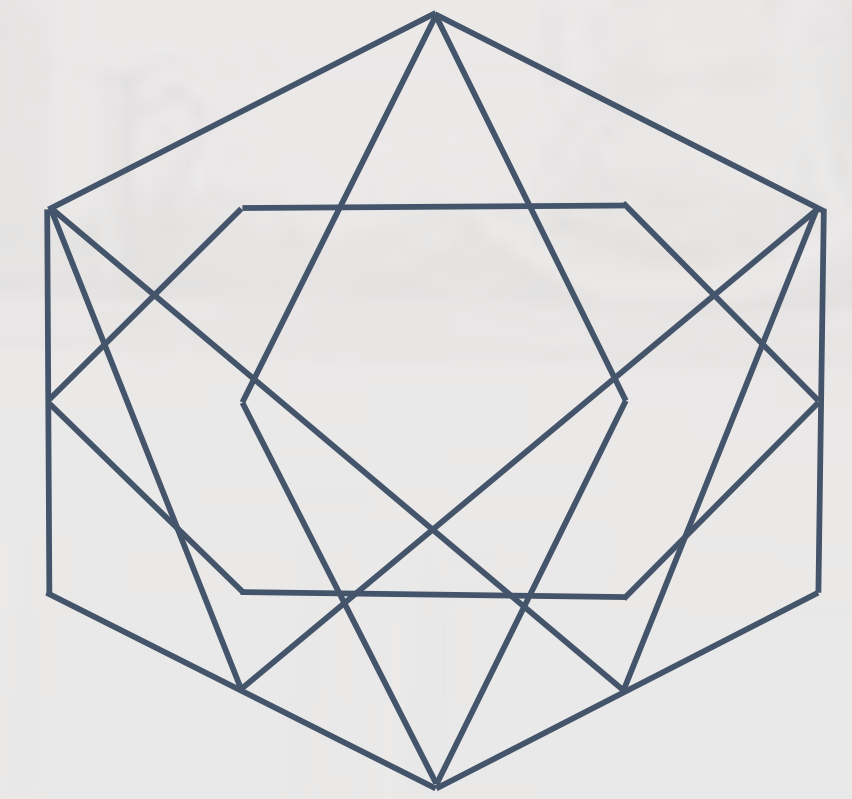


Design Concept:



Angela and Dan Ciavarella are planning for their retirement and would like to downsize their current home. They are in their 60s and recently adopted a German Shepherd. They have two children in their 30s with families of their own. Angela worked for 35 years and has recently retired, not ready to stop working completely she started her own business and now works from home. Dan is a security trainer working full time and is starting to plan for his own retirement. Angela and Dan would like to start planning for their retirement home and customize it to suit their future needs as they age. With this in mind they have asked that their home be accessible and easily navigable. They would like to include a spare bedroom for family and friends. Angela would like to have a home office for her business, she will not need to see clients in her home but she will need lots of storage. Dan would also like to incorporate a filing system in the office for his paper work as well.



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Requirements:

- Sustainable features to reduce their carbon footprint
- Develop property already acquired by clients
- Aging in place features
- Home office
- Easily navigate from room-to-room
- Guest room
- Lap pool
- Room for dog to run in backyard

Philosophy:

The deep exhale after a long day, Solar on Livingston welcomes you home and encourages you to put your feet up, sit back and relax.

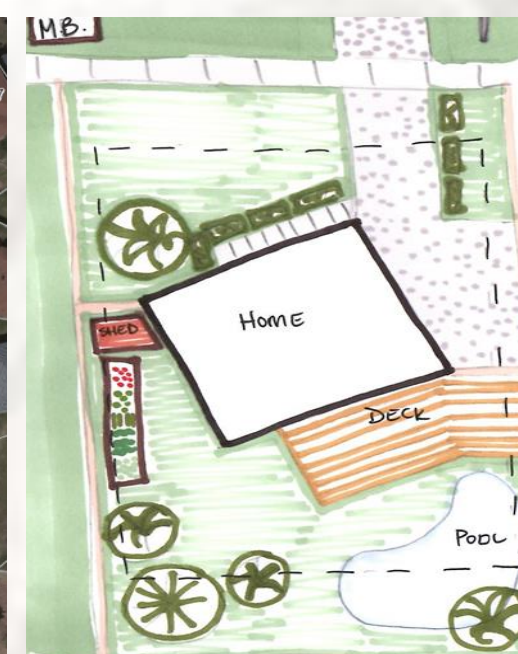
Find cozy spaces to entertain loved ones and new friends alike in every corner of this home. Designed for empty nesters but with all the amenities needed for the future Solar on Livingston is a traditional path to sustainable living.

Direction and Inspiration:

Maintaining the traditional brick home style of the neighbourhood and visual aesthetics of Mr. and Ms. Ciavarella Solar on Livingston will follow the same two story design as the surrounding homes. However this structure will be equipped with passive and active design features to protect their environment and their well being.



Acquired Lot



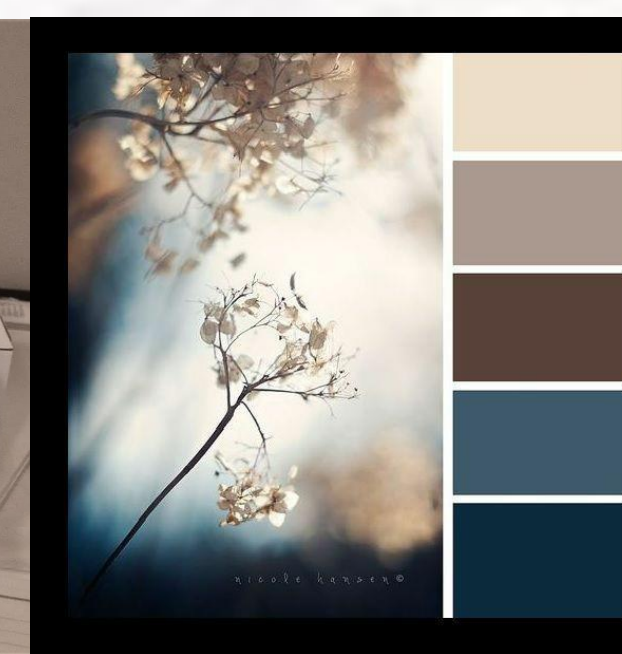
Landscape Plan



Theme, Classic Warmth



Massing Model



Classic Warmth

Solar on Livingston

Ciavarella Residence
Passive Solar Residential Design

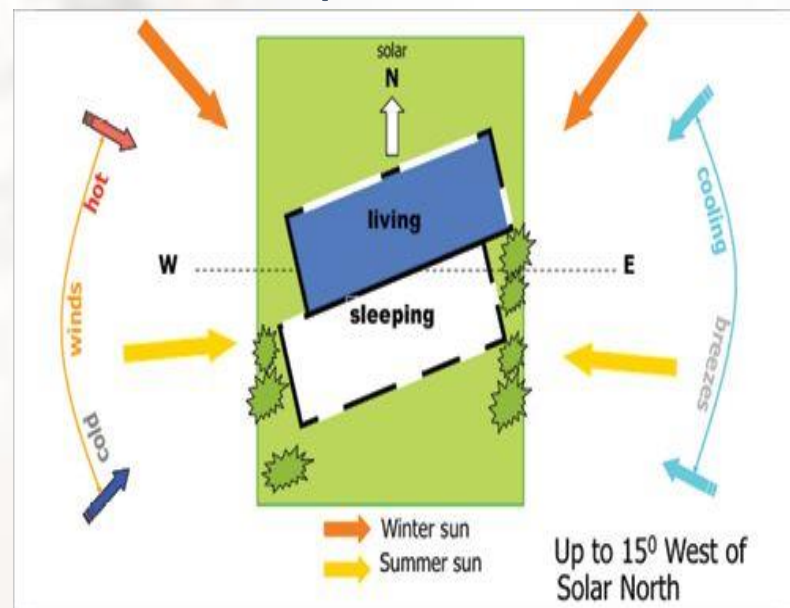
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Barrie, Ontario

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Submitted to: Marlene Mitchelmore
Submitted by: Crystal Roy
November 4 2019

Passive Solar Design Concepts:

Orientation:

The position of the structure on the property is an essential tool in taking advantage of the heat from the sun and the direction of wind patterns. Placing windows strategically around the home will allow us to capture the heat from the sun and allow us to cool the building with the wind patterns.



Position of the house on the property

Solar Panels:

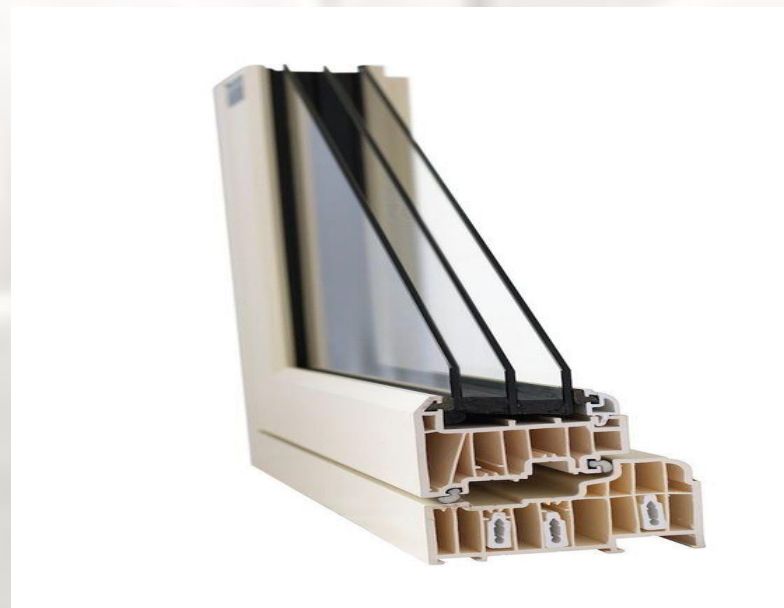
Solar panels are an incredible source of renewable energy, and will reduce electricity bills. The Tesla solar panels are designed to look like roof shingles, this is design feature allows the panels to blend in with there surroundings and reduces the obstructions to the view around the house for neighbours and passers-by.



Solar panel tiles on roof

Windows:

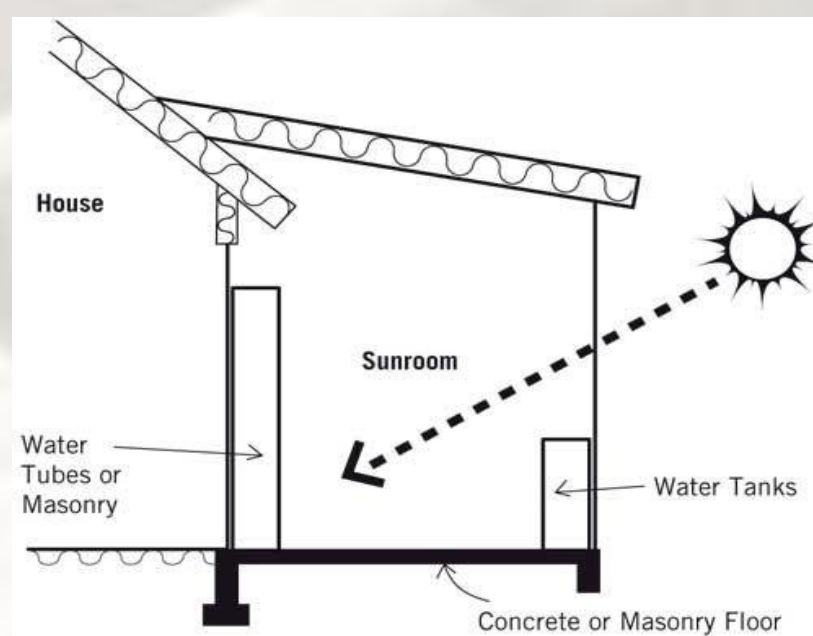
Triple pane windows have a higher insulation value, reducing the lose of climate control through the glass. They also have greater sound proof which reduces the exterior noises entering the house, and reduce condensation which prevents water damage around window sills and the development of mold.



Triple pane window

Sunroom:

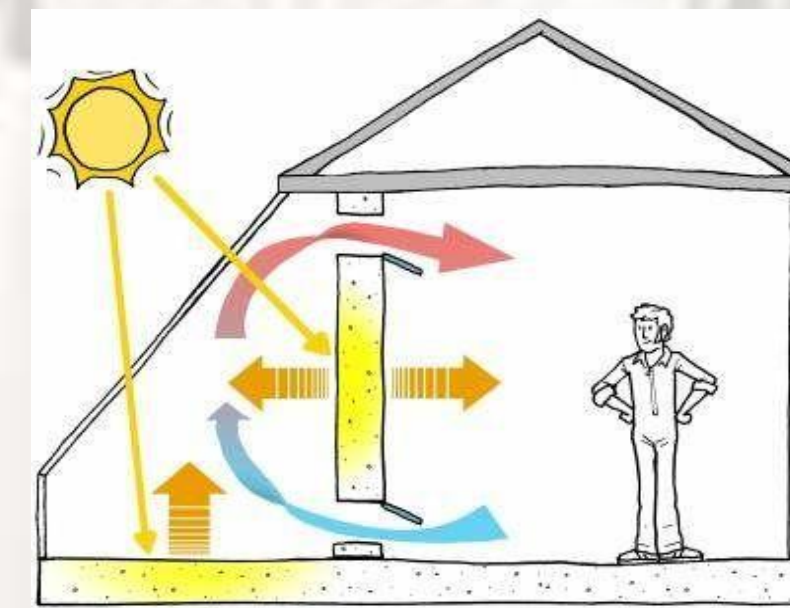
This feature will be used as a greenspace for the house to grow herbs for cooking. It will also be an area that captures the heat from the sun and in the winter will be a warm area to entertain and enjoy a view of the outdoors.



Sunroom

Trombe Wall:

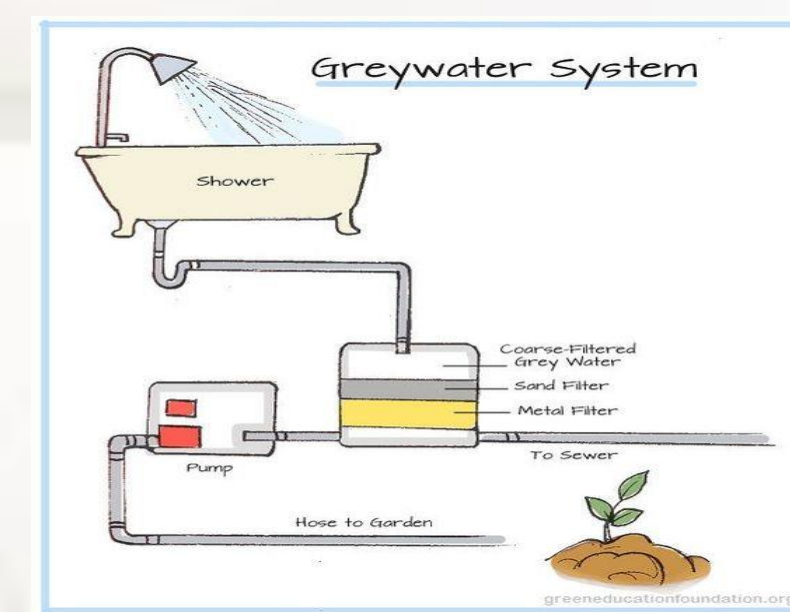
A trombe wall positioned on the south side of the structure will capture the most amount of heat from the sun. The wall releases the heat it's captured throughout the first level of the home. It is place in a key area in order for it's warmth to reach the greatest amount of coverage.



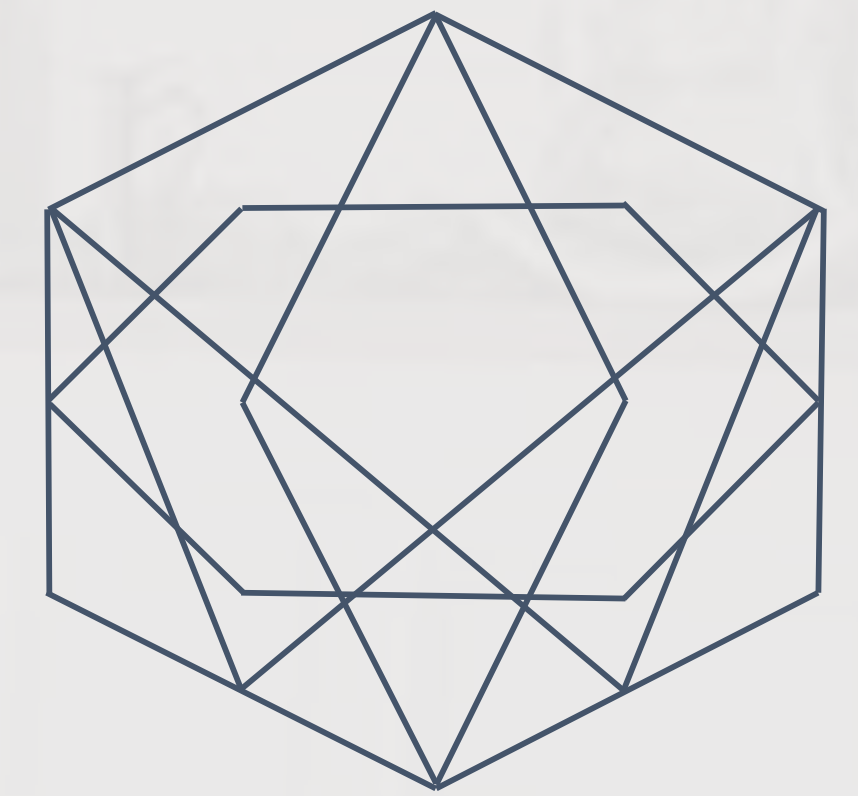
Trombe wall to retain and disperse heat

Greywater Collection:

Recycling greywater from the house will reduce the water usage coming into the property, which will reduce household expenses and alleviate the demand on the public supply. Greywater can be used on gardening and landscaping.



Recycle used water



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Solar on Livingston

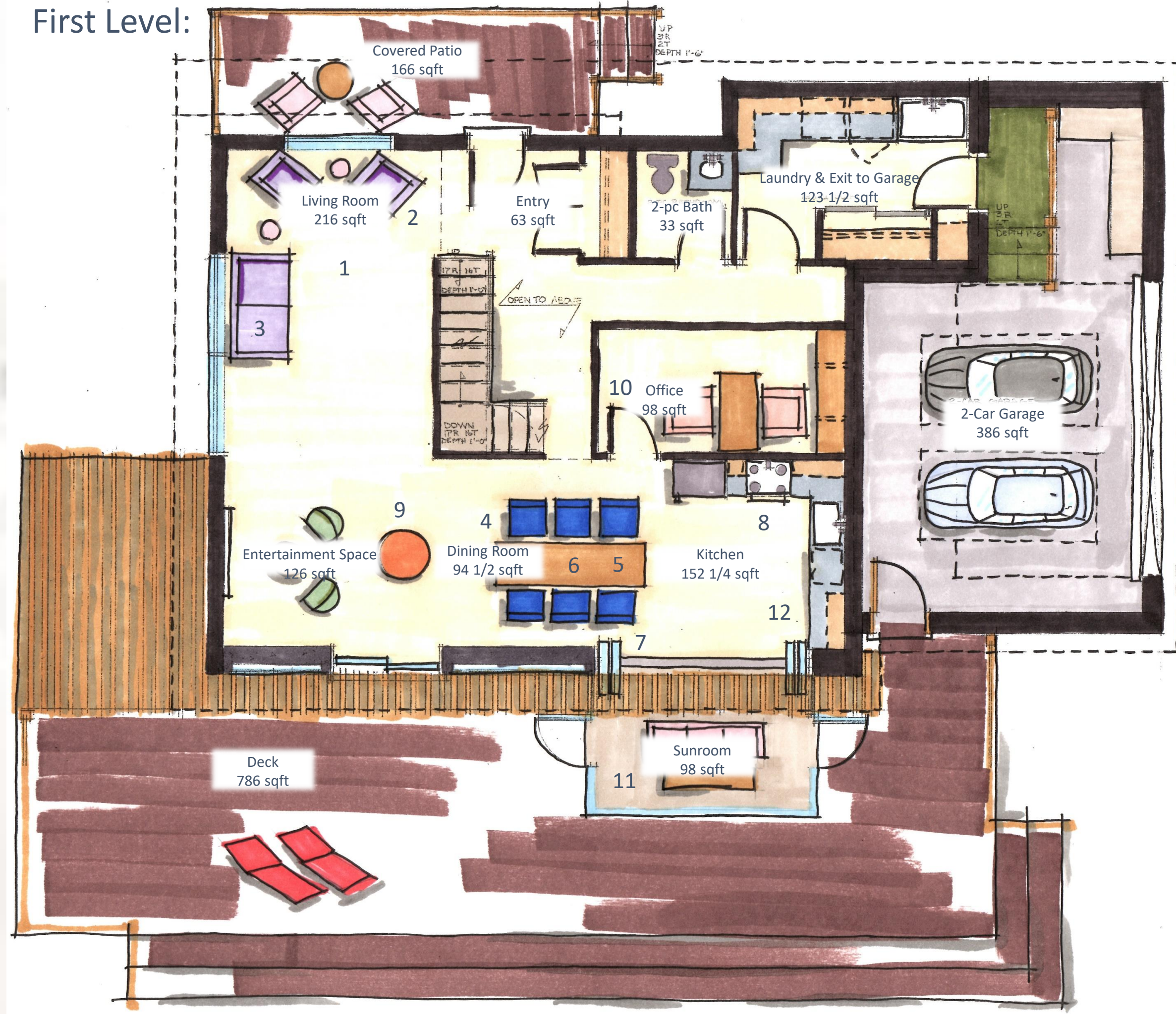
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Floor Plans:

First Level:



1. Living room inspiration



2. Living room arm chair



3. Living room sofa



4. Dining room chair



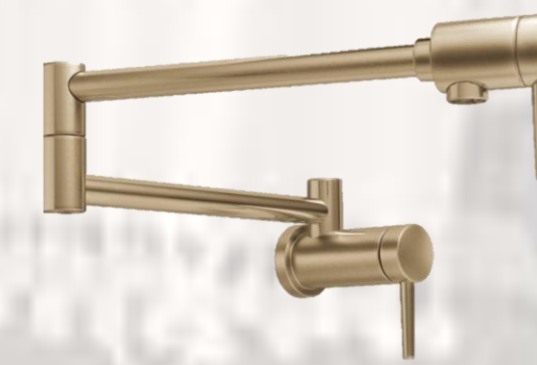
5. Dining room table



6. Dining room chandelier



7. Nano wall

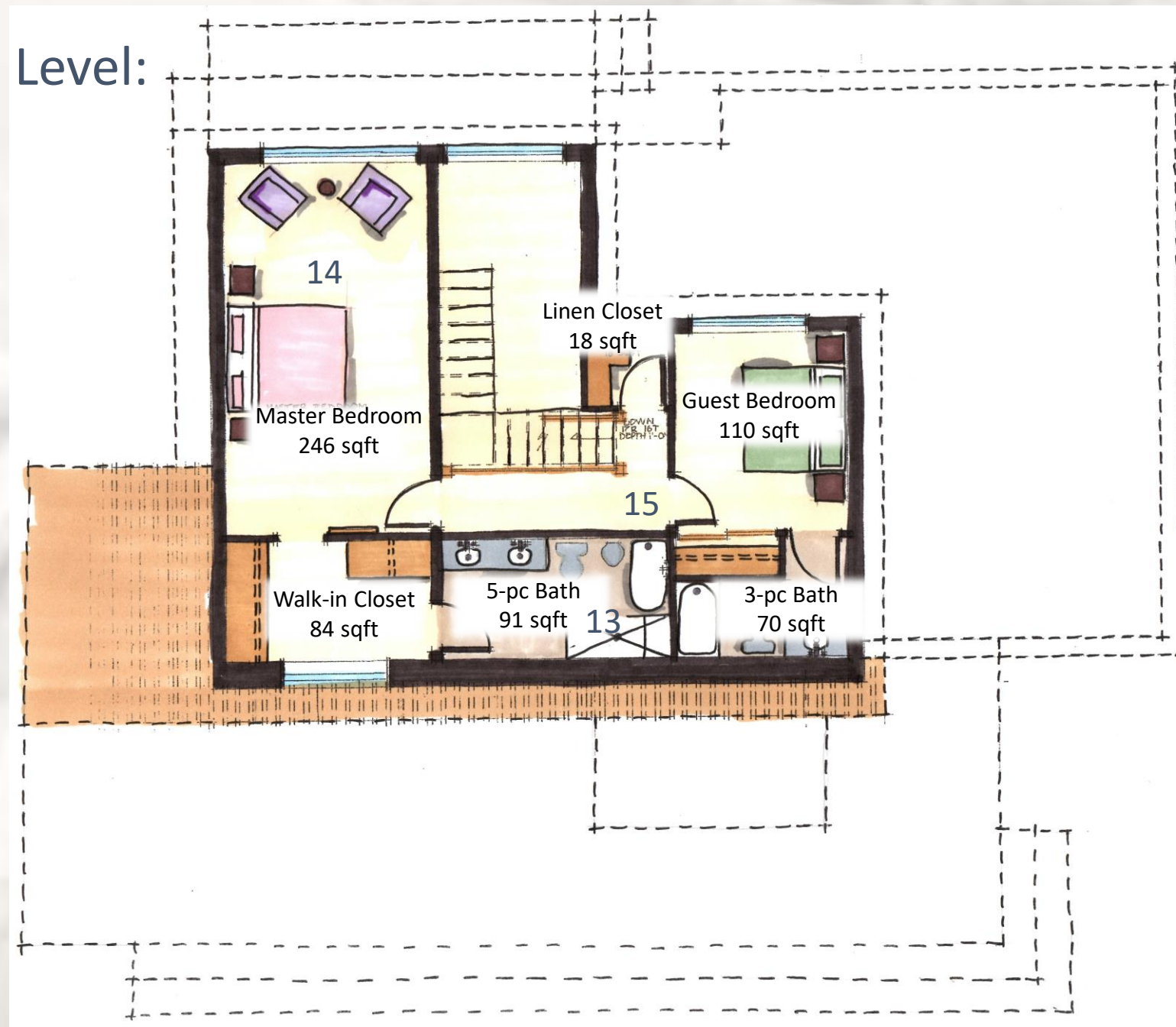


8. Pasta arm



9. Gas fireplace

Second Level:



10. Lever door handles throughout



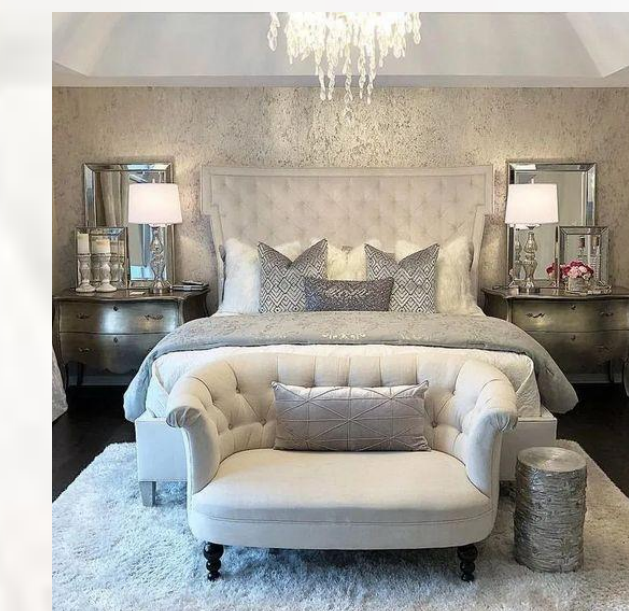
11. Sunroom inspiration



12. Kitchen inspiration



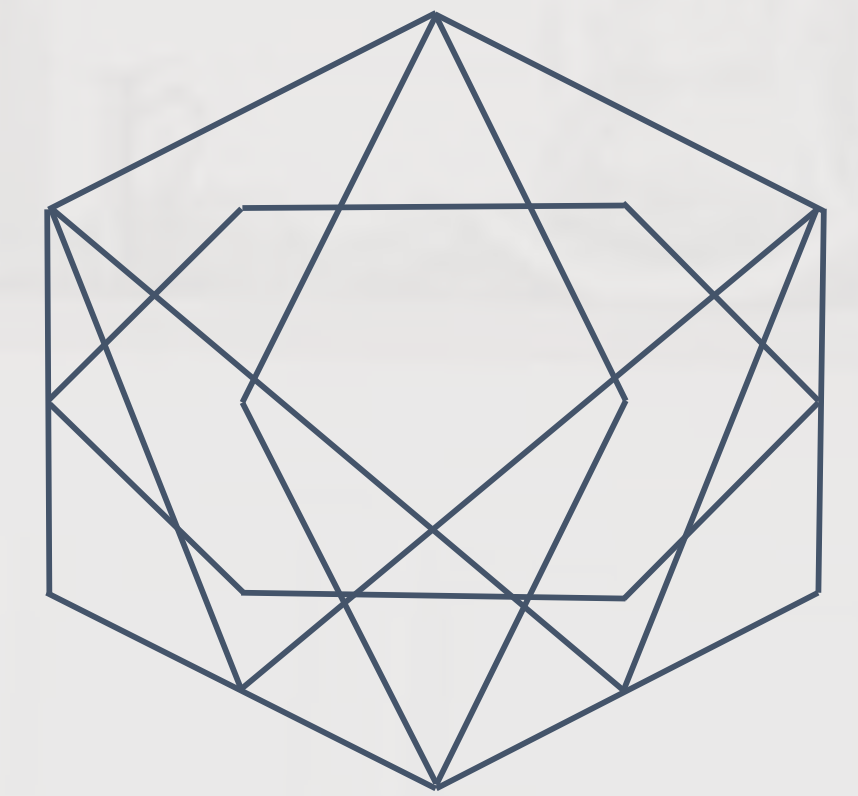
13. Walk-in shower with bench



14. Bedroom inspiration



15. Soaker tub



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