

Eco Friendly Design of Dental Clinic

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ABSTRACT

The design of eco-friendly dental clinics is gaining traction worldwide as part of a broader movement towards sustainable healthcare facilities. This project focuses on transforming a residential building in Oman into an eco-friendly dental clinic, aiming to set a benchmark for energy-efficient and sustainable healthcare design in the region. Key features include the use of biomass heating, natural and recyclable materials, and collaboration with local manufacturers to reduce carbon emissions. The clinic will be designed to accommodate 10-20 patients at a time and include five rooms: a family hall, treatment rooms, a laboratory, a store, and a restroom. Staffed by 5-10 employees, the clinic's design prioritizes functionality and efficiency. This project not only enhances the building's utility but also promotes environmental consciousness and a sustainable future. Recommendations include the integration of solar energy systems, water-saving technologies, and community outreach programs to educate the public on the benefits of sustainable practices in healthcare.

Keywords: interior design, dental clinic, sustainability, eco-friendly.

INTRODUCTION

A dental clinic is a type of medical facility where dentists treat patients with dental health concerns. Dental clinics are set for the provision of dental hygiene and care services, as well as a range of dental procedures and exams. Changing to a more environmentally friendly lifestyle will help individuals make more informed decisions, protect the environment for coming generations and reduce their exposure to dangerous materials. People may make a difference in their daily life by making small adjustments. Developing an eco-friendly dental clinic involves optimizing energy efficiency, using biomass heating, utilizing natural and recyclable components, and collaborating with nearby manufacturers to minimize carbon emissions during delivery. Moreover, it will help patients to be more comfortable and satisfied with the place, due to several factors. In this point the eco dental clinic going to achieve the vision of Oman 2040.

RESEARCH METHODOLOGY

In this research I have visited the project site, reviewing all the function of the villa. The area of this is estimated to be 428 SQM, the villa contains two floors, as the first floor contain a living room, majlis with a toilet, kitchen with its store and one room. In the other hand, the second floor contain one master bedroom and four bedrooms, to make it clear all rooms either in 1st or 2nd floor are with bathroom.

The aim of this project is to change the functions of the residential to a dental clinic. Converting the house into

a dental clinic presents some challenges due to its mismatched design and functionality. The existing layout does not have all the spaces needed for a clinic, so we'll need to add examination rooms, a reception area and sterilization facilities.

LITERATURE REVIEW

1. **Optimal Dental Care:** The optimal dental care facility had three surgeries, a spacious waiting and greeting space (Figure 3-10, 3-9), a specialised consult room, a shop, walk-through sterilisation and lab (Figure 3-11,3-14), offices for the practise managers and physicians, a staff room, and a patient recovery area. Patient flow and ergonomics were carefully considered, with patient recuperation and offices located on the calmer side of the building and bustling functioning sections on the other. A U-shaped corridor (Figure 3-16,3-17) that branches from the practice's back reception and meeting area and passes through the lab and sterilisation areas connects the rooms. The entire thing has light, cheery tones, and textures without coming across as cold and manufactured. A stunning living wall behind the registration desk lets in natural light and adds a vivid, new pop of green. Elegant elegance is created using sweeping arcs in the door treatments and company emblem, which contrast with clean lines and geometric shapes. The surgeries' use of glass frameless parts contributes to their open, airy feel and modern style.



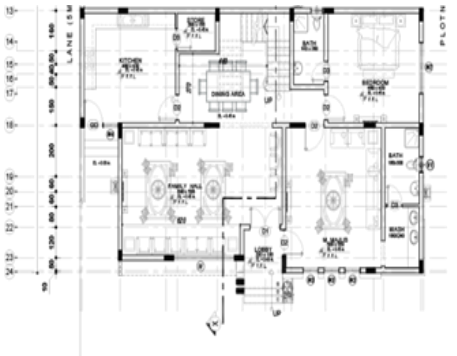
2. **Dr Shuja Cheng Dental clinic:** The Caulfield South, Victoria, location of Dr Shujia Cheng's new practise was created to be a cosy and friendly environment for both patients and staff. The Medifit crew showed excellent design and construction skills, comprehending every facet of the company, including building codes, plumbing, electrical, and equipment. They fulfilled the deadline while preserving the original residential property's heritage features. The design, colours, and overall feel of the project were superb, and the team did a great job finishing it on schedule. The author is convinced that Medifit will produce a practise they can be pleased of, thus they heartily suggest them for any future projects.



3. **Coburg Dental:** Originally constructed as doctor's offices in 1906, Coburg Dental is a landmark located in Coburg, VIC. It was created in a unique manner and has been used as a dentist office since 1922. Ron French and his brother Vic assumed ownership of the firm in 1946. Utilising their expertise in heritage rehabilitation, the Medifit team created a state-of-the-art dentistry practise while honouring the building's past.



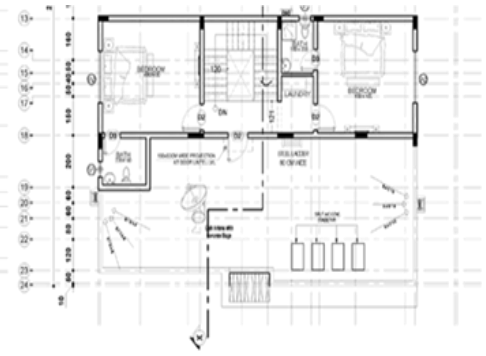
DESIGN SUGGESTIONS AND IMPLEMENTATION



GROUND FLOOR PLAN



FIRST FLOOR PLAN



PENT HOUSE FLOOR PLAN

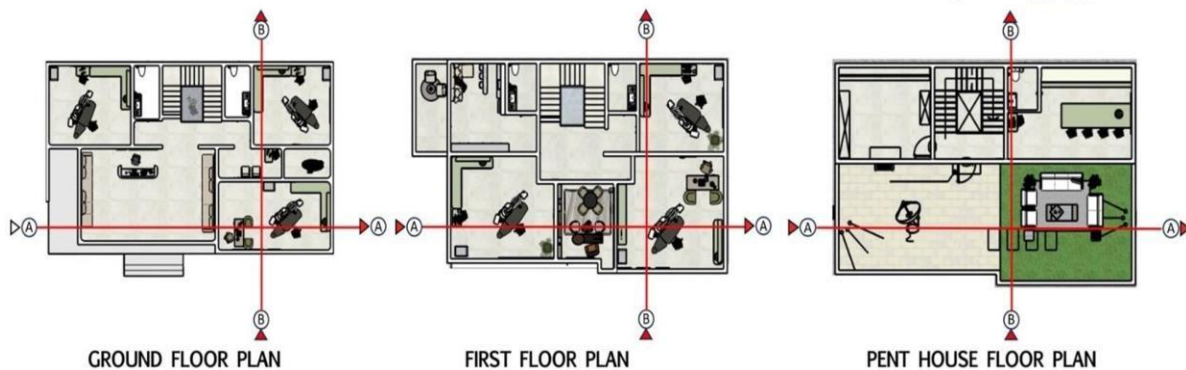
CONCEPT ELEMENTS

Minimalist interior design appreciates simplicity opting for lines subtle hues and practical furnishings. It values spacious areas bathed in sunlight with the addition of textured elements such, as stone and wood, for a touch. Through simplifying spaces and highlighting a sense of unity and equilibrium minimalist design establishes an organized setting that fosters tranquillity.

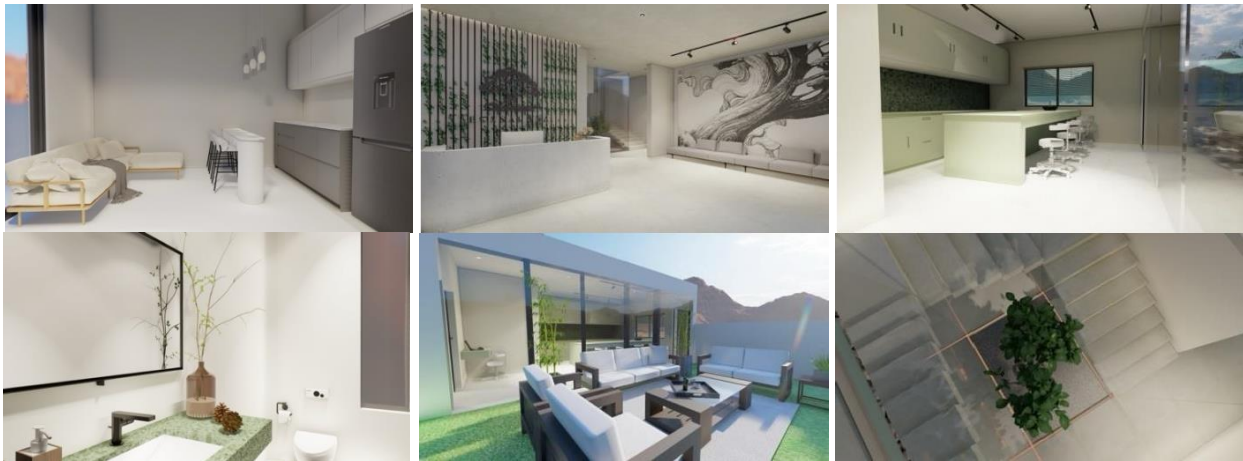
DESIGN PROGRAM

The design program of this project includes change the spaces and functions of this villa which ishas around 428.00 SQM. After reading a discussing the previous studies, we have concluded the main or the important function that must be available in a dental clinic. Furthermore, Adults will be served by the dental clinic, which also offers an environmentally friendly interior. As is well known,in the modern era, greater certainty is required in order to protect the environment and create an environmentally friendly environment. utilising recyclable, natural materials for furniture construction. The function of this villa it is planned to transform the family hall into a warm and inviting waiting area. The three bedrooms and the majlis will be converted into treatment rooms, making effective use of the available space. The laboratory and storage spaces will be located in the kitchen, making use of its two doors to allow for easy employee movement. Considering how important it is to give doctors and nurses a quiet place to relax, the master bedroom has been set aside for this purpose. The overall design strategy places a strong emphasis on careful space planning that is customised to each area's functional

needs, with an eye towards making the most use of every square inch of available space.



3D PERSPECTIVE OF THE PROJECT



CONCLUSION

To sum up, converting a residential property to be a dental clinic contain several steps from redesigning the interior of the house to be suitable for, distributing the functional of a dental clinic such as the treatment area or waiting area in the right place. The selected property in Al Khoud has been clarified in detail regarding its place and why it's been chosen. In the other hand, the concept of this plan which is minimalist interior design enhance the feature to have a clean design with a natural color, that contribute with the goals of this project to create an eco-friendly dental clinic. Related ideas or project have been discussed and relevant information has been obtained from them and use them to complete the project. The project includes the analysis of each floor plan, discussing the design by creating criteria mix and a bubble zone. Related images that express the idea of how the dental clinic is approximately gone be. Due to several factors, this dental clinic will ultimately assist patients in feeling more comfortable and satisfied with the services and the place.

At this point, the eco dental clinic will contribute to Oman 2040's vision.

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