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## SENADA: HARMONISING ARCHITECTURAL ELEMENTS FOR THE RECOVERY OF POST-PARTUM DEPRESSION

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### ABSTRACT

This research aims to solve the issues of postpartum depression among mothers through architectural solution. The paper focuses on the physical, psychological and spiritual needs of mothers who suffer from postpartum depression upon delivering their babies. The research has two (2) objectives: to evaluate the appropriate spatial requirement for postpartum confinement and design a Recovery Centre with an effective healing environment for postpartum women with depression. The table-research method to evaluate precedent studies of the same building typology was adopted to generate a

comprehensive schedule of accommodation for the planned facility's spatial requirement and the criteria of a healing environment for women with postpartum depression. The research outcome is an architectural design facility proposed as a Recovery Centre for Women with Postpartum Depression. The project would benefit postpartum women by providing an appropriate healing environment in the new architectural design facility.

**Keywords:** *Healing environment, Architecture, postpartum depression, architectural design, healing parameters, design elements*

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### INTRODUCTION

According to Curamericas Global report (2017), postpartum depression is fairly common among women, where there is up to 15% prevalence of perinatal mental disorders in developed countries, while in developing countries, the percentage goes up to 41%. *Postpartum depression* is the depression experienced by mothers during the period after giving birth. The condition usually begins within the two weeks, and these mothers have the symptoms of sadness, despair, anxiety, and irritability (McNiff, 2021).

Many postpartum cases require professional help and, at times, medication. Untreated, the problem could worsen, leading to a mental disorder that presents depressed mood, loss of interest, disturbed sleep, loss of appetite, decreased energy, feeling of guilt, low self-worth, and poor concentration. The most devastating consequences of the postpartum depression is the high risk of suicidal ideation, suicidal attempt and victims committing suicide. Another problem arises with the community's lack of empathy for the seriousness of postpartum depression. The stigma attached to it is deterring them from seeking help and care for their problems. Consequently, mothers are left isolated with loneliness with problems of social exclusion from the community.

This research aims to produce an architectural solution in resolving the issues of postpartum depression among mothers. The research has two (2) primary objectives: (i) To evaluate the appropriate spatial requirement for postpartum confinement; and (ii) To design a Recovery Centre with an effective healing environment for postpartum women with depression. This research is in line with UN Sustainable Development Goal's No 3- "Good Health and Well Being" for the world population, where mothers, whose hands rock the cradles, are inclusively embraced.

### METHOD / PROCEDURE

This study has undertaken the following research procedures, as shown in Figure 1.

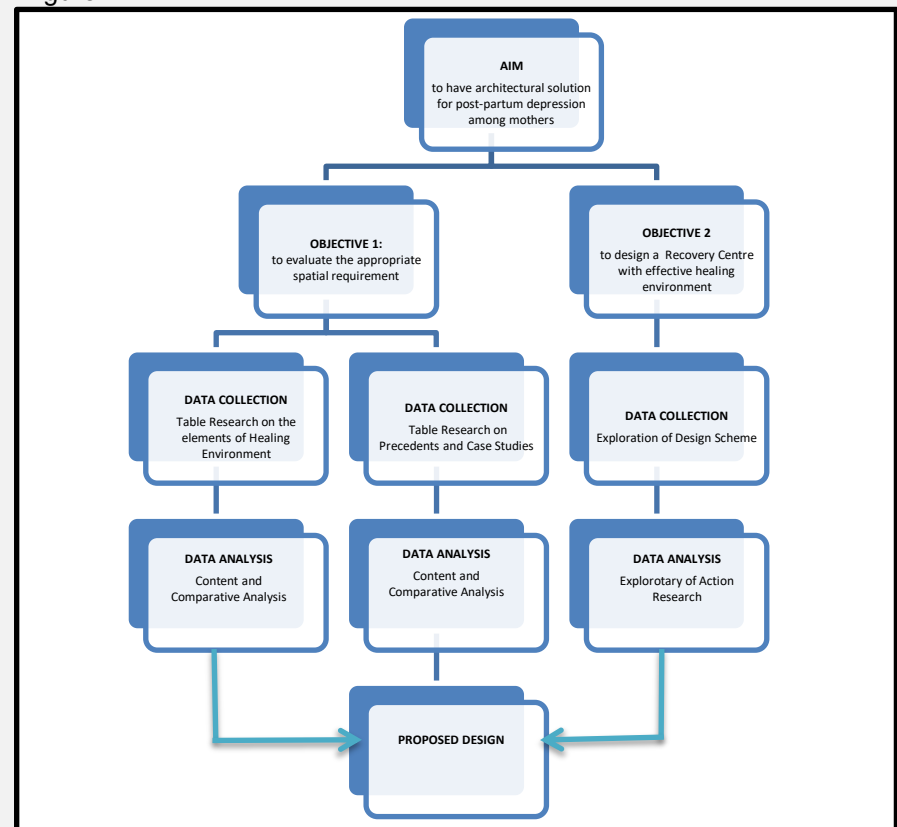


Figure 1: The research Procedures

RESEARCH FINDINGS

Based on the content analysis, the research has found that two (2) categories of parameters are needed to create a healing environment: physical and psychological. For physical parameters, there are five (5) considerations postpartum women need, and these are personalised space (Huisman et al.,2012; Ulrich et al., 2018), good exposure to natural lighting (Walch, 2005), access to natural elements (Zetterquist, 2009), acoustic comfort (Ulrich et al., 2018), and positive distraction (Zetterquist, 2009).

Meanwhile, for psychological parameters, the proposed recovery centre should provide both legibility of space (Zetterquist,2009) and privacy (Ulrich et al., 2018). Table 1 shows the required parameters.

Table 1: Parameters for a Healing Environment

PHYSICAL PARAMETER	PSYCHOLOGICAL PARAMETER
1. Personalised space <ul style="list-style-type: none"><li>▪ reduce stress</li><li>▪ stabilise emotion</li><li>▪ improve communication</li><li>▪ accelerate healing</li><li>▪ reduce risk of infection</li></ul>	1. Legibility of space <ul style="list-style-type: none"><li>▪ avoid disorientation</li><li>▪ give direction</li></ul>
1. Good exposure to natural lighting <ul style="list-style-type: none"><li>▪ reduce stress</li><li>▪ decrease pain</li><li>▪ lessen the use of medication</li></ul>	2. Privacy <ul style="list-style-type: none"><li>▪ provide visual privacy</li><li>▪ give comfortable auditory privacy</li></ul>
2. Access to natural elements <ul style="list-style-type: none"><li>▪ reduce stress</li><li>▪ induce comfort</li><li>▪ give relaxing effect</li></ul>	
3. Acoustic comfort <ul style="list-style-type: none"><li>▪ induce comfort</li><li>▪ increase performance</li><li>▪ Positive distraction</li></ul>	
4. Positive Distraction <ul style="list-style-type: none"><li>▪ enhance human senses</li></ul>	

Precedent studies of the same building typology had generated the appropriate schedule of accommodation (SOA) of the proposed Recovery Centre. The comparison of spaces from the precedent studies requires adjustment to suit Malaysians' climatic and cultural context.

One of the precedent studies analysed is Nuuk's Psychiatric Clinic in Greenland. This building emphasises the flexibility of indoor and outdoor spaces that could enhance the indoor garden's natural ventilation. This building also provides a big opening to take advantage of the abundant natural lighting and breath-taking views surrounding the building. Nuuk's Psychiatric Clinic also uses timber as the primary building material because this natural material is proven to give calming and stress-reducing effects to occupants in the buildings. Other precedent studies consulted were LYC Health care centre for Confinement, Kimporo Rejuvenation Centre and Best Mom Confinement Centre. Table 2 shows the generated Schedule of Accommodation, used as the spatial requirement for the proposed Recovery Centre for Post-partum Women with Depression.

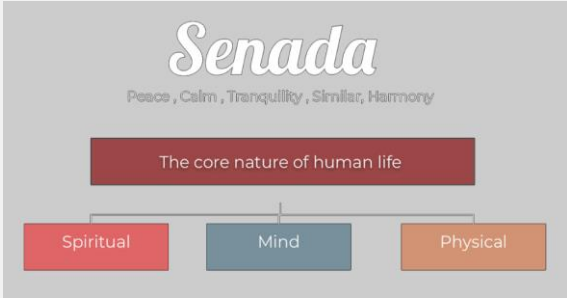
Table 2: The Generated Schedule of Accommodation (SOA)

FOR PHYSICAL TREATMENT	FOR PSYCHOLOGIC AL TREATMENT	COMMON SPACES	RESIDENTIAL BLOCK
<ul style="list-style-type: none"><li>• Gymnasium</li><li>• Pool</li><li>• Spa</li><li>• Massage area</li><li>• Treatment room</li><li>• Herbal bath room</li><li>• Hair saloon</li><li>• Changing room</li><li>• Storage</li><li>• Toilet</li><li>• Outdoor spaces</li></ul>	<ul style="list-style-type: none"><li>• Counselling room</li><li>• Group counselling room</li><li>• Multi-function area</li><li>• Meditational space</li><li>• Outdoor garden</li></ul>	<ul style="list-style-type: none"><li>• Cafeteria</li><li>• Kitchen</li><li>• Wet Storage</li><li>• Dry Storage</li><li>• Toilet</li><li>• PWD's Toilet</li><li>• Baby changing room</li></ul>	Bedroom bathroom Balcony Babies room Storage Breast feeding area Balcony Pre-Function area Doctors' rooms Lounges

THE DESIGN IDEATION

The exploration of design ideas was done based on the contextual study of the site. With 2.86 hectares (7.07 acre), the site is at Kulai, Johor, Malaysia. The site was selected due to its beautiful natural surroundings of the hilly area. "Recovery Center for Postpartum Depression" is categorised under Healthcare and Institutional Facility.

DESIGN CONCEPT



**SENADA:** This design concept represents human life's core nature that requires peacefulness, calmness, tranquillity, and harmony. This development of health theory connotes a dynamic state of complete spiritual, mind and physical wellbeing. For the architectural solution, harmony between these three components is needed to achieve the design objectives.

Spiritual wellbeing is related to developing one's perception of the equilibrium of worldly life and the afterlife. Second, the mind-wellbeing is associated with the way one declutters unnecessary thoughts or overwhelming ideas within oneself. Having healthy mind-wellbeing should provide tranquillity and calmness. For body wellbeing, physical movements should benefit individual wellbeing in recovering health and engaging with physical activity. For postpartum depression mothers to get better, these three components are needed to expedite the healing process.

DESIGN STRATEGIES

Design strategies are generated based on the spatial components and site context analysis. Figure 2 shows the strategies undertaken to develop design ideas within specific site constraints.

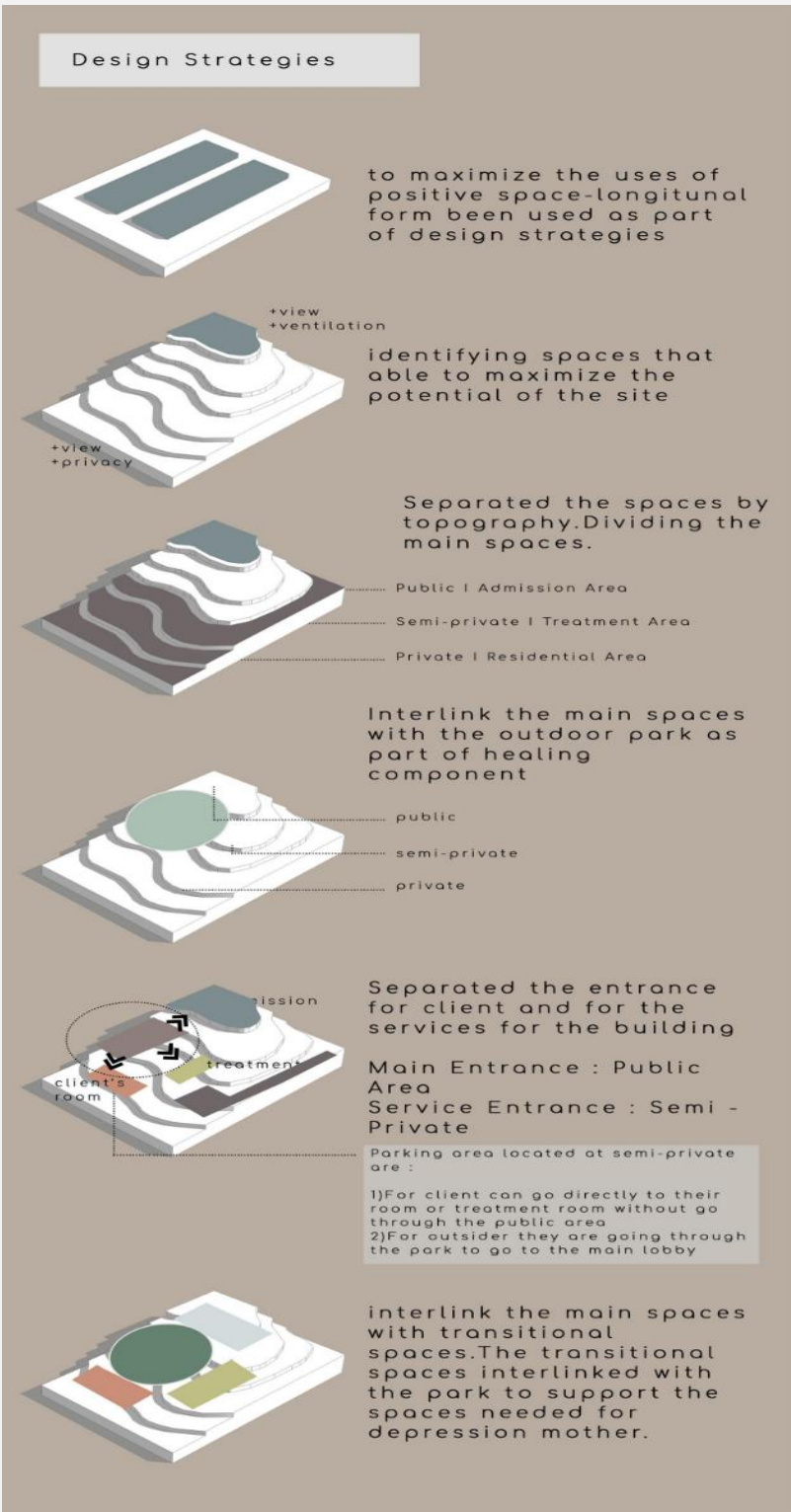


Figure 2: The design strategies formulated based on spatial and contextual studies.

DESIGN DEVELOPMENT

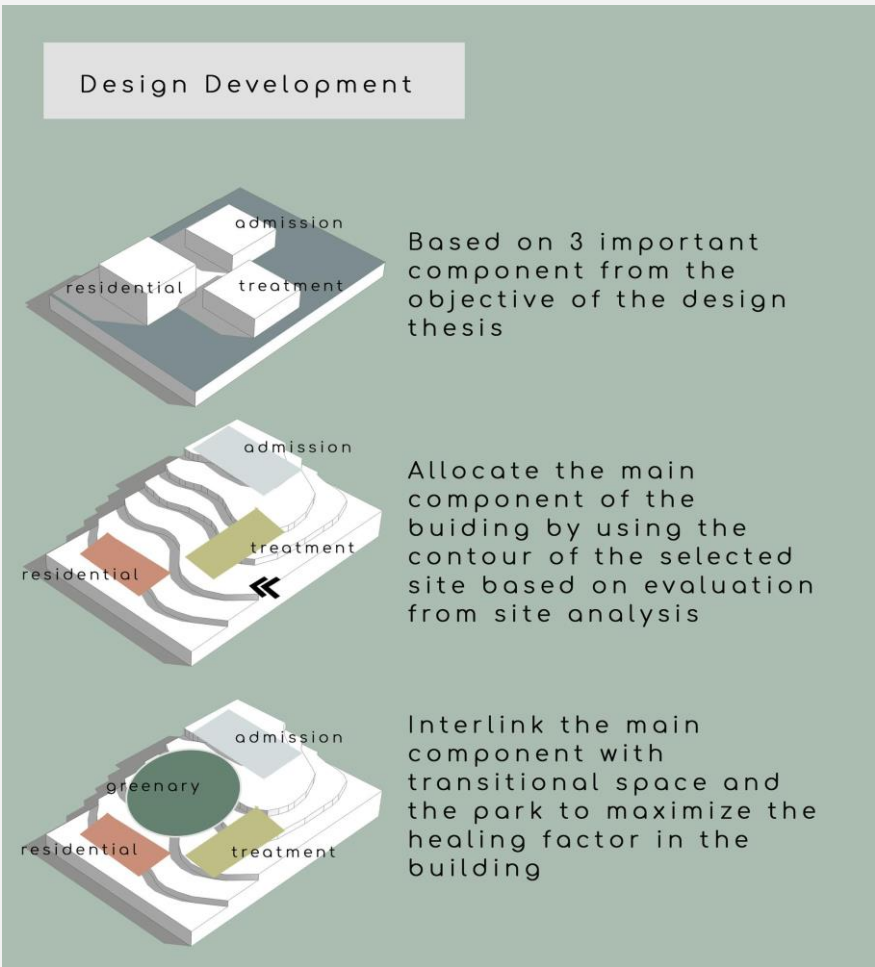


Figure 3: Form and Zoning exploration for design development.

FINALISED DESIGN SCHEME



Figure 4: Finalised design development.



# THE PROPOSED DESIGN

SENADA - The design proposal was subjected to robust design decisions before it was finalised. The final design integrates the healing architectural elements, like colours, texture, and natural building materials. The healing components of the interior and exterior spaces were designed to integrate with the therapeutic environment to expedite the healing of postpartum depressed mothers. The healing environment was formulated from the five senses: smell, sight, touch, taste, and hearing.



Figure 5: The Ground Floor Plan



Figure 6: An arial view of the architectural design scheme

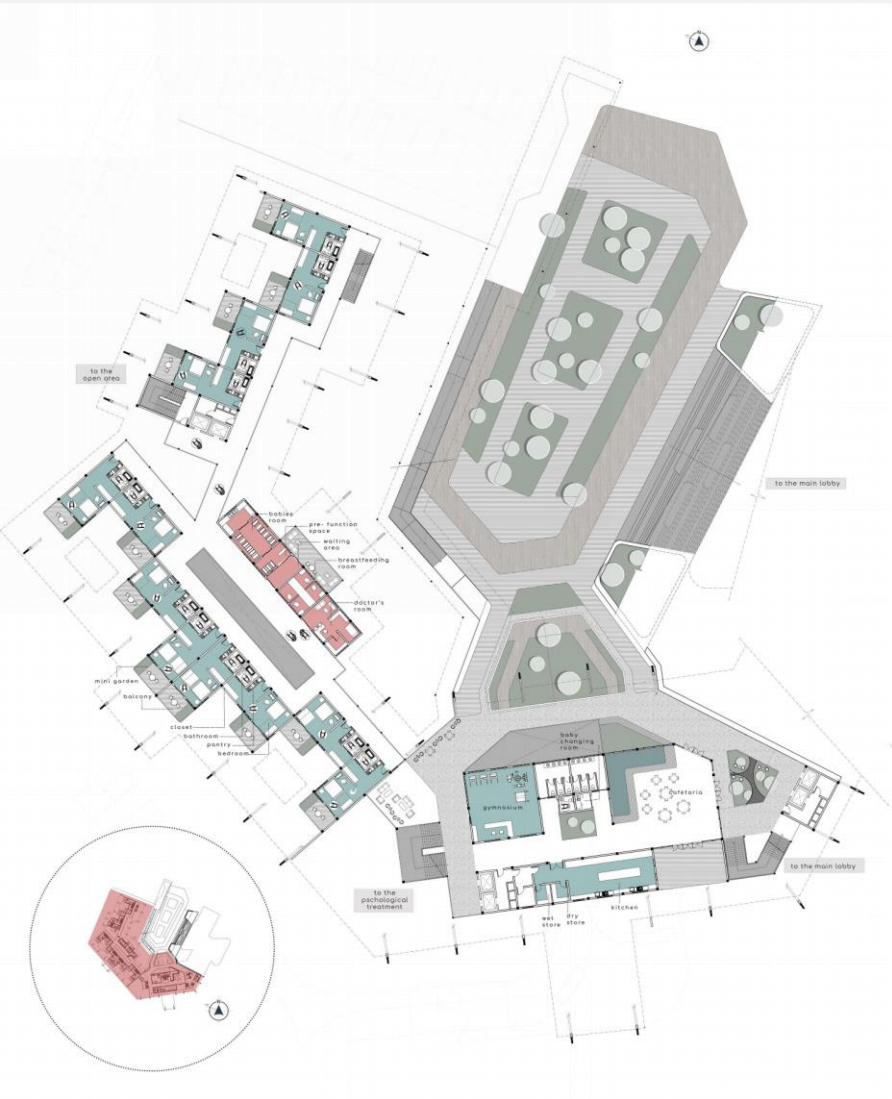


Figure 7: The 1st. Floor Pain

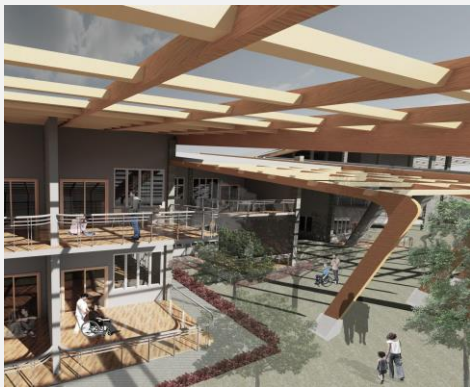


Figure 8: Timber elements for Healing Environment



Figure 9: The 2nd. Floor Plan



Figure 10: Timber elements for Healing Environment



Figure 11: Elevations of the design scheme



Figure 12: The 3rd. Floor Plan





Figure 12: View at the balcony area



Figure 14: View of the therapeutic garden



Figure 13: View of the counselling room



Figure 15: Another view of the therapeutic garden



## CONCLUSION

The exploration of SENADA as the design concept for 'A Recovery Centre for Postpartum Depression' has been fruitfully established by integrating the healing design elements into the overall architectural design scheme. This proposed design is significant in response to the call of Sustainable Development Goals (SDG) that emphasise society's health and well-being. In the wake of caring for the well-being of mothers who suffer from postpartum depression, with this design project's conclusion, it is hopeful that the Malaysian government would implement similar projects for the community. Only then the hands that rock the cradles will belong to mothers whose inner-selves are both spiritually healthy and happy.



Figure 16: View of the Wetland

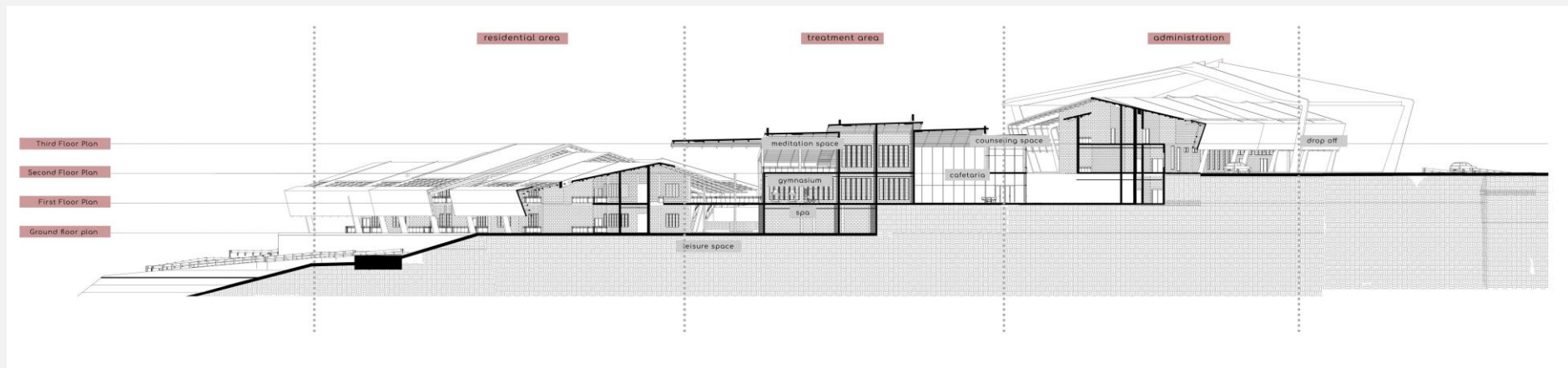


Figure 17: Section A-A

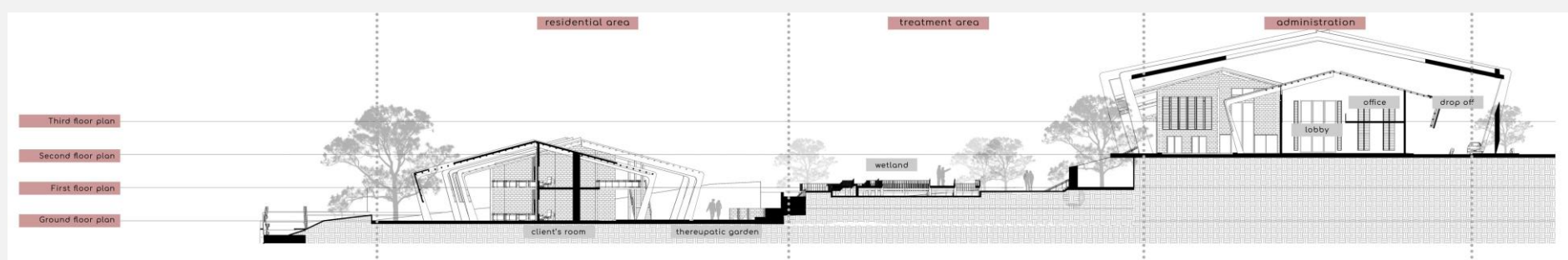


Figure 18: Section B-B

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