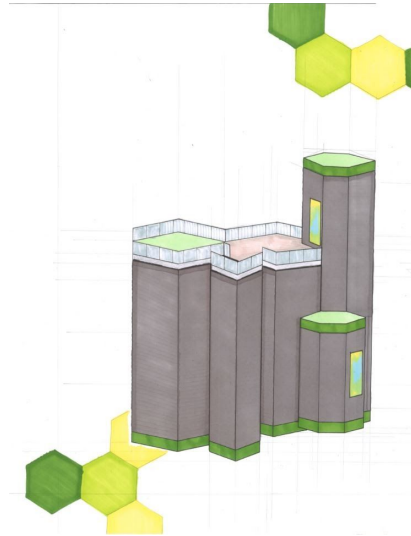


GROUP WITH BRANDON, OLIVIA, VIKTORIA, AND CJ

POLY PODS

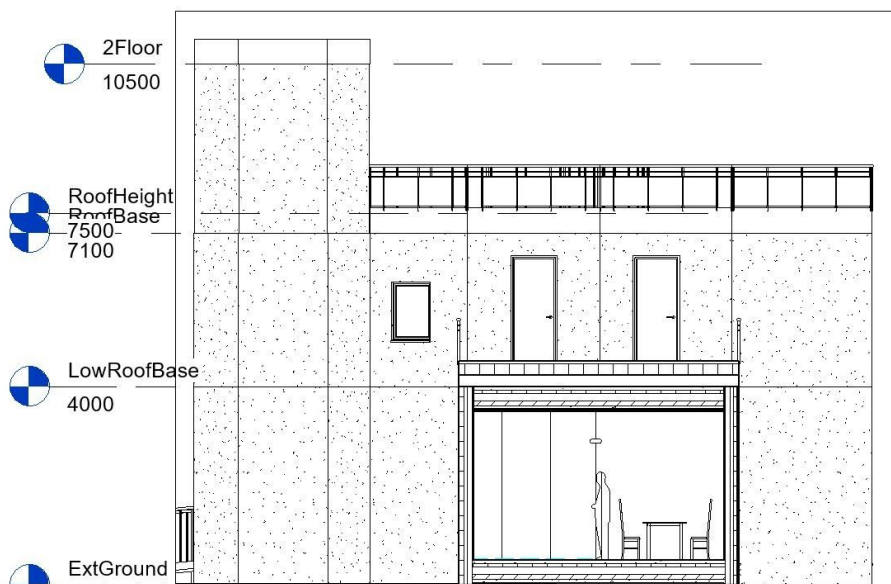
ACTIVE HOUSE



THURSDAY 27 FEBRUARY

DESIGN CONCEPT

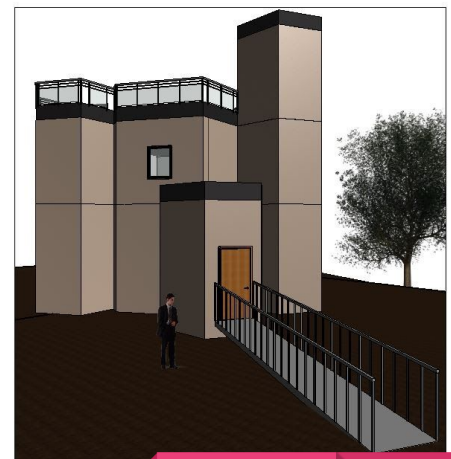
There will be separate pods with its own space, equally the same size, most are provided on the ground floor. The client will be able to decide the layout of the house, as these pods will be portable. We have also considered installing a grid for the foundation for easier movement of orientation. This will be targeted to a family of 3-5, as they are more in demand.



Sectional Elevation



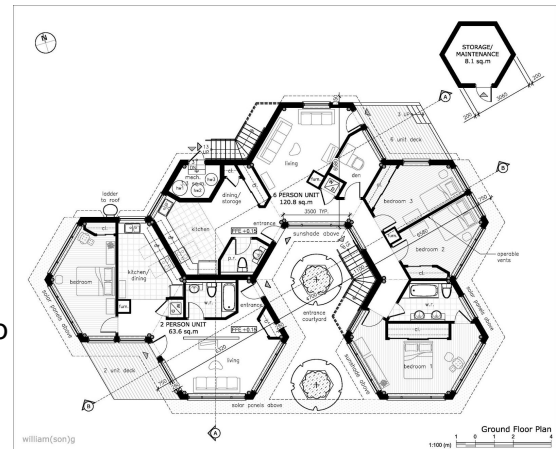
View of 3D Models



PRECEDENT STUDY / INSPIRATION

1. *Hivehaus, Barry Jackson*

- A very simplistic idea of a "getaway" house with the natural form of a honeycomb, with pod-like areas for each of the key aspects of a home.
- Exactly a similar idea to what we've been looking to do for our project.



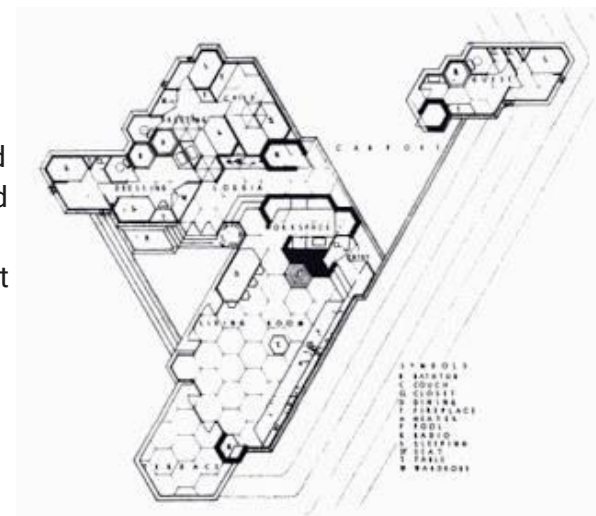
2. *Courthouse, hexagonal shape building, New York*

- Has the general shape of a hexagon which we wanted to look at our house.
- Explore the ideas of materials we were going to use to make it the most efficient.



3. *Bazette house, Frank Lloyd Wright*

- It was designed in the late 1930s and then was constructed in San Francisco for a total of \$13,000
- Built into a double V-shape, the building is based on the hexagonal unit. The walls are constructed from red brick and laminated redwood. The design has a large central chimney and a carport that separates the main house from the guest wing. It contains four bedrooms, four baths that occupy 2,200 square feet.



SERVICES

The main components of service required in our 2030 house: Hot/cold water, sewer waste, electricity, internet connectivity and Universal disability access.

Hot/cold water services: Water Conservation

- The idea of low flow plumbing fixtures can be installed with a stoppable system that can top water flow within an amount of a certain time. Like a touch-free tap.
- Another way is to insulate the piping to access hot water more efficiently.
- The idea of installing rain sensors, using recycled water in gardens etc.

Electricity

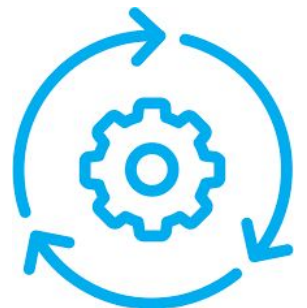
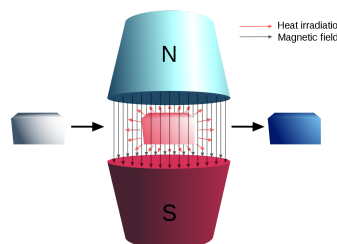
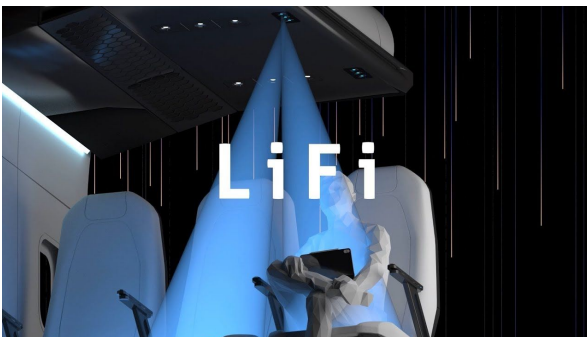
- Advanced house framing from sustainable timber sources to reduce waste and improve energy efficiency
- Passive Solar design principles applied in planning
- LED lights - Adjustable lights, making the brightness low or high depending on the preference of the users.
- Smart meters in order to improve energy use
- Smart glass, allows the glass to change color when the electric current is applied, which allows you to control the light and heat that comes into your building.
- PIR Motion sensors.
- The ability to connect electronic equipment from any room by having adaptable electrical points.

Internet connectivity

- Integrated LiFi system that can be controlled by the AI control system for faster and optimized use.

Disability services

- Innovative ideas to create an easier environment and living space for disabled people.
- Ramps.
- Stair designs.



UNIVERSAL ACCESSIBILITY

- Access is defined as an approach, entry or exit
- Entrance door minimum clear opening width of 775mm
- Corridors, passageways and internal door minimum of 750mm
- Stair minimum clear width of 900mm, with provisions of handrails on both sides
- Special provision for handrails are necessary for those who may have difficulty in negotiating changes in level.
- Main access and internal fire doors that self-close should have a maximum operating force of 20 Newtons at the leading edge. If this is not possible, a power operating door opening and closing system is required.
- Building regs part M1, the reasonable provision shall be made for people to gain access to the building. Approved document M section D, people regardless of disability age or gender should be able to gain access to buildings.

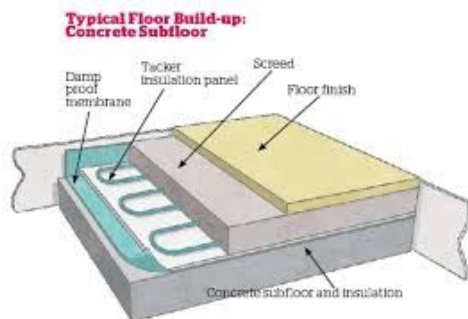


SMART DEVICES

- Integrated Voice activated AI system for User interactions
 - Communications
 - Controls (e.g. turn lights on/off)
 - Information
 - Entertainment
- The user interface for measurements and energy/water/heat control
- Controlled natural/artificial lighting system for max efficiency though use of mechanical blinds/curtains and internet connected lighting systems
- Integrated measuring devices for the systems, such as temperature, carbon dioxide/monoxide, Lighting and thermal sensors.

RENEWABLE ENERGY

- Heated floors inside using conductive metal flooring
- Tesla power walls
- Small wind turbines on top of or by the side of the pods
- Solar water heating
- Tubular natural skylights, panels that are situated inside the pods to have energy-efficient lights throughout the day.



Tesla Power Bank, Battery storage



BIOMIMICRY

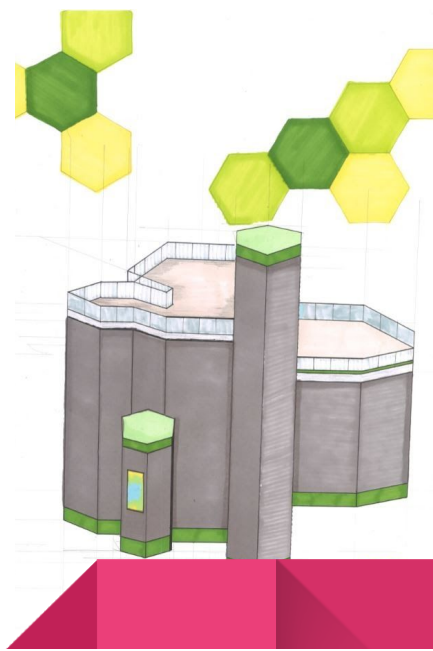
- The Hexagonal shapes inspired by the honeycomb.
- Shelter and temperature control through plants to prevent overheating
- Rooftop Gardens/Greenery
- Integration of nature into the elements of the home for air purification

Mood Board



CONSERVATION IDEAS

1. **Use of 'Garden roof' in order to improve the biodiversity of the site.**
 - Places for homegrown food
2. **Places for pets/domestic animals**
3. **Using more sustainable materials that supports local wildlife**
 - Composting
 - Natural and unprocessed materials



LAYOUTS (including spaces for living, dining, and sleeping)

KITCHEN SPACE

(Standard size: Average kitchen 20m²)

It should include:

- Countertops
- Wall cabinets
- Cupboards / storage spaces
- Outlets for appliances
- Oven
- Fridge
- Sink/ Dishwasher

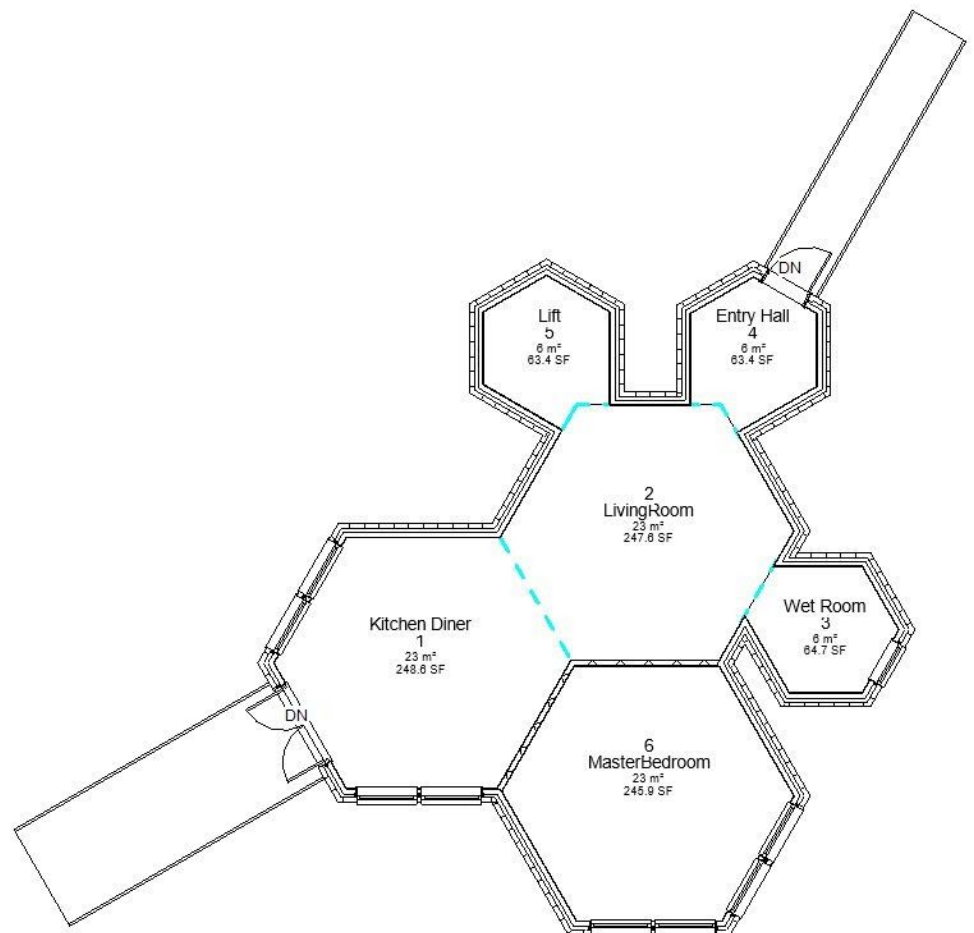
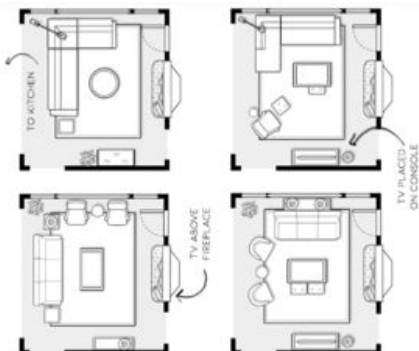


LIVING ROOM SPACE

(Standard size 25m²)

It should include:

- Carpet
- Chairs and Sofas
- TV and other electrical equipment



Further Considerations

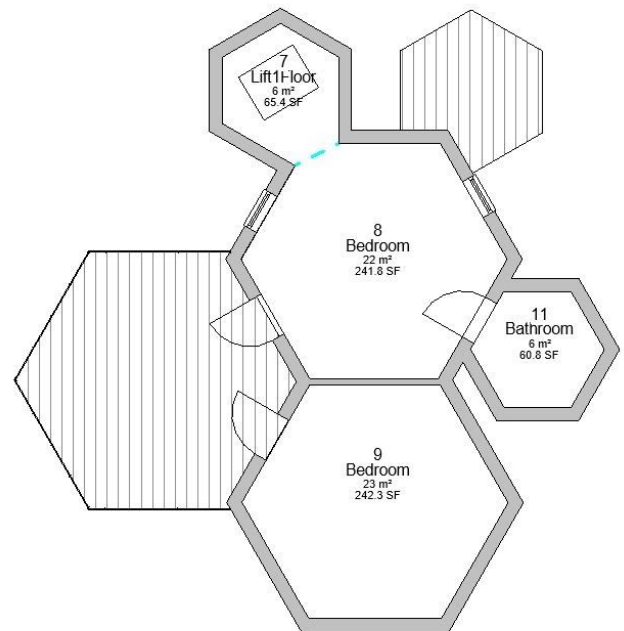
- Using recycled materials for the countertops such as using recycled plastic bottles
- A garden roof for locally grown food
- Composting kitchen waste for use in the garden
- Collect rain after its filtered for garden irrigation
- Electrical layout - movable power sources

BEDROOM SPACE

(Standard size: A minimum of 20m²)

It should include:

- Bed (either single or double)
- Bedside table
- Wardrobe
- Chair and table
- Other Furniture
- Additional storage space



BATHROOM SPACE

(Standard size: 6m²)

It should include

- Toilet
- Shower and Bath
- Sink
- Storage space
- Heater



Design Consideration

- A 3-4 person house would include some ensuite facilities depending on budget.
- Natural light throughout via considering the orientation of the pods.

COLOUR SCHEMES

The color schemes are inspired by the honeycomb ideas, along with the colour of green and the beauty of nature that surrounds us. In a way, it raises awareness of the issues in the environment and improves the environment for health and well being.

