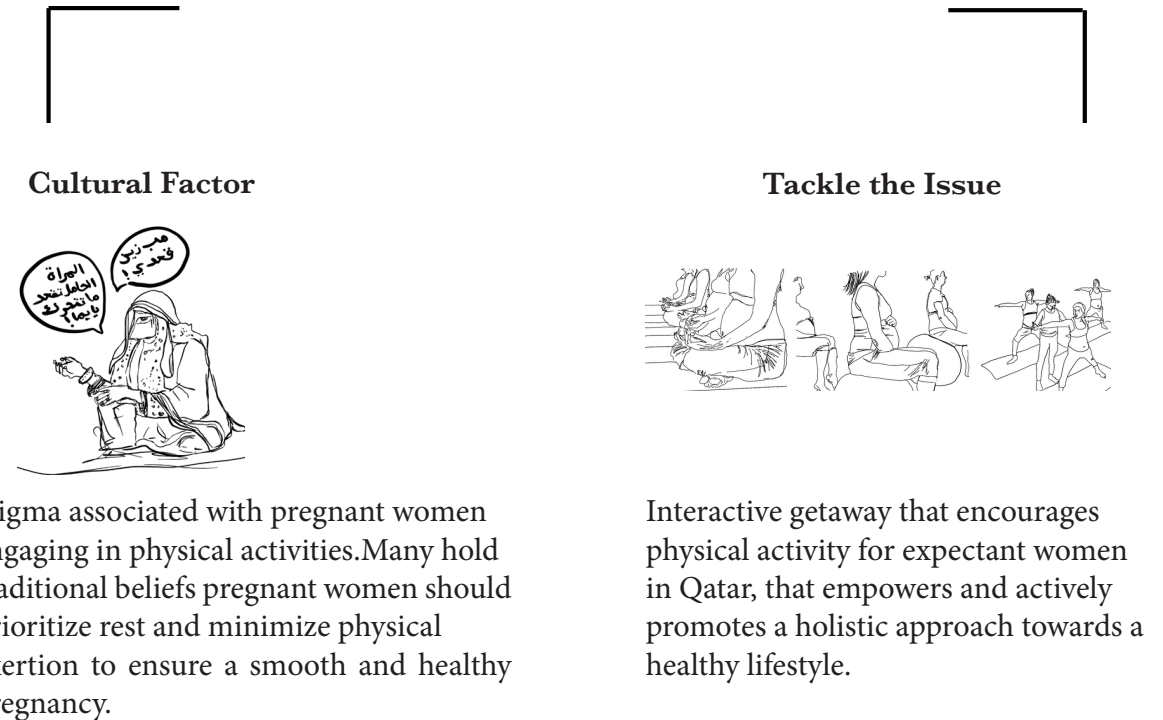
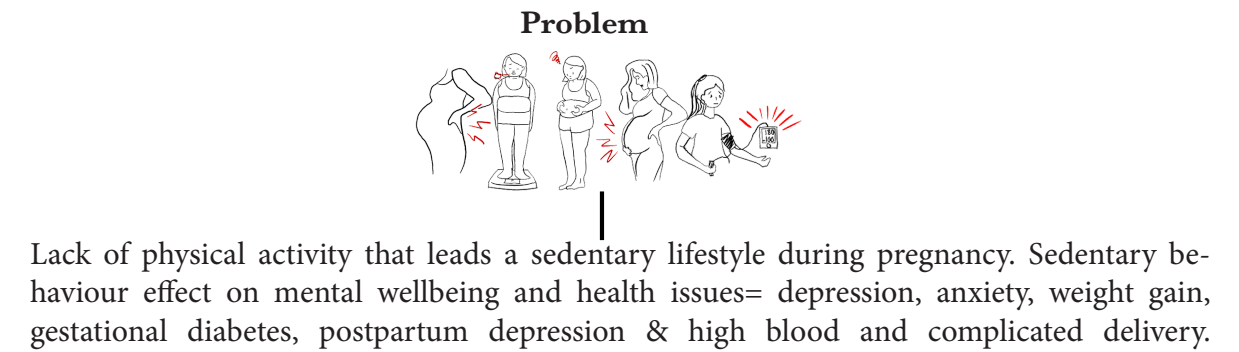
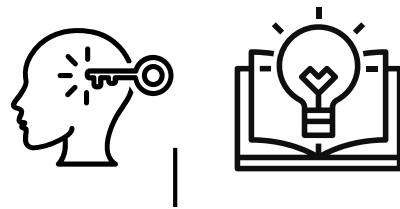


Figure 10: Spaces that will be used in proposed project to tackle the issue

Goal

Awareness & Education



This project endeavors expectant mothers in Qatar about the importance of physical activity during pregnancy, offering an interactive getaway that aims to encourage and educate, promote a healthy lifestyle.

Activities



- Educational Awareness Workshops
- Prenatal Yoga Classes
- Stretching and Breathing
- Meditation
- Wellness Retreat Workshops

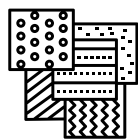
Lighting



Natural light has benefit on- health and maintains high attention levels & productivity

Design Considerations

Materials



Flooring materials for studios such as vinyl plank wood slip resistance flooring- safety for pregnant women

Acoustics



Acoustical materials such as carpeting breaks up sound waves

Acoustical acoustical ceiling curtains to reduce the transmission of sound.

Acoustic Considerations

Ezdehar

Thoughtful acoustic design is essential to mitigate external noise and foster a serene and tranquil atmosphere, enhancing the overall well-being of expectant mothers. By minimizing disruptions and creating a peaceful ambiance, can facilitate a comfortable and stress-free pregnancy experience. Incorporating sound-absorbing materials, and having a strategic layout designs, and noise-reducing technologies, can ensure that the space provides the optimal acoustic environment for expectant mothers to feel calm, supported, and at ease throughout their pregnancy journey.

Ambient Sound

Incorporating a water fountain outdoors near the entrance functions as a tranquil and soothing ambient feature, establishing a calm and relaxing environment for expectant mothers as they approach the building. Studies have proven that water fountains reduce stress, lower blood pressure and relieve depression.³ It also can refresh and re-energise. In addition, it improves the surrounding air quality is another great reason.⁴

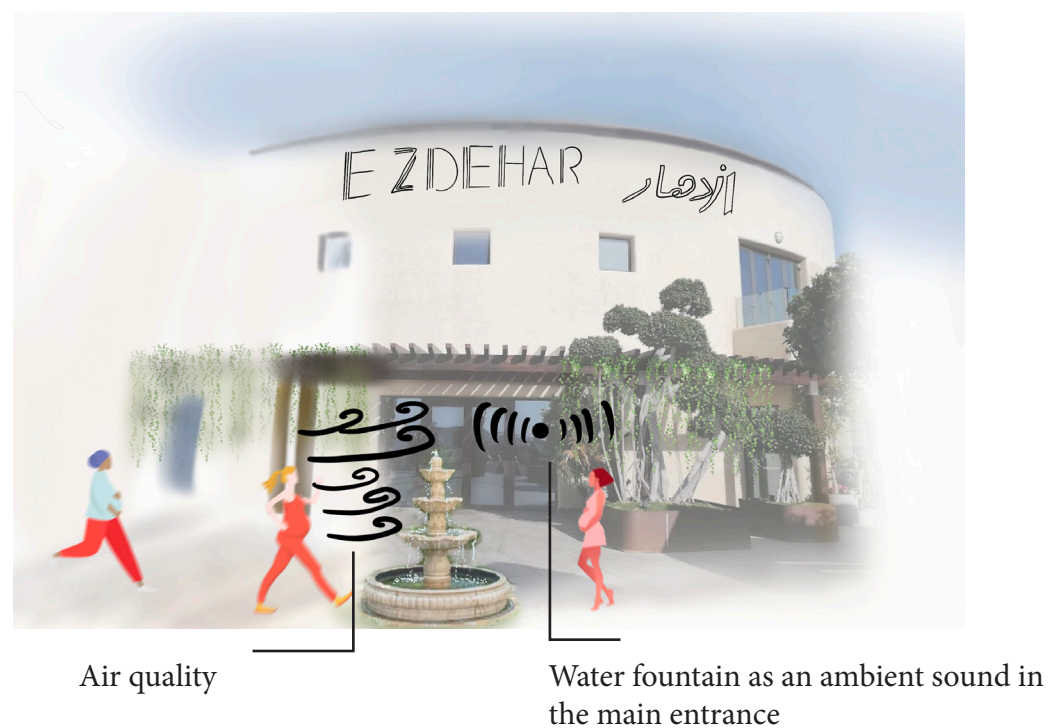


Figure 12: Outdoor Water Fountain Ambient Sound

Absorptive Finish Materials

In studios and workshop classes incorporating absorptive finish materials is crucial for both safety and comfort. Vinyl plank wood that is slip resistant to enhance pregnant women's safety and comfort.

Acoustic wood panels

Wall finish used to reduce reverberation, control noise, and create a more acoustically comfortable environment.

Acoustic Curtains

Used in studios and workshops. Employed to provide privacy and contribute to sound control & blockout light and regulate temperature naturally.⁵

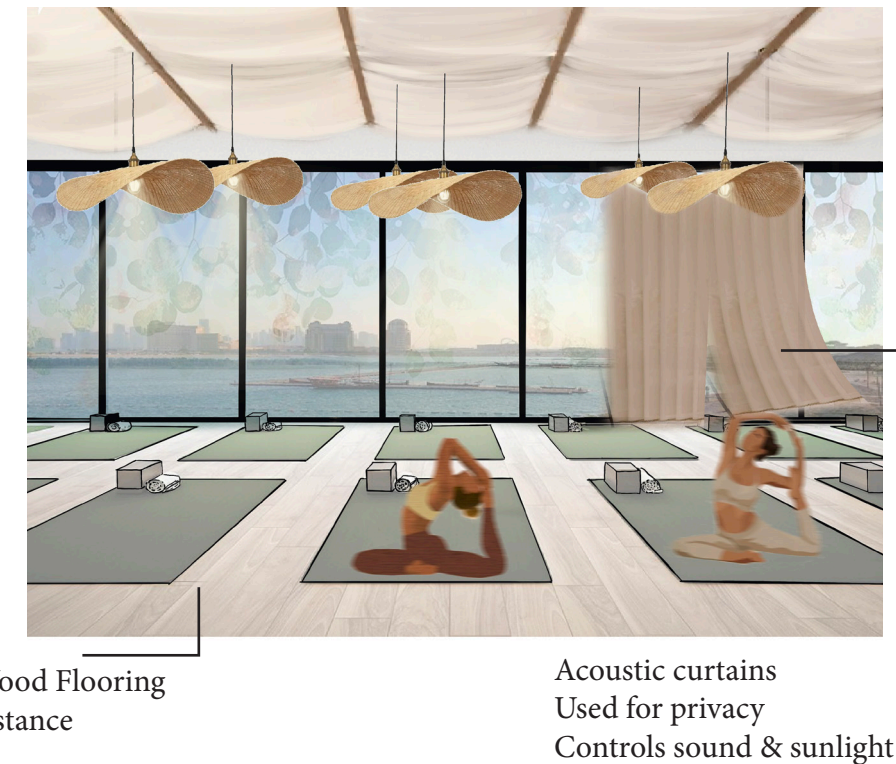


Figure 13: Yoga studio incorporating acoustic curtains, ceiling drape curtains and slip resistance flooring

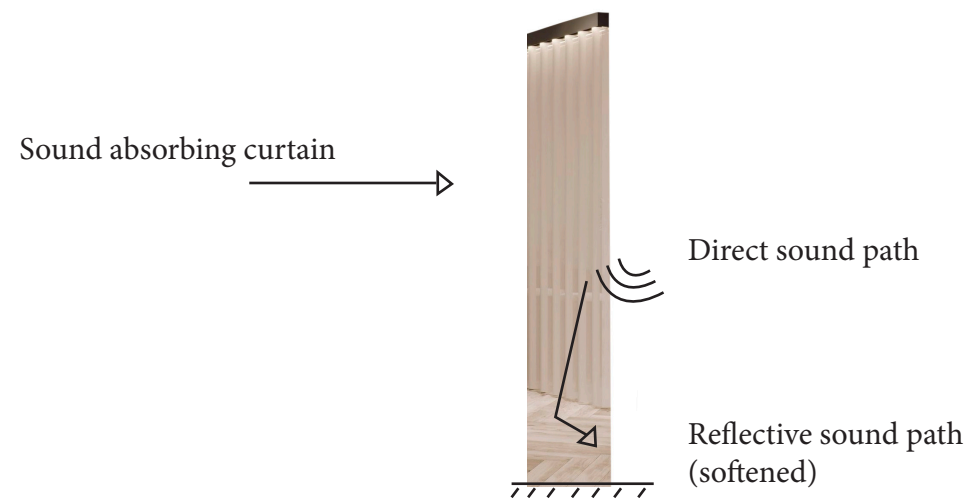


Figure 14: Sound is controlled through acoustic curtains

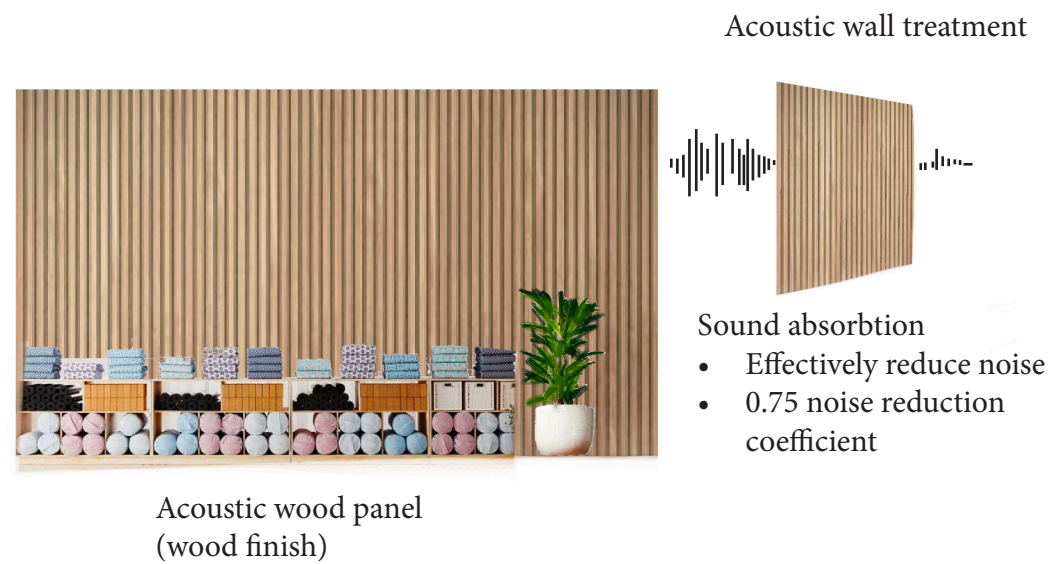


Figure 15: Wall finish in Yoga Class

Absorption

The design involves fixed acoustic ceiling wave panels to effectively absorb sound. The organic form of these panels is intentionally altered to create a wave-like structure, diffusing sound in a visually engaging manner. The overall experience is designed to immerse occupants in the dynamic engagement with the wave form, combining functionality with aesthetic appeal.

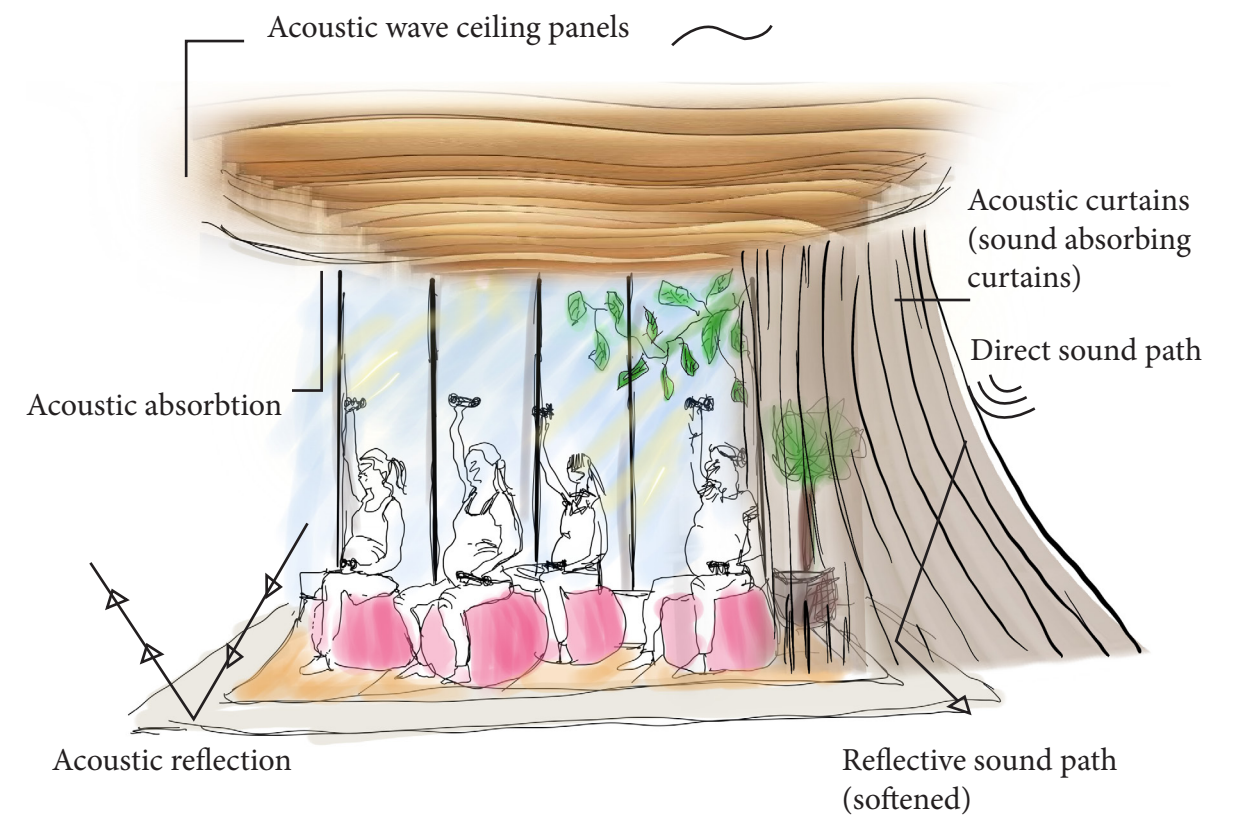


Figure 16: Workshop class

Site Surrounding

Incorporation of **sea sounds** and the sea view at the site is complemented by the surrounding plants to absorb urban noise.

Vegetation - not only adds to the aesthetic but also serves as a natural sound absorber⁶



Figure 17: Surrounding opportunities and constraints

Fire rated Windows & Doors

Fire-rated windows and doors are integrated to enhance safety measures, ensuring compliance with fire safety standards and regulations. This combination of acoustic features and fire-rated elements aims to create a secure, private, and acoustically controlled environment for the well-being of expectant mothers.

Windows

Incorporating **natural light** can provide physical & physiological benefits.

Benefit - health and maintain high attention levels & productivity.⁷

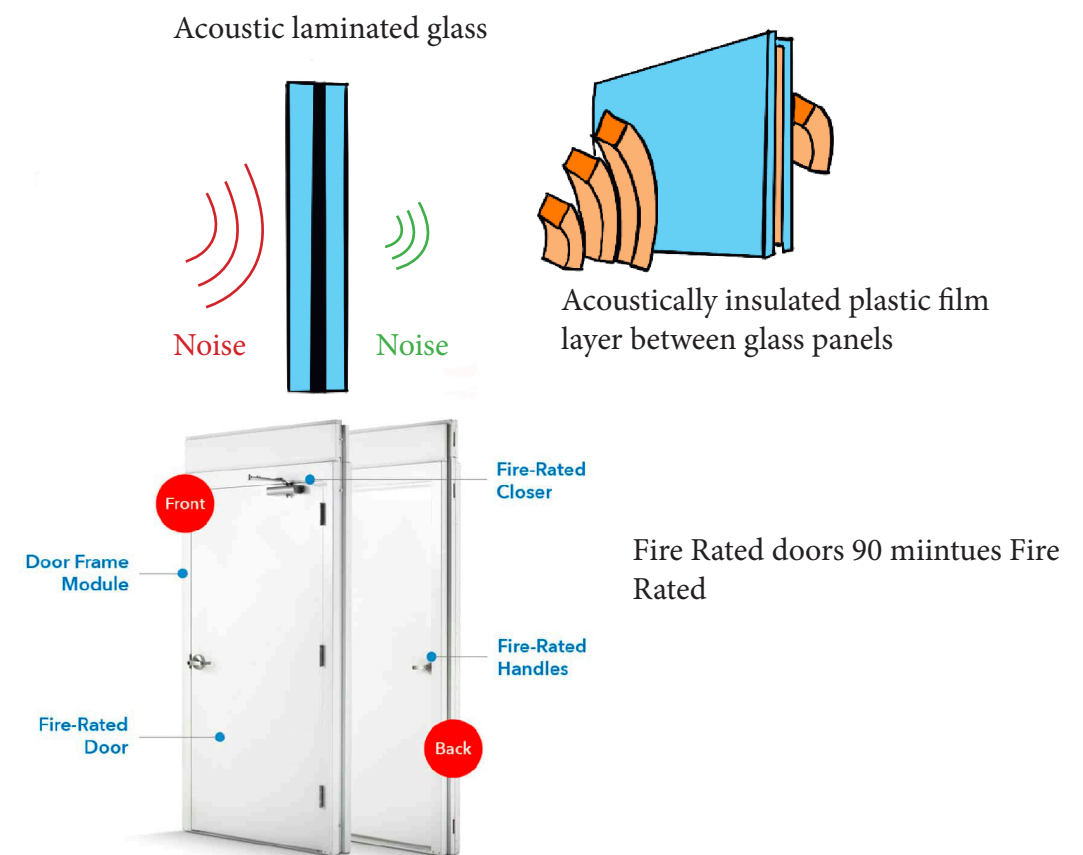


Figure 18: Fire Rated door and window diagrams

Thermal Comfort

Indoor Air Quality & Thermal Comfort

In the dynamic context of a hot climate like Qatar, ensuring indoor air quality and thermal comfort is crucial, especially for expectant mothers that are engaged in physical activities. Studies have shown that mothers and babies are exposed to high blood pressure due to the air pollution during the third trimester.⁸ This can be managed by prioritizing natural ventilation during cooler times, using air purifiers with HEPA and activated carbon filters, and controlling humidity with dehumidifiers. Also using low VOC materials and incorporating air-purifying plants, and maintaining HVAC systems. This creates a healthier and more comfortable indoor environment for both mother and fetus.

Humidity control

- Using dehumidifiers to maintain indoor humidity between 30-50% to prevent mold growth.⁹ Especially in hot and humid climates.
- Outdoor shades: Control sun and utilize reflective surfaces can help manage heat gain and enhance thermal comfort.
- Sand and dust in air: Proper air filtration systems, sealed windows, and frequent cleaning are essential to maintain good indoor air quality.
- Vegetation: indoor plants such as (Peace lilly , Aloe vera) helps improve air quality & increase creativity and productivity.¹⁰
- Plants also have air-purifying qualities, filtering out pollutants and harmful chemicals.



Figure 20: Dehumidifier in yoga studio to maintain indoor humidity

Sea Breeze

Has a natural cooling effect caused by the temperature difference between land and sea. Allows sea breeze to flow through indoor spaces providing natural ventilation and cooling. The windows are each 2800 height and they are operable so sea breeze can enter the building easily.

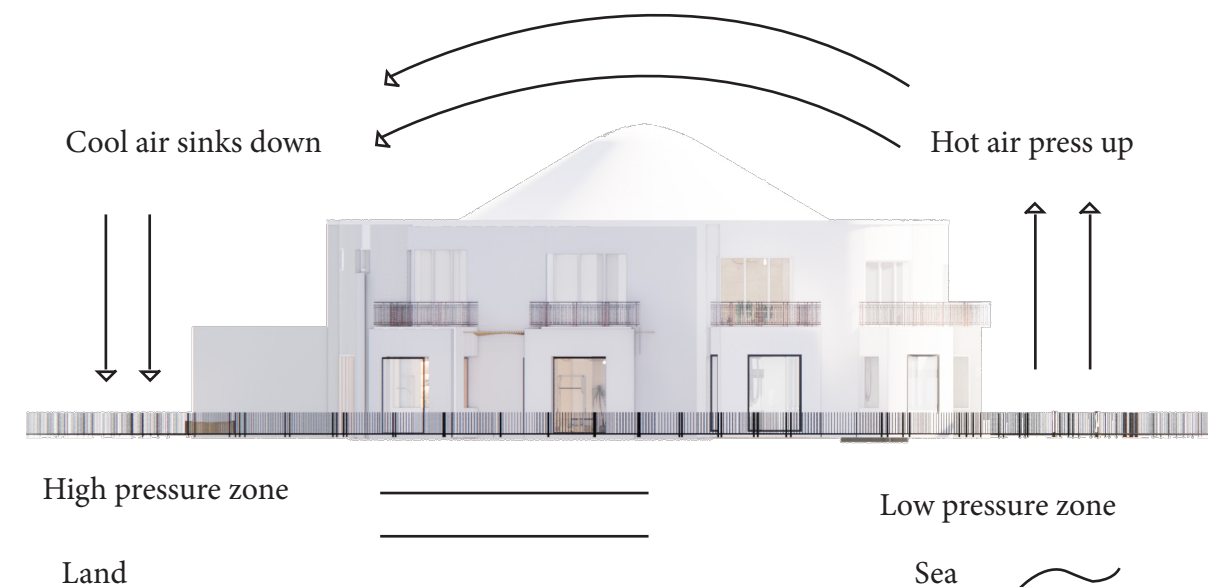


Figure 21: Sea breeze in the building and how it works with the windows

Ventilation

- Installing exhaust fans in bathrooms to eliminate pollutants
- Ceiling fans to enhance air circulation without creating discomfort for expectant mothers

Air Purification

Use air purifiers with HEPA and activated carbon filters, control humidity with dehumidifiers.

Low VOC Materials

- Water-based or low-VOC paints emit fewer volatile organic compounds, reducing indoor air pollution.
- Bamboo is a sustainable and fast-growing material. It can be used for flooring in studios and workshops
- Design the yoga studio with ample windows and doors for natural airflow.
- Light breathable curtains to control sunlight and heat yet maintaining privacy

HVAC Maintenance

- HVAC filters can help trap airborne particles and allergens, improving indoor air quality.
- Change filters (air condition) for good air quality and to prevent the circulation of pollutants.

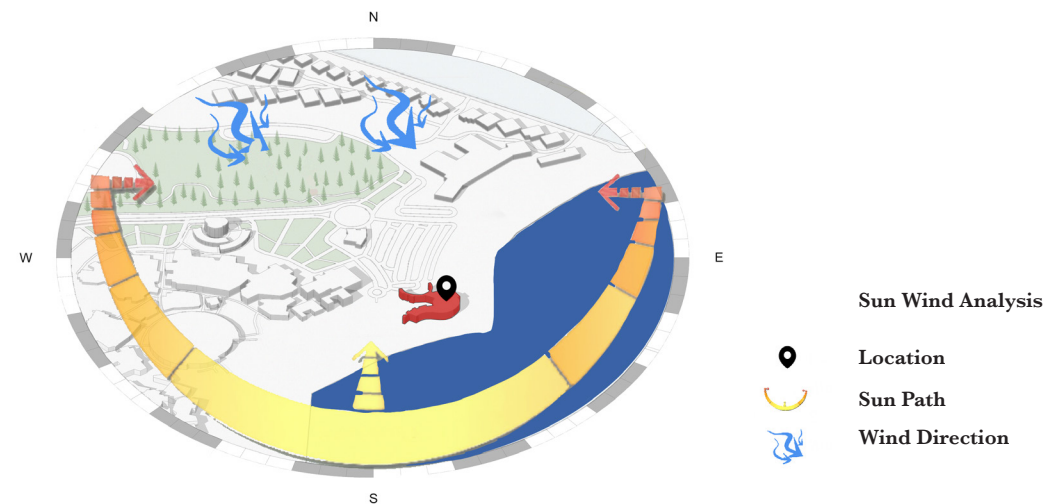
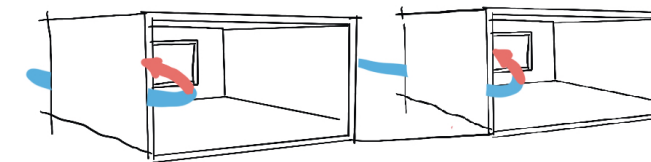
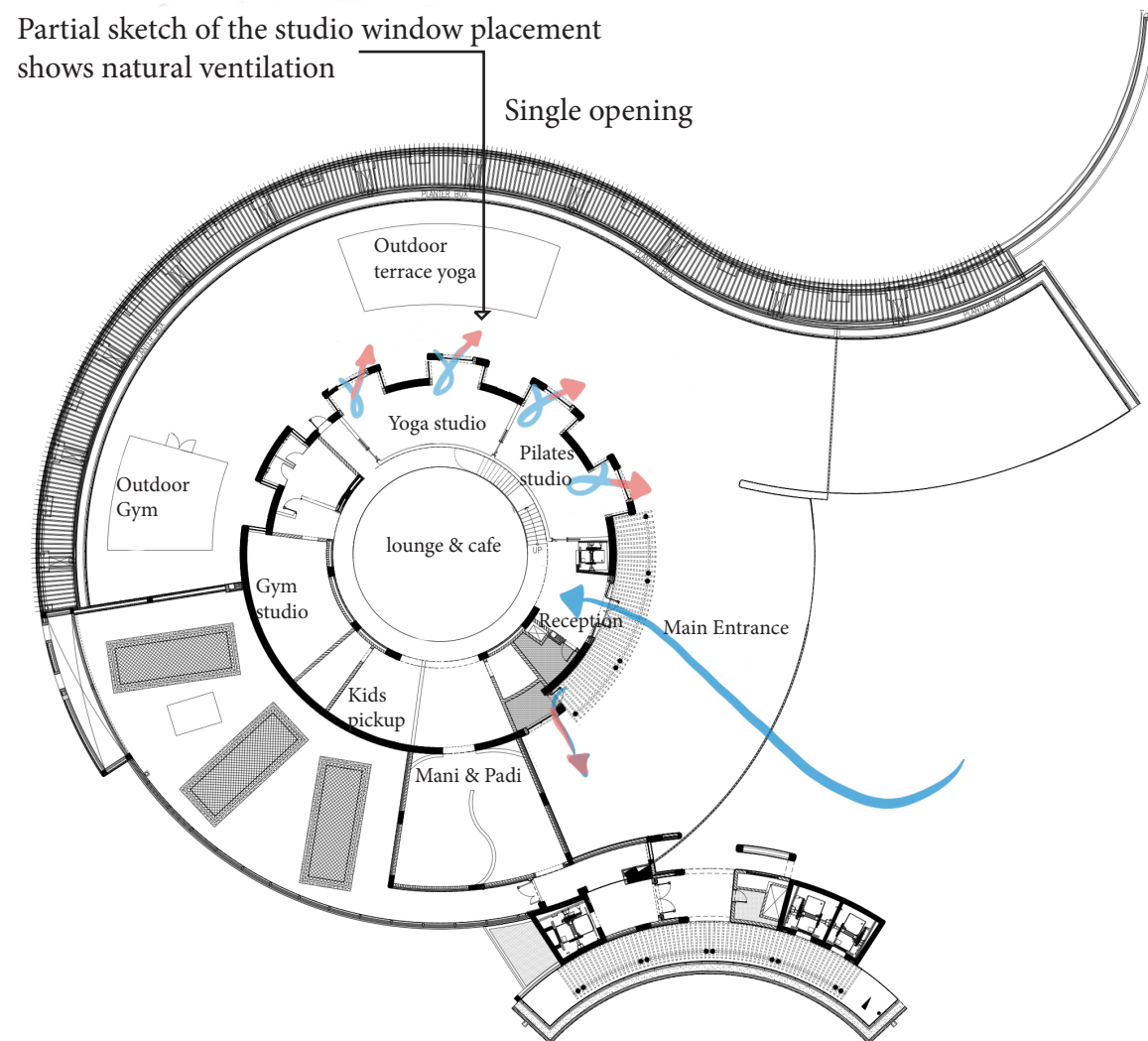


Figure 22: Land use diagram

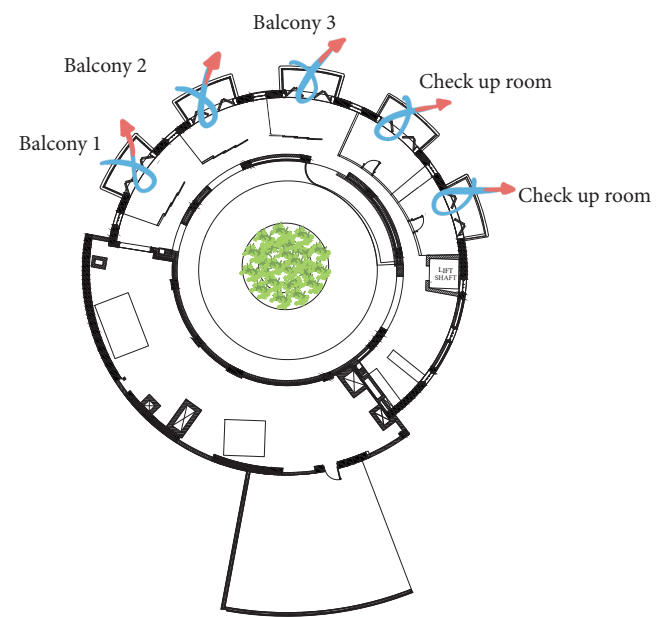


Partial sketch of the studio window placement shows natural ventilation



Second Floor Plan

Figure 23: Natural Ventilation diagram in Second Floor Plan



Mezzanine Floor Plan

Figure 24: Natural Ventilation diagram in Mezzanine Floor Plan

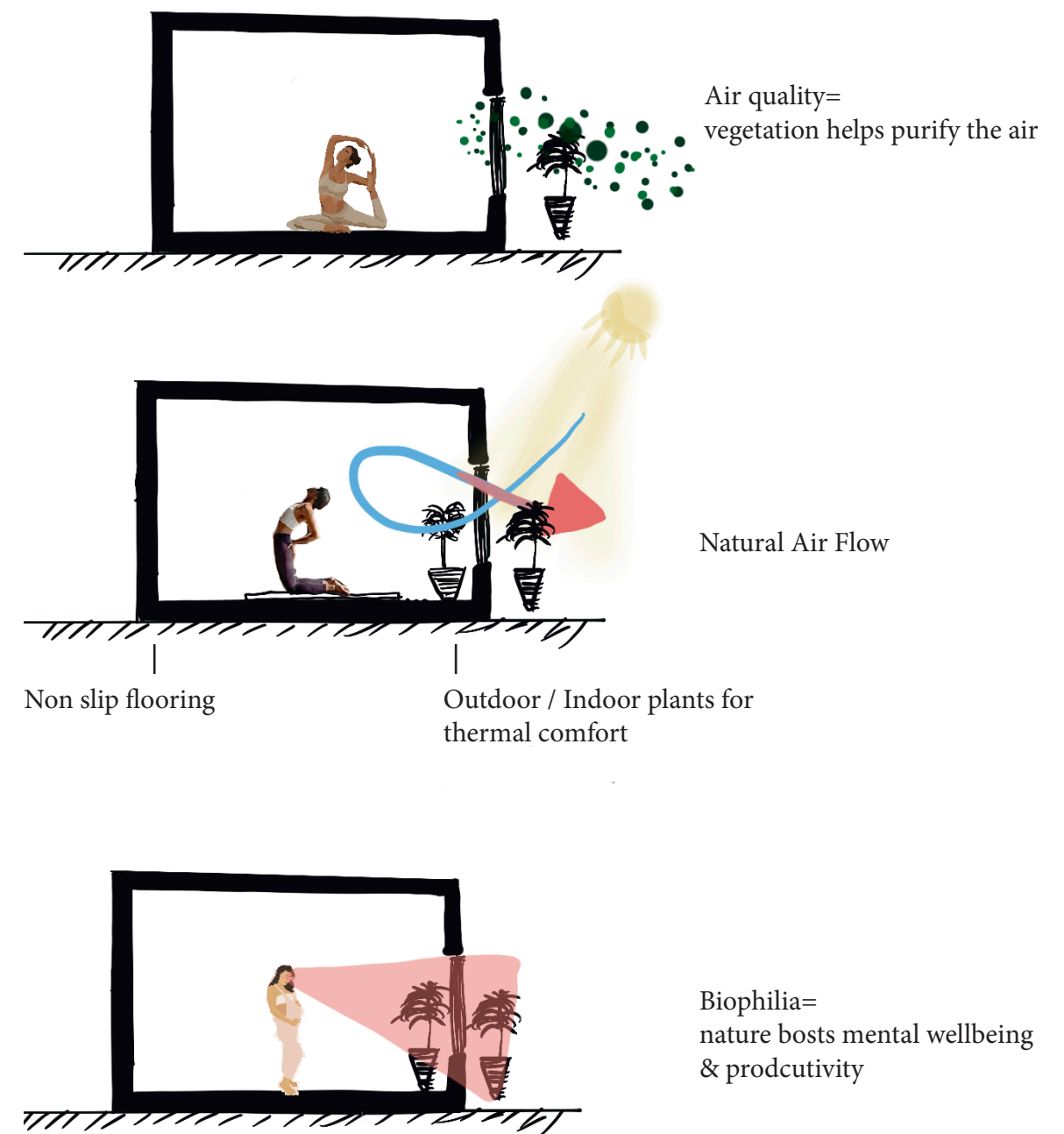


Figure 25: Shows how indoor air quality and thermal comfort are used together

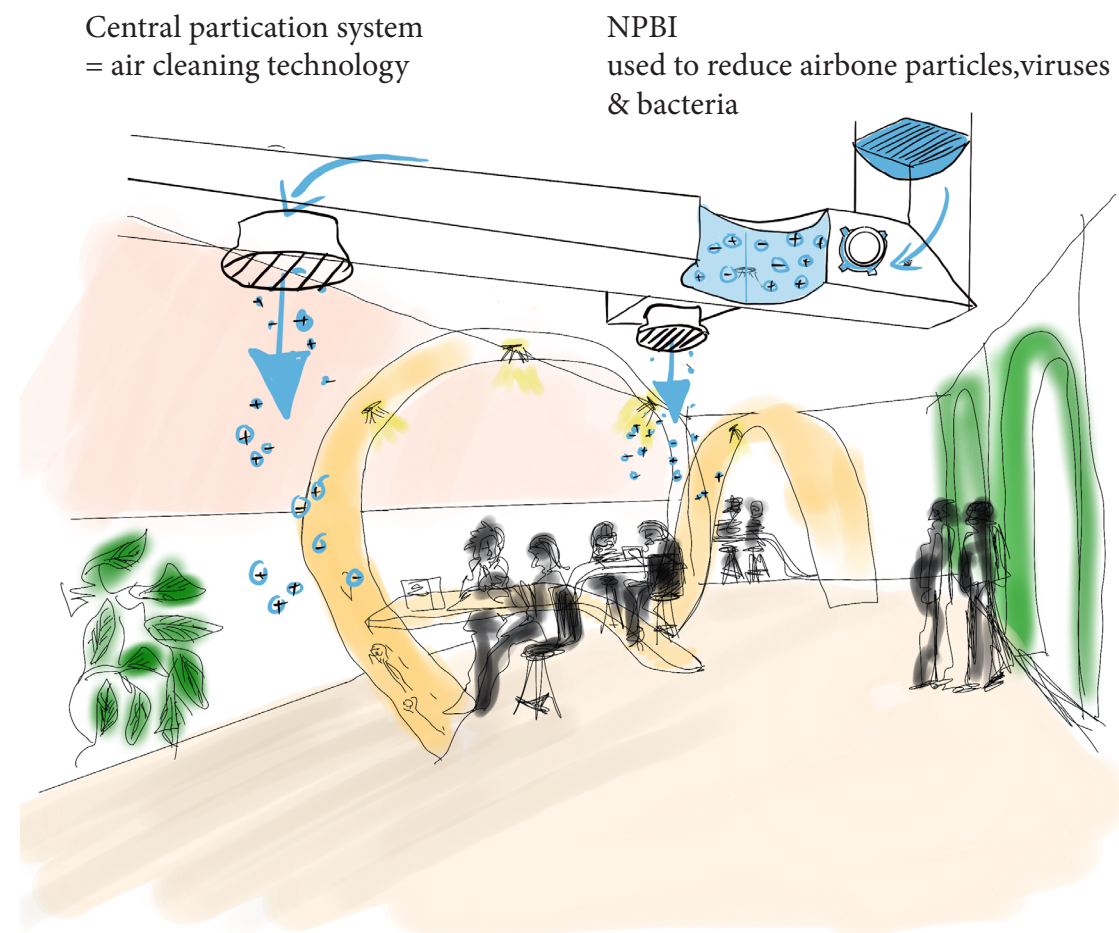


Figure 26: NPBI Purification System implemented in Manicure Area

Ergonomics |

Physical Ergonomics

- Choosing the right chair height is essential for maintaining a healthy posture while sitting.1 Designing furniture for pregnant women must have proper posture to prevent and promote alignment of the spine and pelvis to reduce the risk of musculoskeletal discomfort and even relieve some back pain.
- Seat Depth and Width: Ensuring seats have sufficient depth and width to accommodate the expectant mother's changing body dimensions. Hips and knees should be at a 90-degree angle and by sitting up with back straight. In order to prevent discomfort while sitting.

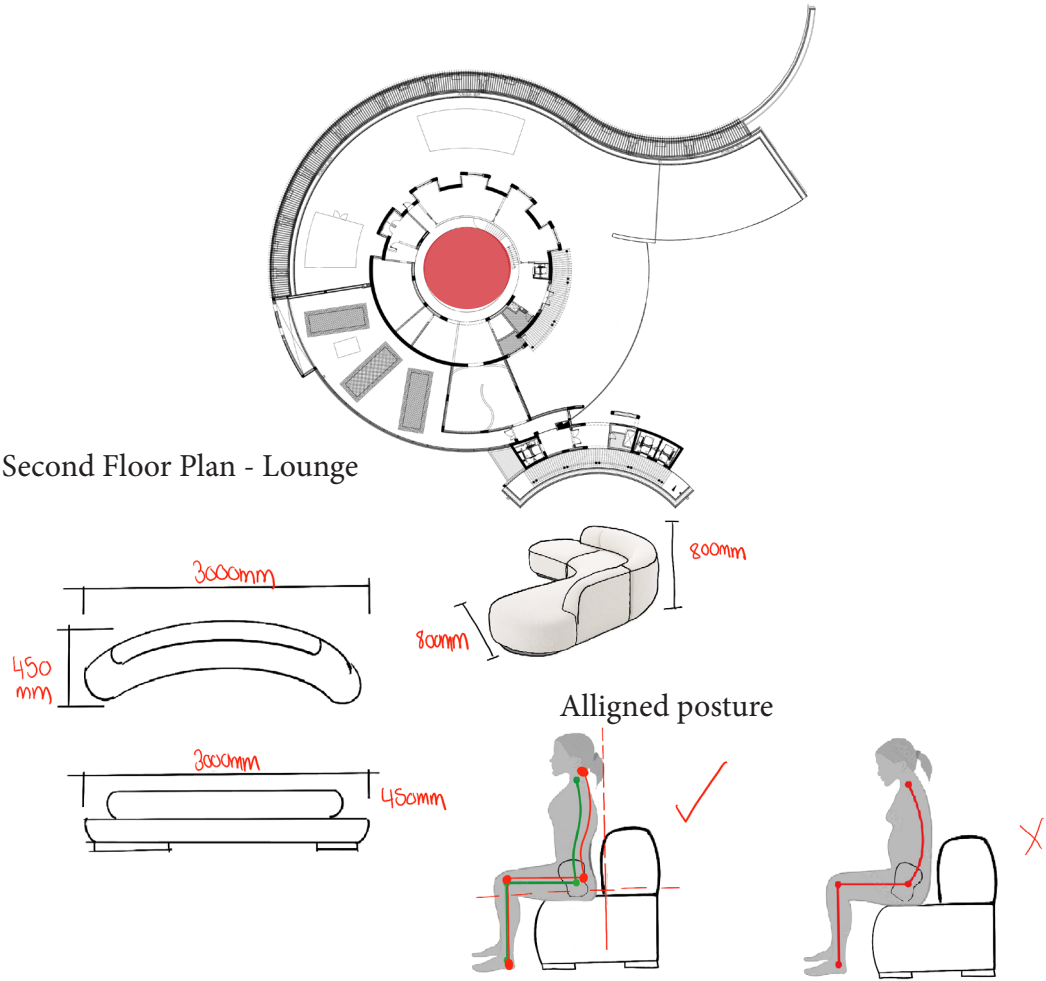


Figure 28: Lounge Furniture Dimensions

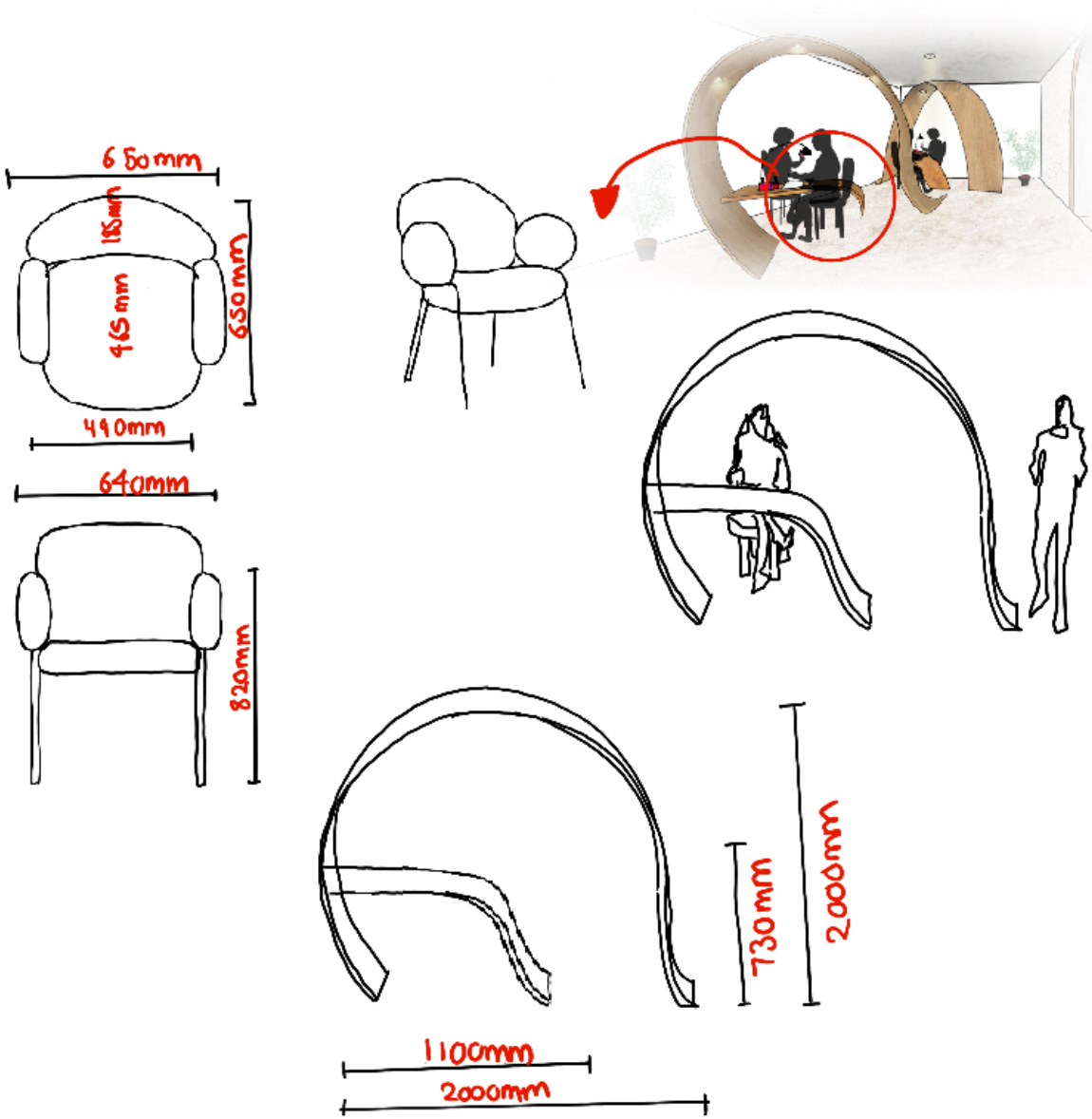
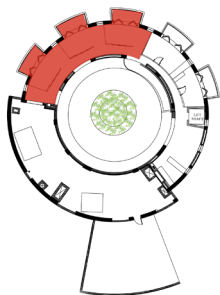


Figure 29: Mani Area Seating and Interactive wave element measurements

Provide furniture that has foot support, such as footrests to reduce pressure on the lower back and legs to avoid causing discomfort or restricting pregnant women movement. By providing footrests this would improve blood circulation and comfort the feet for expectant mothers. Also, elevate the feet and reduce pressure on their lower back.¹¹ This is particularly important for pregnant women who may experience swelling in the feet and ankles.



Quiet Retreat Area in the Mezzanine Floor



Mezzanine Floor Plan

Rest their foot on footrest



Customized sofas that come with customized footrests for pregnant women

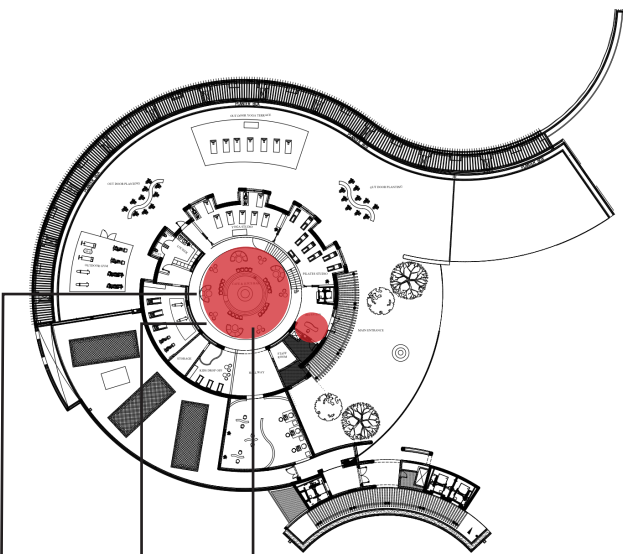
Customized sofas that come with customized footrests for pregnant women



Figure 30: Quiet Retreat Area footrest support

Safety Features

Incorporate safety features such as rounded edges, to prevent accidents and ensure the safety of expectant mothers.



Lounge sofa & cafe table
The lounge

The lounge has a circular sofa and individual circular chairs



Cafe bar has a circular shape

Reception Desk has a shape of a half curve

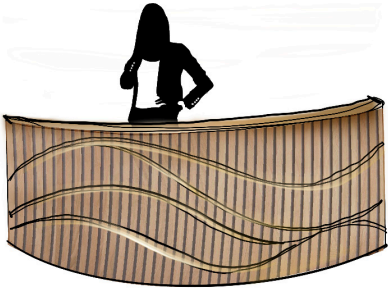


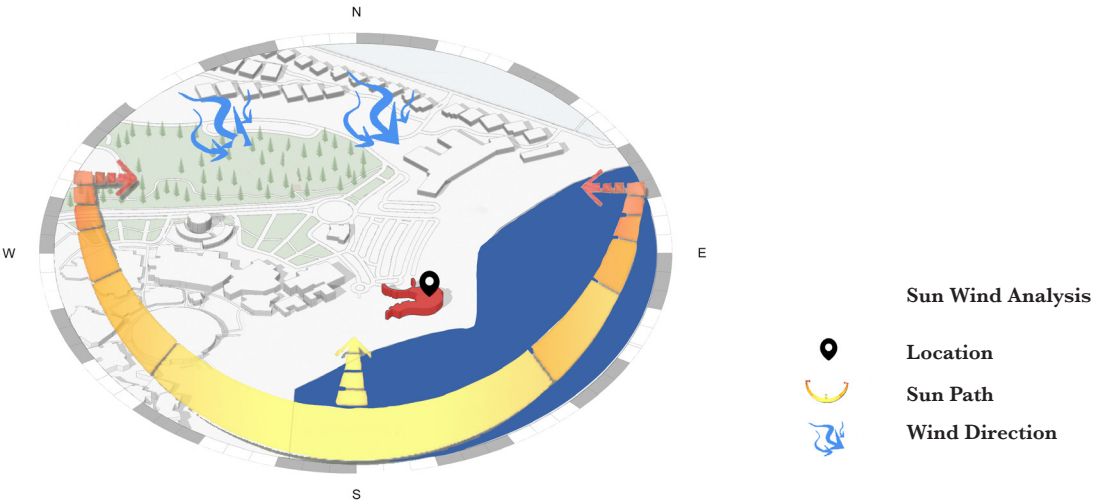
Figure 31: Floor Plan circle the curved elements

Lighting |

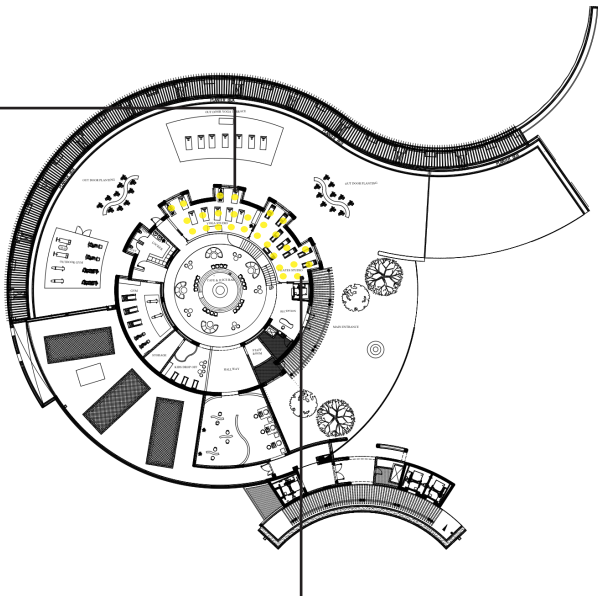
Natural light comes from the East and sets at the West. Good amount of sunlight is accessed through the building. The yoga studios have large windows where most of the natural light comes into the building. Incorporating natural light can provide physical & physiological benefits. Natural light has high attention levels and can increase productivity.¹³ Can positively affect the mood and overall well-being of pregnant women.

Lighting for a yoga class it's essential to create an environment that promotes relaxation and tranquility while also providing adequate visibility for the practice. A warm and soothing ambiance is typically preferred.

- Lighting with a color temperature in the range of 2700K to 3000K. This range produces a warm, inviting glow that can help create a calming atmosphere conducive to relaxation and mindfulness.
- Incorporating dimmable lighting fixtures allow for flexibility in tailoring the lighting to the specific needs and preferences of the expectant mothers. During different segments of the class, such as relaxation poses or more active sequences, the lighting intensity can be adjusted accordingly.



Yoga studio
Dimmable light
Natural light 2800k - 4000k



Spot Light embeded into the ceiling
3000K
LED ambient ligh for light fixture 3000k



Figure 32: Sun Analysis shows the sun movement and how much light is at its peak during the day

Cognitive Ergonomics

Incorporate organizational features such as storage compartments, labels, or color-coding systems to help pregnant women easily locate and access items, reducing cognitive effort and frustration associated with searching for belongings in studios.

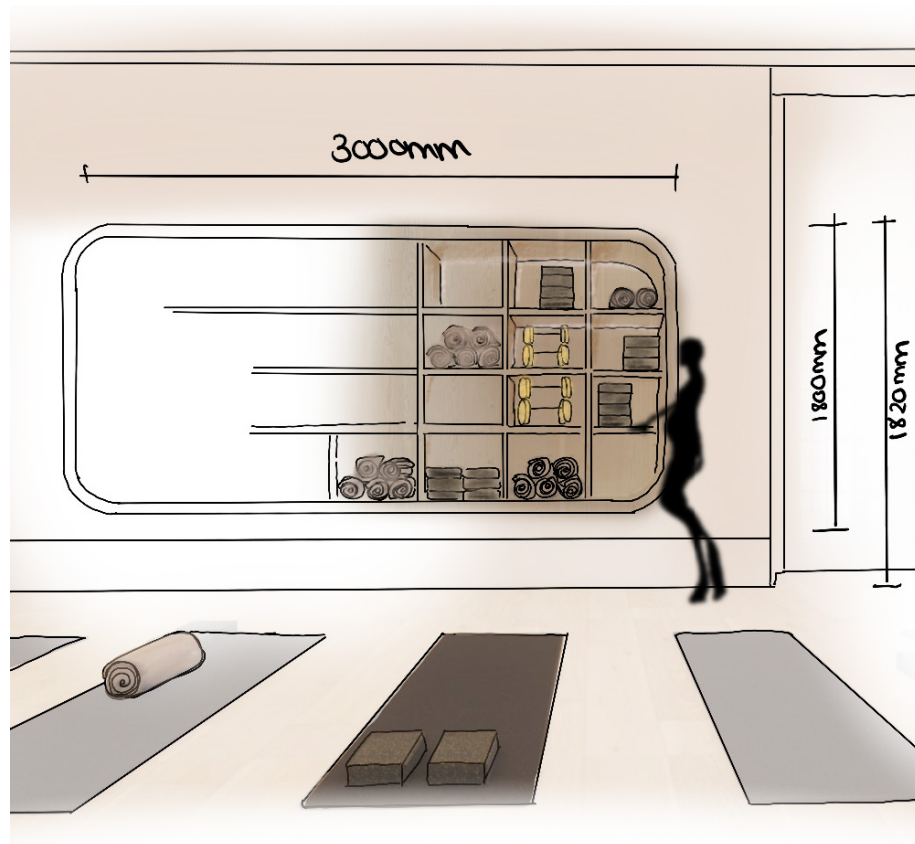


Figure 33: shows the storage corner in the yoga studio - color coded equipments

Organizational Ergonomics

Personal safe space: Ensure the personal space of expectant mothers is equipped to promote their physical comfort and safety in the workplace.^{1,2} Most people value their personal space and feel discomfort, anger, or anxiety when their personal space is encroached. Having a minimal distance between each mate around 850mm to 950mm to avoid discomfort or injury. Maintaining personal space helps to create a sense of safety and comfort, allowing individuals to move and breathe freely without feeling crowded or inhibited. This is especially relevant in certain poses where a wider range of motion is required.



Figure 34: Personal Space in studio workshop class

Educational Programs about health and wellness

Offering comprehensive health and wellness programs tailored to the needs of expectant mothers. Including access to prenatal care resources, nutrition counseling, stress management techniques, and exercise programs. To foster a supportive and inclusive work environment.



Figure 35: Personal Space in studio workshop class

CeilingLED light bulb

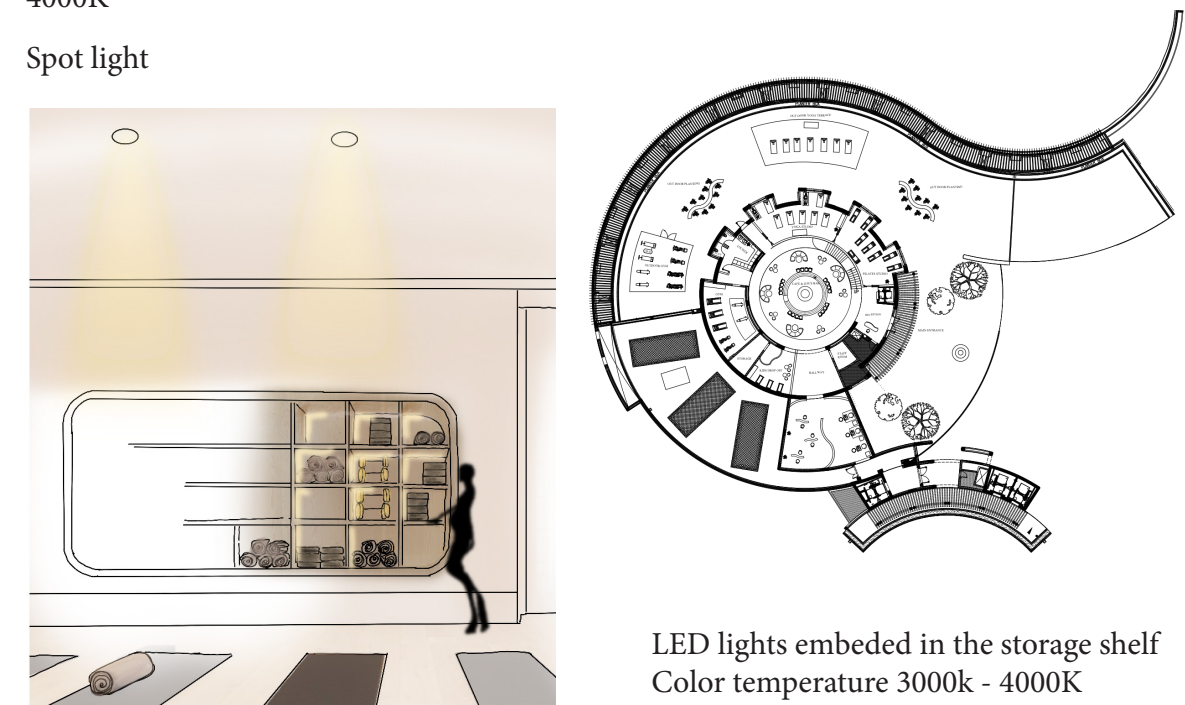
emits lights with a color temperature of 4000k considered as a cool white temperature. This type of lighting is often used in workspaces or areas where a higher level of visibility is desired.

LED Strip lights

Provides a bright and energetic illumination suitable for tasks such as organization and sorting items within the wall organizer. The embedded lights likely contribute to enhancing visibility within the compartments or shelves of the wall organizer, making it easier to locate and access items stored within.

Color - Natural white
4000K

Spot light



LED lights embedded in the storage shelf
Color temperature 3000k - 4000K

Figure 36: Lighting used in wall organizer

Building Codes |

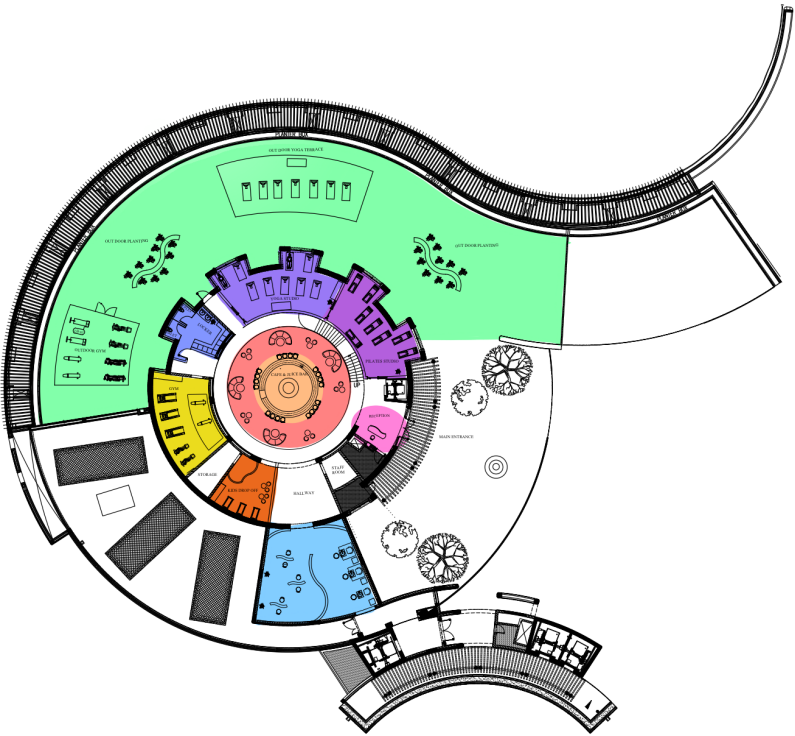
Ezdehar is a commercial building classified as business. Based on the occupancy load provided:
Second Floor: 51 people
Mezzanine Floor: 20 people
Total Occupancy Load:

Second Floor (51 people) + Mezzanine Floor (20 people) = 71 people
Therefore, the total occupancy load in the building is 71 people

Some of the relevant codes to take into consideration is :

- **Occupancy Limits:** The occupancy load for each floor, including the second floor and mezzanine floor, must comply with local building codes to ensure the safety of occupants, including pregnant women
- **Ventilation Codes:** Maintaining indoor air quality is crucial, especially for pregnant women's health and comfort. Compliance with ventilation codes ensures that the building's ventilation system effectively circulates fresh air and removes pollutants, providing a healthy indoor environment for occupants.
- **Fire Safety Regulations:** Installing adequate fire detection and suppression systems and means of egress is essential to ensure the safety of occupants in case of a fire.
- **Compliance with fire safety regulations** helps minimize the risk of fire-related injuries or fatalities and facilitates safe evacuation, including for pregnant women who may require additional assistance.

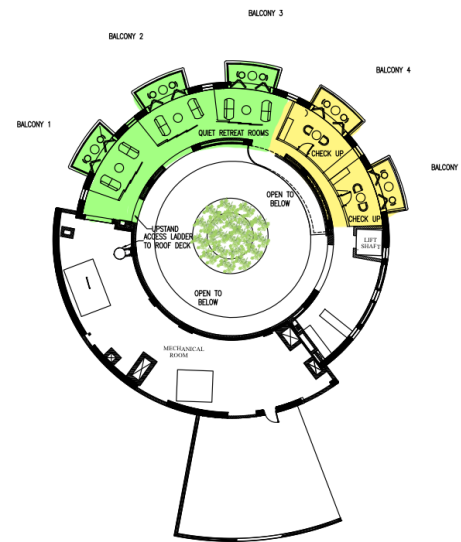
- Second Floor Occupancy
- Lounge Occupancy Load :102
 - Reception Occupancy Load :1
 - Coffee /Juice Bar Occupancy Load :5
 - Manicure Room Occupancy Load :13
 - Kids play Area :10
 - Changing Room Occupancy Load :4
 - Outdoor terrace Occupancy Load :235
 - Studio 1 Occupancy Load :40
 - Studio 2 Occupancy Load :30
 - Gym Area :10



Second Floor plan

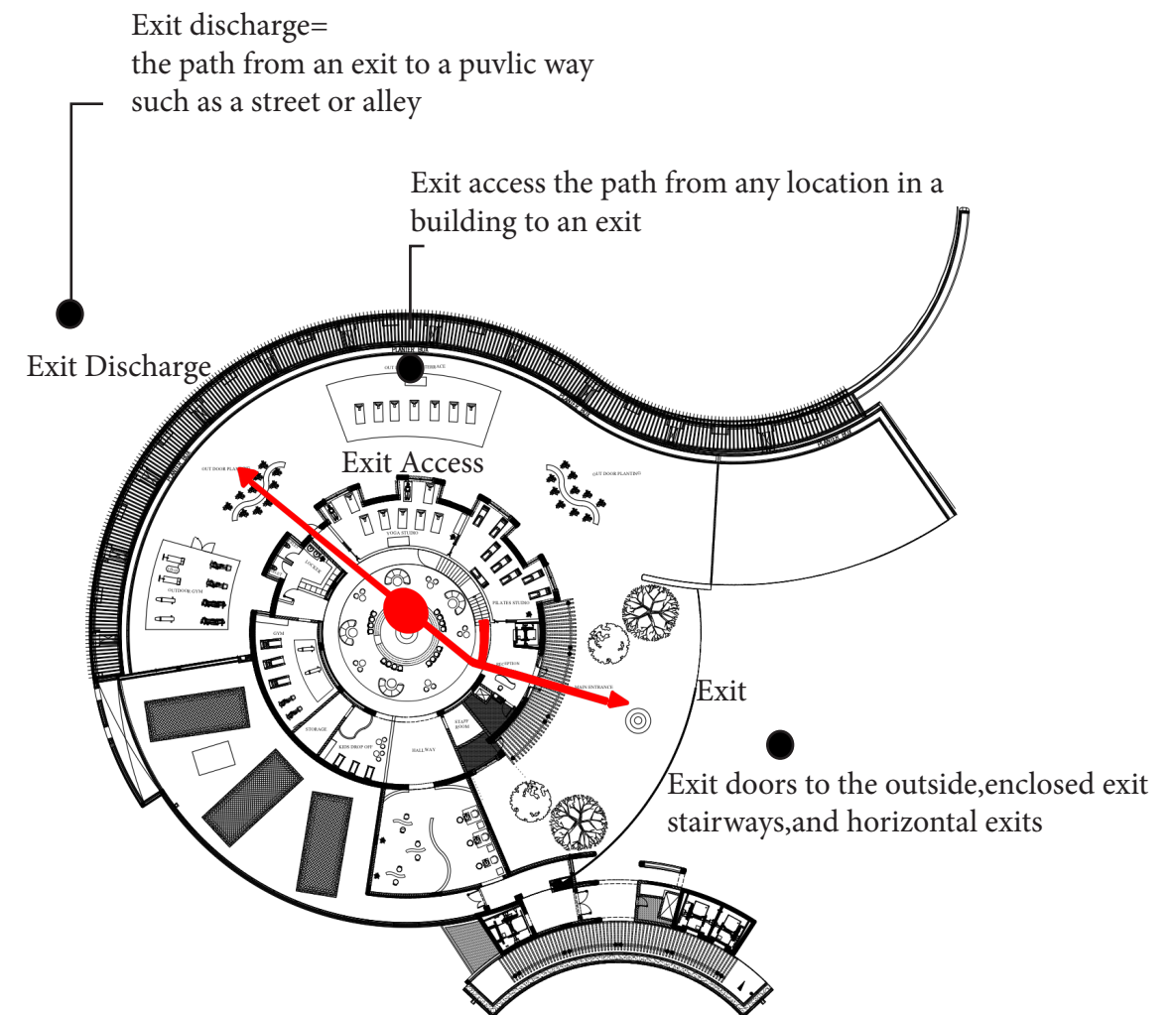
Figure 37: Second Floor Color Coding spaces & Occupancy Load

Mezzanine Floor
 Quiet Retreat Area
 Occupancy Load : 100
 Checkup Rooms
 Occupancy Load :40



Mezzanine Floor plan

Figure 38: Mezzanine Floor Color Coding spaces & Occupancy Load



- Ensuring that exit routes are wide, clear of obstacles and well marked with visible signs to follow easily. Emergency doors should be easy to open, and stairs should have hand-rails and non-slip surfaces.
- Also having clear evacuation procedures considering the needs of pregnant women.

Figure 39: Mean of Egress - Second Floor

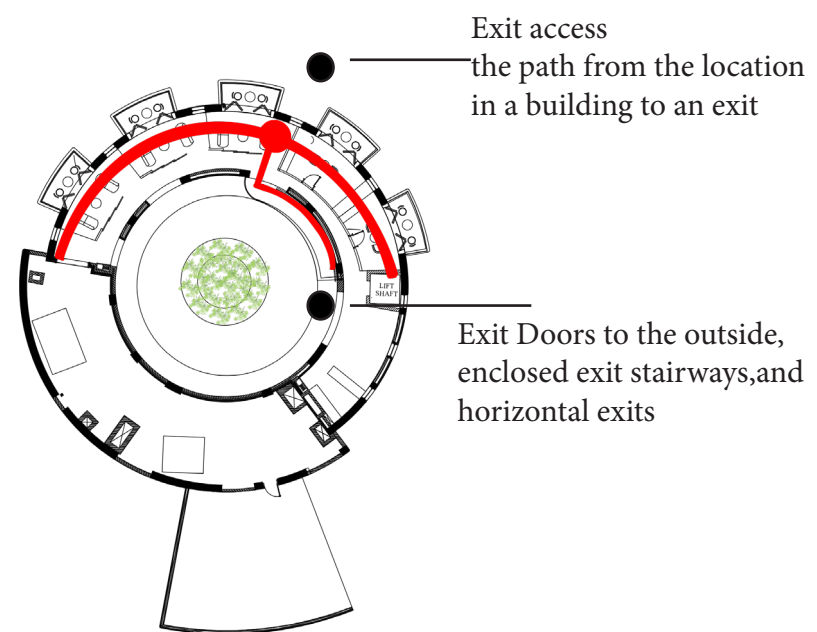


Figure 40: Mean of Egress - Mezzanine Floor

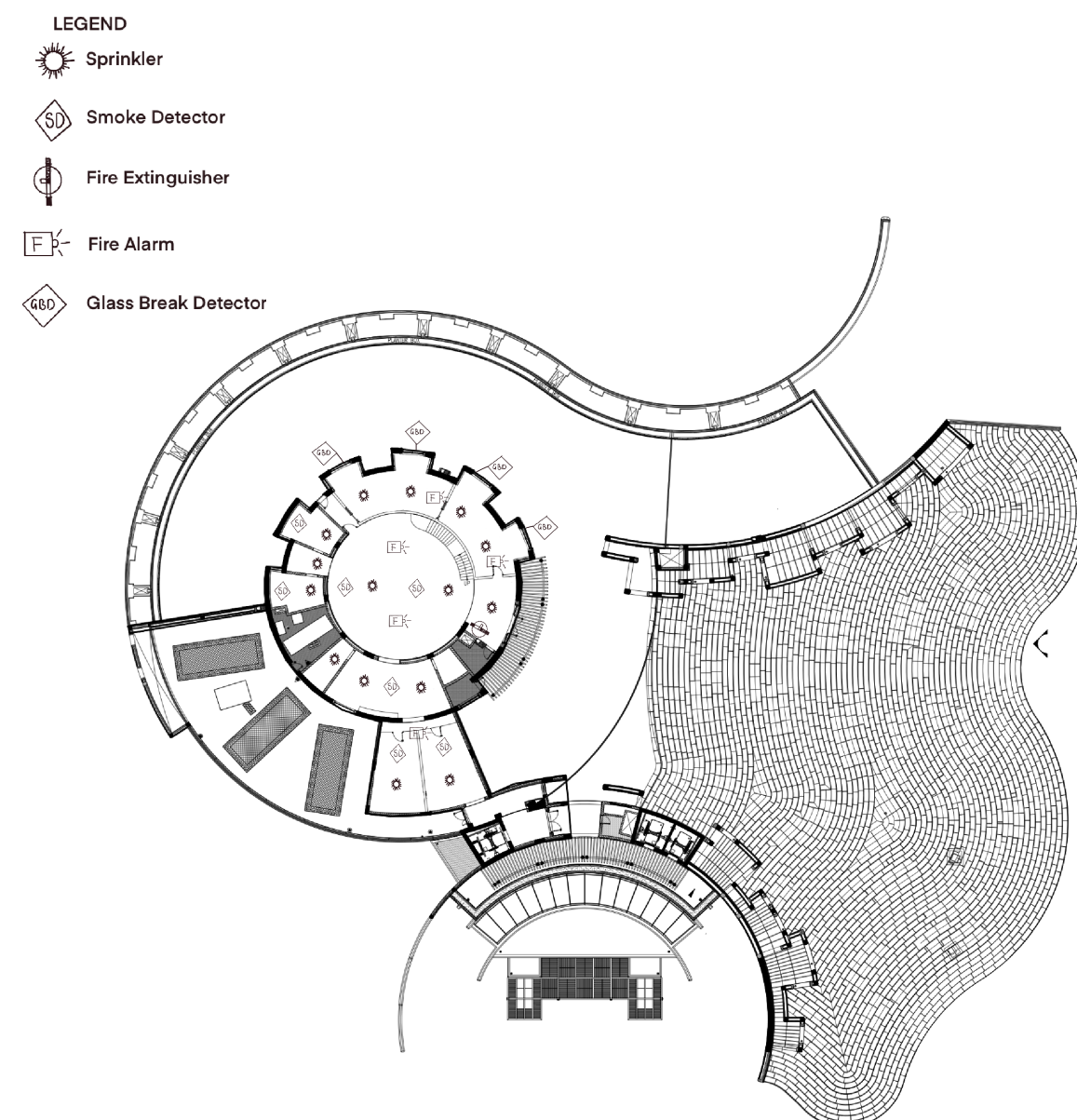


Figure 41: Fire Safety Plan - Second Floor

Fire safety measures is paramount to ensure their safety and well-being.

- Fire Sprinklers: Fire sprinkler systems are crucial for quickly suppressing fires and limiting their spread
- Smoke Detectors: Essential for early fire detection. Alert occupants to the presence of smoke, allowing them to evacuate the premises promptly. Smoke detectors are placed in the hallways, lounge and in studio rooms and near the cafe and juice bar area.

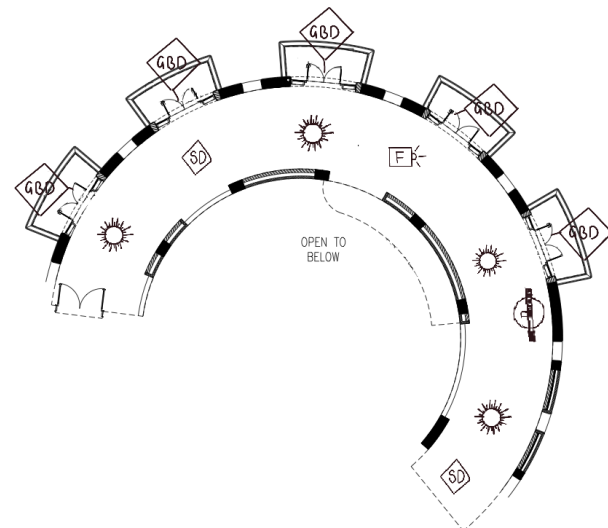
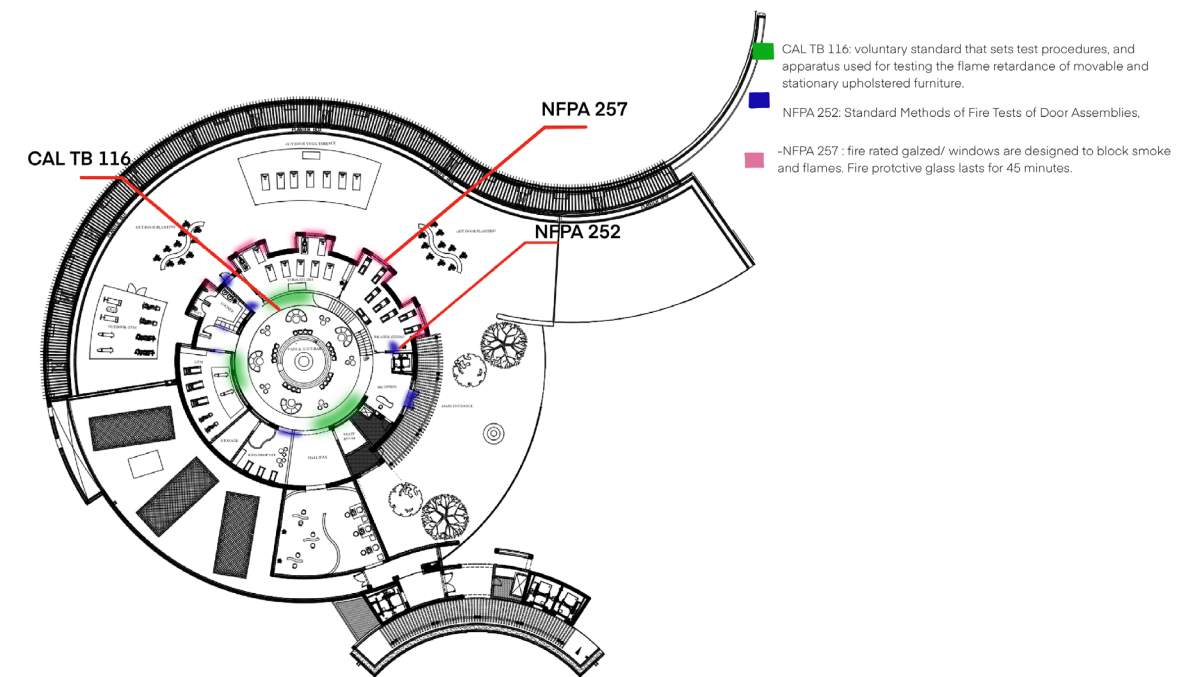
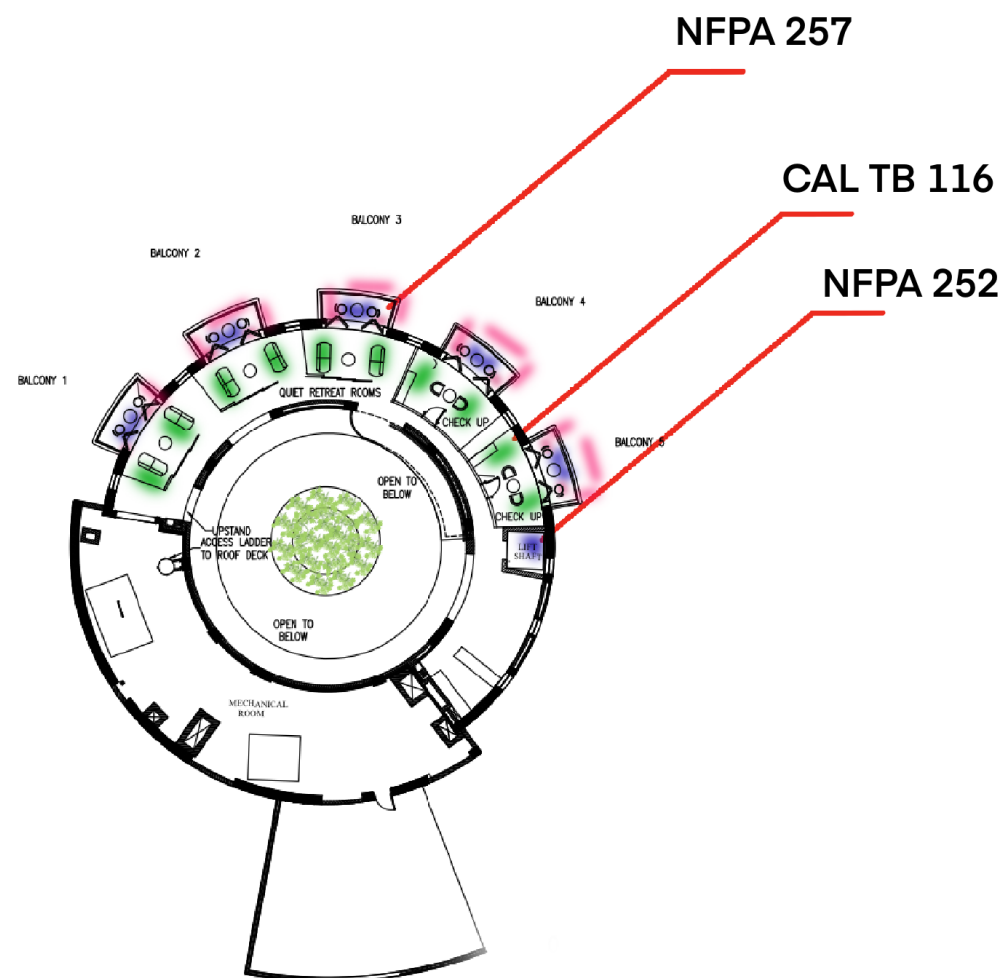


Figure 42: Fire Safety Plan - Mezzanine Floor



- Testing, and materials standards are crucial considerations when designing a space for pregnant women:
- Relevant standards may include those related to flooring materials, furniture safety, and environmental quality. (CALL TB 116/ NFPA 252/NFPA 257)1
- Selecting carefully materials and finishes that meet applicable codes for durability, fire resistance.

Figure 43: Testing and materials standards - Second Floor Plan



- CAL TB 116: voluntary standard that sets test procedures, and apparatus used for testing the flame retardance of movable and stationary upholstered furniture.
- NFPA 252: Standard Methods of Fire Tests of Door Assemblies.
- -NFPA 257 : fire rated galzed/ windows are designed to block smoke and flames. Fire protective glass lasts for 45 minutes.

Figure 44: Testing and materials standards - Mezzanine Floor Plan

Waste Management

Qatar produces more than 2.5 million tons of municipal solid waste annually, corresponding to a daily generation rate per capita of about 2.5 kg.¹⁴ The need for sustainable waste management solutions is paramount. Implementing initiatives such as integrating a greywater system and incorporating waste utilization and composting practices is crucial to address in the building.

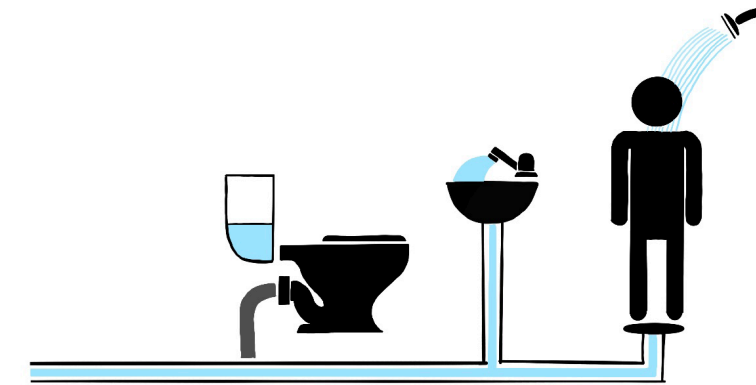
Greywater Sources: Waste water from showers and wash hand basins is being discharged directly to the sewers and this is wasteful.¹⁵ Waste water from showers and wash hand basins is collected and treated. The recycled greywater is then used to flush toilets and this reduces waste. By using greywater the demand for freshwater is reduced, conserving valuable resources and reducing strain on municipal water supplies. Greywater is relatively clean and can be reused for non-potable purposes.

Greywater can be used for : Landscape irrigation, outdoor cleaning, toilet flushing

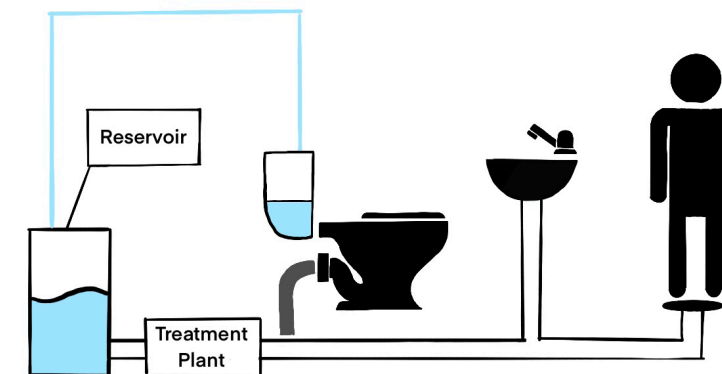
Greywater Treatment: Greywater can be treated through various methods to remove impurities and pathogens, making it safe for reuse.

Treatment options: Filtration, disinfection (e.g., using UV light or chlorine), and biological processes (e.g., constructed wetlands or aerobic treatment systems).

Grey Water Process in the building:



Waste water from showers and wash hand basins is being discharged directly to the sewers. This is wasteful.



Waste water from showers and wash hand basins is collected and treated. The recycled greywater is then used to flush toilets. This reduces waste.

Figure 45: How Gray water is used in the building or Plan

My design includes a cafe and juice bar, particularly food waste, will be generated.

Composting

Setting up a composting system to recycle food waste from the café and juice bar. Composting can produce nutrient-rich soil that can be used for landscaping or gardening around the building. Waste, such as food, food scraps and yard trimmings. By composting food scraps and yard trimmings and using the compost produced, it can return those nutrients and carbon to the soil to improve soil quality, support plant growth.¹⁶

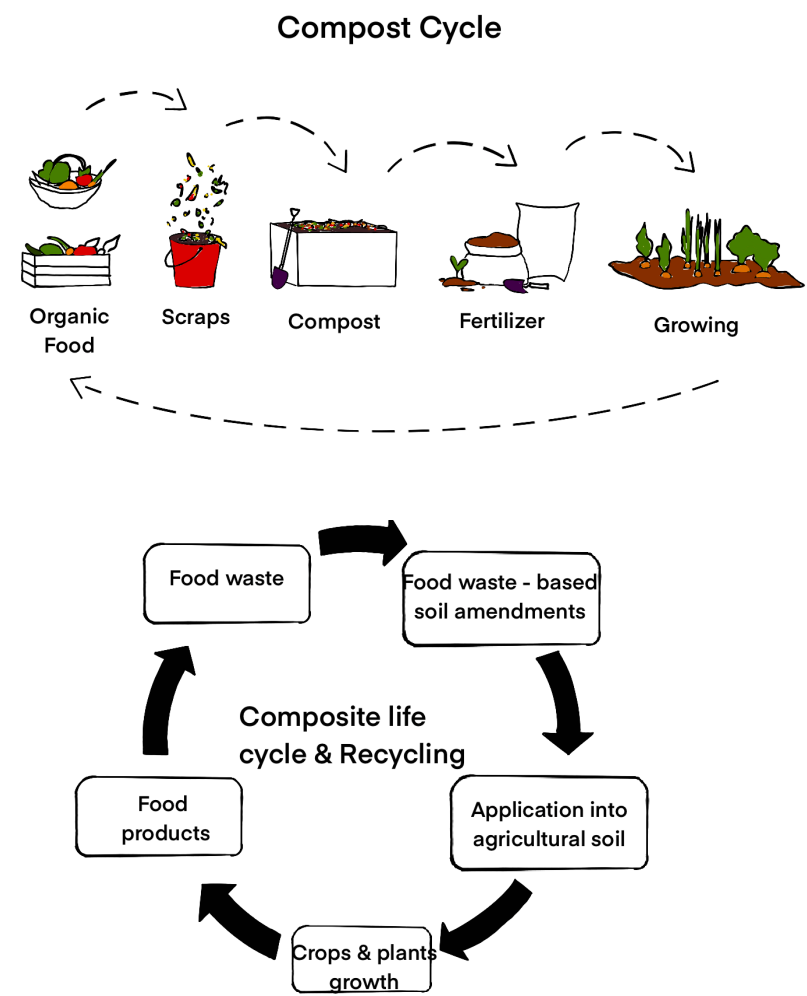


Figure 46: Composting life cycle

Waste Utilization:

Implementing recycling bins and effective waste management practices is crucial for promoting sustainability and reducing environmental impact. Other waste streams generated within the building can be beneficially utilized through recycling. Recycling programs can divert materials such as paper, plastics, and glass from landfill disposal, conserving resources and reducing pollution. This helps raise awareness and encourages occupants to properly dispose of recycled materials and reduces contamination of waste streams.



Figure 45: Recycling bins outdoor for a better environment

Organize planting programs:

Occupants can take part in planting to share more awareness to have a better environment for everyone. Outdoor gardening and planting is an opportunity to educate occupants about the environmental benefits of gardening, composting kitchen scraps, and reducing food waste.

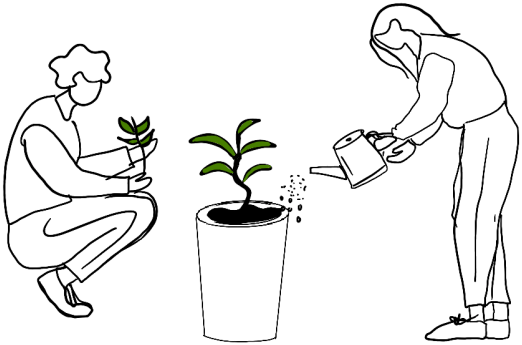


Figure 47: Planting activities for occupants

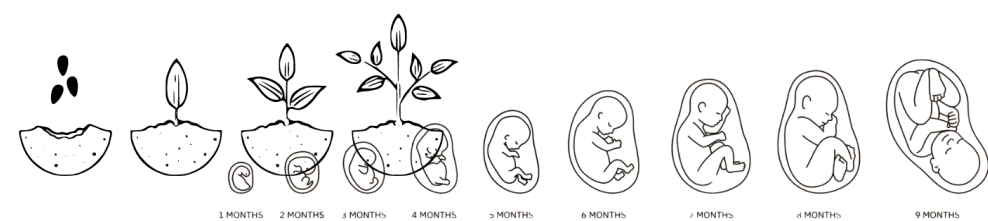
Conceptual Phase





Ezdehar

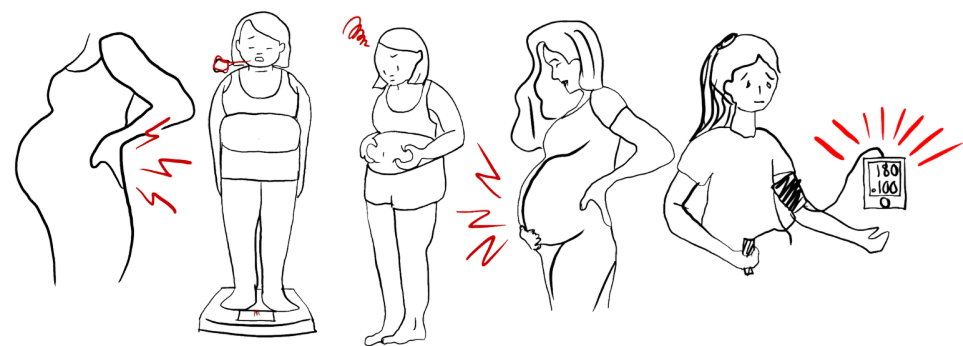
The name “Ezdehar”, means a a blossoming and flourishing flower, symbolizes & reflects the essence of pregnant woman’s journey. as she nurtures her body and health maintain a healthy lifestyle during this transformative journey, undergoes a similar process just as a flower blooms and thrives when nurtured.



Addressing the Issue

Lack of physical activity among pregnant women which leads them to behave a sedentary lifestyle.

Sitting & lying down with minimal PA = various health issues for mother and fetus.
Sedentary behaviour effect on mental wellbeing= depression & anxiety Weight gain, gestational diabetes, postpartum depression & high blood and complicated delivery.



Cultural Factors

A stigma associated with pregnant women engaging in physical activities. Many hold traditional beliefs pregnant women should prioritize rest and minimize physical exertion to ensure a smooth and healthy pregnancy.

Vulnerable by their very nature: their pregnancy illustrates their fertility, which attract jealousy and the evil eye. Women in Qatar avoid physical activity during pregnancy due to the concerns from the public perception regarding their physical appearance and health.



Tacke the Issue:

Educational Awarness Workshops

Incorporating activities

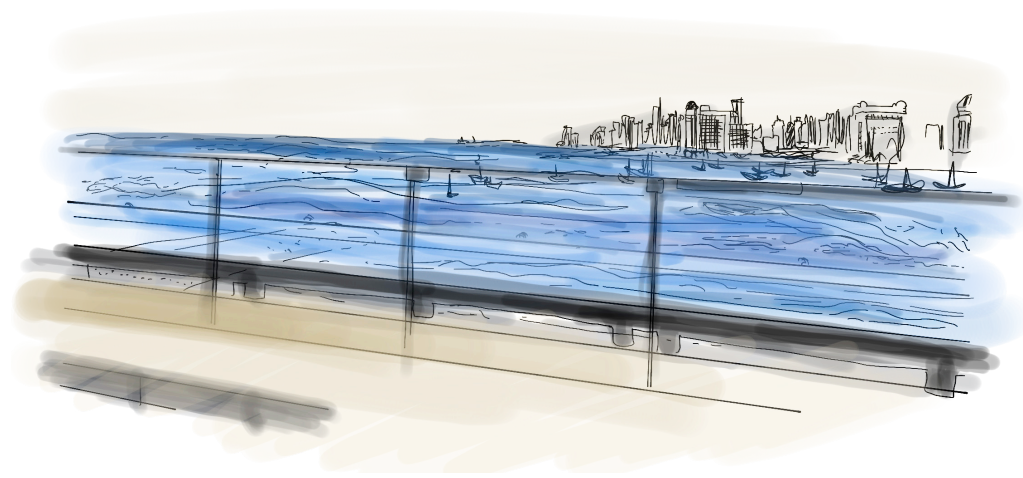
Prenatal Exercise Classes
Yoga , Stretching, Pilates

Wellness - Retreat Workshops

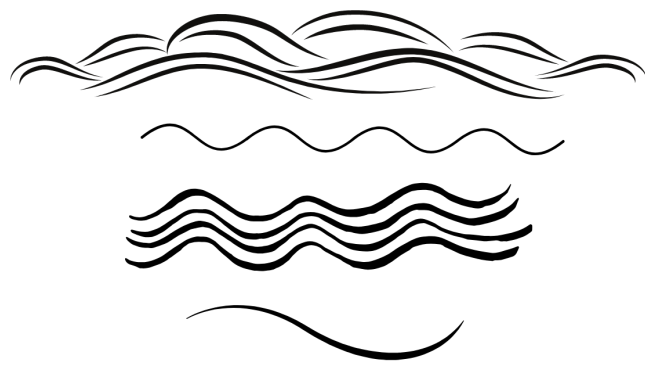


Design Cocept

Inspired by the undulating waves of the Doha sea, which symbolizes calmness, power and transformation.



Form



Pattern



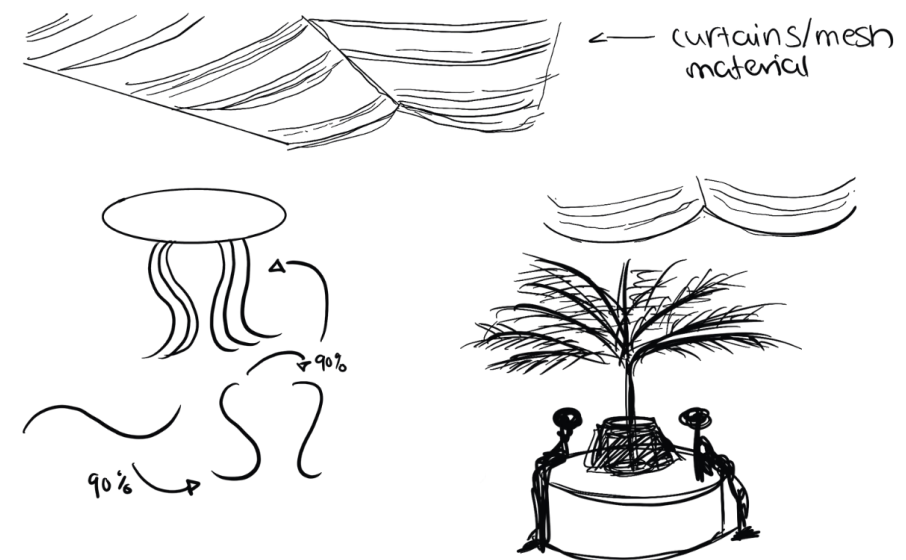
Oraganic

Layers

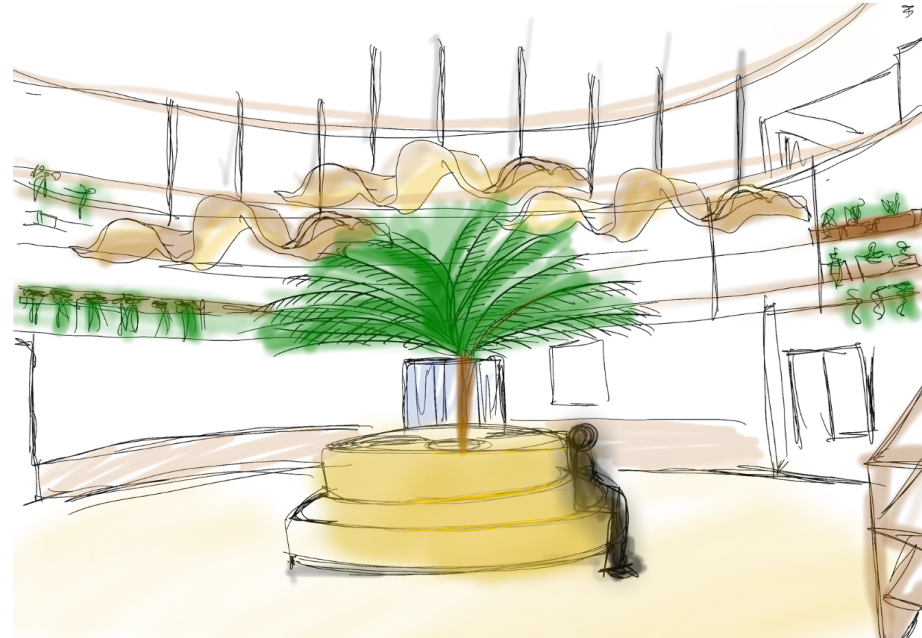
Pattern

Design Sketches

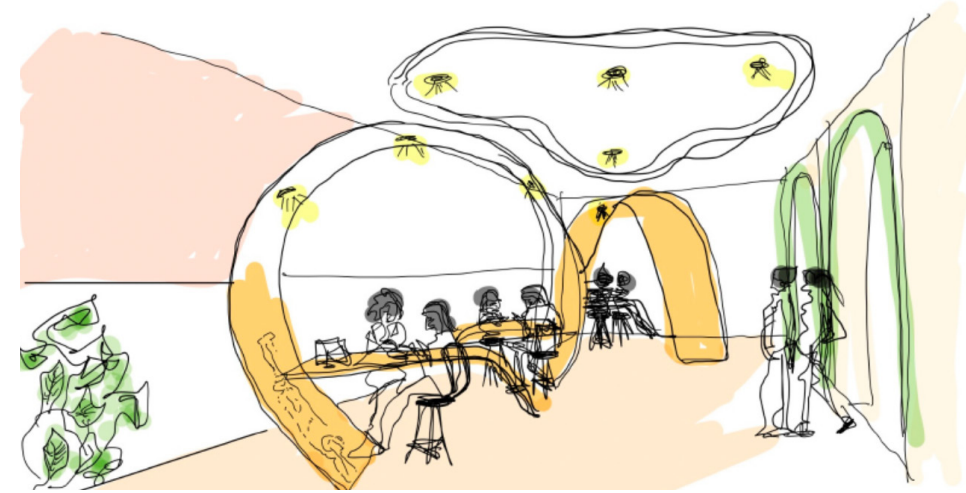
Implementing wave form in furniture



Lounge

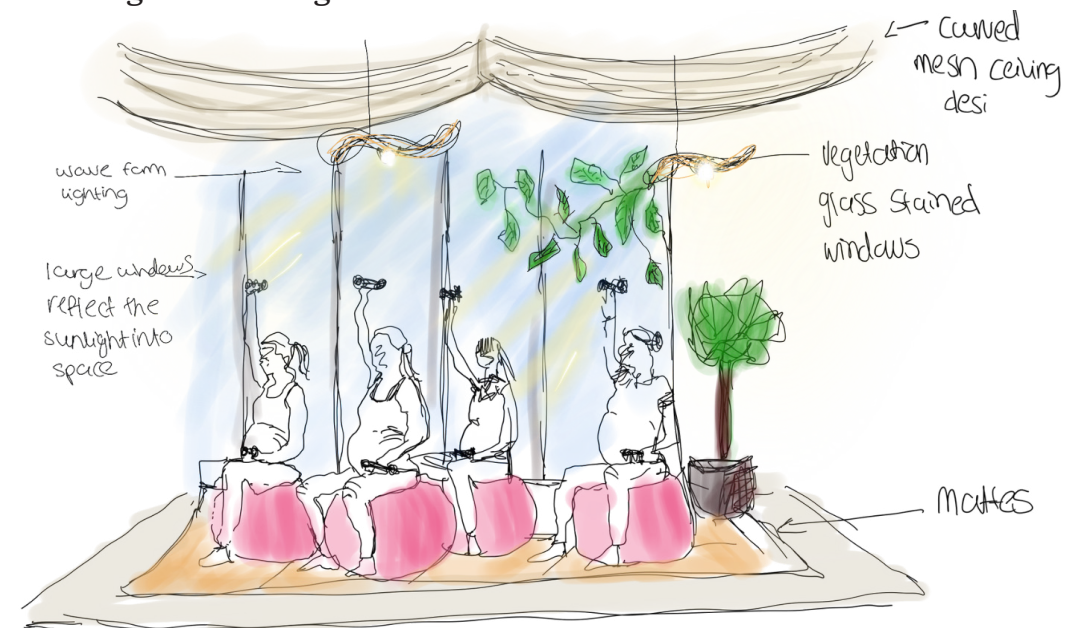


Mani & Pedi Area



Interactive Design Element - Manicure - Taken from the wave pattern implemented into furniture

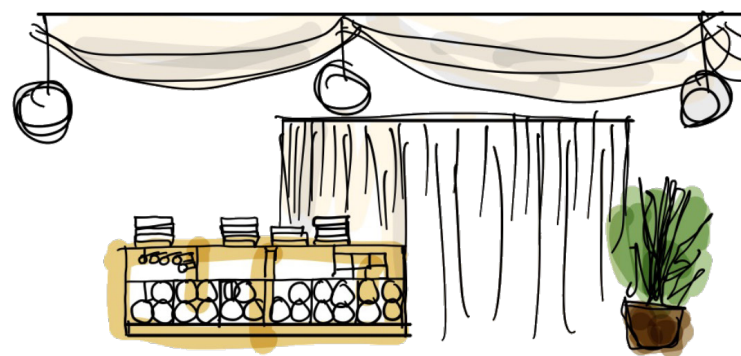
Exercising + Breathing Class



Yoga Studio



Equipment Storage

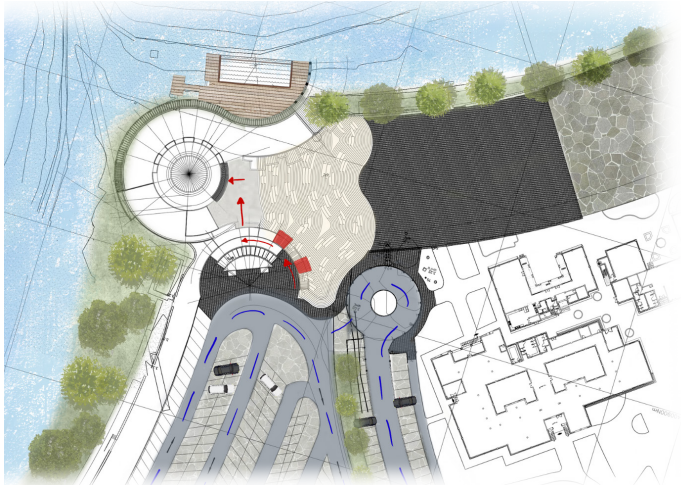


Schematic Phase

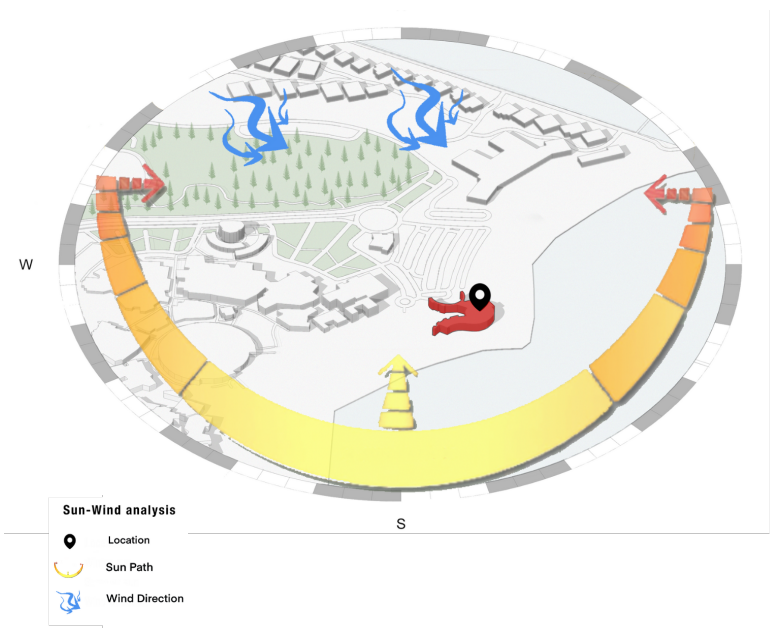




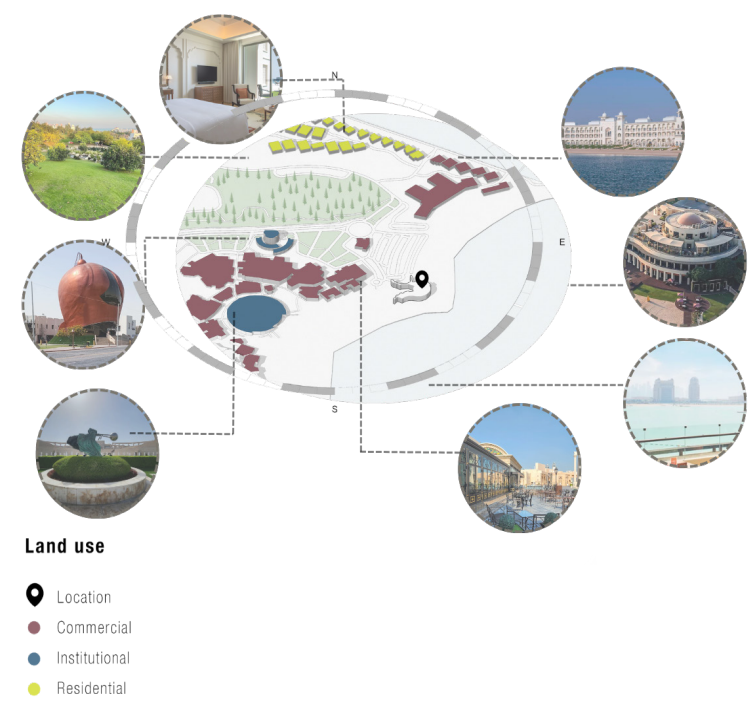
Site Plan



Site Analysis



Land use

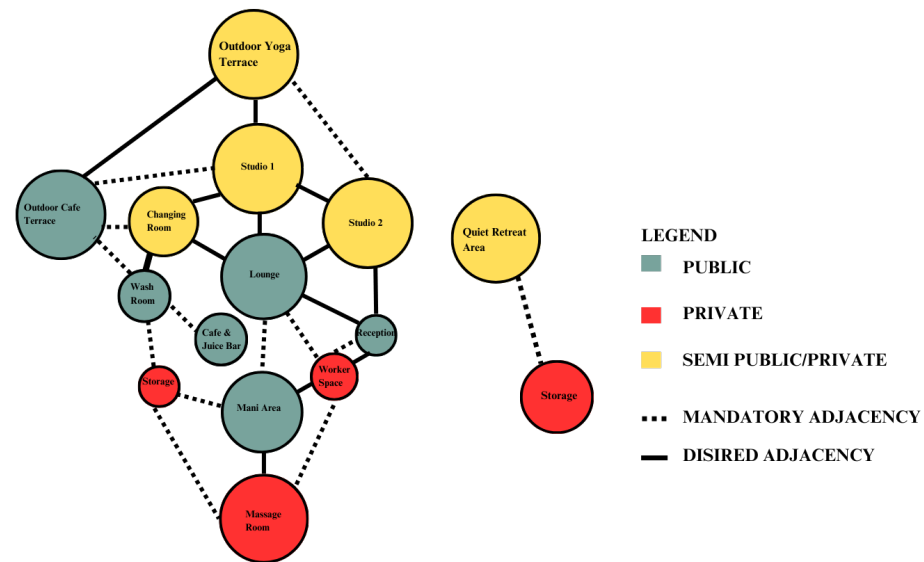


Design Program
Adjacency Matrix

Reception	●
Lounge	●
Worker Space	●
Studio Classes	●
Cafe and Juice Bar	●
Manicure Area	●
Storage Room	●
Changing Room	●
Washroom	●
Quiet - Retreat Area	●

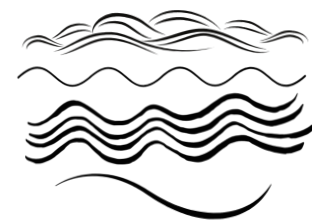
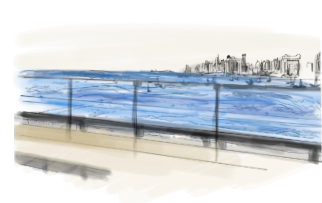
LEGEND
Primary Adjacency
Secondary Adjacency
Undesired Adjacency

Bubble Diagram

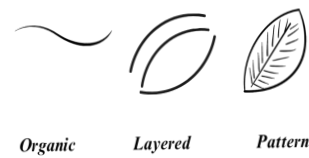


Design Concept

Inspired by the undulating waves of the Doha sea, which symbolizes calmness, power and transformation.

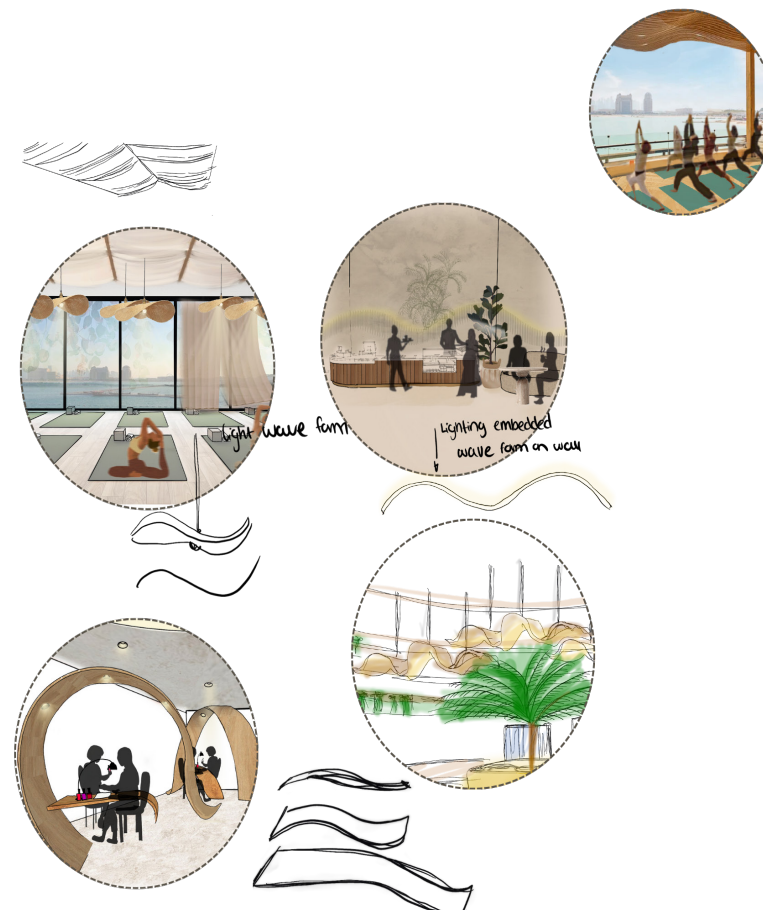


Forum



Pattern

Design Approach



Floor Plan



Public Spaces

- 1.Reception
- 2.Lounge
- 3.Cafe and Juice Bar
- 4.Wash Room
- 5.Outdoor Terrace
- 6.Mani Area



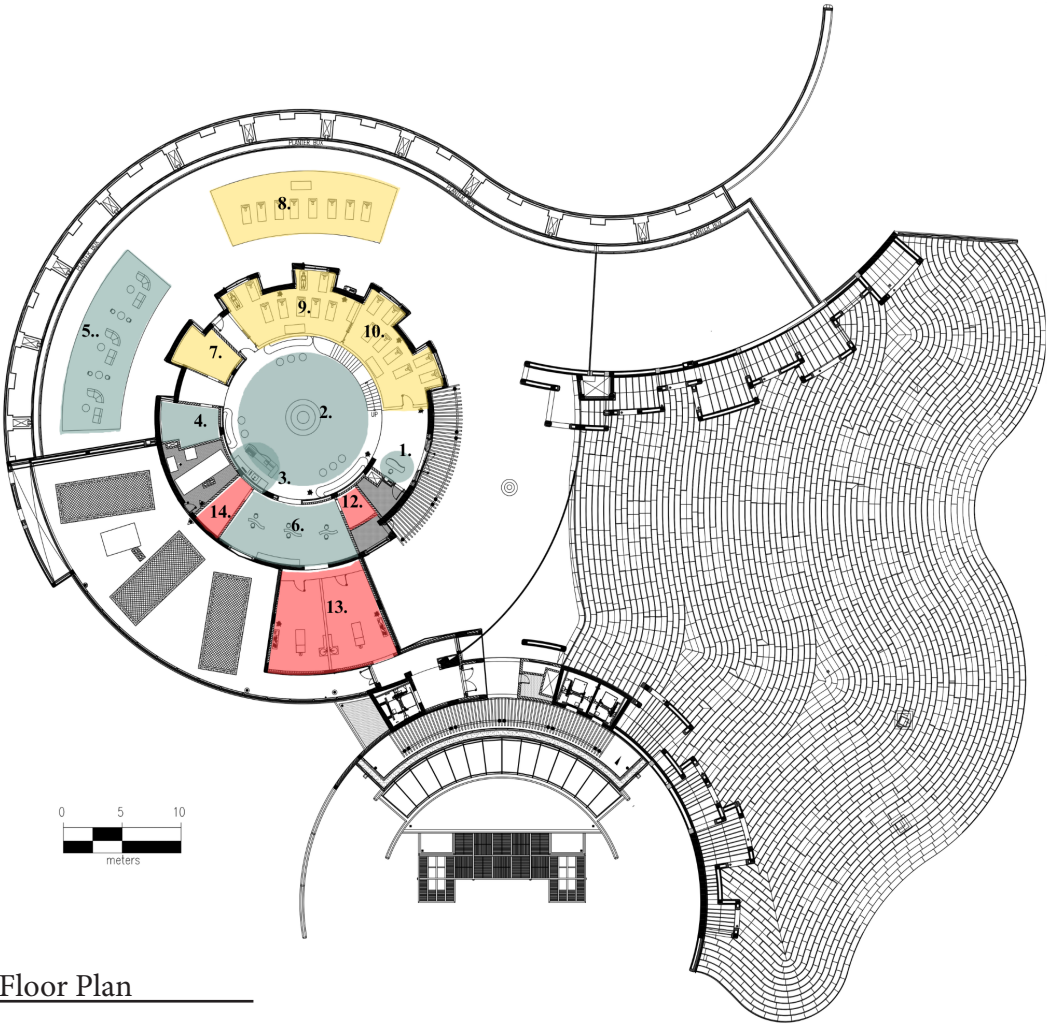
Semi Public Spaces

- 7. Changing Room
- 8. Outdoor Yoga Terrace
- 9. Studio 1
- 10. Studio 2
- 11. Quiet Retreat Area

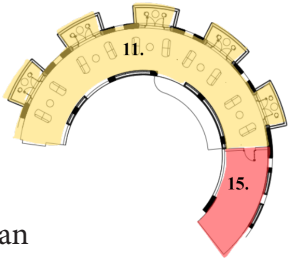


Private Spaces

- 12. Worker Space
- 13. Manicure Area
- 14. Storage
- 15. Storage



Second Floor Plan

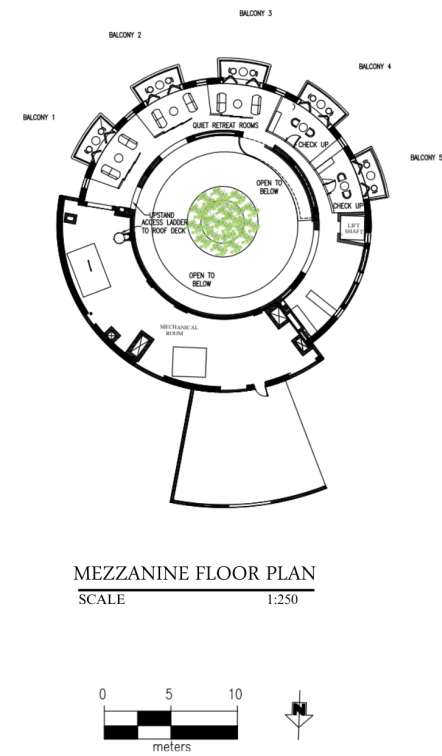
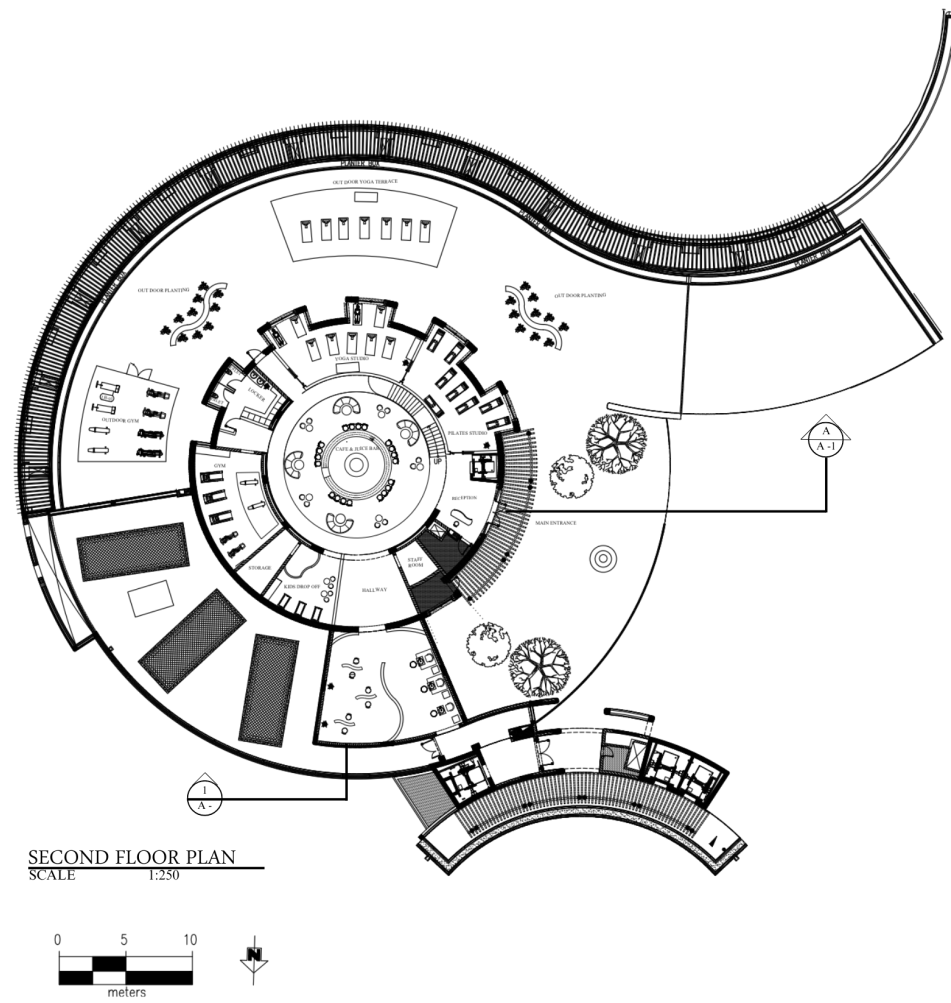


Mezzanine Floor Plan

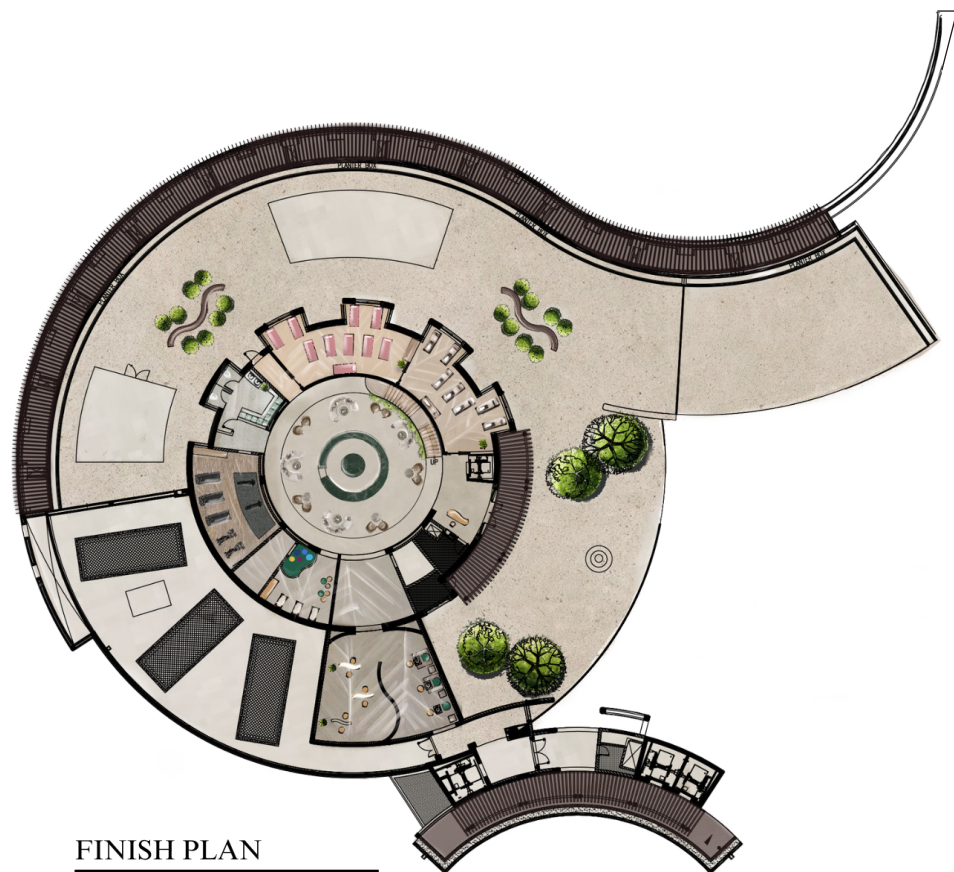
Preliminary Phase

|



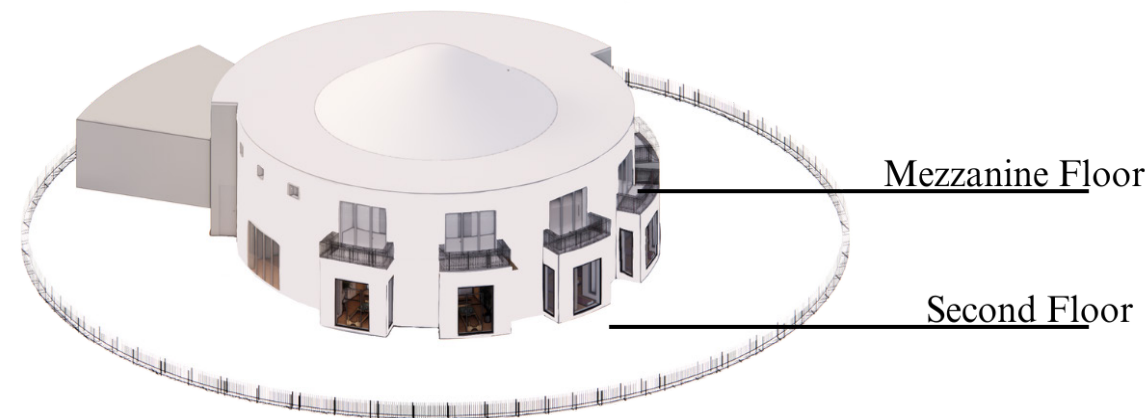


Finish Rendered Plan



FINISH PLAN

Orthographic - Shows the occupied Floors



ELEVATION - A



SECTION - A

Yoga Studio





Pilates Studio





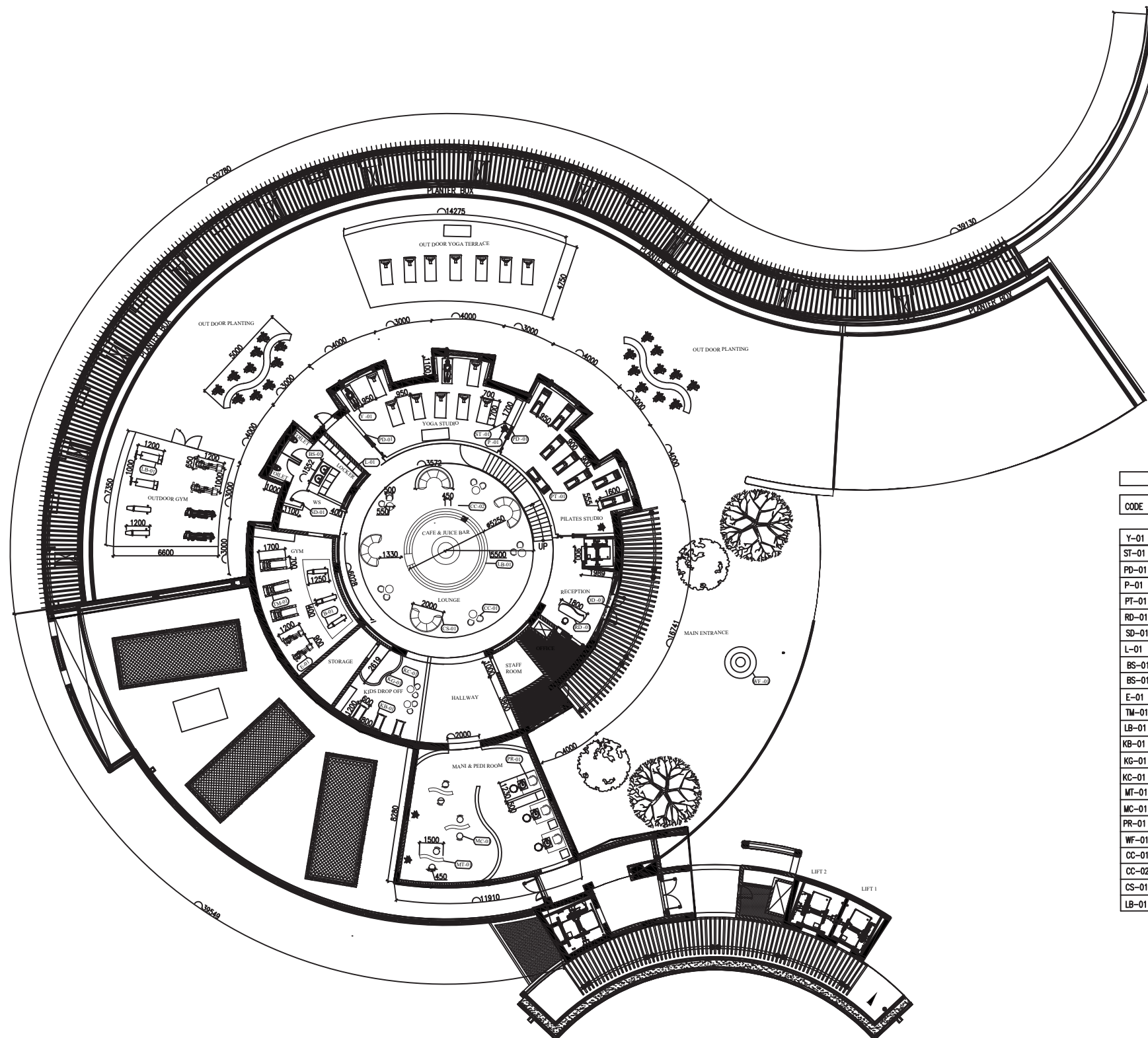
Lounge & Cafe Area





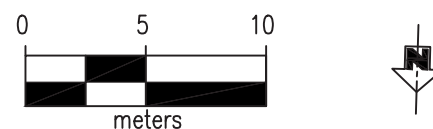
Construction Documents

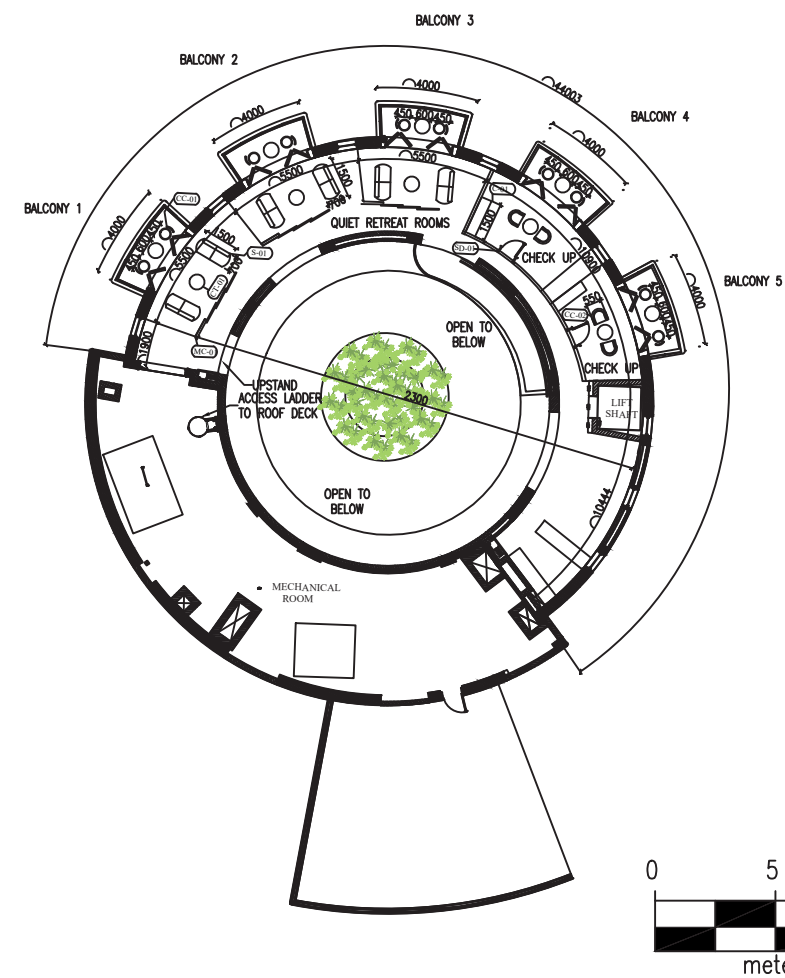




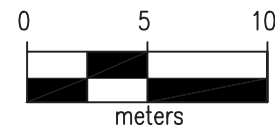
FURNITURE SCHEDULE		
CODE	PRODUCT NAME	QUANTITY
Y-01	Yoga Mats	18
ST-01	Build in wall Storage	3
PD-01	Pocket Door	2
P-01	Plant Pot	6
PT-01	Pilate's Reformer Machine	8
RD-01	Reception Desk	1
SD-01	Single Door	7
L-01	Locker	11
BS-01	Bathroom Sink	2
BS-01	Bench	3
E-01	Elliptical Walking Machine	2
TM-01	Treadmill Machine	3
LB-01	Leg Machine	2
KB-01	Kids Bed	3
KG-01	Kids Ground play area with gate	1
KC-01	Kids chair	4
MT-01	Manicure curved tables	3
MC-01	Manicure circular chairs	6
PR-01	Pedicure Setup	3
WF-01	Water Fountain	1
CC-01	Circle lounge chair	10
CC-02	Circle Bar chair	20
CS-01	Circle Lounge Sofa	4
LB-01	Lounge Bar	1

1 SECOND FLOOR PLAN
ASD-AR-00005-001
SCALE 1:150

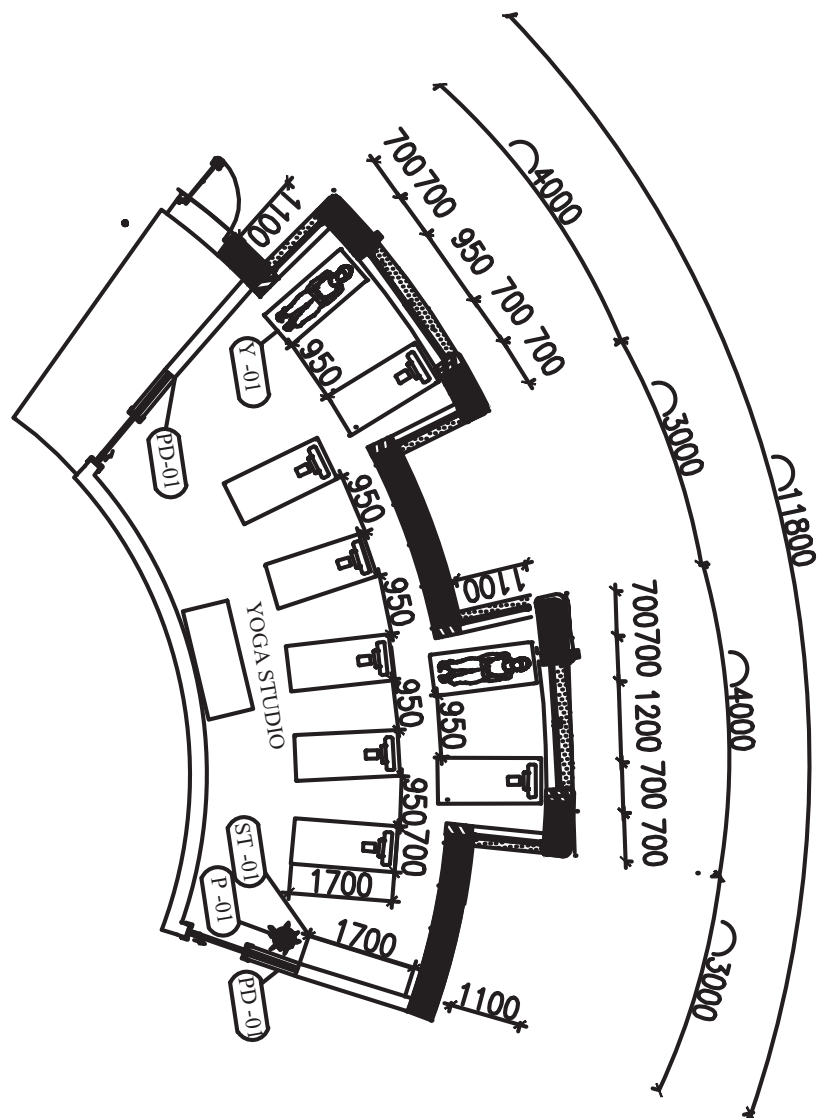




FURNITURE SCHEDULE		
CODE	PRODUCT NAME	QUANTITY
CC-01	Circle Chair	10
S-01	Sofa	6
MC-01	Moving Curtains	3
CT-01	Circle Table	10
C-01	Check up Cabinet	2
SD-01	Single Door	2
CC-02	Circle Chair	4














1 MEZZANINE FLOOR PLAN
 ASD-AR-00005-001 SCALE 1:150

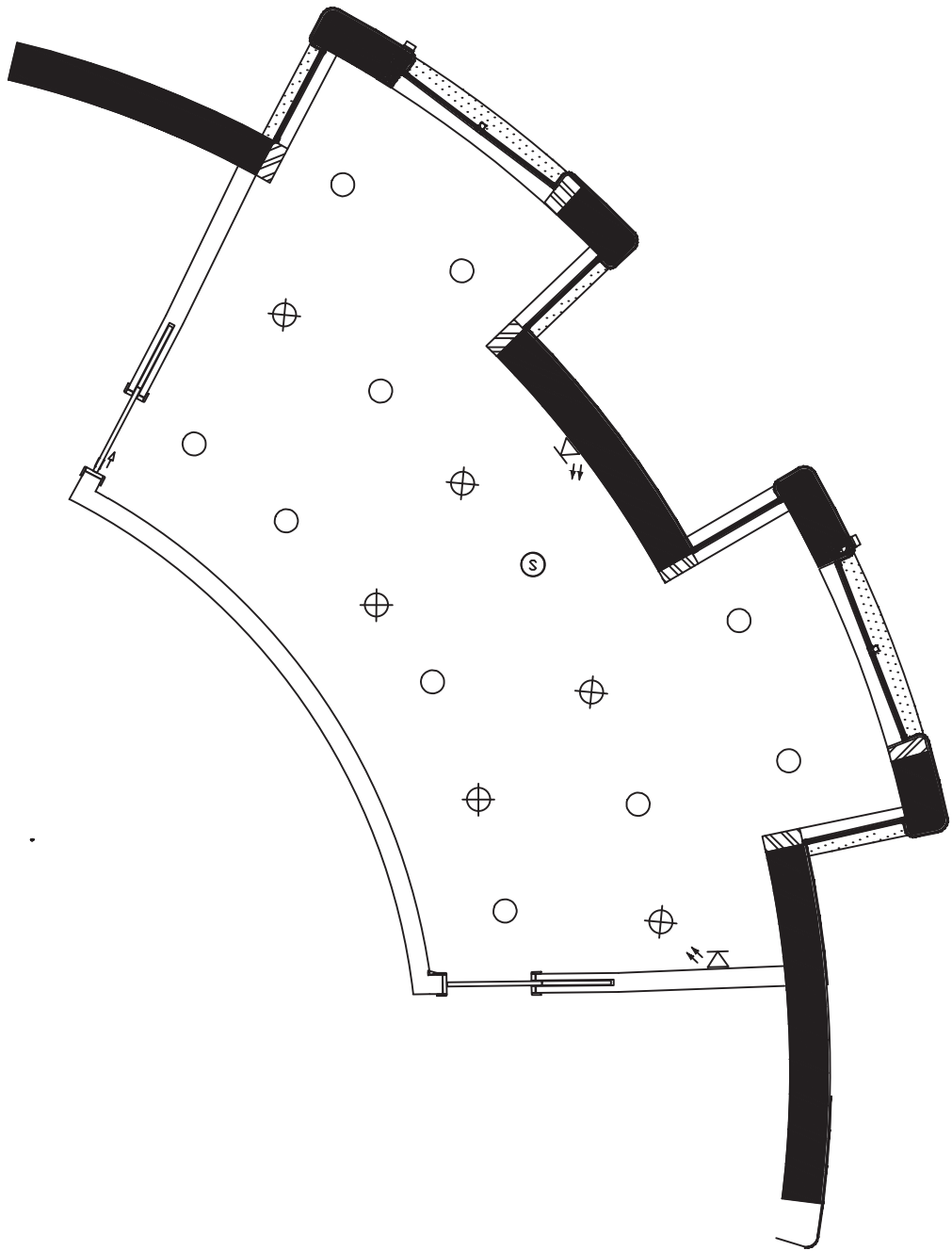


FURNITURE SCHEDULE		
CODE	PRODUCT NAME	QUANTITY
Y-01	Yoga Mats	18
ST-01	Build in wall Storage	3
PD-01	Pocket Door	2
P-01	Plant Pot	6

IMAGE	DESCRIPTION	MANUFACTURER	TYPE	QUANTITY
	Yogamatters Cork Brick is ideal for adding lift or grounding into your yoga pose.	Yoga Matters	22.7cm length x 12cm width x 7.5cm height	9
	Yogamatters Mat non-slip yoga mat. Cushioned enough to protect knees, bottoms, back from hard surfaces below.	Yoga Matters	Product weight: 15.6KG 183cm X 61cm	9
	IVC 4112 Wood Effect Non Slip Vinyl Flooring	Vinyl Flooring UK	Width: 3m Thickness: 2.8mm R Rating: R10 Wear Layer: 0.2mm	1
	Custom Made Wall Mirror glass for Yoga Studio. Wipe with a soft cloth	QatarGlass Aluminium & UPVC Al Safina Company	730cm X 400cm Thickness 4mm	1
	Creamy Darcy Paint Eco friendly solvent free and is water based, water dilatable and less harmful to the environment.	Graham & Brown	Matte Finish	1
	FEJKA Artificial potted plant	IKEA	Diameter of plant pot: 21 cm Height of plant: 170 cm	1
	Natural Rattan Organic Wavy Shape.	The Lighting Company	Fitting Height (cm): 4.5 Product Width / Diameter (cm): 55	6
	Acoustical sail fabric drape Ceiling fabric Mesh soundproof ivory Shade	CV LINENS	Approx. 30 FT x 118" Opacity: Approx. 10% to 30%	1

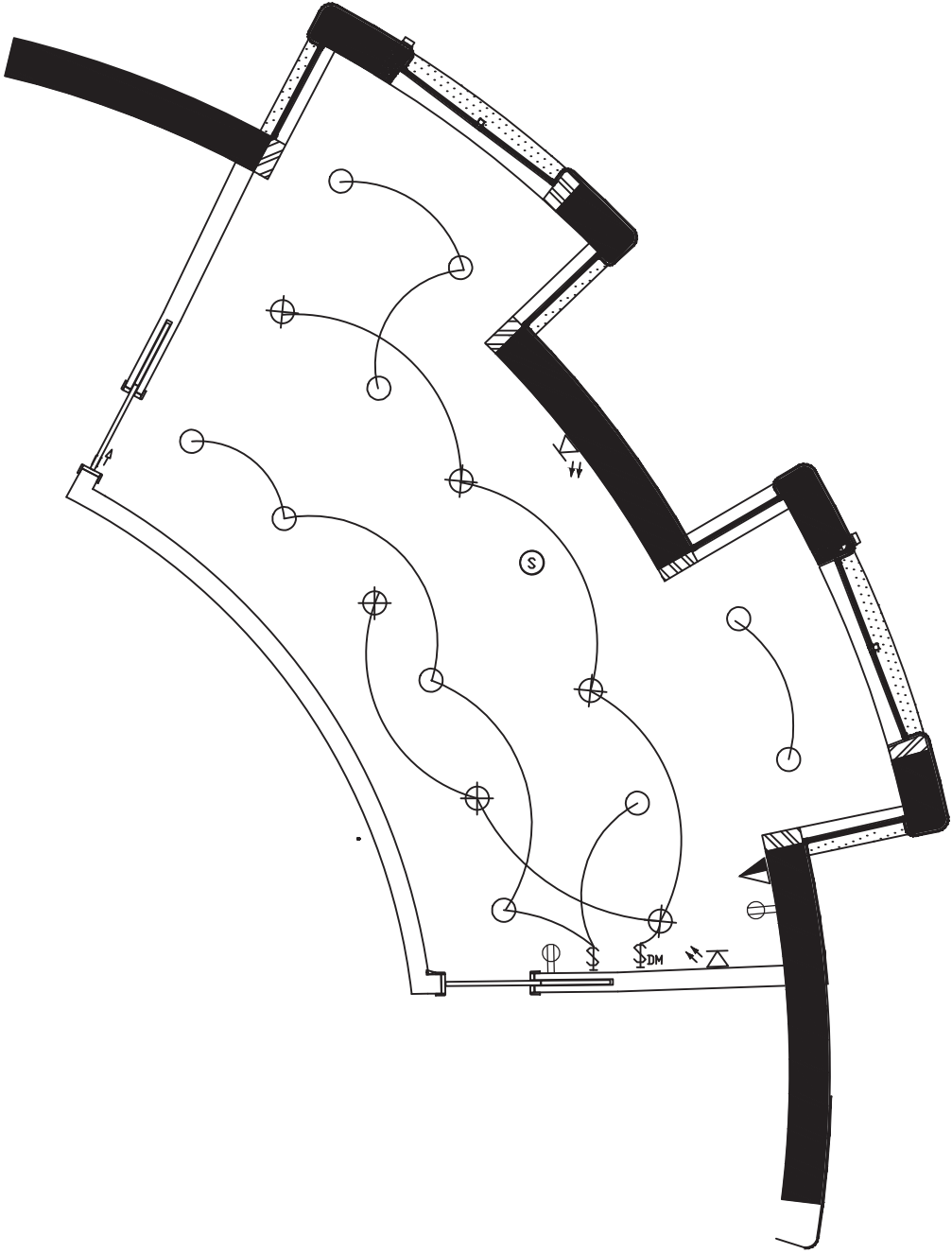
IMAGE	DESCRIPTION	MANUFACTURER	TYPE	QUANTITY
	Storage Shelf - Wall embedded shelving Customized	Orient Tech Steel Racks & Shelves	300cm X 180cm	9
	Acoustic Curtains	MW Acoustics	275cm height X 290 width 2 layers	2
	Gym ball - deal for fitness. Ideal for strengthening exercises for the back, arms, legs .	Decathlon	Can support a weight of 130 kg without bursting. Ball size: 65	1
	Fitness 2 KG Dumbbells	Decathlon	2 X 2 kg	10

LEGEND	
	SPOT LIGHT
	SMOKE ALARM
	DUPLEX RECEPTACLE
	RECESSED DOWN LIGHT
	DOOR BELL CHIME
	TABLE LAMP
	LED LIGHT







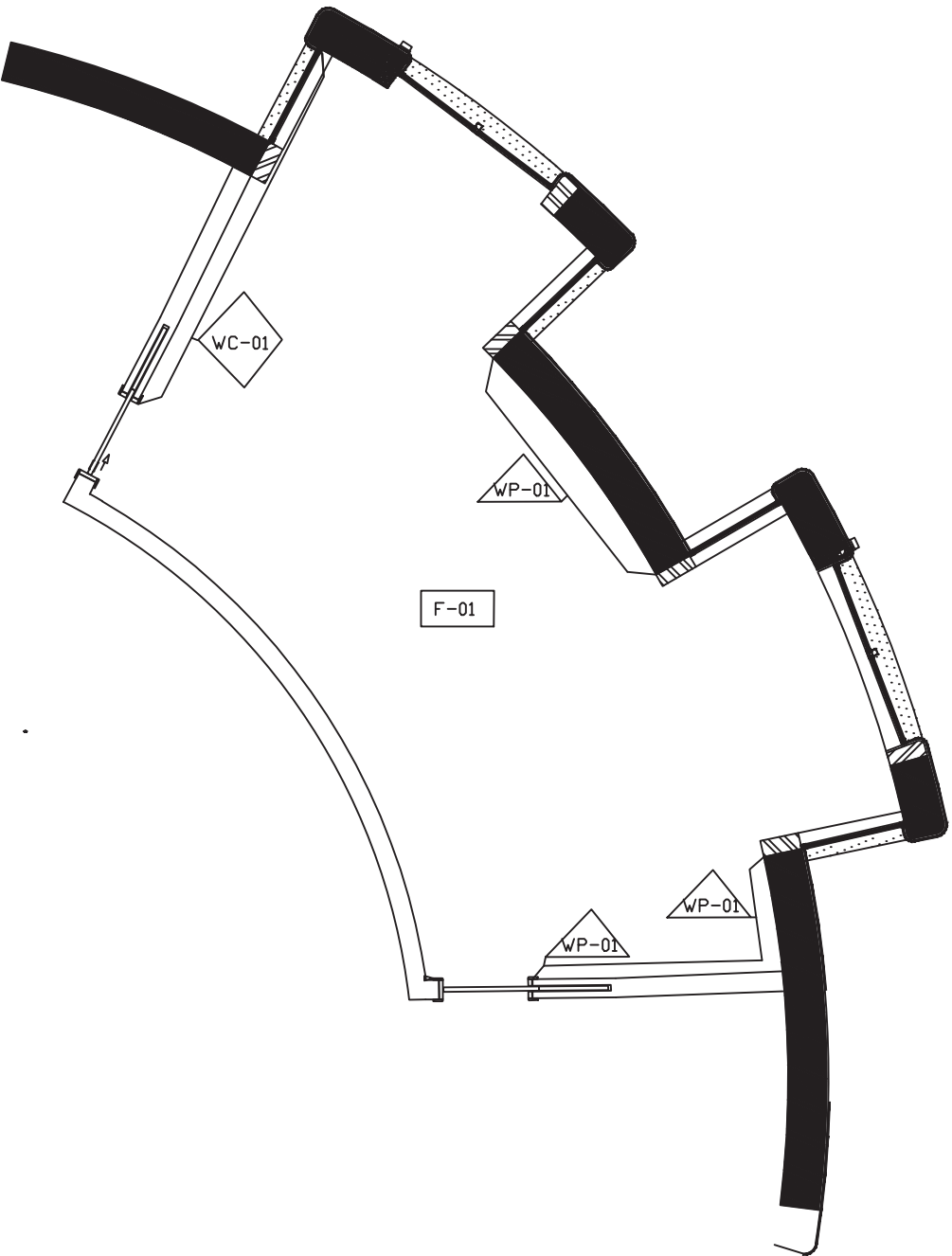
RCP PLAN

LEGEND	
	SPOT LIGHT
	SMOKE ALARM
	DUPLEX RECEPTACLE
	RECESSED DOWN LIGHT
	LED LIGHT
	SWITCH
	DIMMER SWITCH
	TELEPHONE & DATA JACK
	SWITCHING CONNECTION

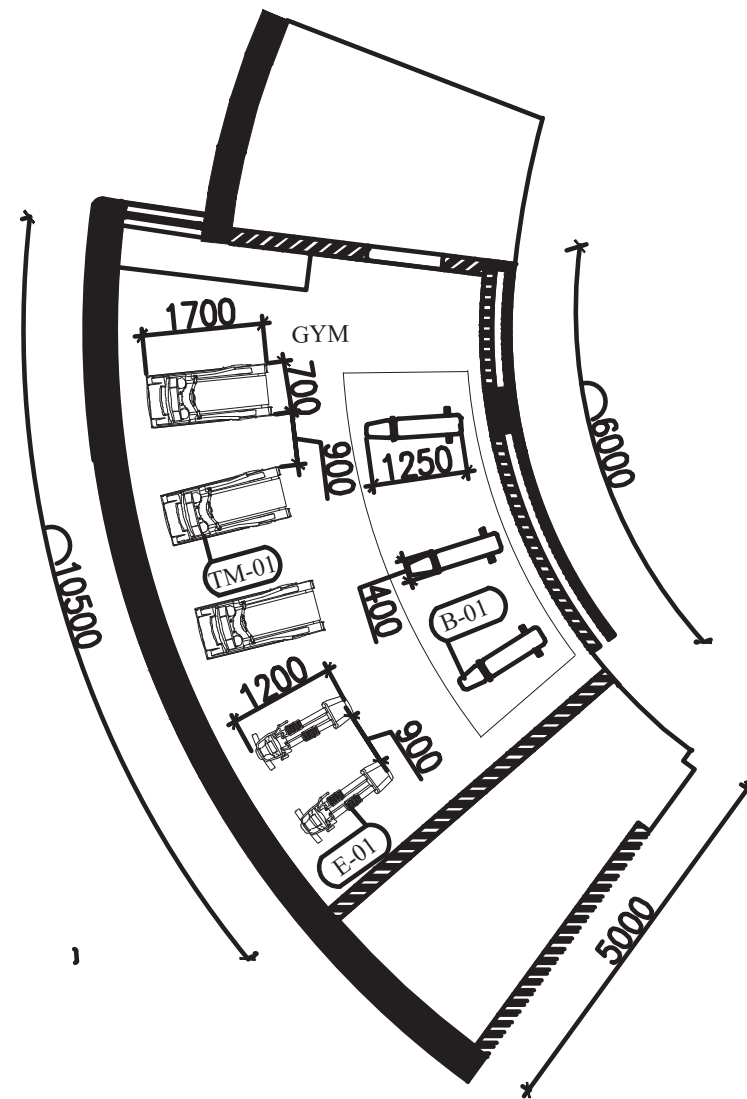


LIGHTING PLAN

FINISH PLAN LEGEND	
WALL FINISH	
	CREAMY WHITE
	OCEAN TURQUOISE PAINT
WALL COVERING	
	OCEAN WAVES CLADDING
FLOOR FINISH	
	NON SLIP VIYNL BEIGE



FINISH PLAN



FURNITURE SCHEDULE		
CODE	PRODUCT NAME	QUANTITY
B-01	Bench	3
E-01	Elliptical Walking Machine	2
TM-01	Treadmill Machine	3




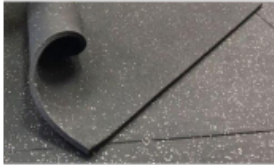
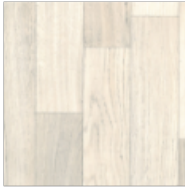
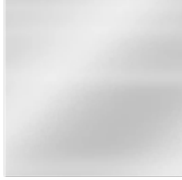











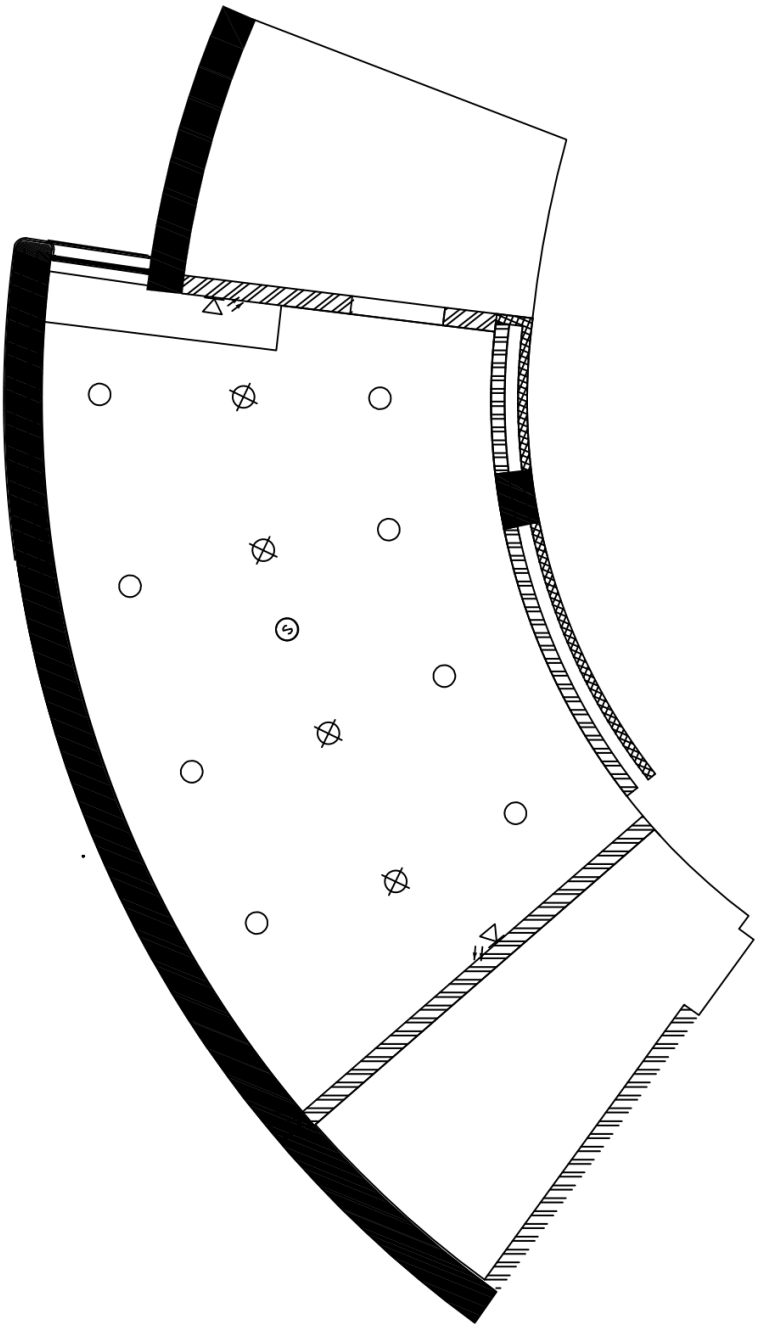









IMAGE	DESCRIPTION	MANUFACTURER	TYPE	QUANTITY
	Bench Flat Bench	Decathlon	H 45cm X W 37cm X L 103cm	1
	Elliptical Walking Machine	Decathlon	72 inches long by 30 inches wide	2
	TREADMILL T540C - 16 KM/H,	Decathlon	(206 cm) long, (86 cm) wide, height (140) cm.	2
	Rubber Mat Flooring	Focus Fitness	500cm X 170cm	1
	IVC 4112 Wood Effect Non Slip Vinyl Flooring	Vinyl Flooring UK	Width: 3m Thickness:2.8mm R Rating: R10 Wear Layer: 0.2mm	1
	Custom Made Wall Mirror glass for Yoga Studio. Wipe with a soft cloth	QatarGlass Aluminium & UPVC Al Safina Company	730cm X 400cm Thickness 4mm	2

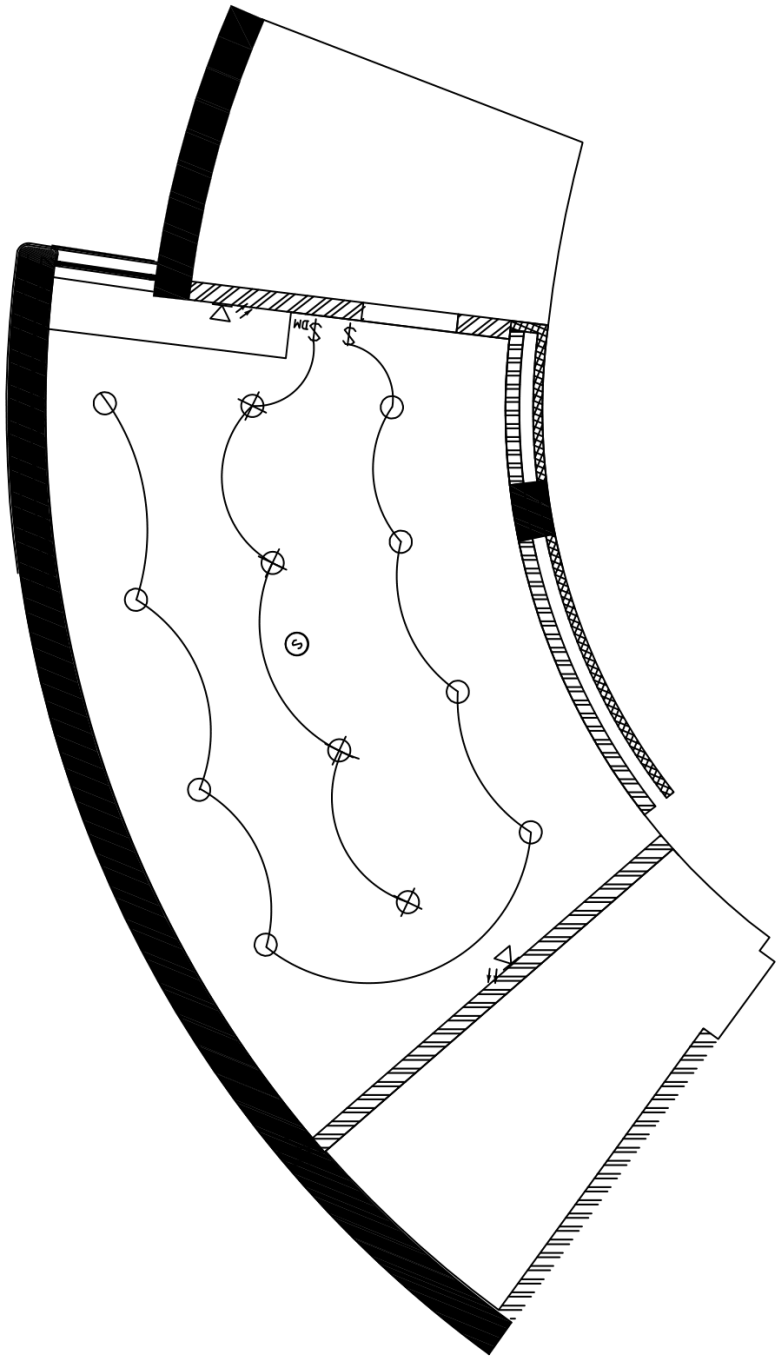
IMAGE	DESCRIPTION	MANUFACTURER	TYPE	QUANTITY
	Storage Shelf - Wall embedded shelving Customized	Orient Tech Steel Racks & Shelves	300cm X 180cm	9
	FEJKA Artificial potted plant	IKEA	Diameter of plant pot: 21 cm Height of plant: 170 cm	1
	Artificial Wall Grass	Nabina	70cm X 300 cm	1
	LED Strip Lights Warm White 3000k	MBG Group	70cm X 300 cm	1

LEGEND	
	SPOT LIGHT
	SMOKE ALARM
	DUPLEX RECEPTACLE
	RECESSED DOWN LIGHT
	DOOR BELL CHIME
	TABLE LAMP
	LED LIGHT







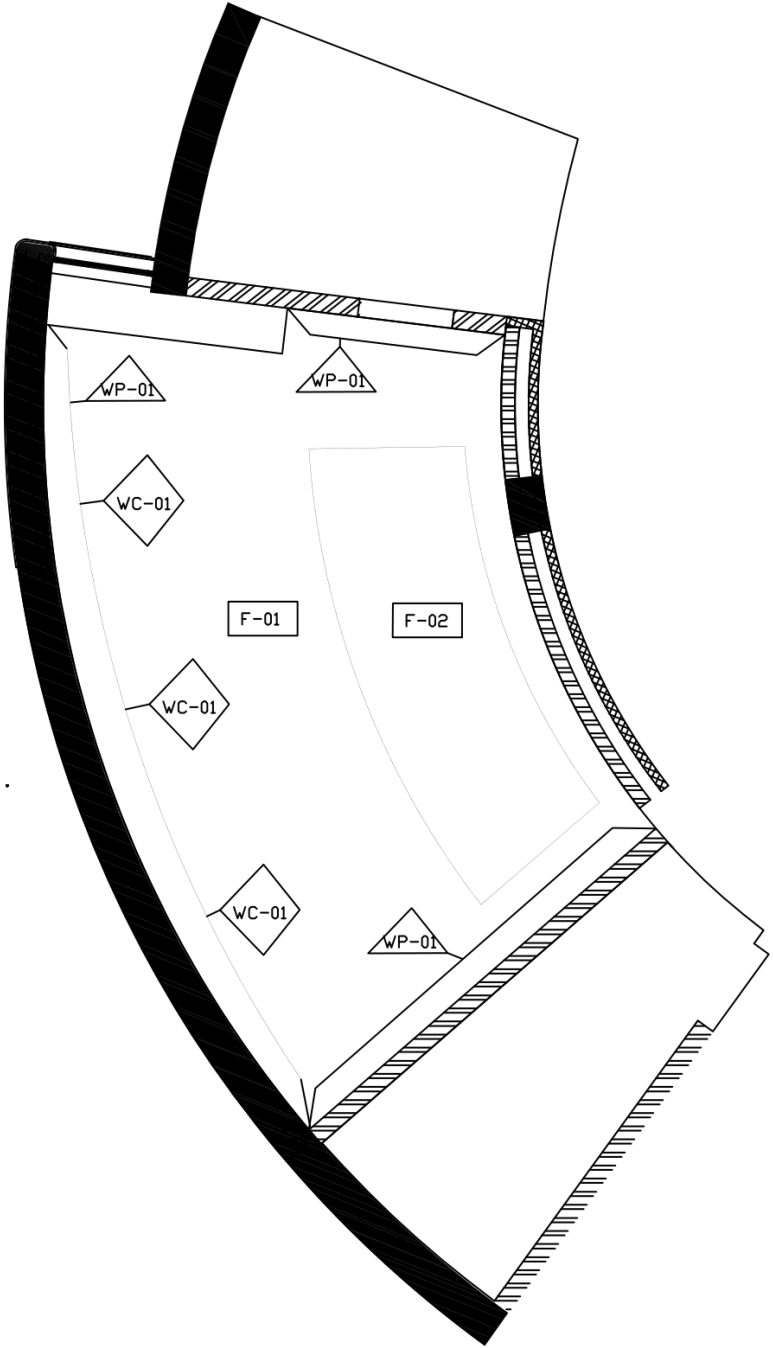
RCP PLAN

LEGEND	
	SPOT LIGHT
	SMOKE ALARM
	DUPLEX RECEPTACLE
	RECESSED DOWN LIGHT
	LED LIGHT
	SWITCH
	DIMMER SWITCH
	TELEPHONE & DATA JACK
	SWITCHING CONNECTION

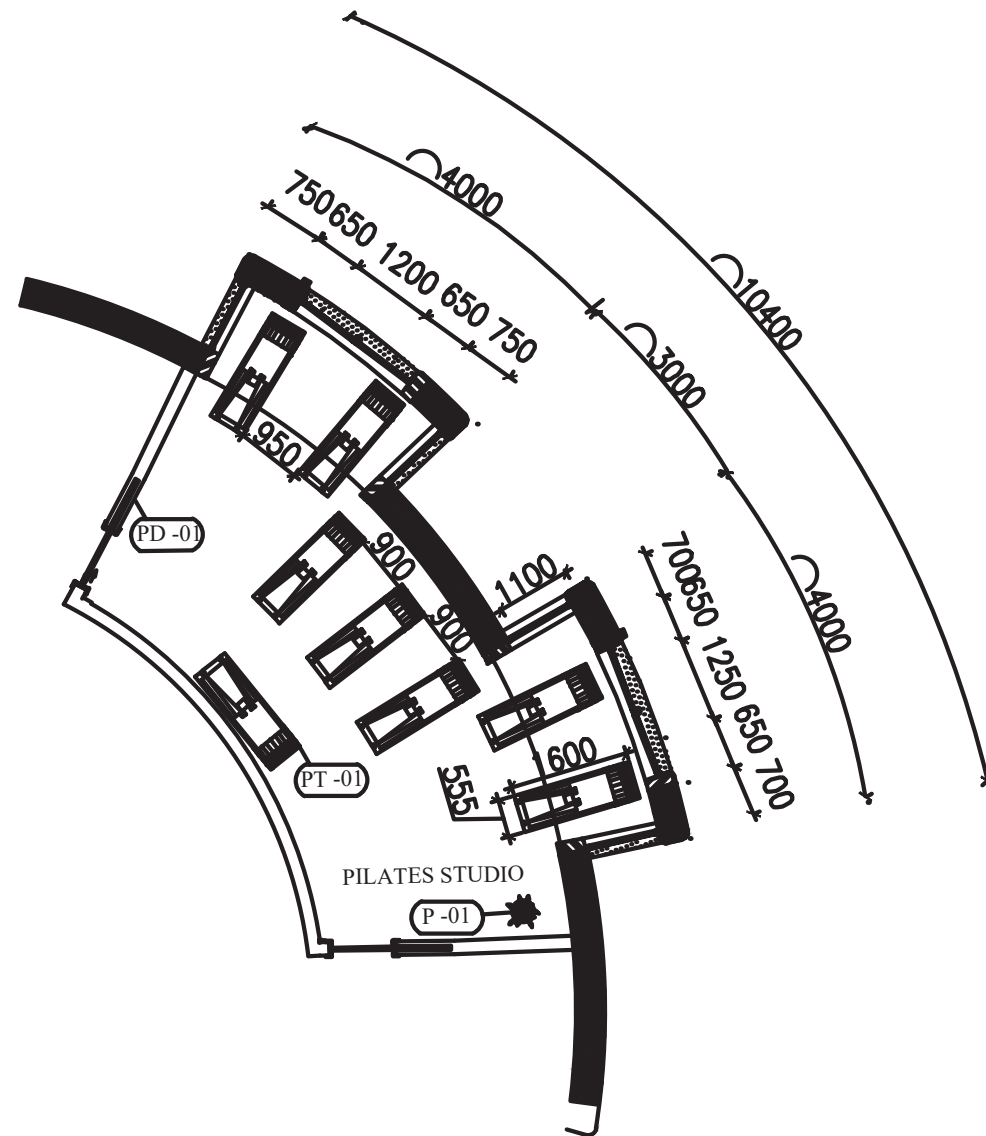


LIGHTING PLAN

FINISH PLAN LEGEND	
WALL FINISH	
	CREAMY WHITE
WALL COVERING	
	EMBEDDED ARTIFICIAL GRASS CLADDING
FLOOR FINISH	
	NON SLIP VIYNL BEIGE
	GREY RUBBER FLOORING



FINISH PLAN



FURNITURE SCHEDULE		
--------------------	--	--

CODE	PRODUCT NAME	QUANTITY
------	--------------	----------

PD-01	Pocket Door	2
P-01	Plant Pot	6
PT-01	Pilate's Reformer Machine	8


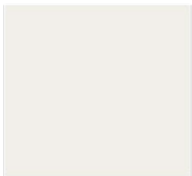



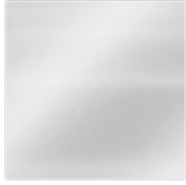



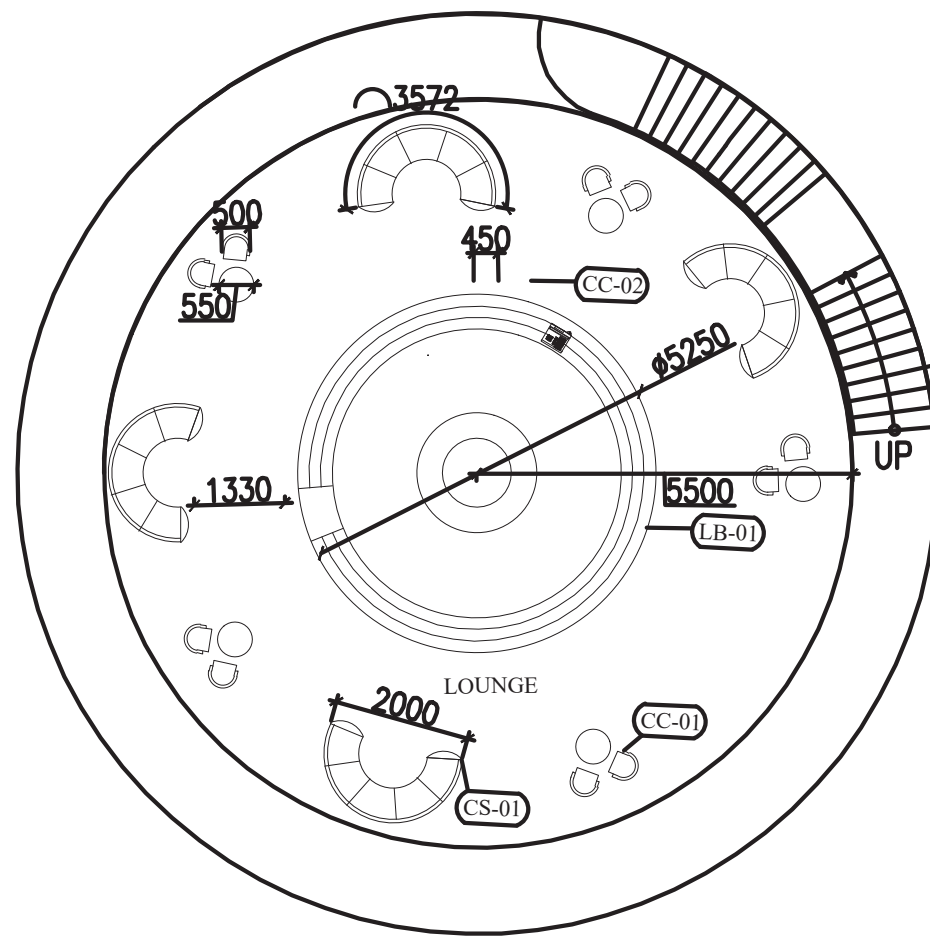
IMAGE	DESCRIPTION	MANUFACTURER	TYPE	QUANTITY
	Pilates Reformer Machine Color: Storm	Decathlon	Weight: 133 lbs (60.3kg) Frame: 93 1/4"L x 31" W x 15"H (236.86 x 78.74 x 38.1)	8
	Creamy Darcy Paint Eco friendly solvent free and is water based,water dilatable and less harmful to the environment.	Graham & Brown	Matte Finish	1
	Glass Pocket Door	Graham & Brown	Profile Thickness:2.0mm Width:1500mm Height: 3000mm	2
	Adasha Dome Rattan Pendant Light Materials: Iron, Rattan, Bamboo Colour: Natural Rattan	Zest Lighting	Dimensions: mm Large: H 415 W 485 D 485	6
	IVC 4112 Wood Effect Non Slip Vinyl Flooring	Vinyl Flooring UK	Width: 3m Thickness:2.8mm R Rating: R10 Wear Layer: 0.2mm	1
	Custom Made Wall Mirror glass for Yoga Studio. Wipe with a soft cloth	QatarGlass Aluminium & UPVC Al Safina Company	730cm X 400cm Thickness 4mm	2

IMAGE	DESCRIPTION	MANUFACTURER	TYPE	QUANTITY
	FEJKA Artificial potted plant	IKEA	Diameter of plant pot: 21 cm Height of plant: 170 cm	1
	Acoustical sail fabric drape Ceiling fabric Mesh soundproof ivory Shade	CV LINENS	Approx. 30 FT x 118" Opacity: Approx. 10% to 30%	1
	Green Palm Leaf Inky Tropical Wallpaper Mural	Hovia	3000mm	1



FURNITURE SCHEDULE		
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CODE	PRODUCT NAME	QUANTITY
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CC-01	Circle lounge chair	8
CC-02	Circle Bar chair	20
CS-01	Circle Lounge Sofa	4
LB-01	Lounge Bar	1










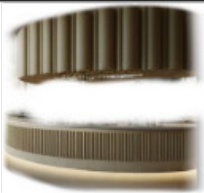

IMAGE	DESCRIPTION	MANUFACTURER	TYPE	QUANTITY
	Microcement Wall Finish	ArabCrete		1
	Woven Fabric Sofa	Woven Fabric	2000mm X 800mm	4
	Natural Rattan Organic Wavy Shape.	The Lighting Company	Fitting Height (cm): 4.5 Product Width / Diameter (cm): 55	6
	Adasha Dome Rattan Pendant Light Materials: Iron, Rattan, Bamboo Colour: Natural Rattan	Zest Lighting	Dimensions: mm Large: H 415 W 485 D 485	6
	Beige cream Marble Matte Finish	Ceramic Hiles	24 inches X 48 Inches	1
	Bell Table circular shape. Mango wood Natural Finish	MH Furniture & Decor	150 X 77 cm	8

IMAGE	DESCRIPTION	MANUFACTURER	TYPE	QUANTITY
	Curved half circle couch	ArabCrete	3500mm x 800mm	4
	Single bar chairs	Woven Fabric	23 In. W x 19 In	10
	Single lounge chair	KOK Maison	23 In. W x 19 In	20
	Bar wood and a mix of marble	Custom Made	5250mm X 450mm	1
	Bell Table circular shape. Mango wood Natural Finish	MH Furniture & Decor	150 X 77 cm	5

Elevation

|



Section

|



Renders

Pilates Studio









Gym Studio







Yoga Studio

|



Quiet Retreat Area





Check up room

|



End Notes

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Figure 5: <https://www.healthline.com/health/fitness/pilates-during-pregnancy>

Figure 6 - 9 : <https://www.archdaily.com/881958/yoga-studio-kostas-chatziagiannis-architecture>

Figure 10 - 23: <https://www.archdaily.com/881958/yoga-studio-kostas-chatziagiannis-architecture>

Figure 24 -26: <https://www.archdaily.com/931241/tru3-yoga-studio-itginteriors>

Figure 27 - 37 : <https://www.itginteriors.com/true-yoga>

Figure 38: <https://bestbody.com.au/reformer-pilates/pregnancy-pilates/>

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Figure 42 - 49: <https://weatherspark.com/y/150272/Average-Weather-in-Qatar-Year-Round>

Figure 50 - 52 : Screen Shot Google Earth

Figure 53 - 55: Screen Shot Google Map

Figure 56 - 58: Construction Documents

Figure 59:<https://www.alamy.com/stock-photo/katara-cultural-center.html?sortBy=relevant>

Figure 60; <https://maraya-tours.com/2023/03/18/boho-social-doha/>

Figure 61: Screenshot Google Map Boho Social Katara Cultural Village 360 camera view

Figure 62 - 63 : <https://design.museaward.com/winner-info.php?id=1763>

Figure 64: Screenshot Google Map Boho Social Katara Cultural Village 360 camera view outdoor seating

Figure 65: <https://www.instagram.com/bohosocialqatar/>

Figure 66: <https://www.lovethatdesign.com/image/love-that-design-boho-social-restaurant-doha-05/>

Figure 67: <https://wearebishopdesign.com/works/work/boho-social>

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Figure 69 - 70: <https://www.instagram.com/bohosocialqatar/>

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