

Precedent Studies. Town House



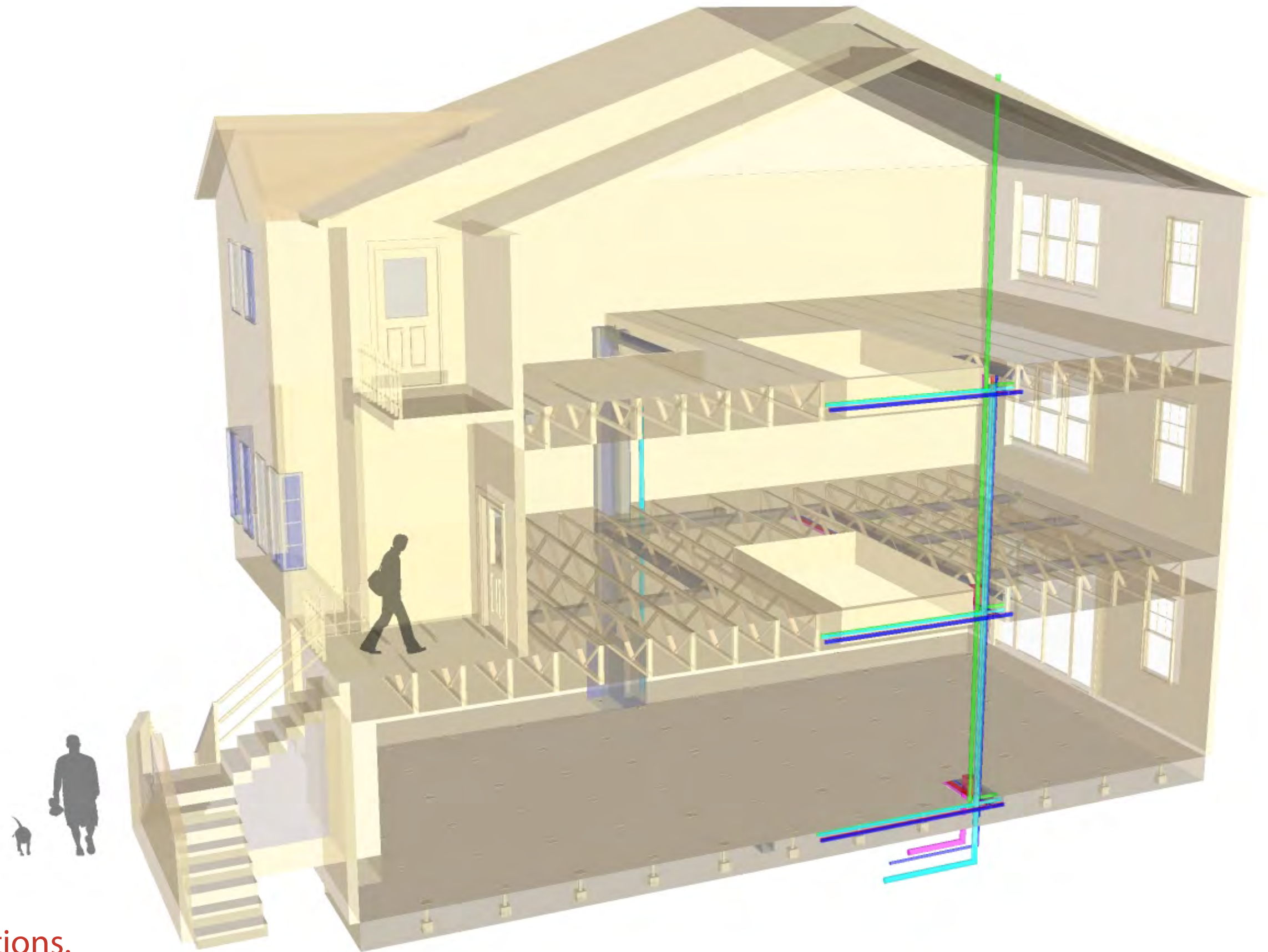
Informal meeting sessions with a mechanical engineer, plumbing contractors, and members of Galor Electric provided an initial knowledge base for all systems. Secondary meetings at Ball State, as well as product research has provided detailed information and various options when choosing MEP solutions.



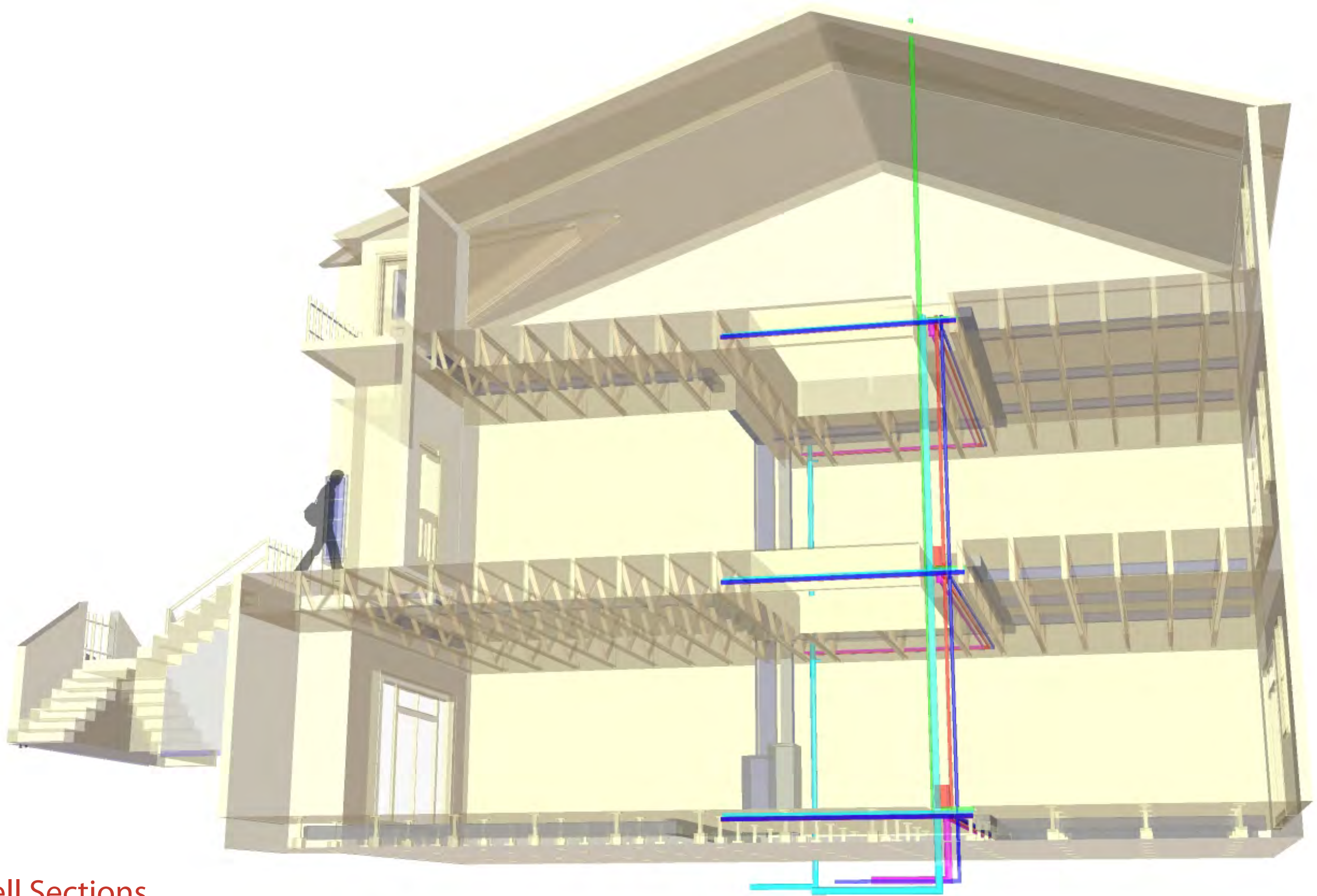
Extensive studies of basic floor plans found in text books, journals, via internet, and also provided by Ryland homes and The Village of West Clay lead to a clear understanding of basic infill variations based on basic needs.

Facade studies provided a wide range of design solutions, material palettes, and facade organization.

Studies also showed a clear distinction, or series of "zones" as the user approaches and enters his or her private space.



Shell Sections.
not to scale



Shell Sections.
not to scale

STRUCTURE.

Open web joists span the second and third floors with all systems to be ran within. The ground floor is a concrete slab with a pedestal style raised floor to provide an adequate plenum space.

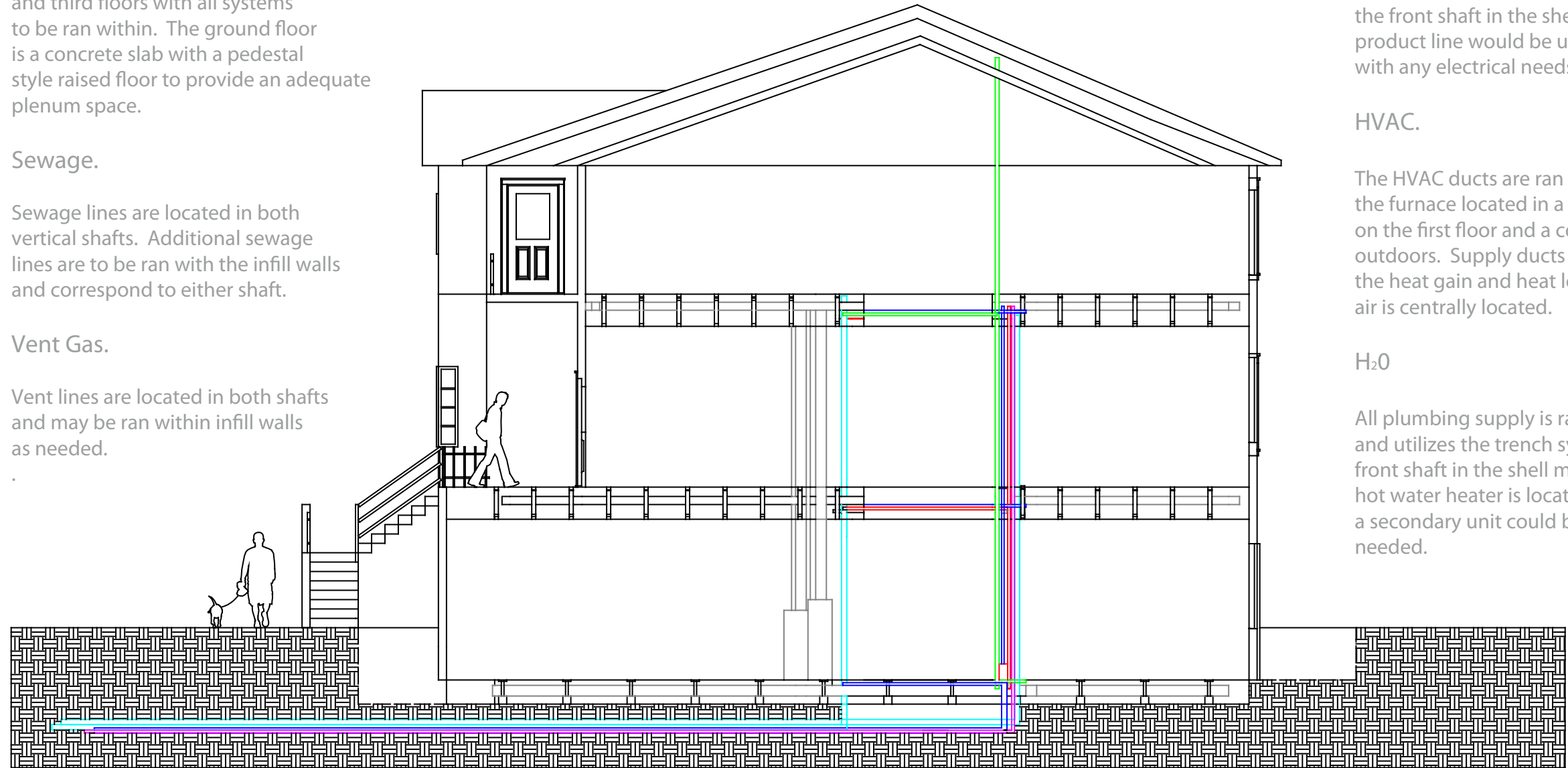
Sewage.

Sewage lines are located in both vertical shafts. Additional sewage lines are to be ran with the infill walls and correspond to either shaft.

Vent Gas.

Vent lines are located in both shafts and may be ran within infill walls as needed.

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ELECTRICAL.

The electrical bundle is ran through the rear shaft and utilizes a trench system to access the front shaft in the shell model. The wire mold product line would be used to provide infill walls with any electrical needs.

HVAC.

The HVAC ducts are ran in the shell floor with the furnace located in a mechanical closet on the first floor and a condenser unit placed outdoors. Supply ducts are consistent with the heat gain and heat loss of the shell, and return air is centrally located.

H₂O

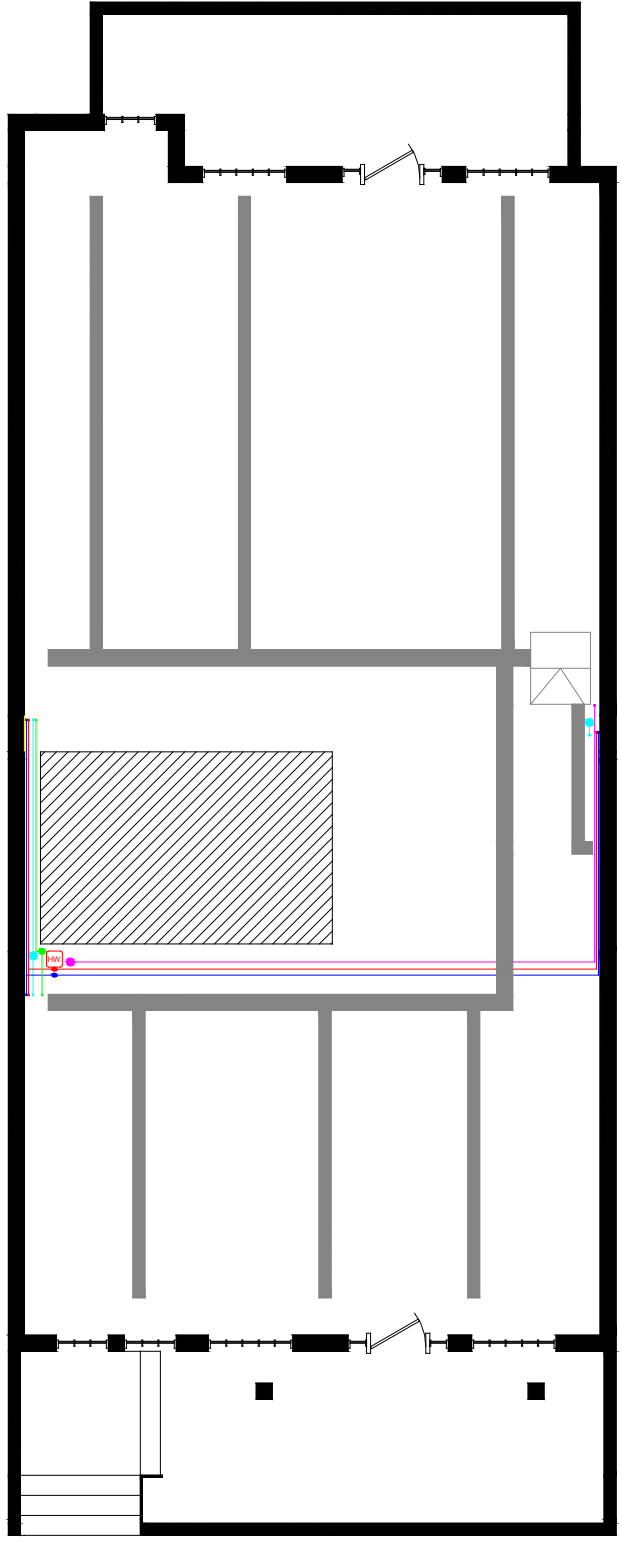
All plumbing supply is ran through the rear shaft and utilizes the trench system to access the front shaft in the shell model. A tankless hot water heater is located on the first floor and a secondary unit could be located on the third if needed.

Shell Sections.
1/8" = 1'-0"

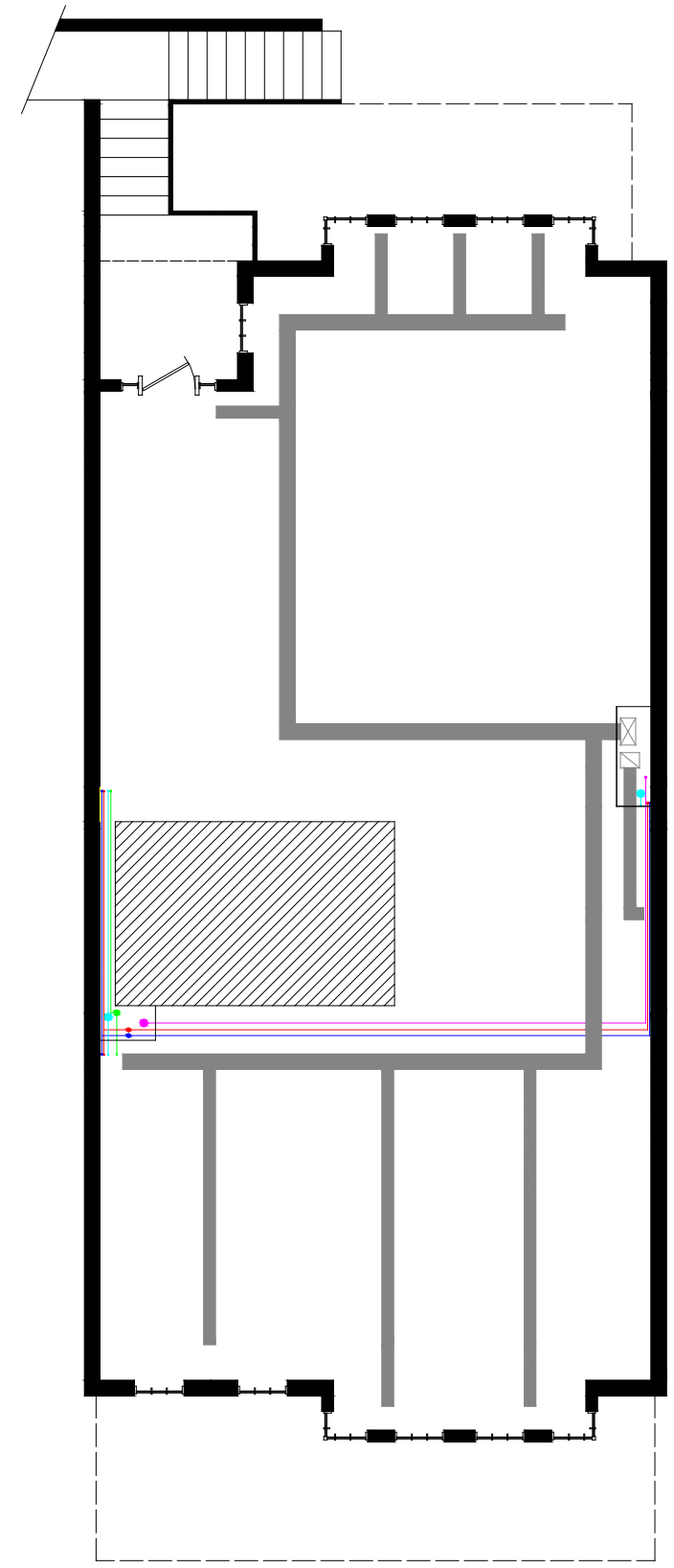


Shell Perspective.
not to scale

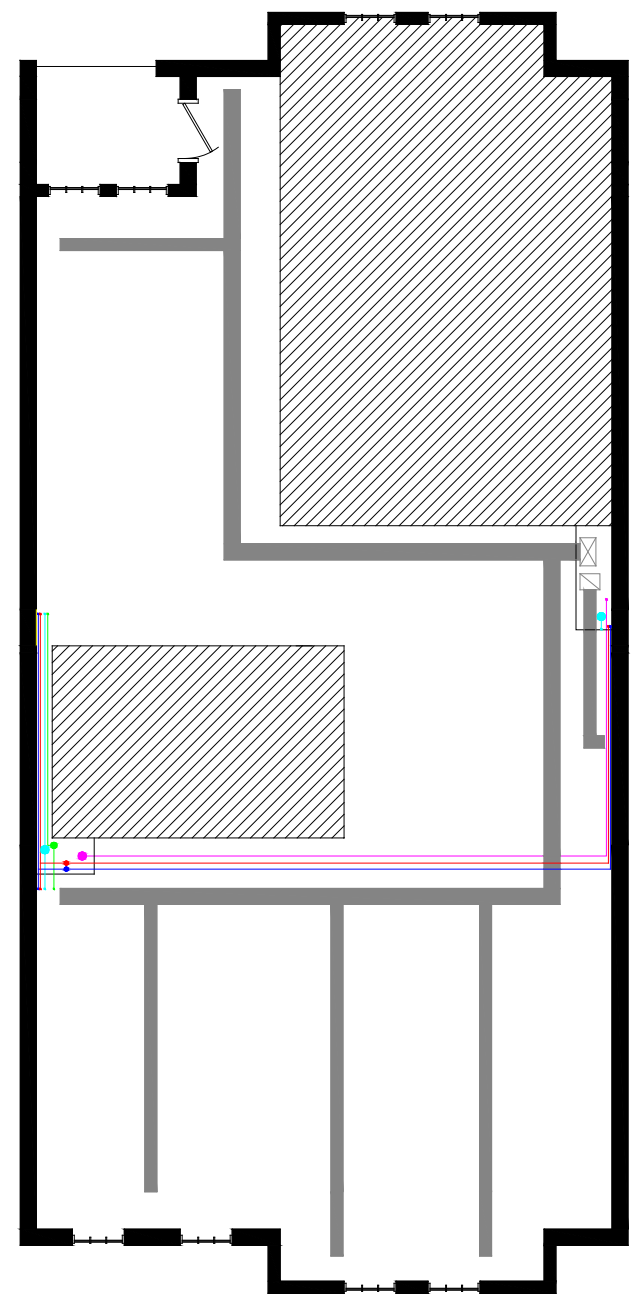
- VENT GAS
- HVAC
- SEWAGE
- COLD WATER
- HOT WATER
- ELECTRICAL



First Floor



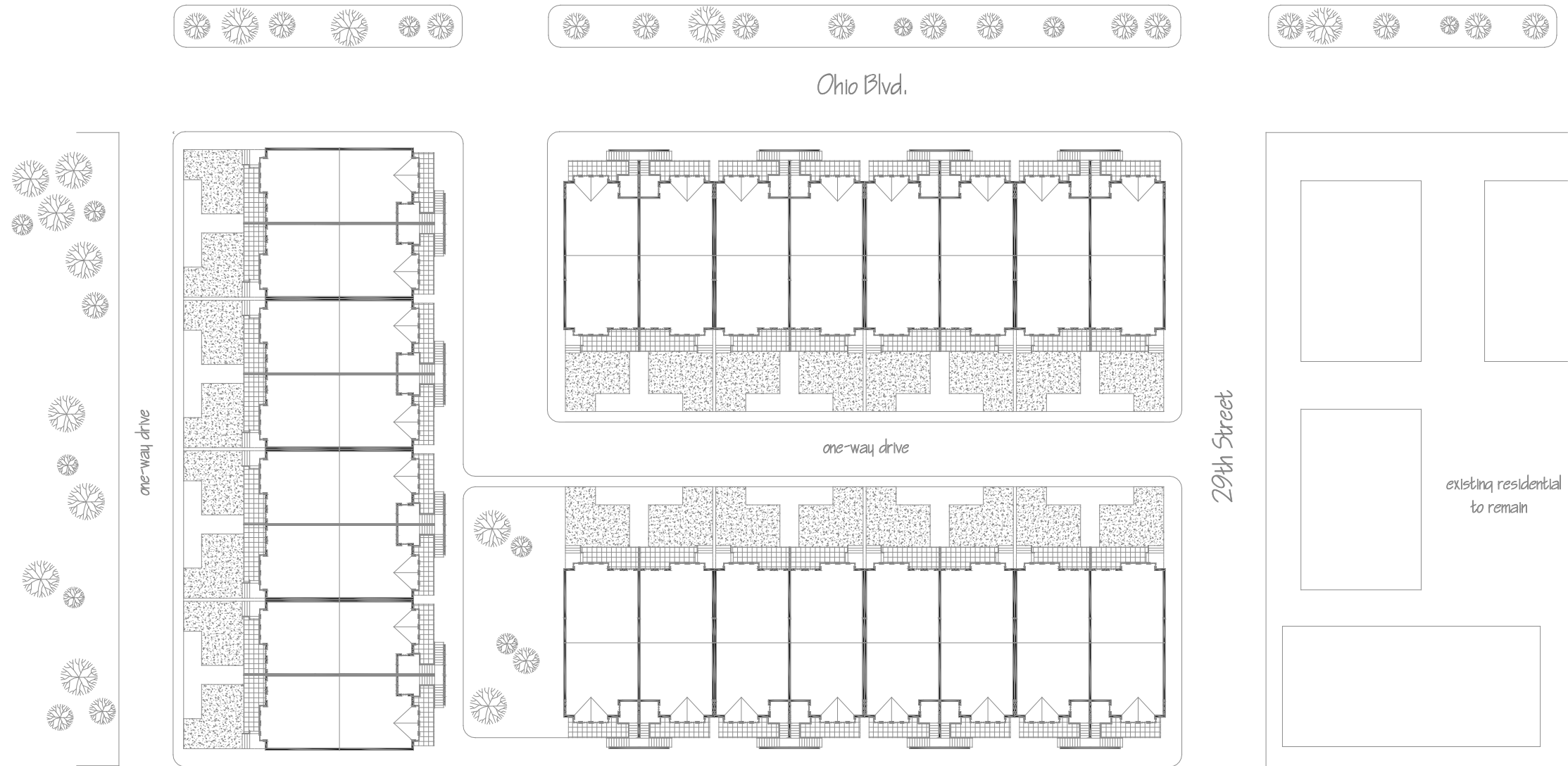
Second Floor

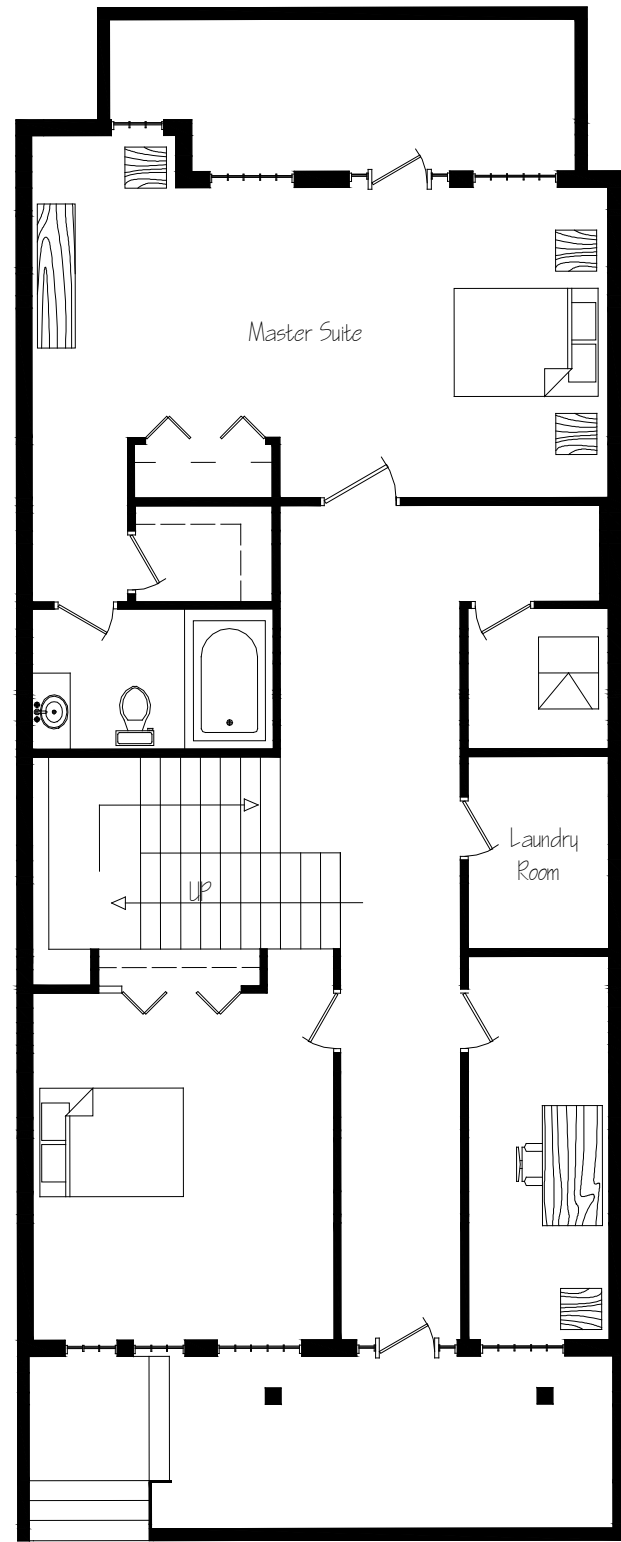


Third Floor

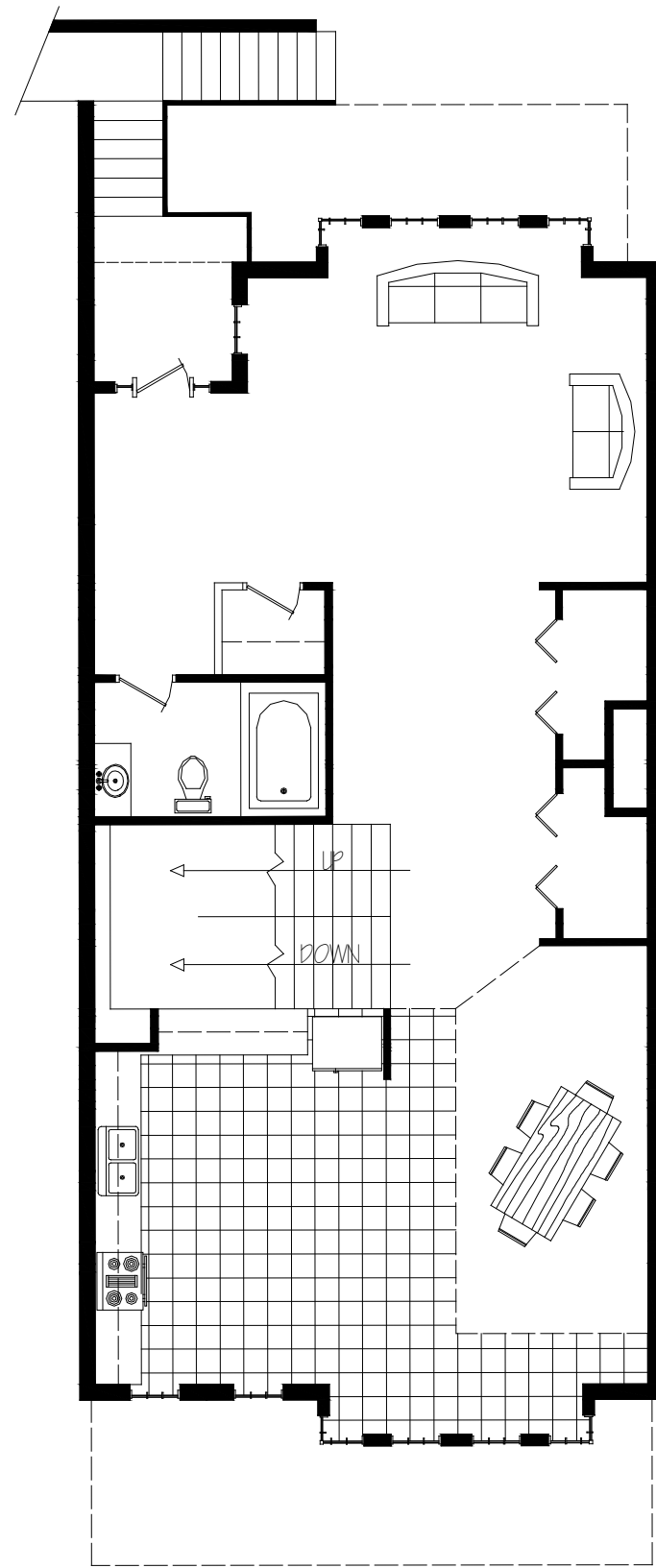
Shell Floor Plans.
1/8" = 1'-0"

Site Plan.
1" = 20'-0"

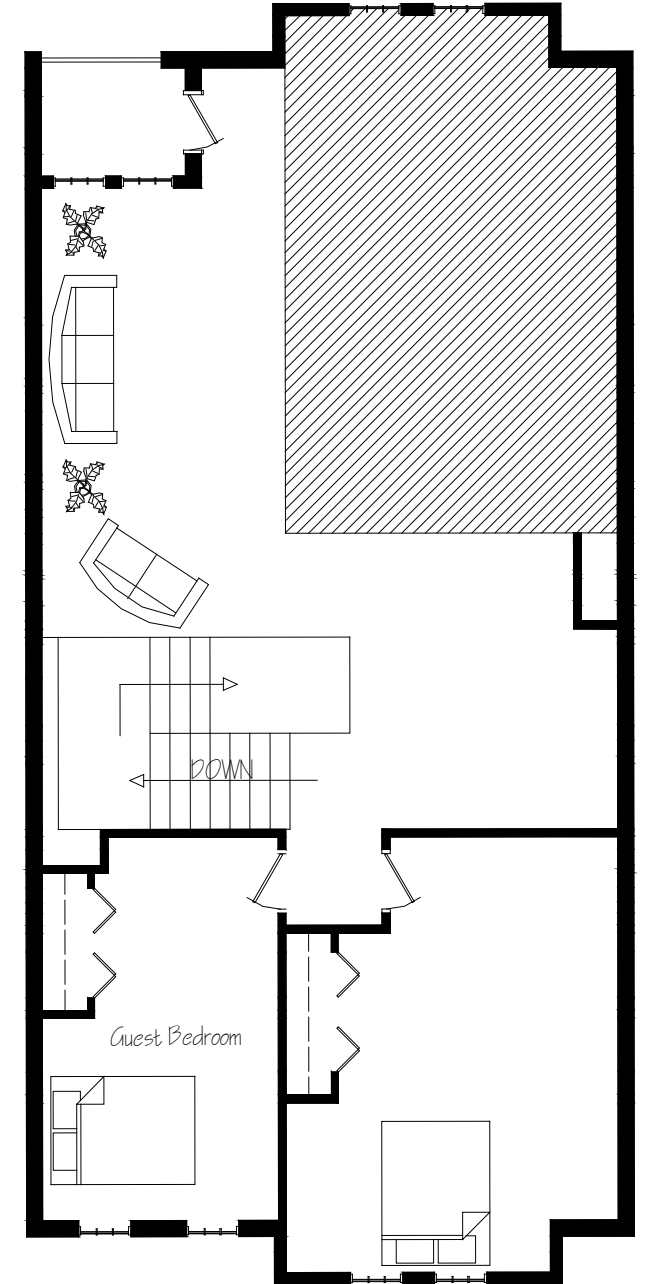




First Floor

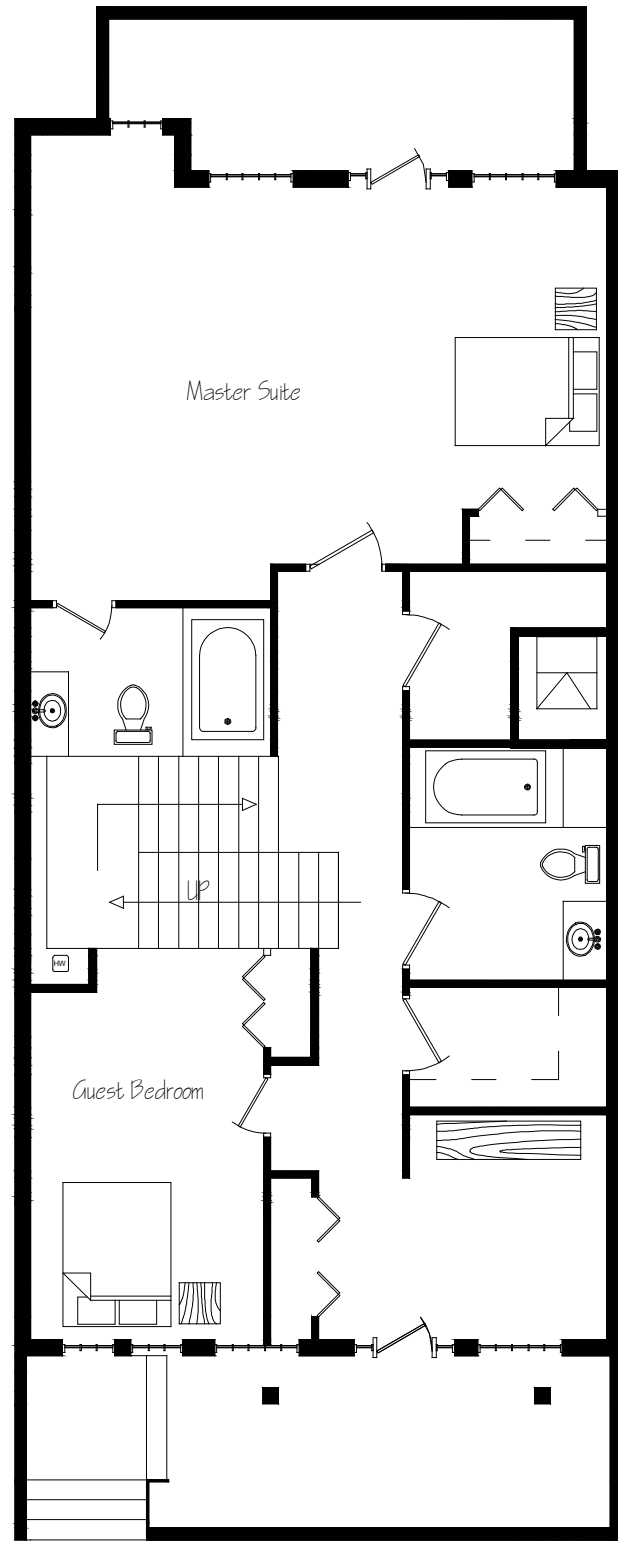


Second Floor



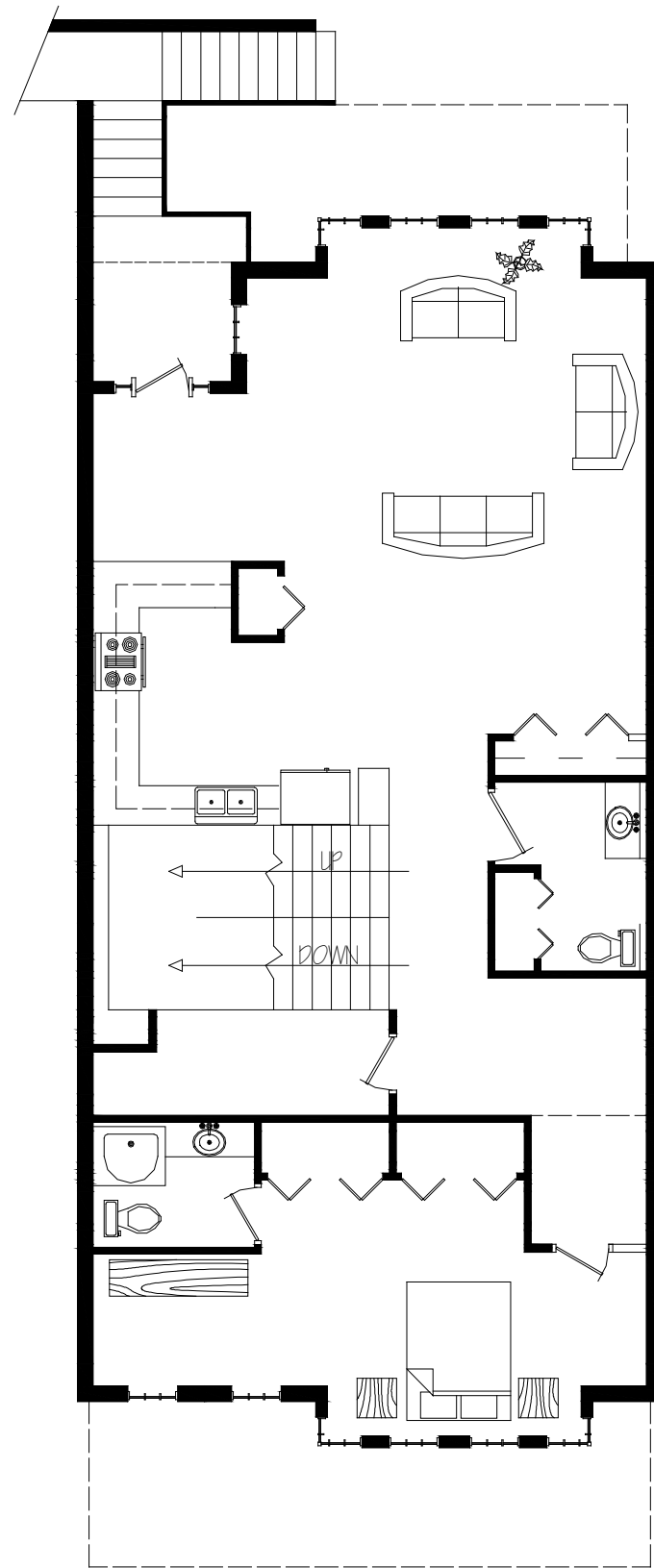
Third Floor

Variation #1.
1/8" = 1'-0"

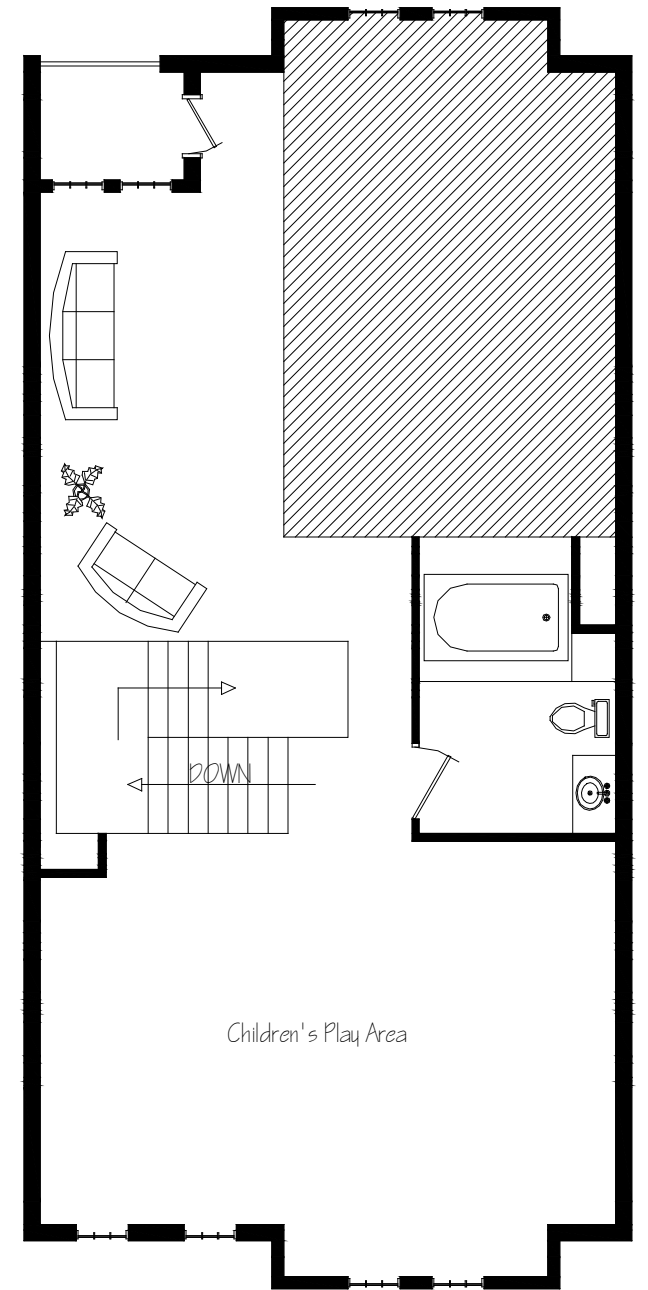


First Floor

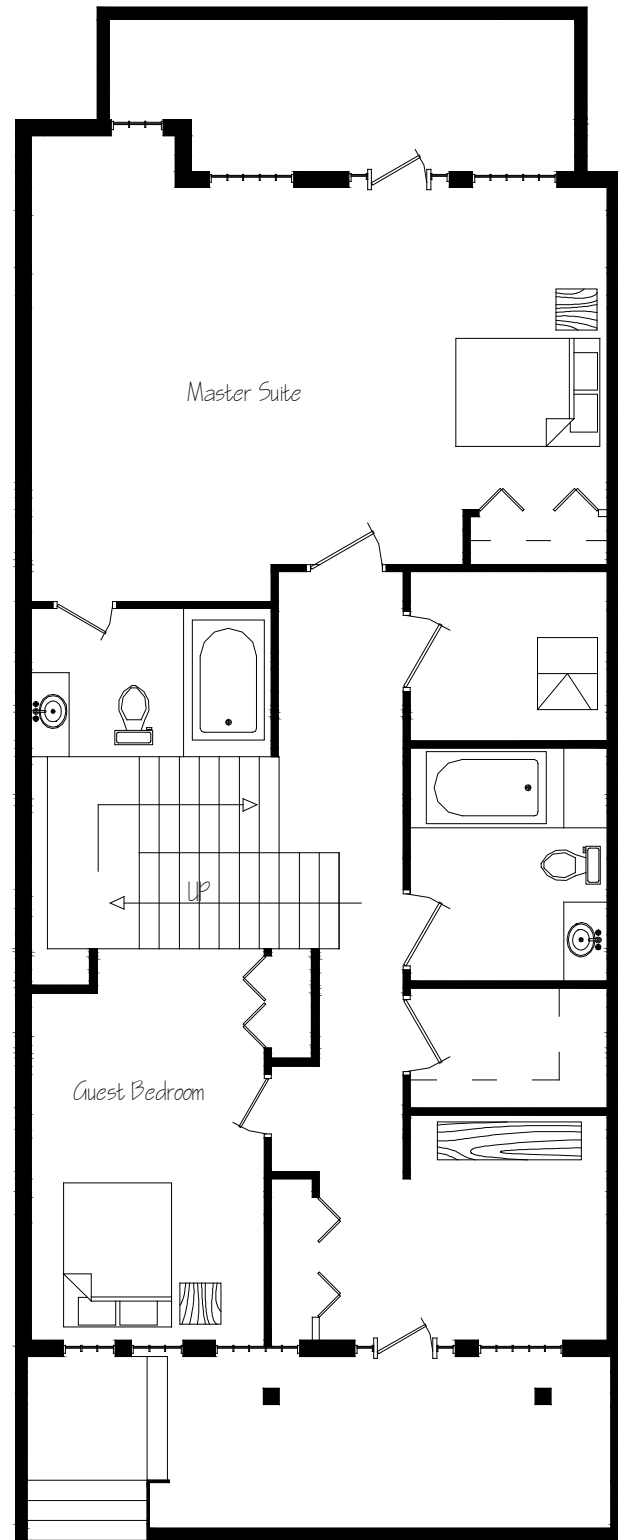
Variation #2.
1/8" = 1'-0"



Second Floor

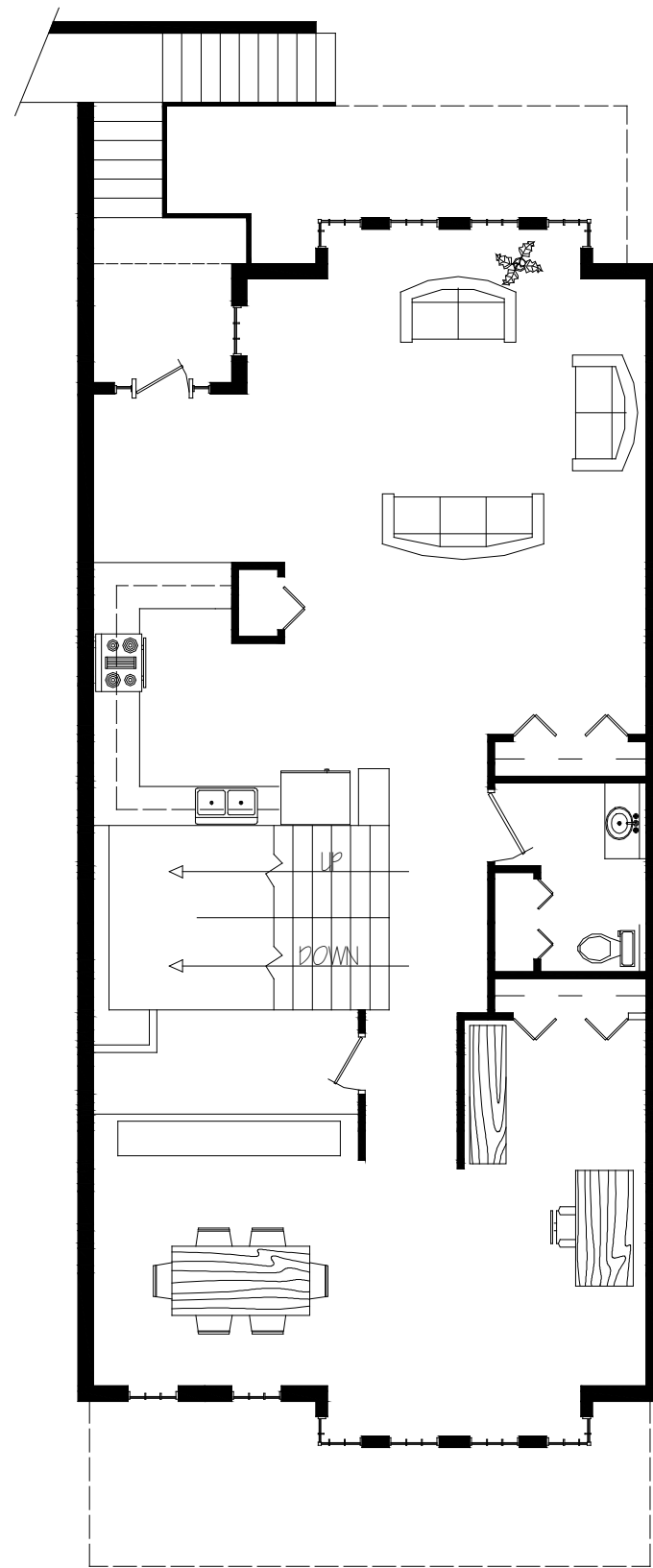


Third Floor

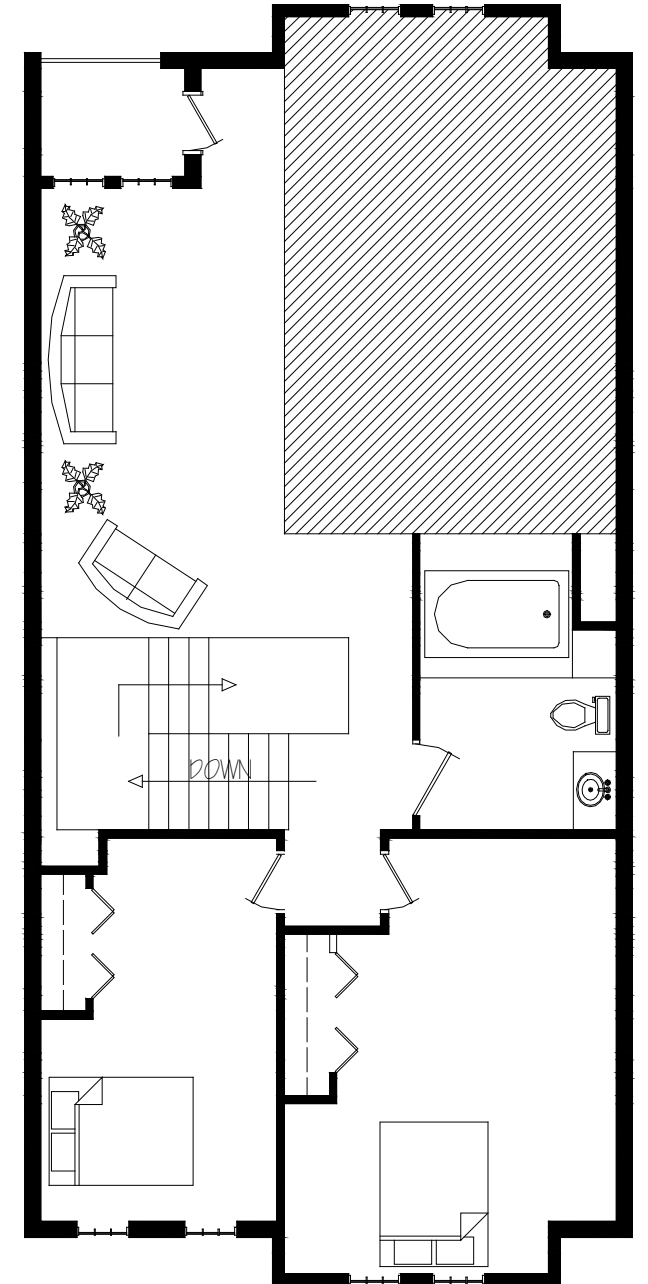


First Floor

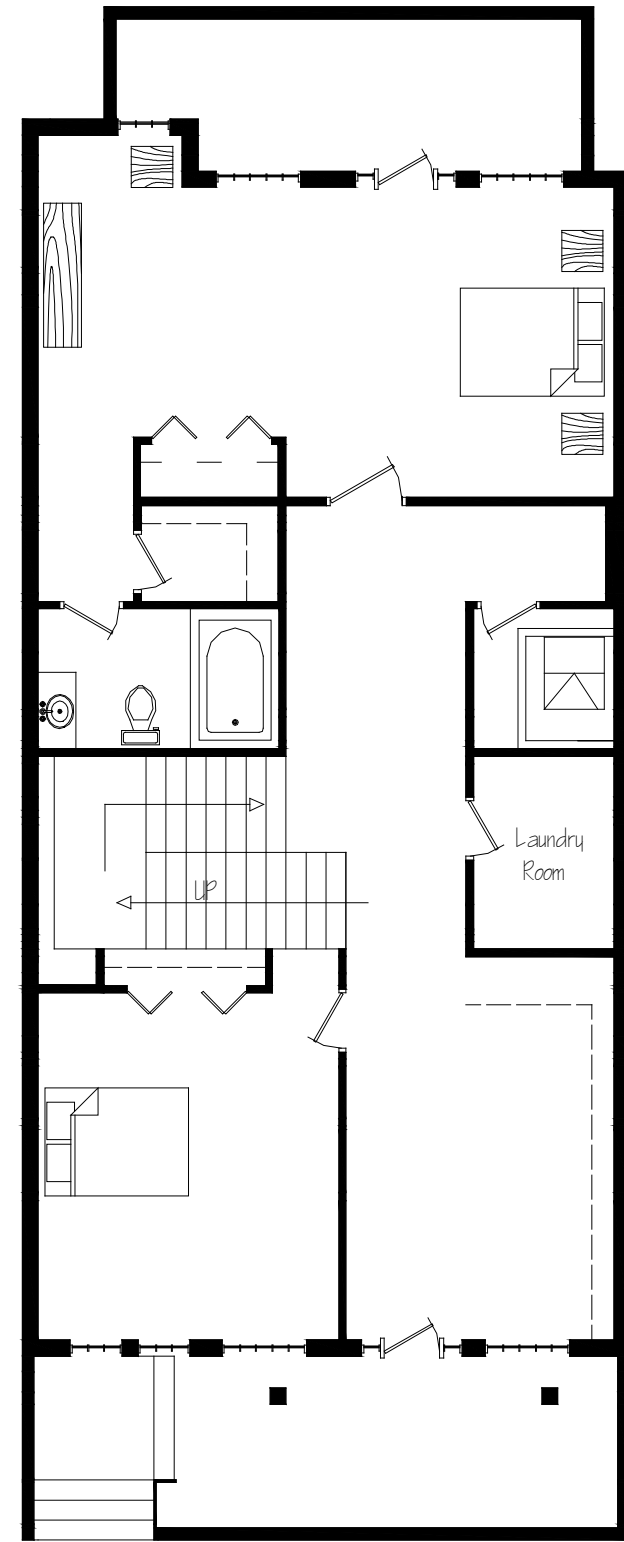
Variation #3.
1/8" = 1'-0"



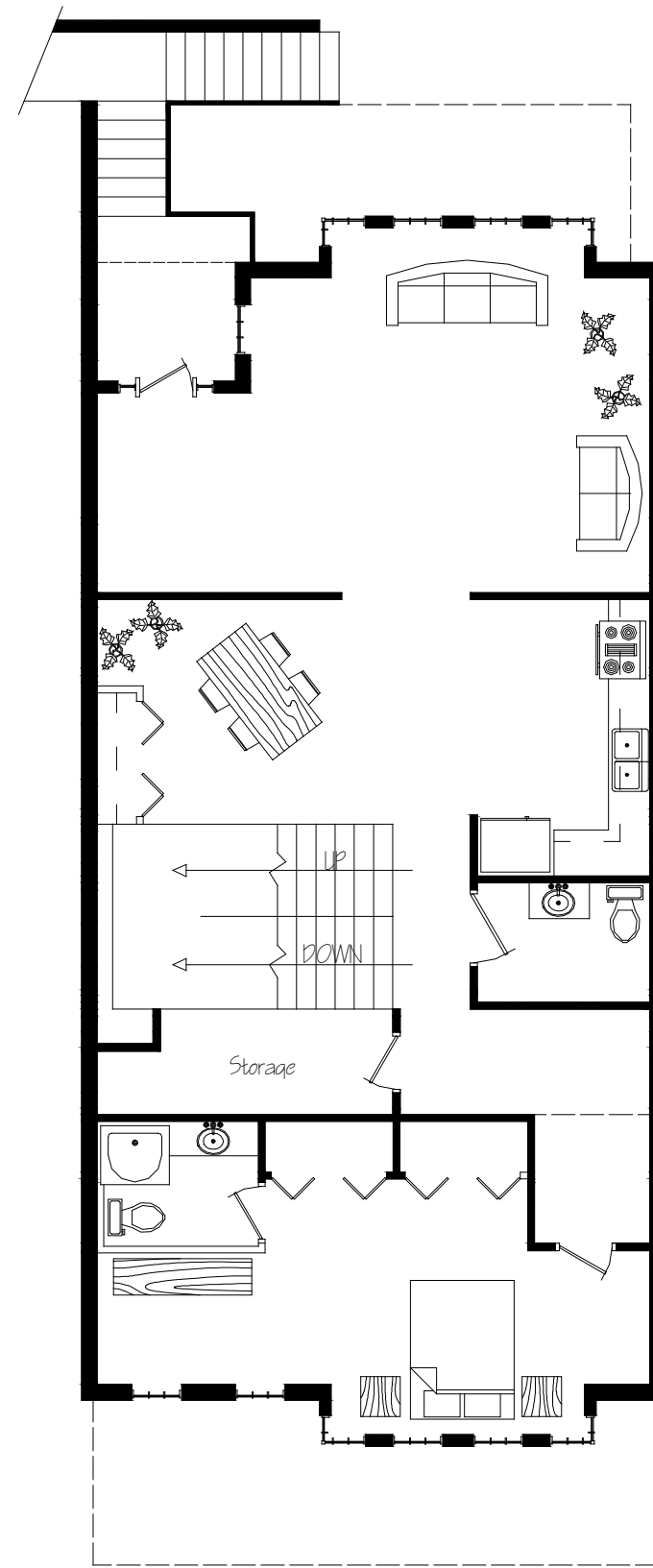
Second Floor



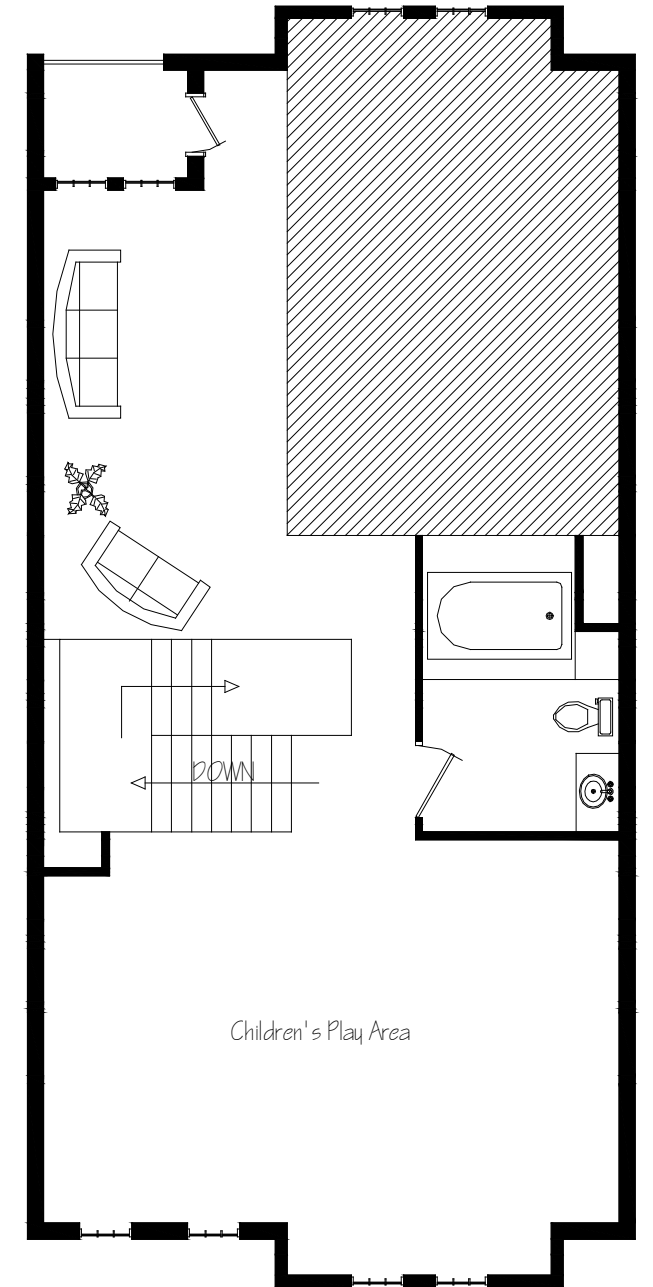
Third Floor



First Floor



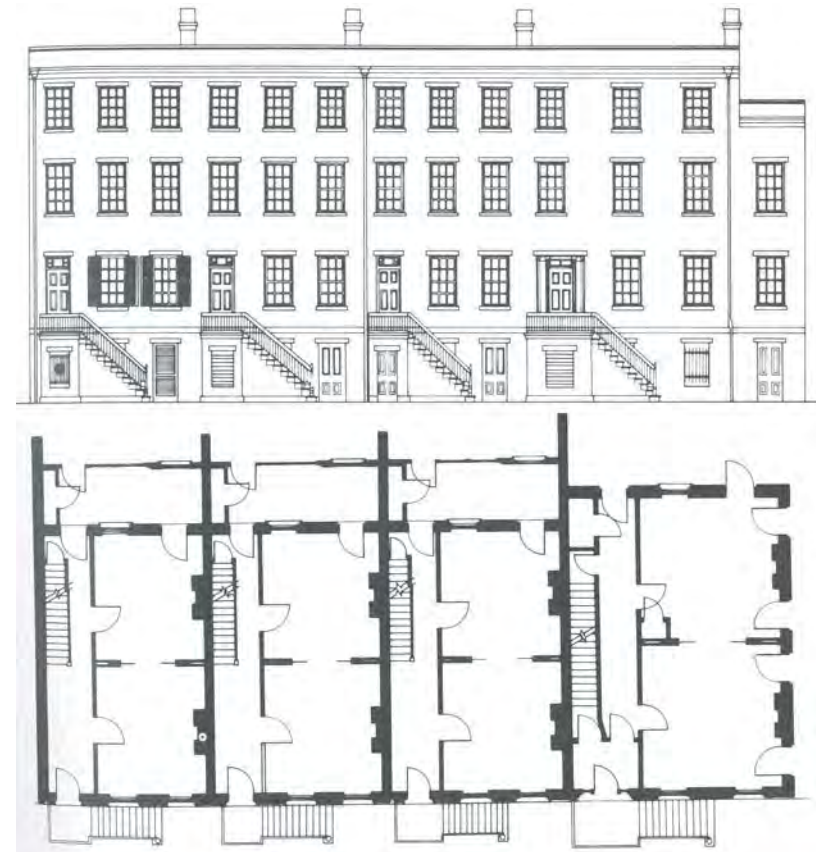
Second Floor



Third Floor

Variation #4.
1/8" = 1'-0"

precedence





s i t e

context.

location:

- Indiana
- Not West Clay
- Suburban

skin/materials:

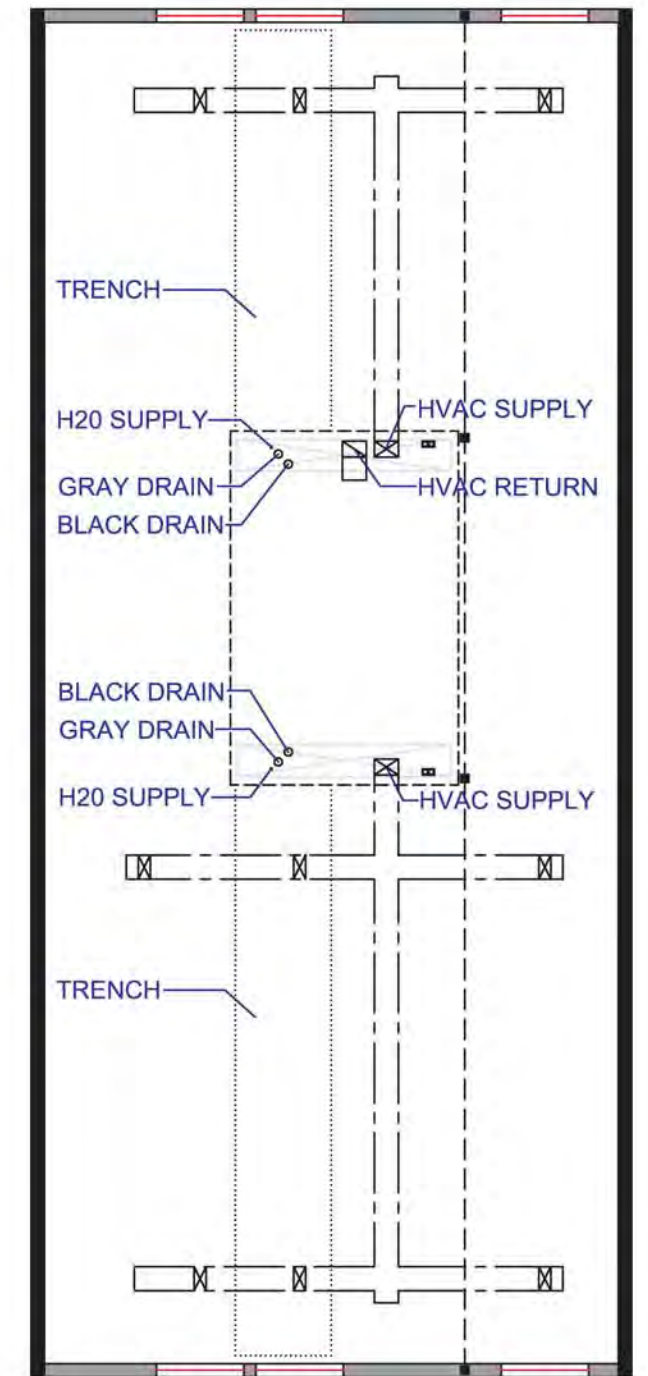
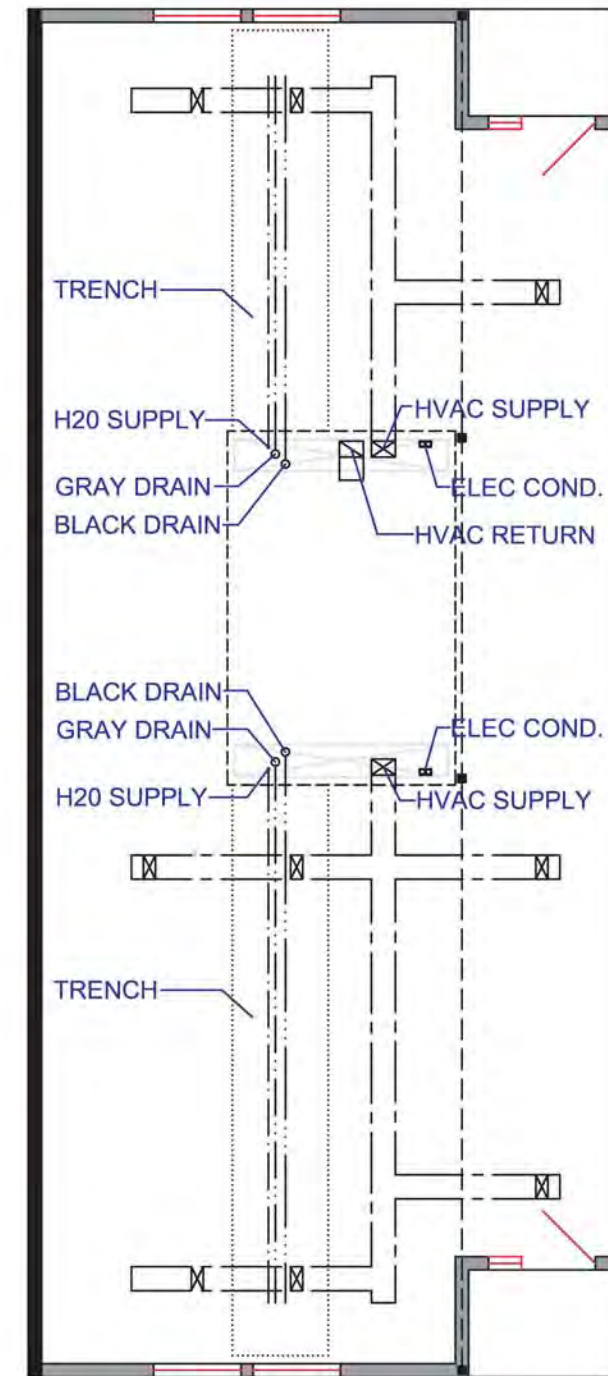
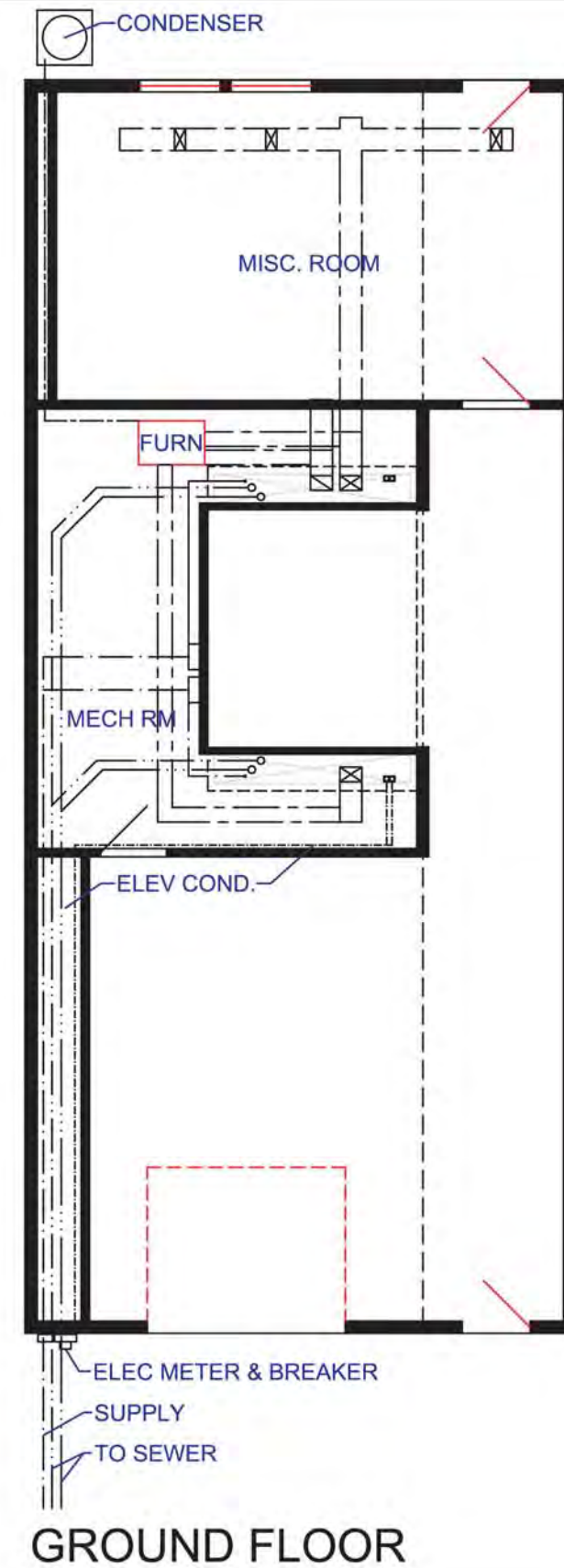
- Brick, siding (wood or vinyl)
- Rough openings for windows & doors

assumptions:

- Every unit has basement
- Facade wall selectable

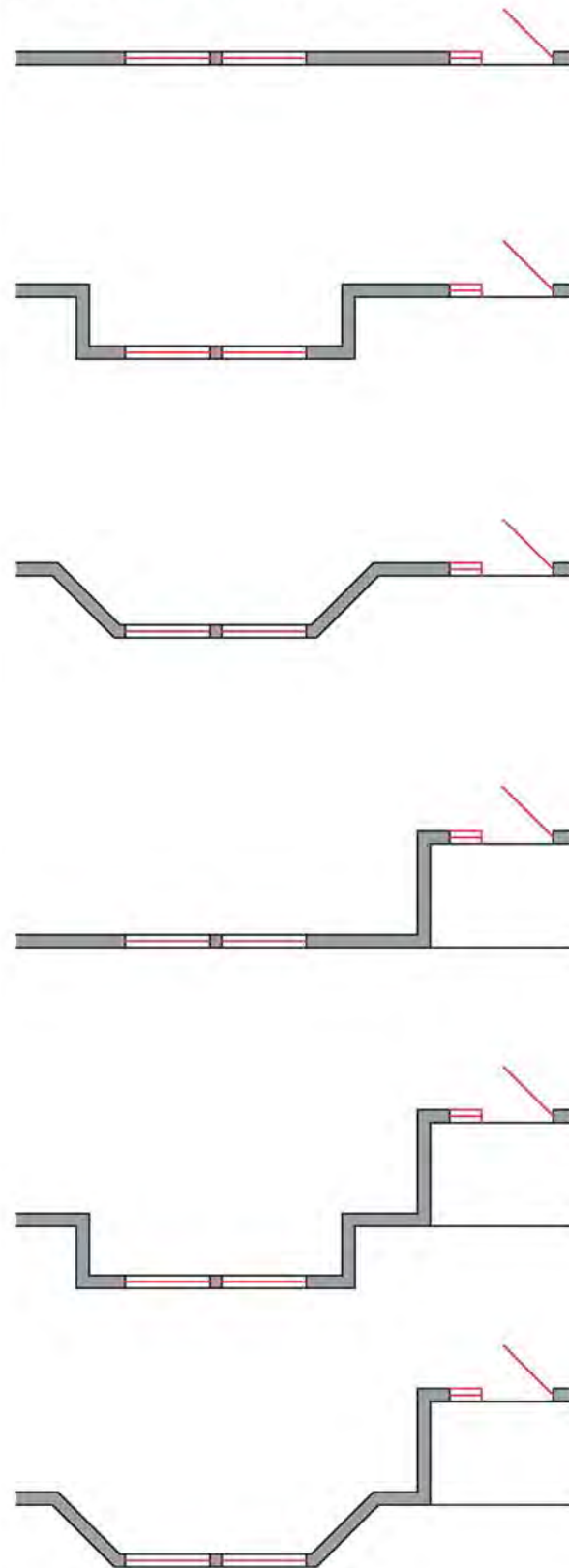
shell

scale: 1/8" = 1'-0"

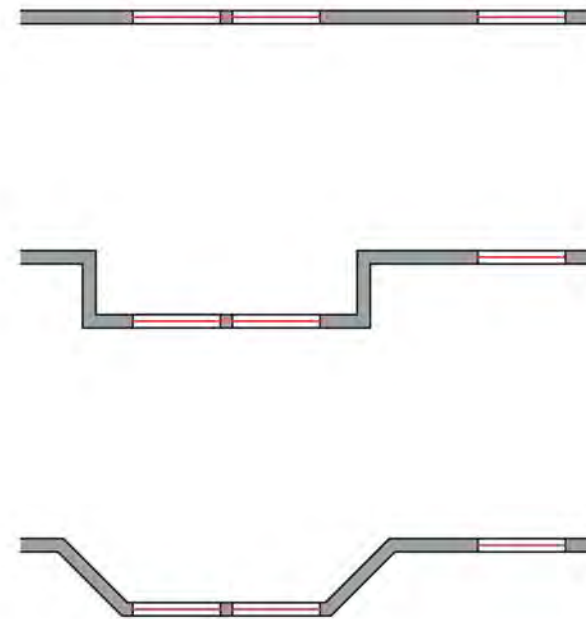


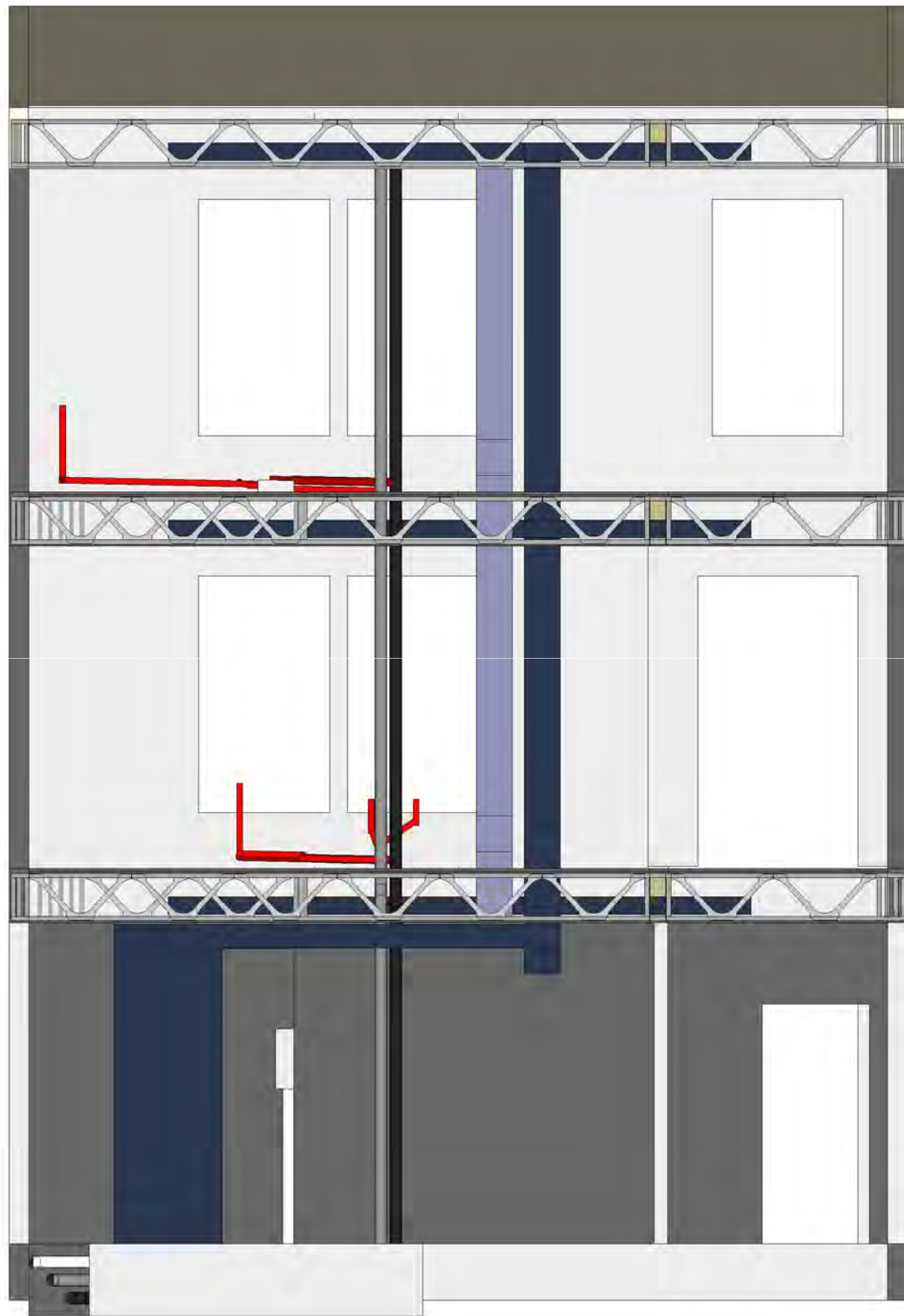
facade options
scale: 1/8" = 1'-0"

FIRST FLR OPTIONS

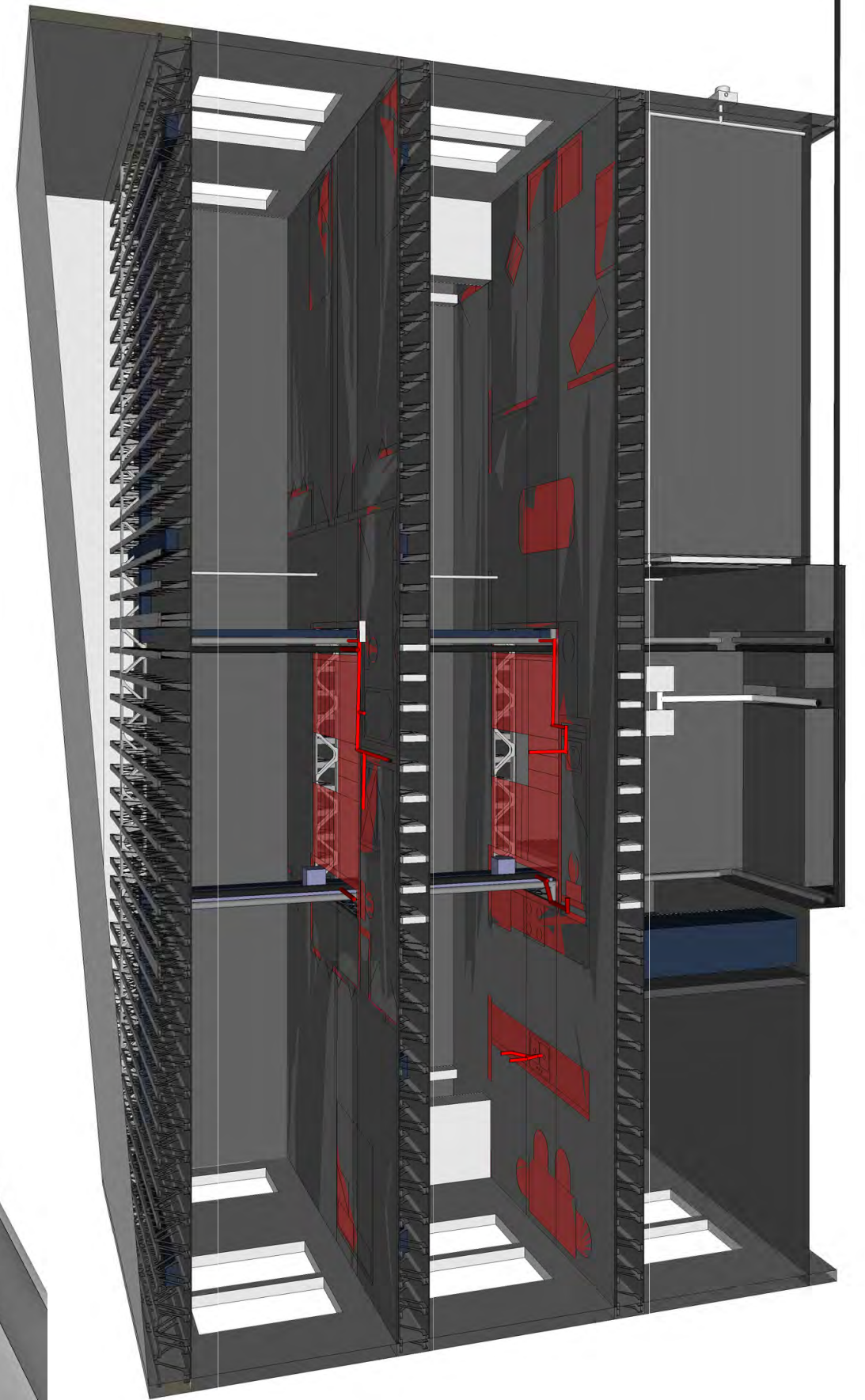
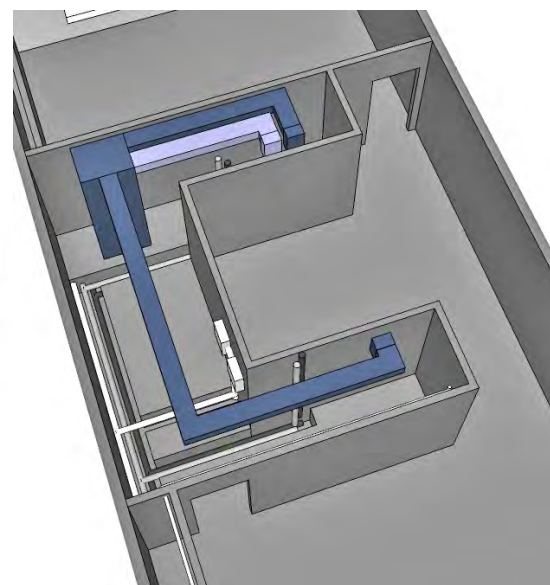


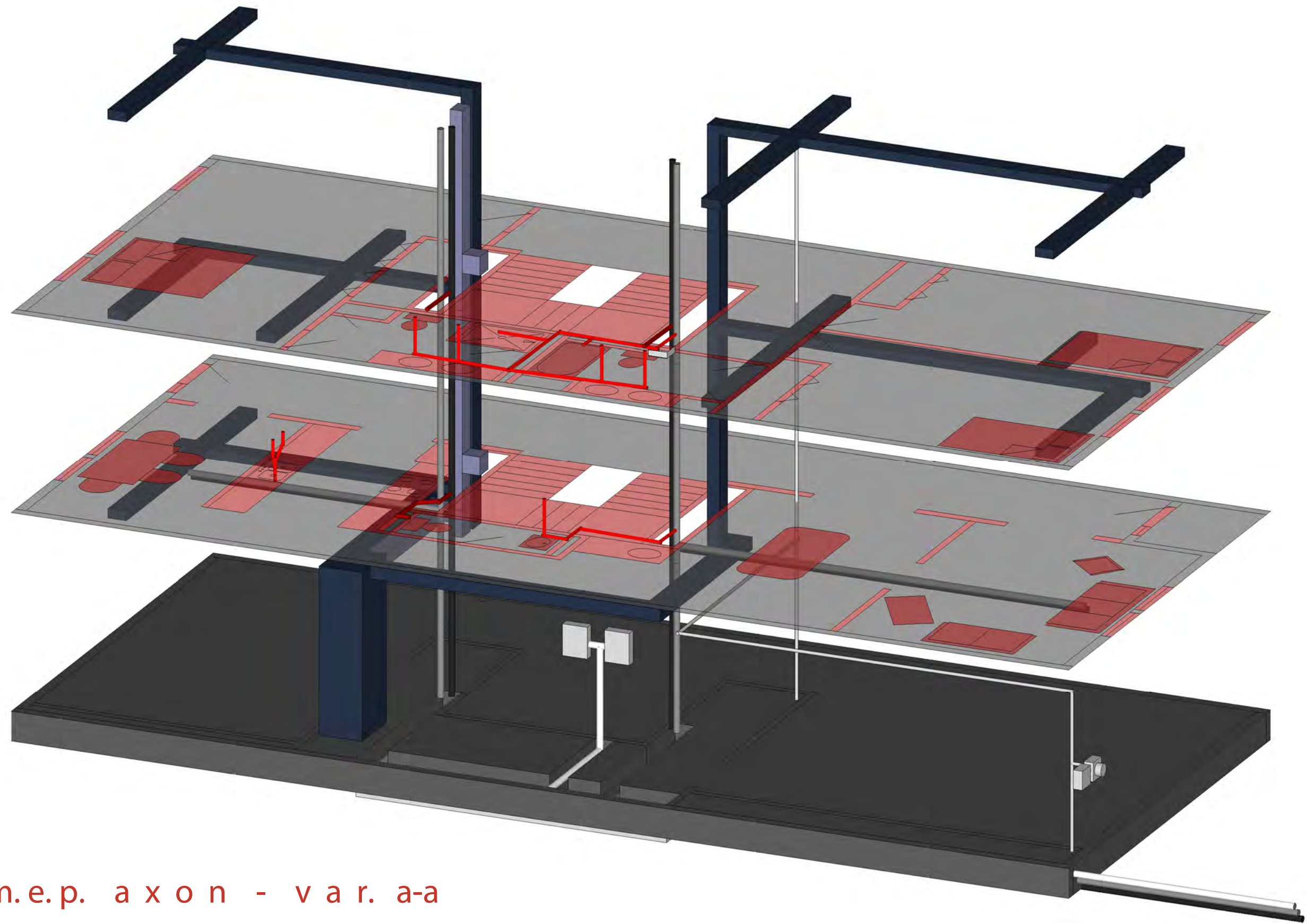
SECOND FLR OPTIONS





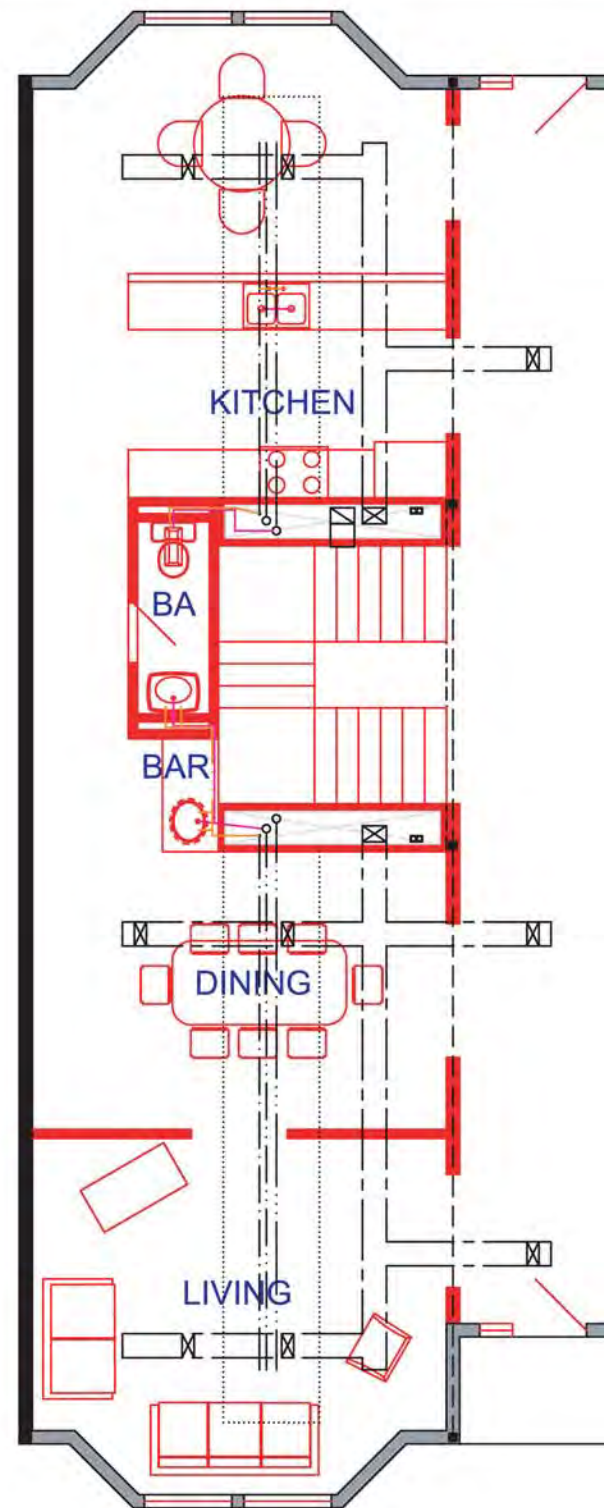
s h e l l s e c t i o n



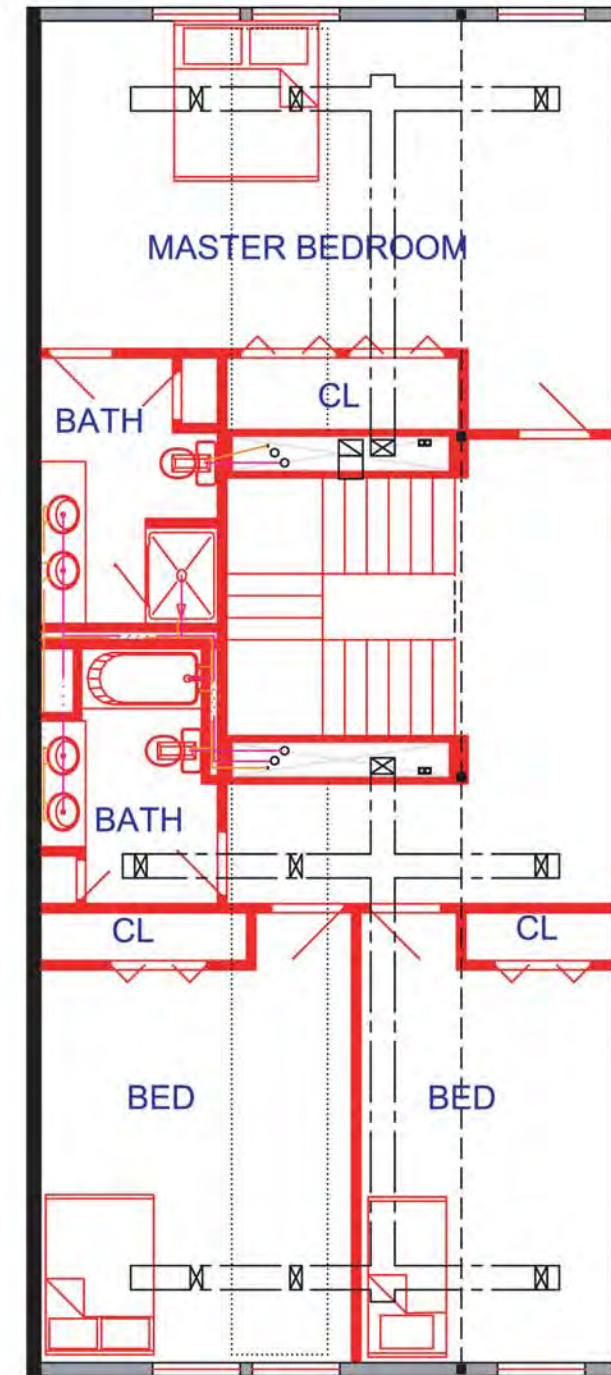


m.e.p. axon - var. a-a

variation a-a
scale: 1/8" = 1'-0"

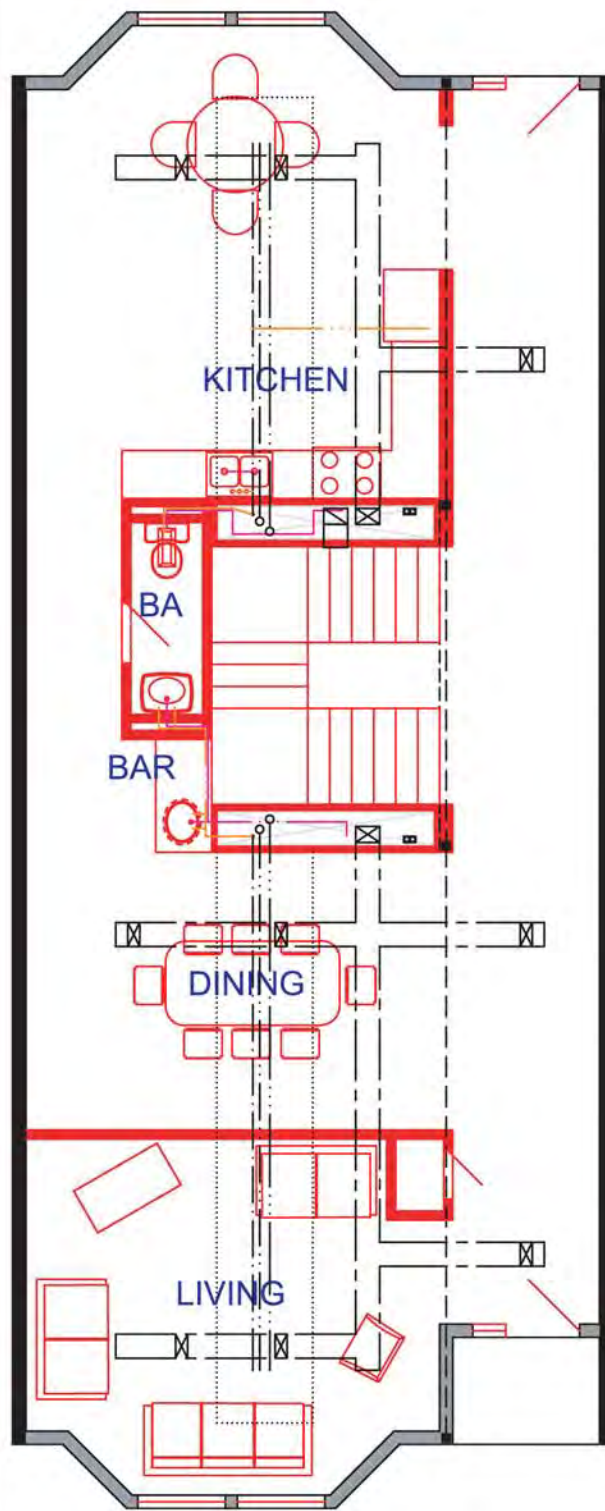


FIRST FLOOR

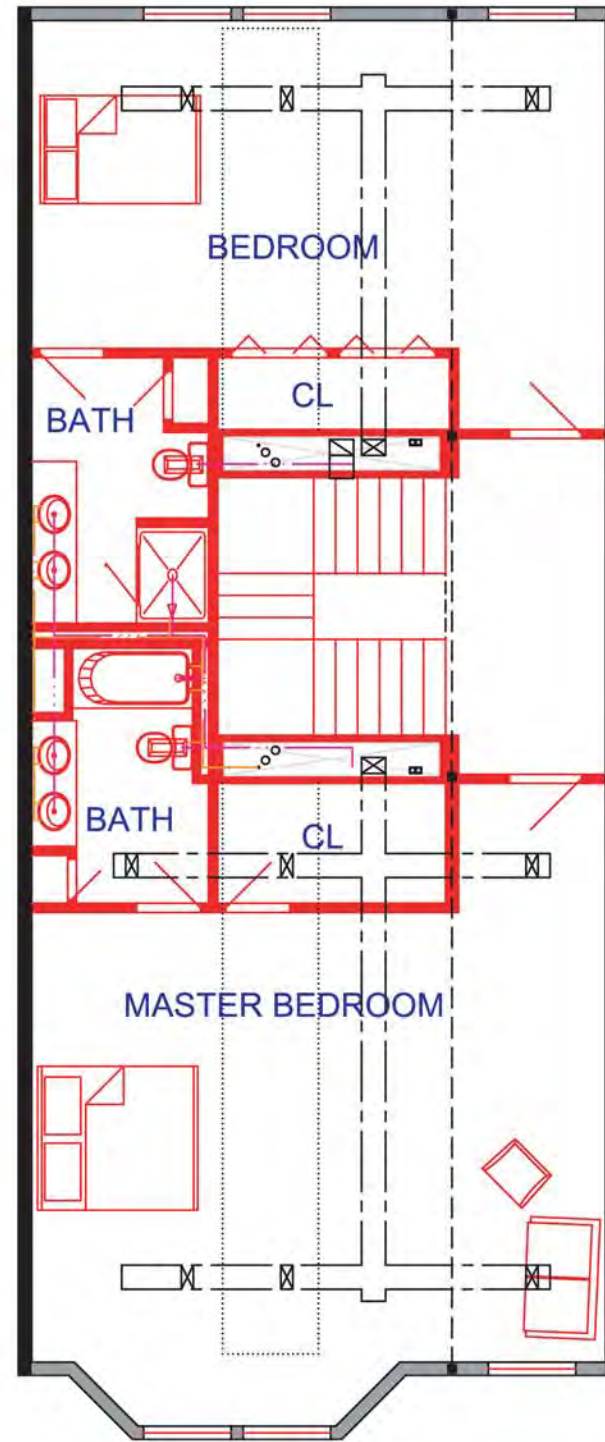


SECOND FLOOR

variation a-b
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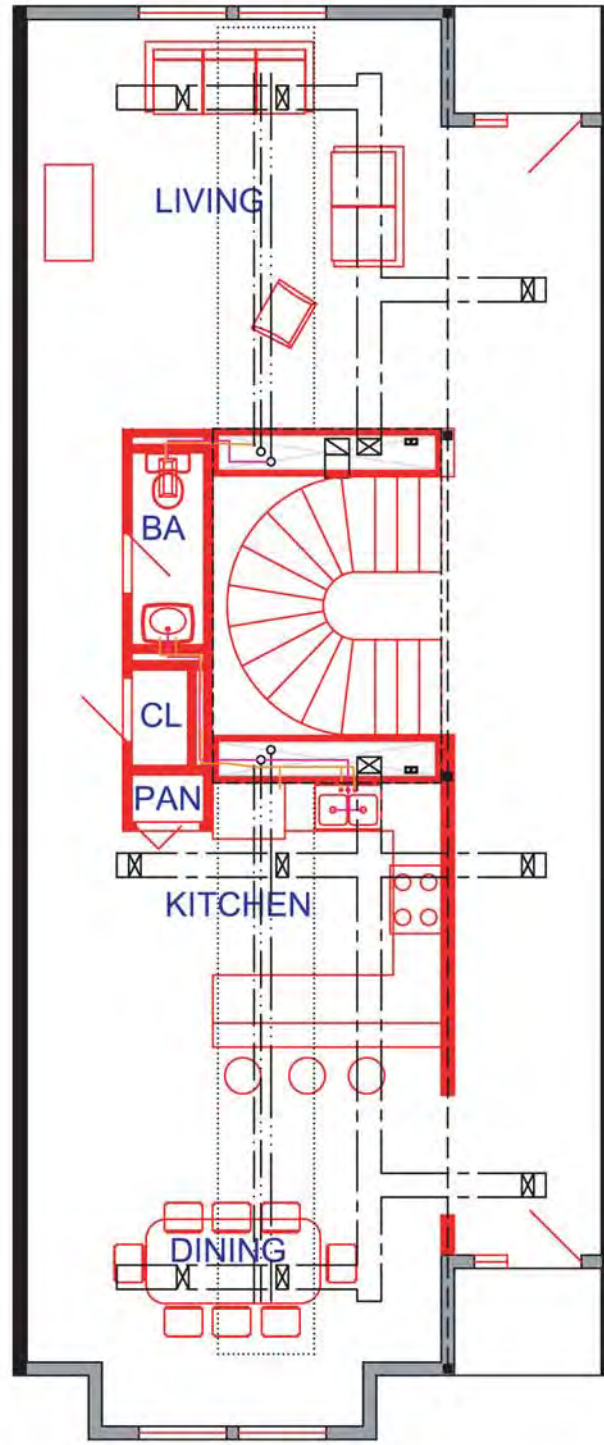


FIRST FLOOR

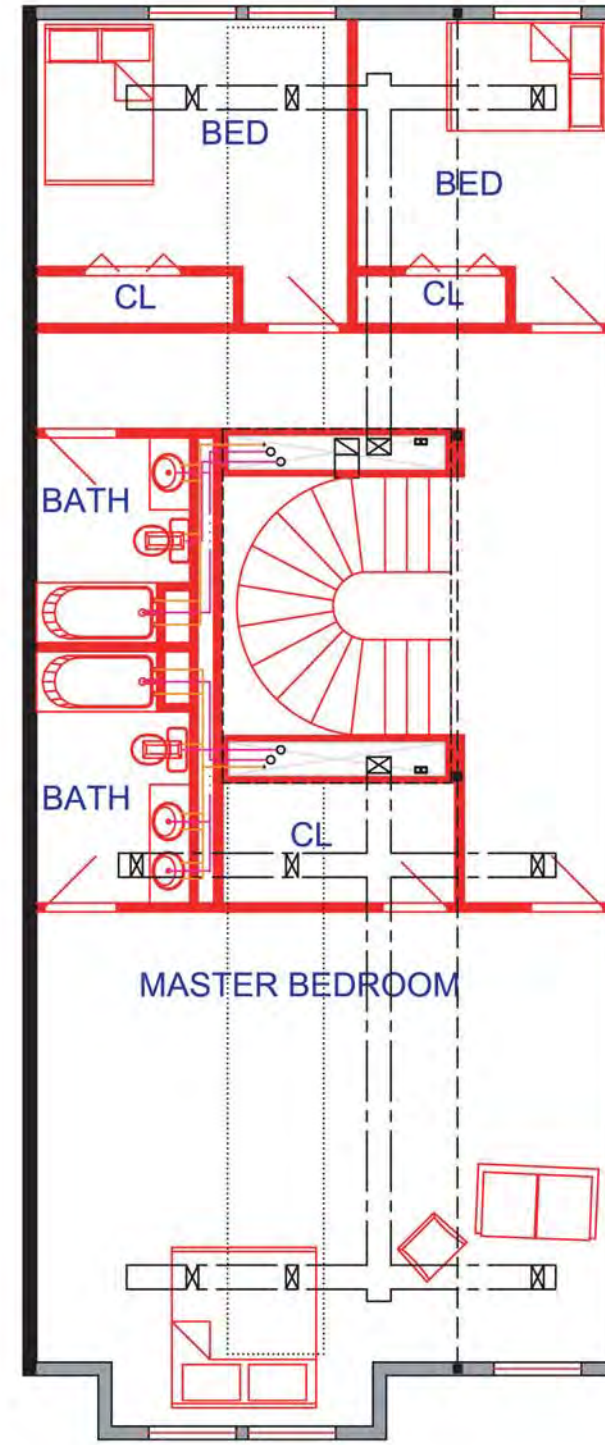


SECOND FLOOR

variation b-a
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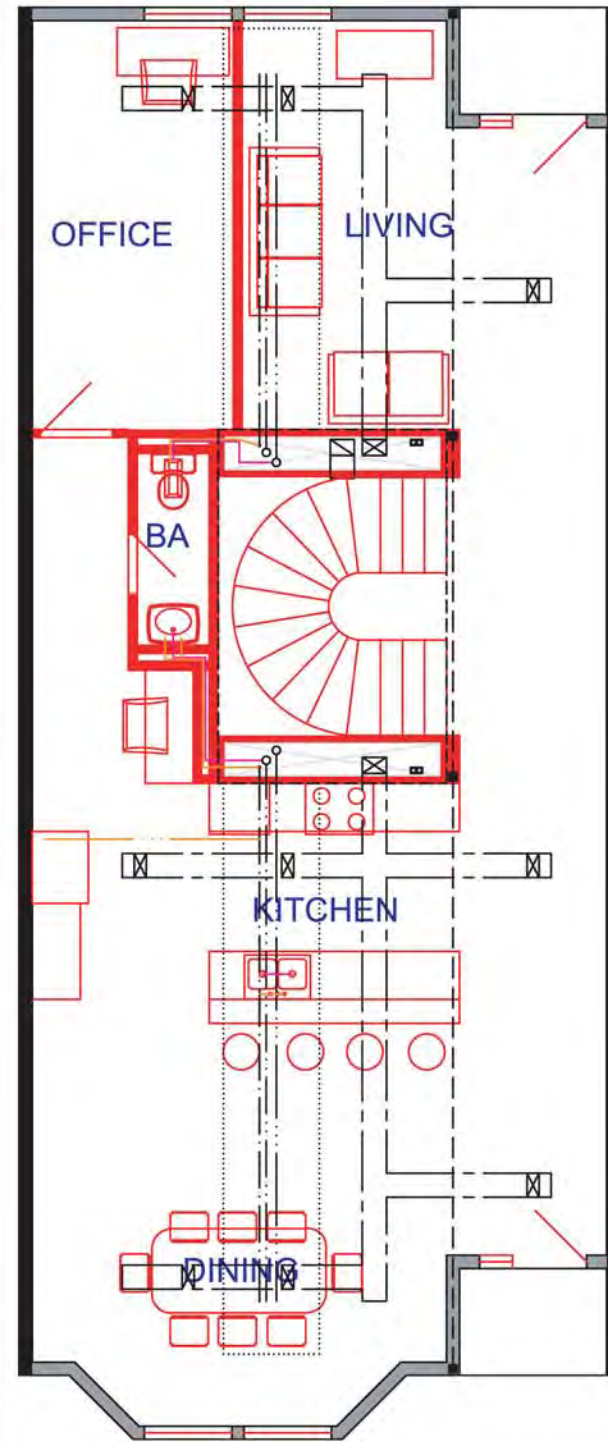


FIRST FLOOR

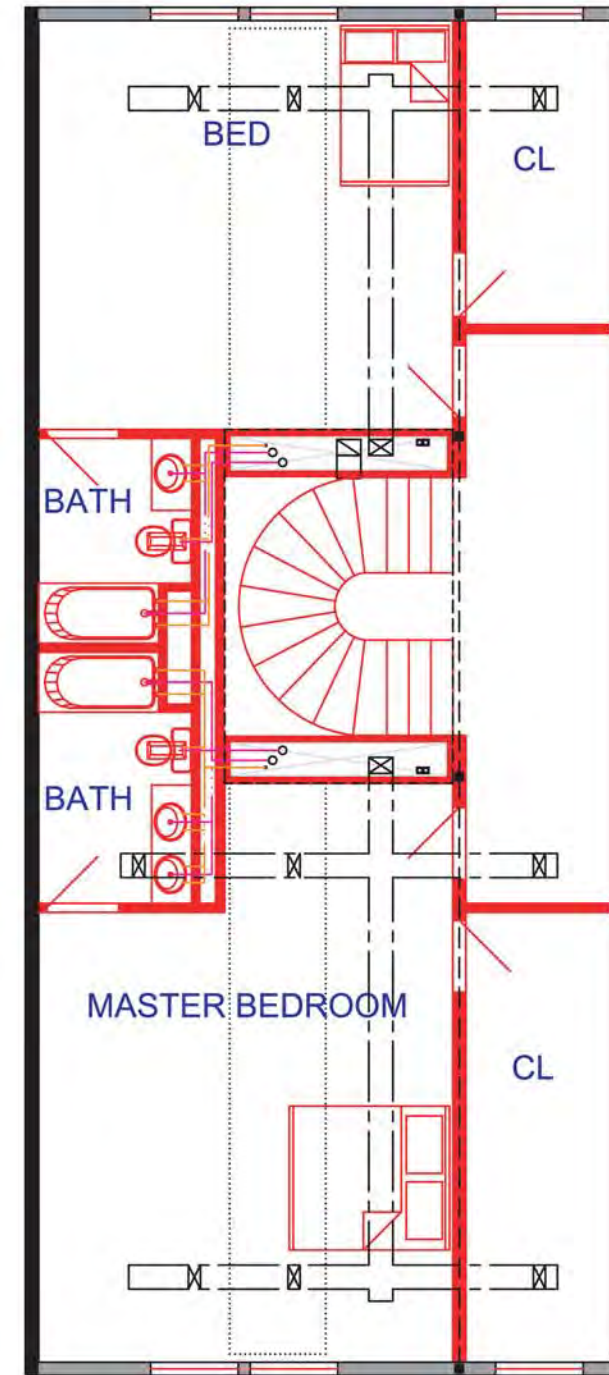


SECOND FLOOR

variation b-b
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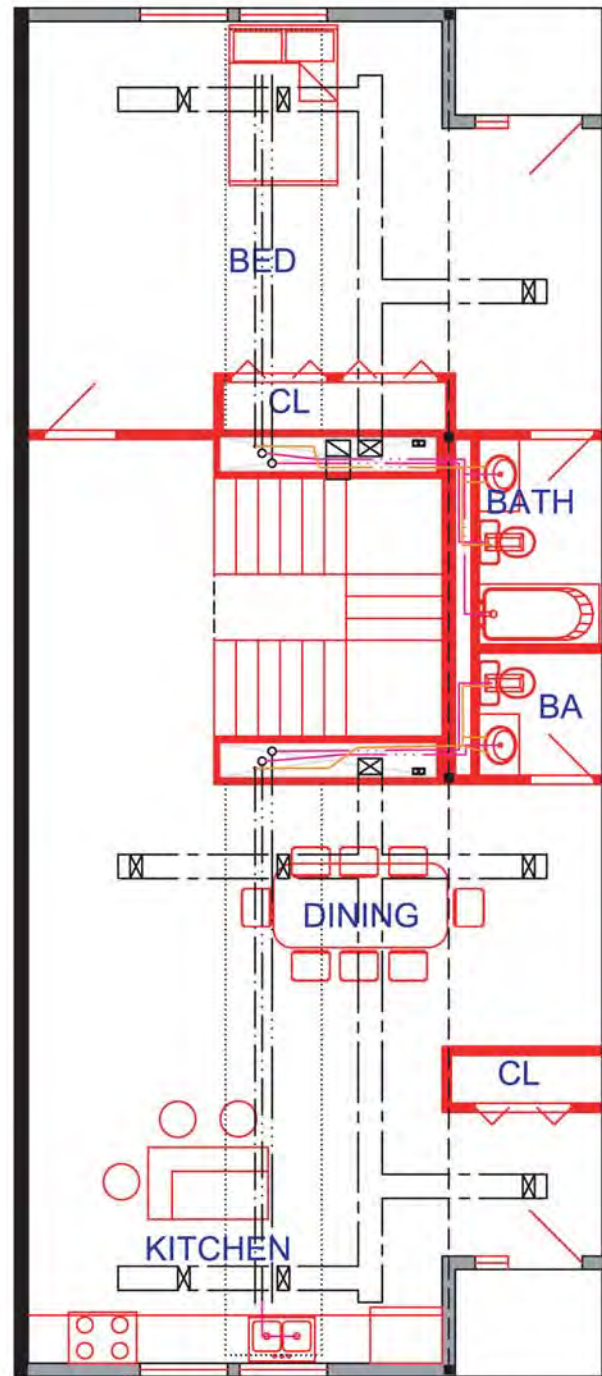


FIRST FLOOR

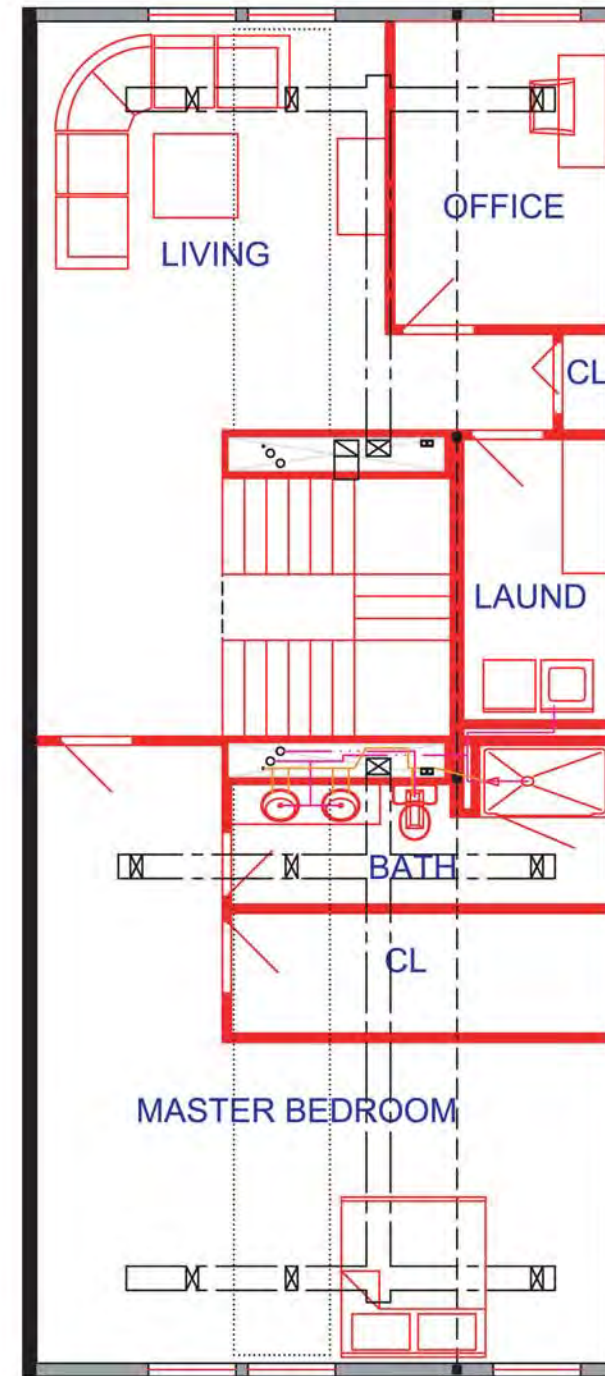


SECOND FLOOR

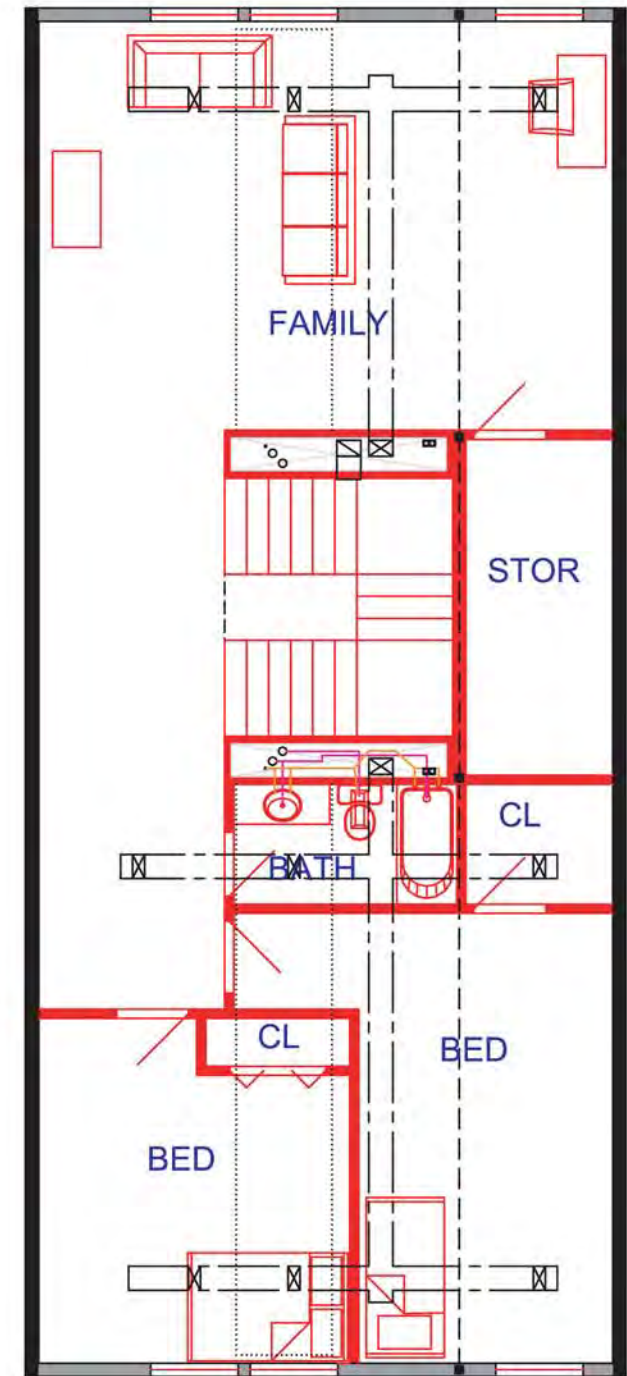
variation c
scale: 1/8" = 1'-0"



FIRST FLOOR

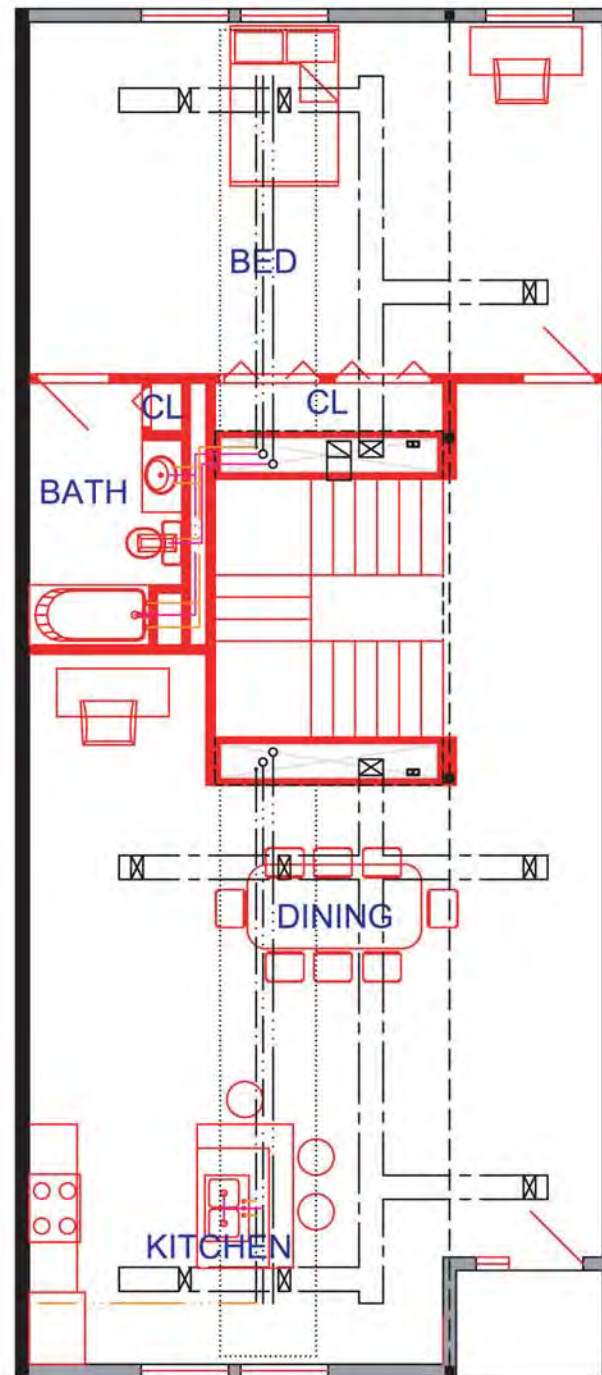


SECOND FLOOR

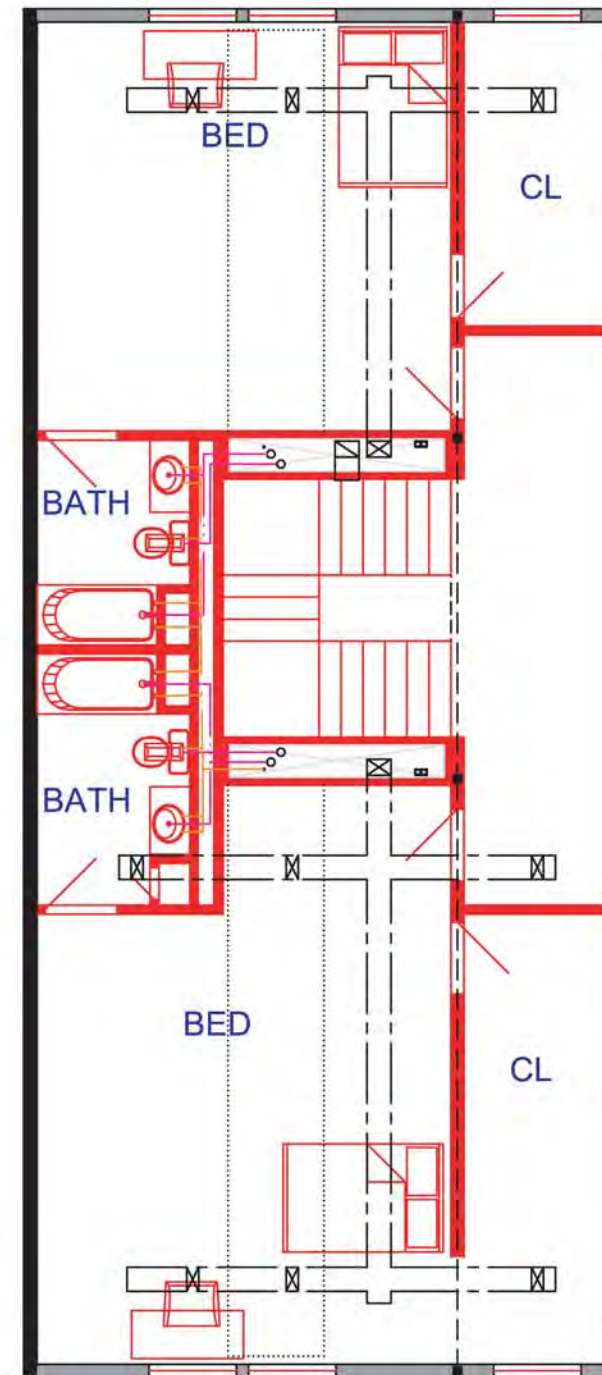


THIRD FLOOR

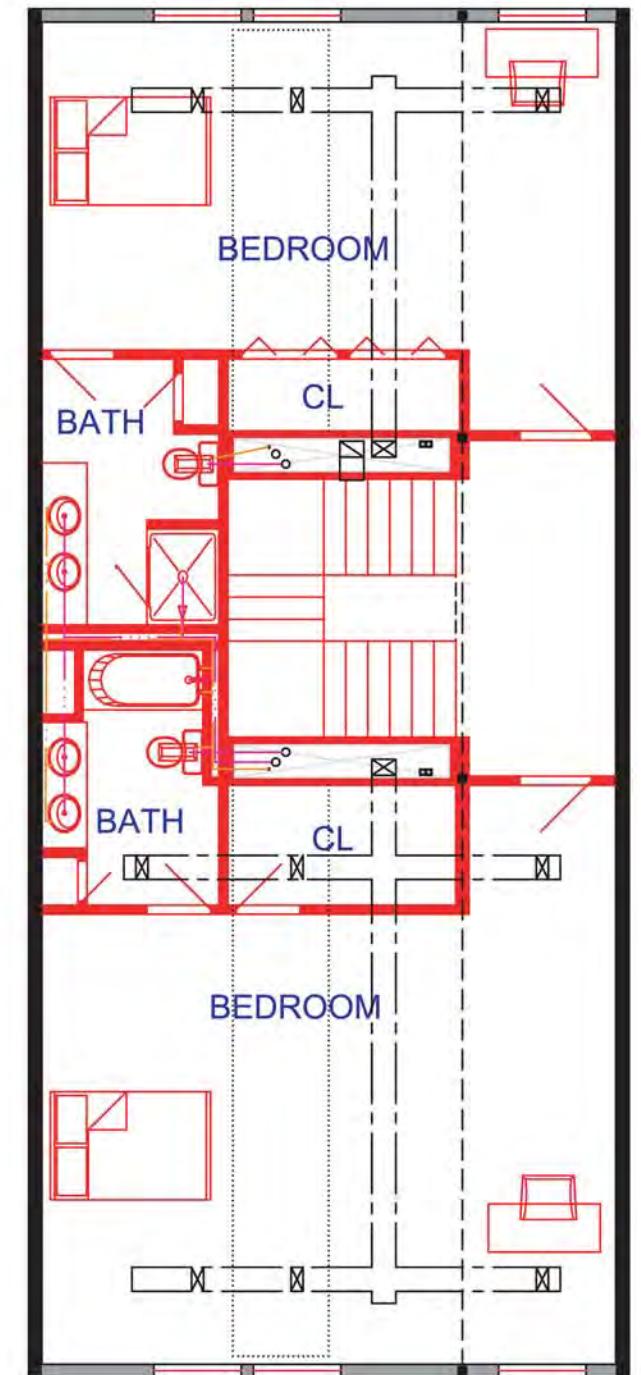
variation d
scale: 1/8" = 1'-0"



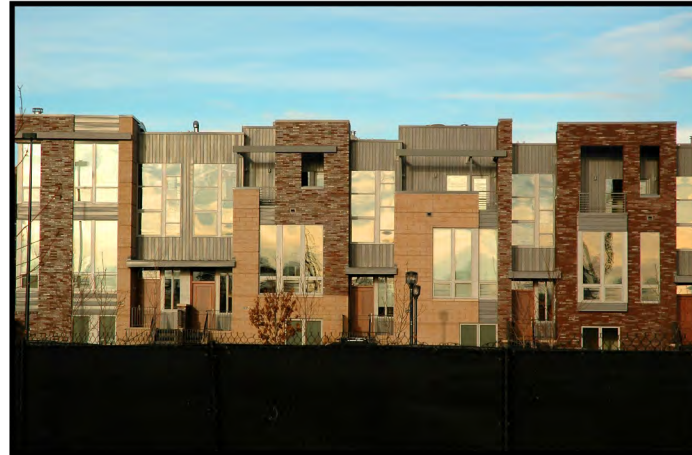
FIRST FLOOR



SECOND FLOOR



THIRD FLOOR



This modern townhouse development is located in Denver, Colorado. The modern look of the townhouse was a nice contrast to what we observed at the Village of WestClay.



This townhouse is located in Longmont, Colorado and was a merit award winner for its design. The architecture firm, Studio Completiva, designed the townhouses which featured two and three story townhouses.

An example of a modern townhouse row that does not feature much variation from house to house. The project is located near Washington D.C. in a suburb called Clifton.

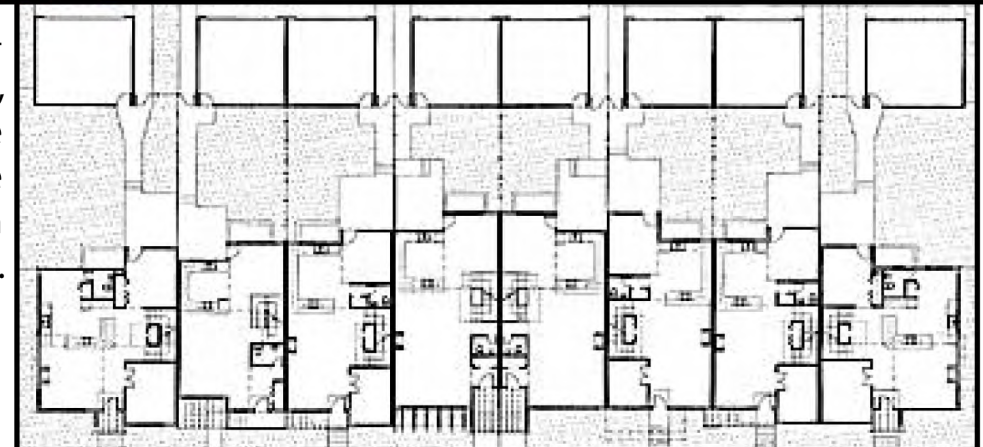


A great example of a modern townhouse in Chicago, Illinois.



I found the products from the wire-mold company to be reason to attempt to develop a better way of concealing the wires in the wall. Which was the inspiration for creating the cavity in the bottom of the stud walls to run the wiring.

This is the site plan for the townhouses located in Longmont, Colorado. The offsetting of the floor plans created a more dynamic facade, as you can see in the photo in the top right.



precedent studies.
both good and bad

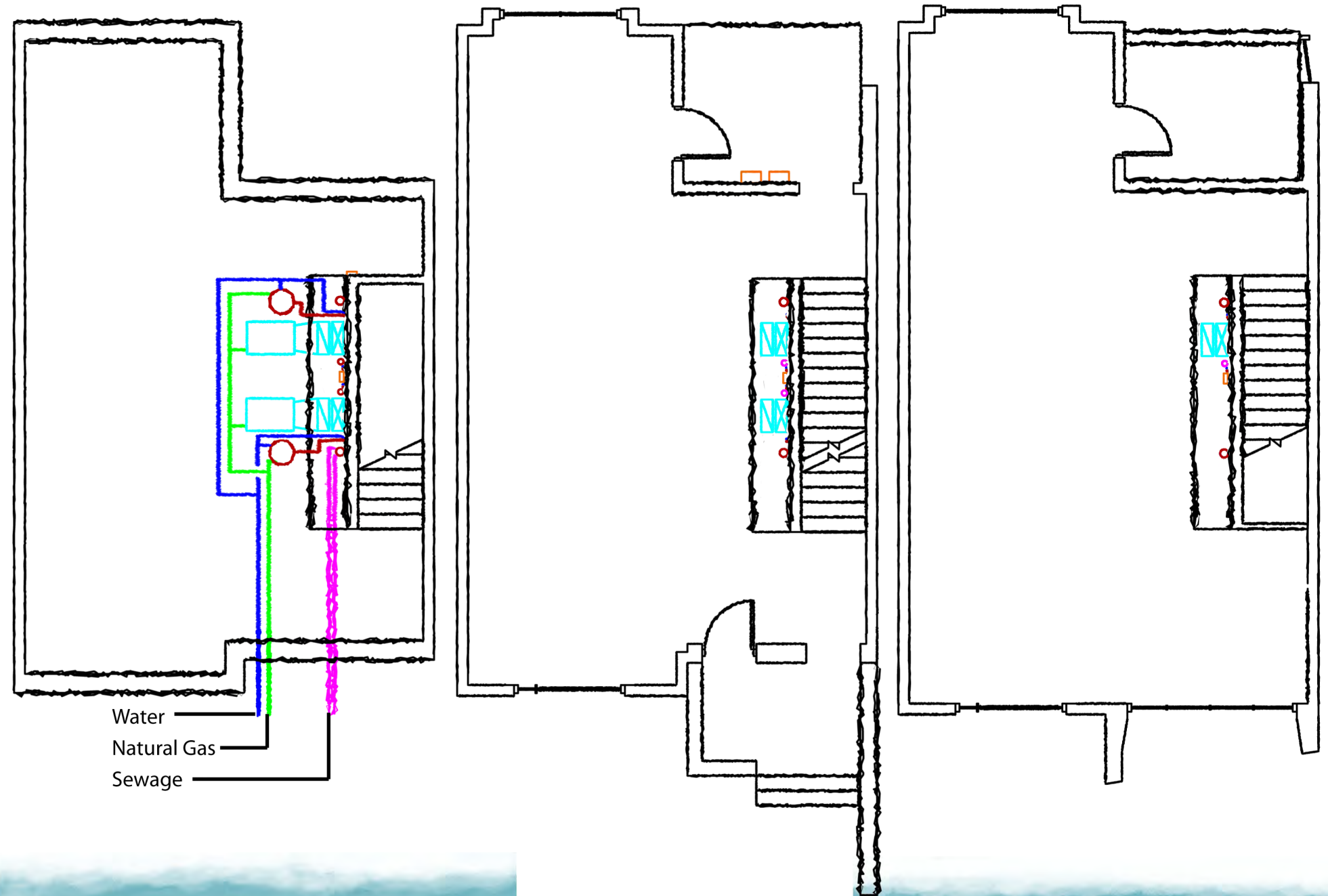
shell concept.

flexible occupancy:

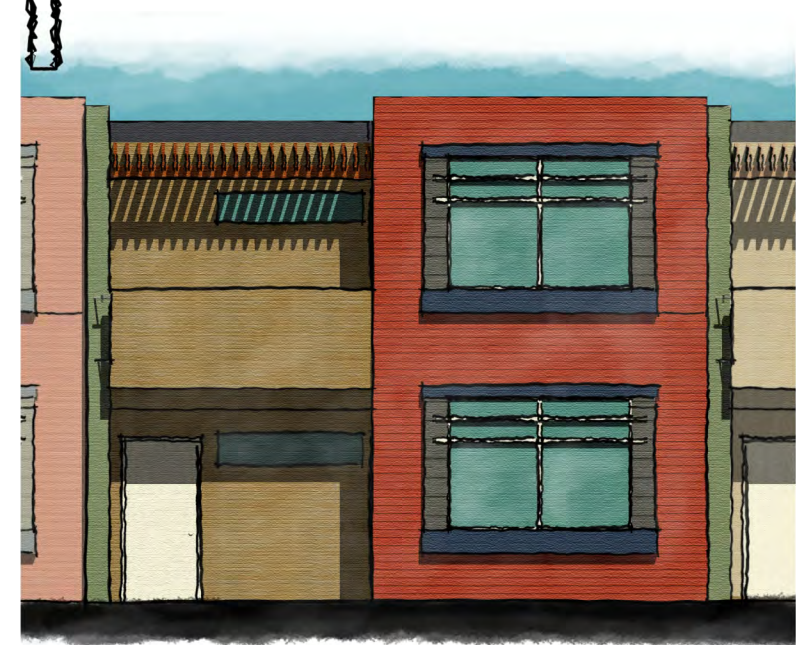
Main concept was to create a shell that would be able to allow either one occupant to live in the entire townhouse or allow for the upstairs and downstairs to be occupied by different users. This will allow the developer to build a large number of shells and then decide what type of units need to be built to meet market demand.

shell materials:

The exterior skin is composed of rust colored metal panels and also features wood banding on the back porch.



front elevation.

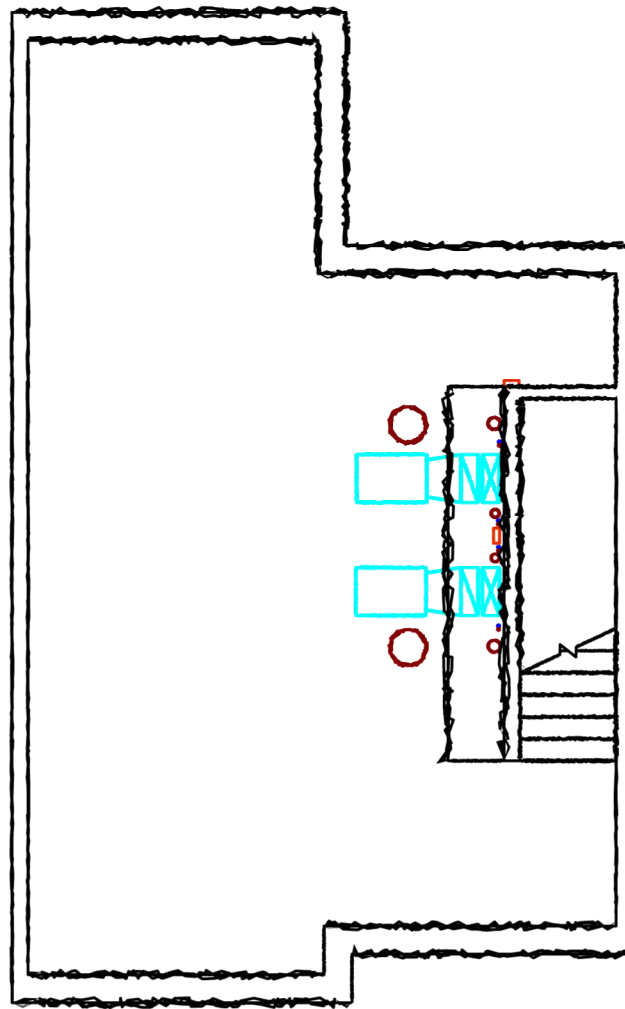


rear elevation.

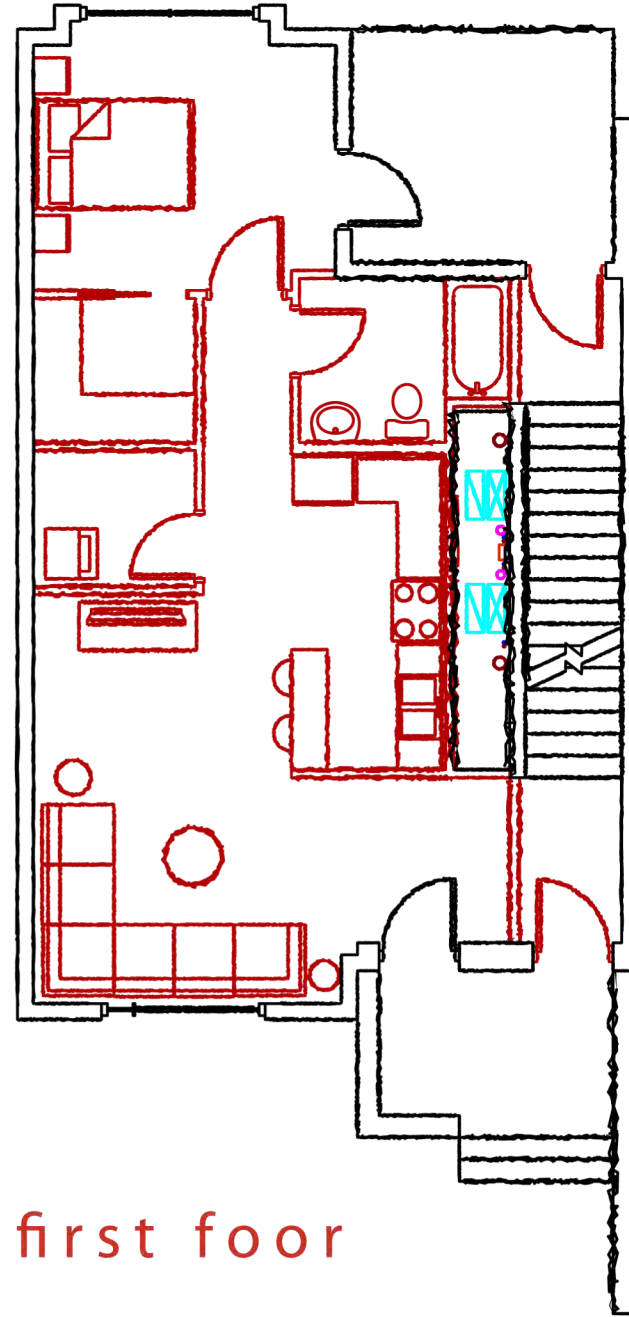
shell plan

HOMEWORKS

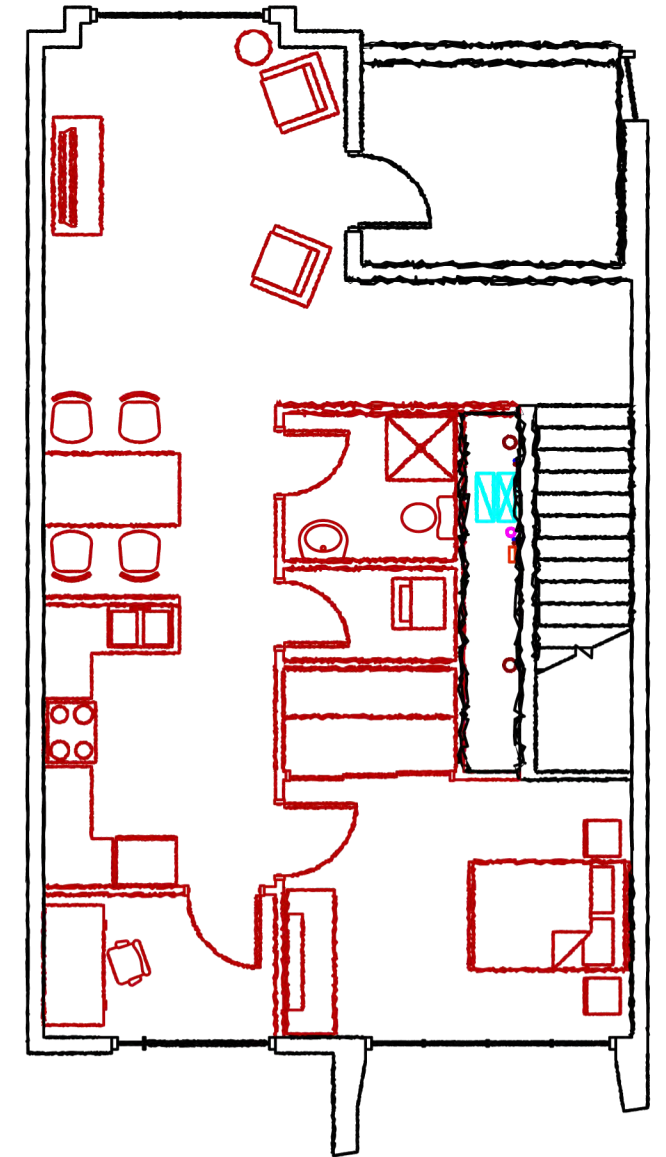
STUDIO KENDALL ALDERFER February 16, 2007



basement

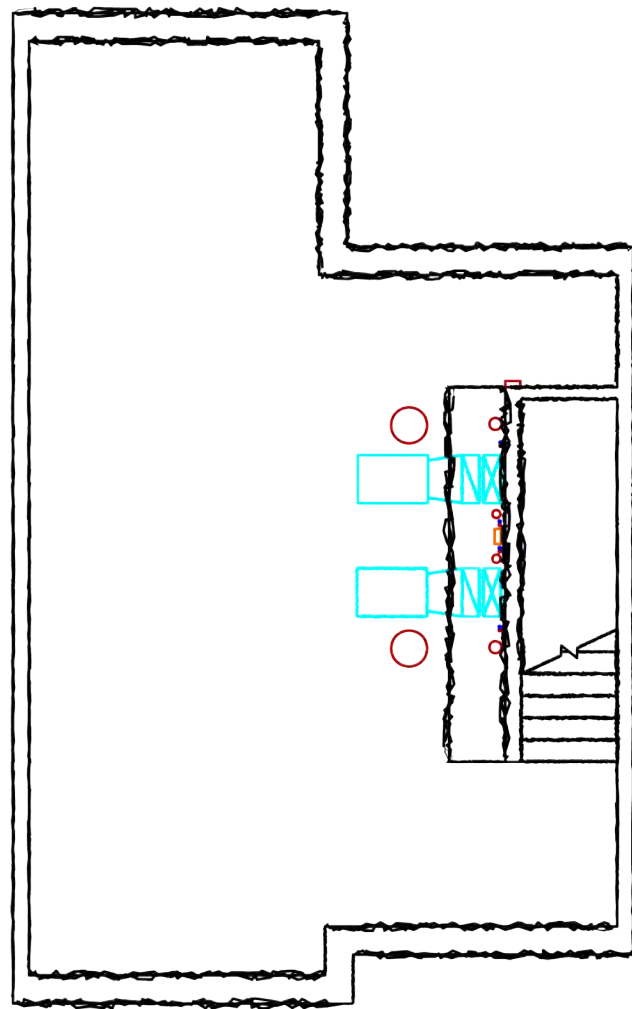


first floor

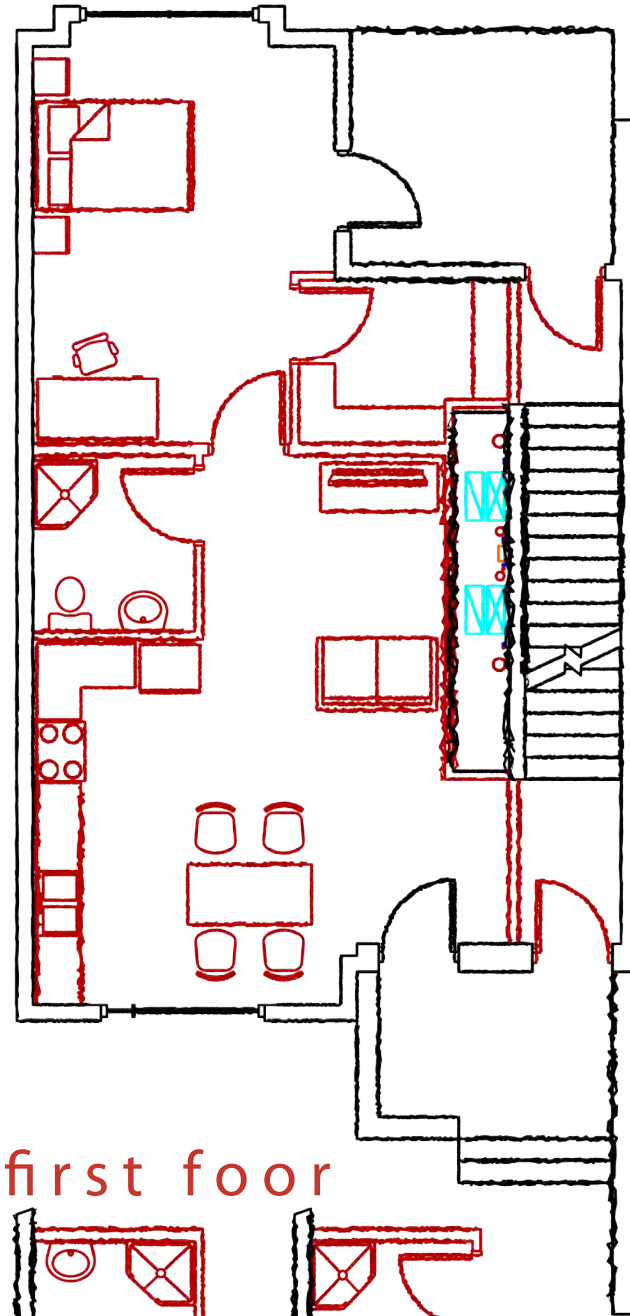


second floor

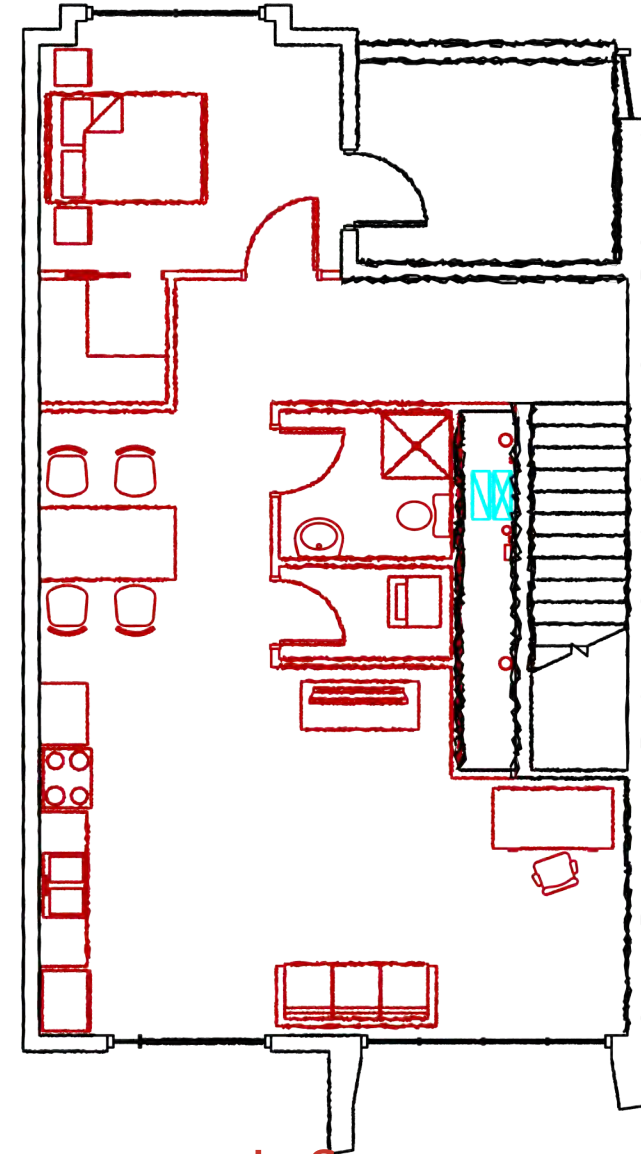
variation one.
2 tenants // studio apartments



basement

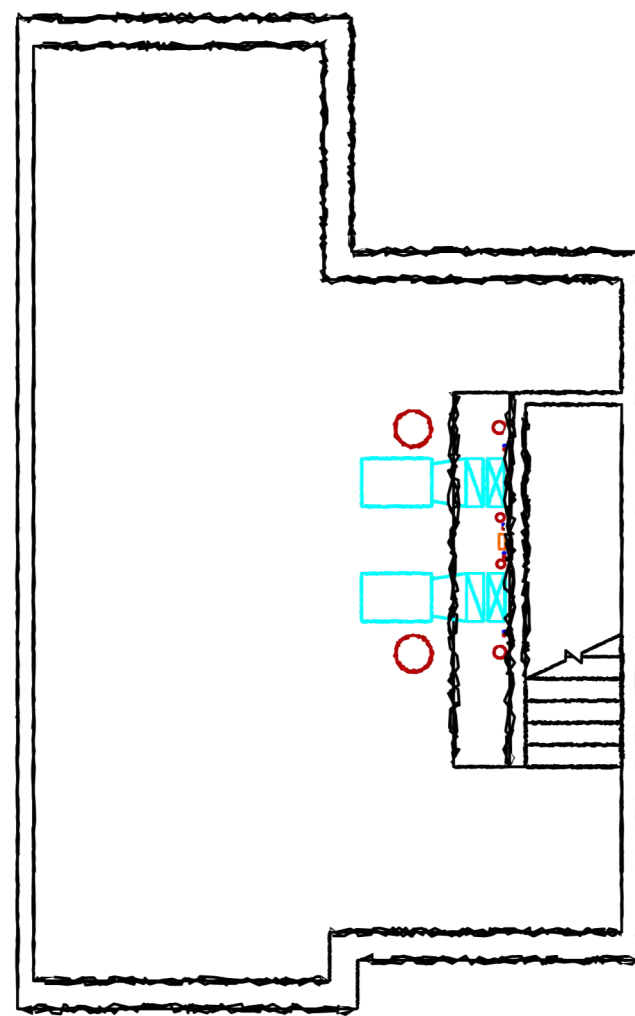


first floor

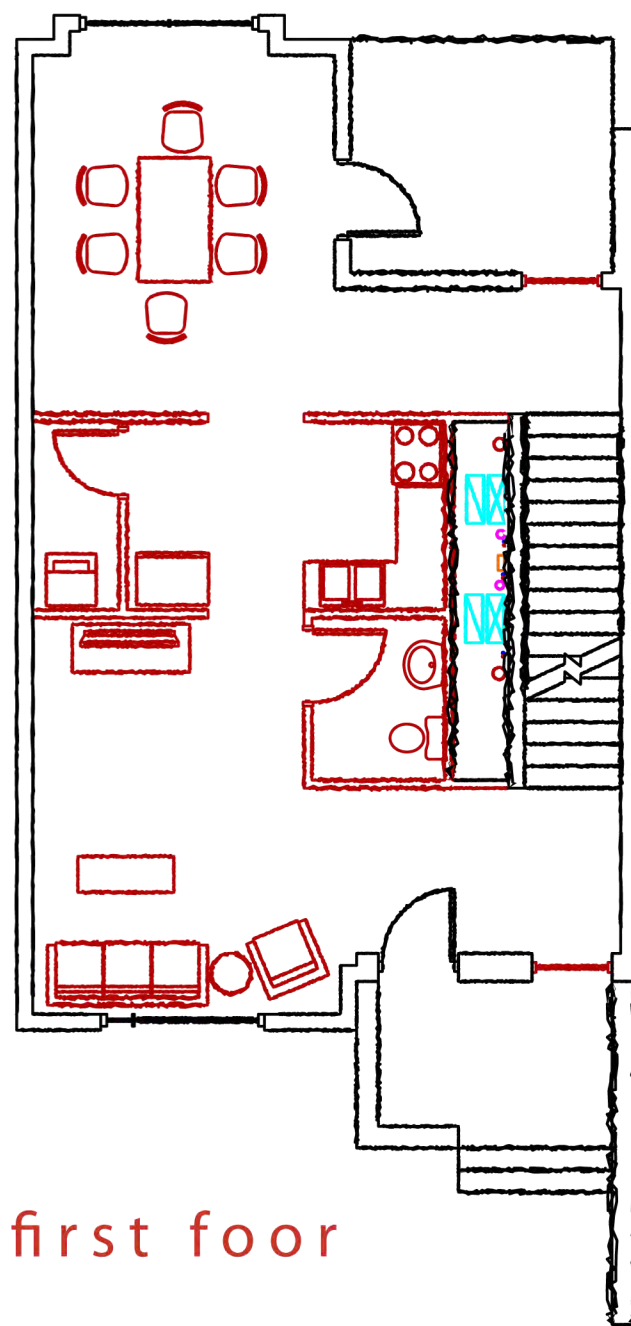


second floor

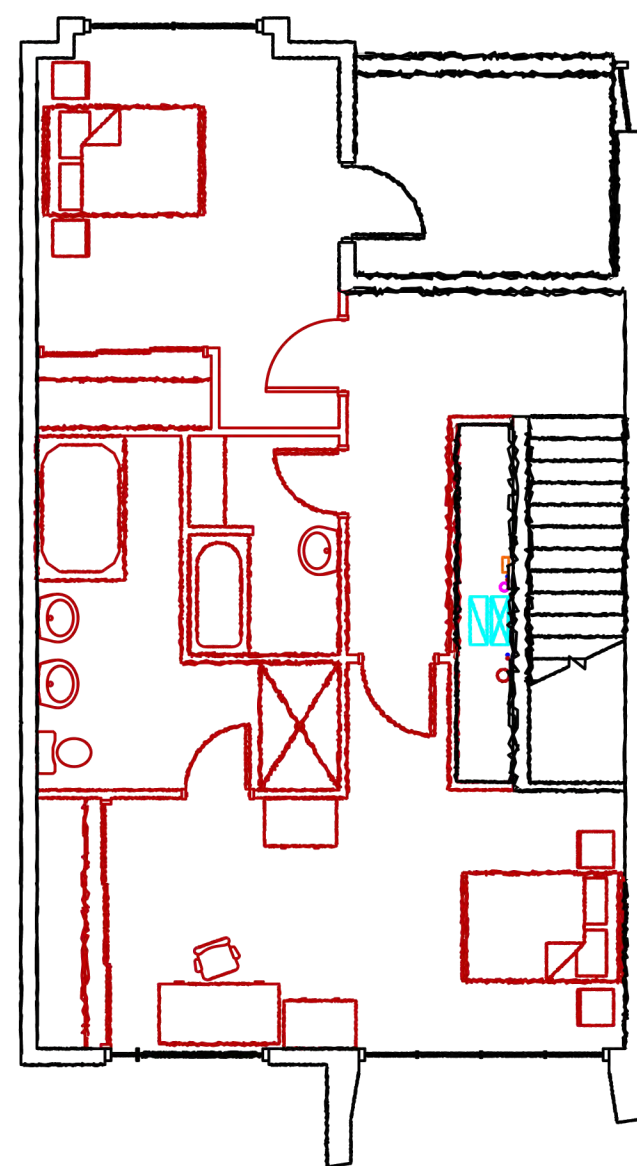
variation two.
2 tenants // studio apartments



basement

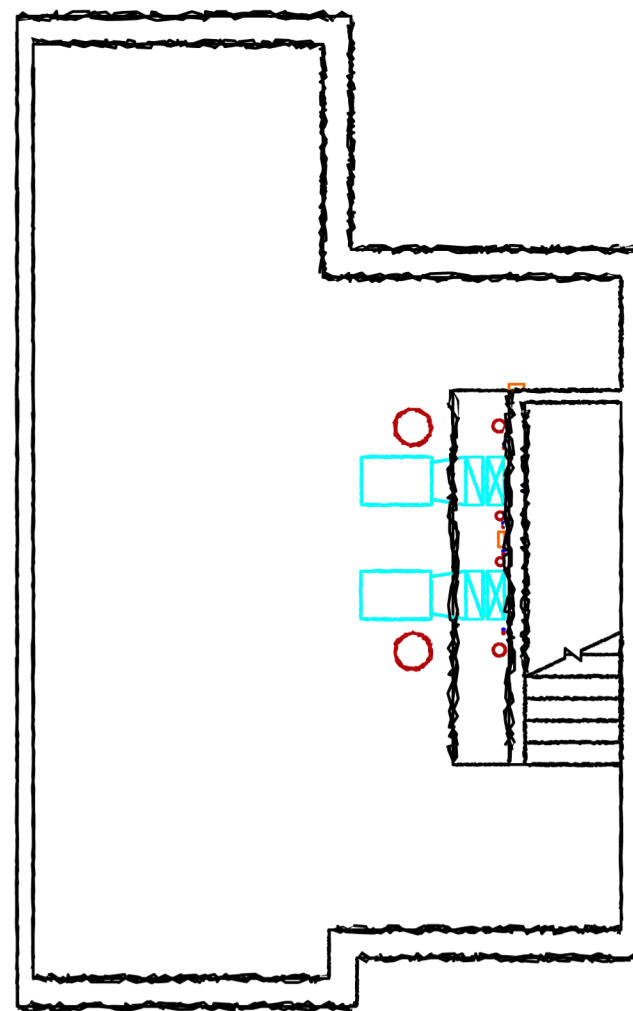


first floor

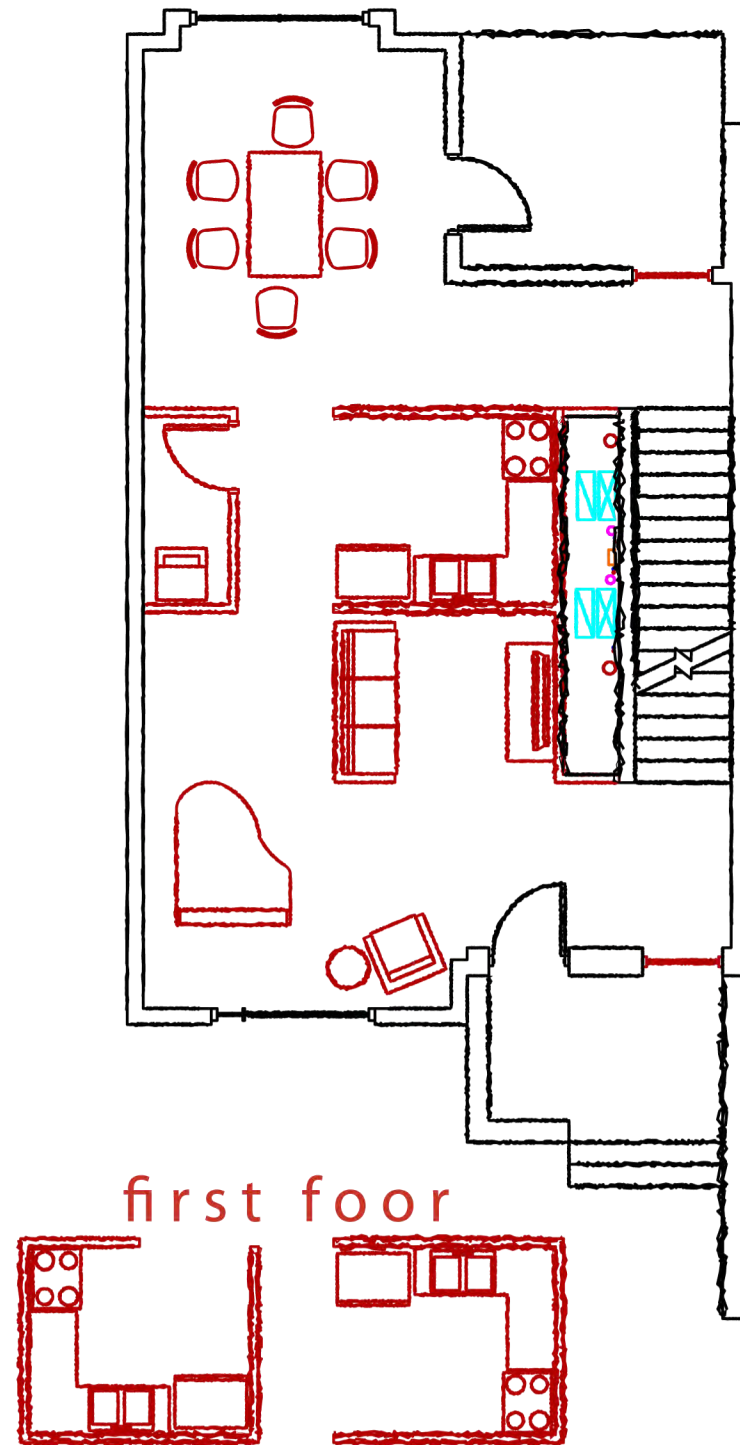


second floor

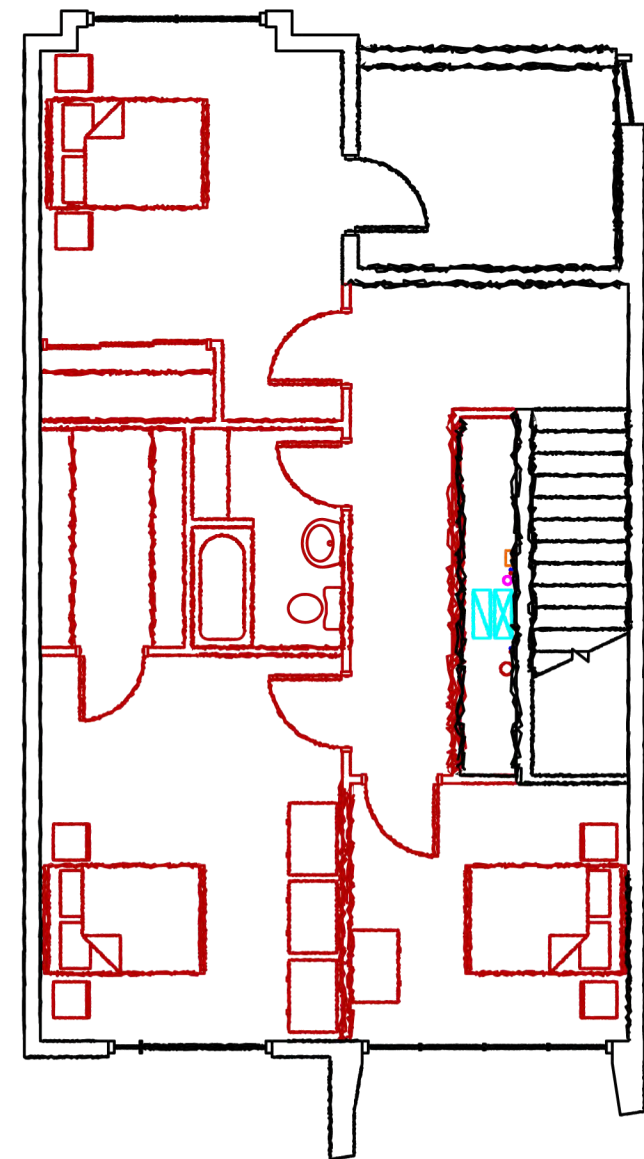
variation three.
1 tenant // 2 bedrooms



basement



first floor

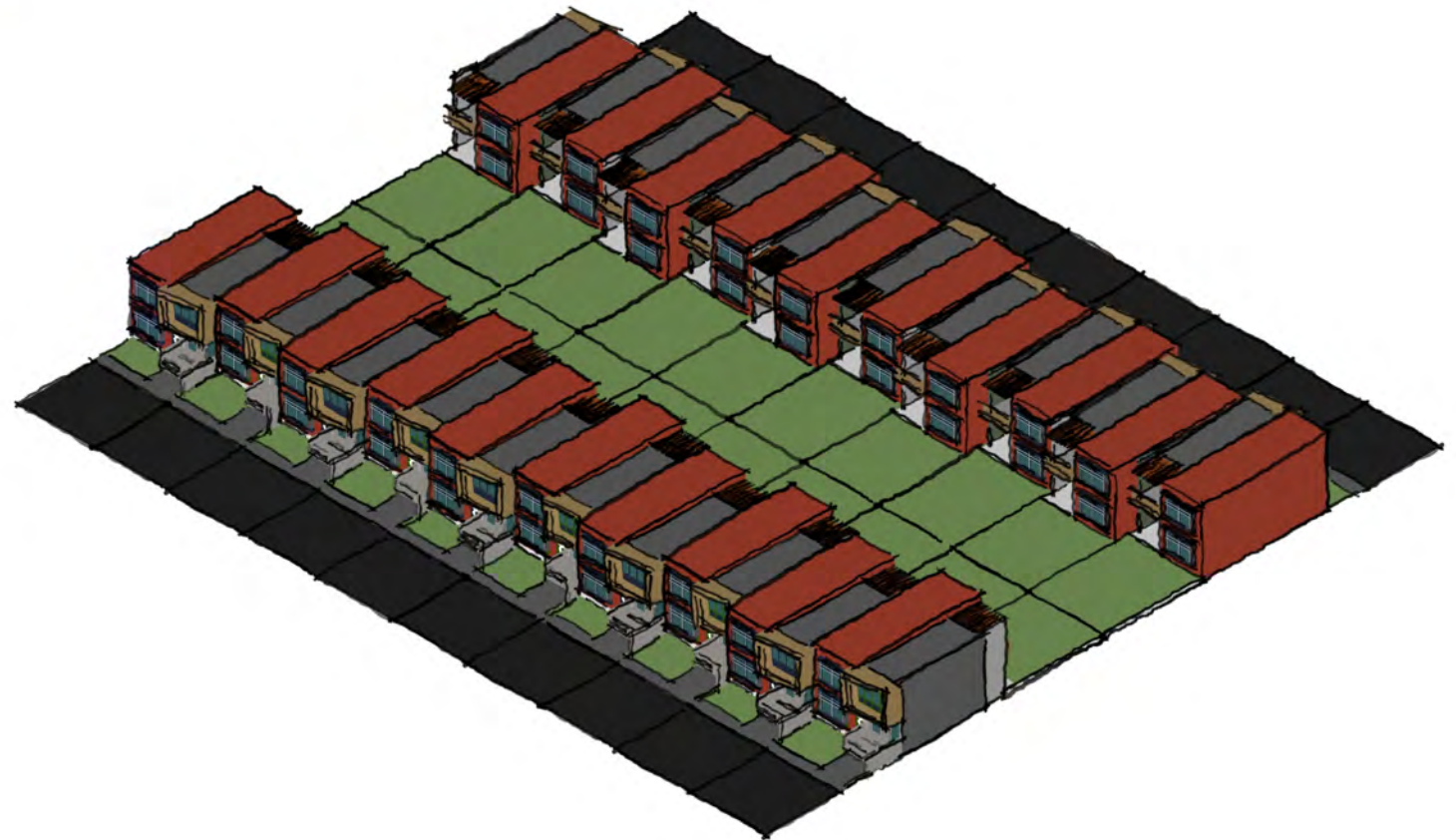
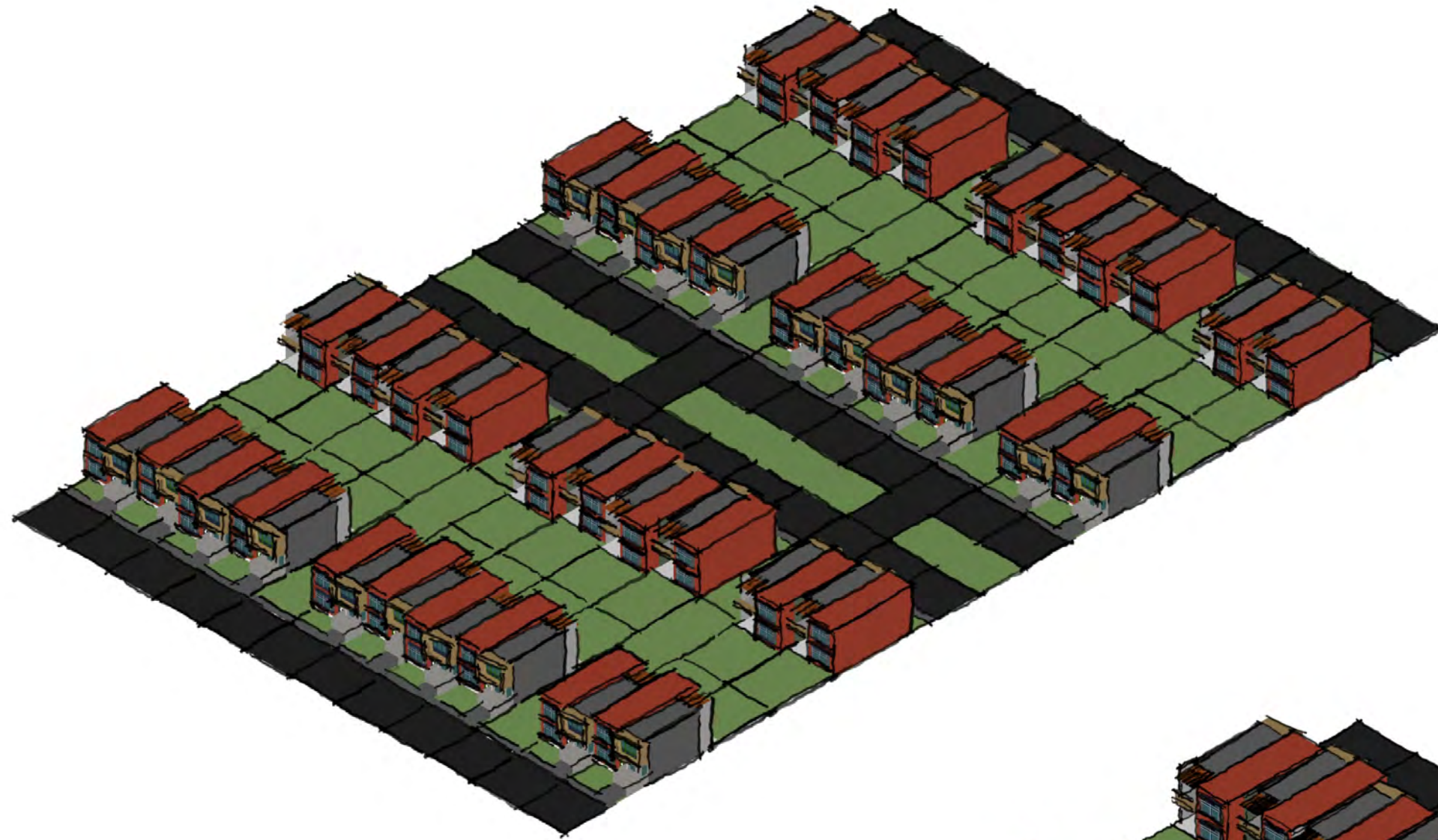


second floor

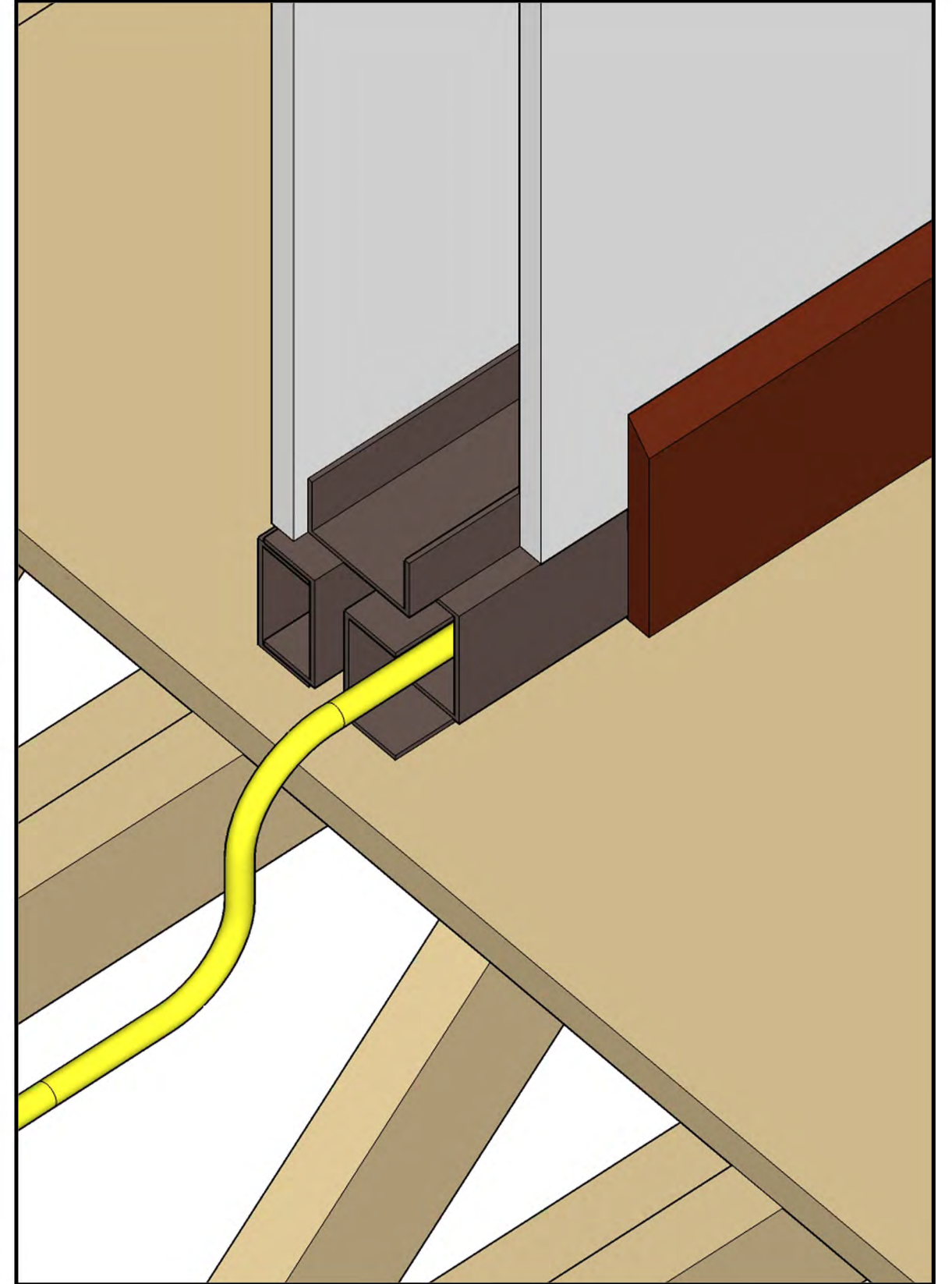
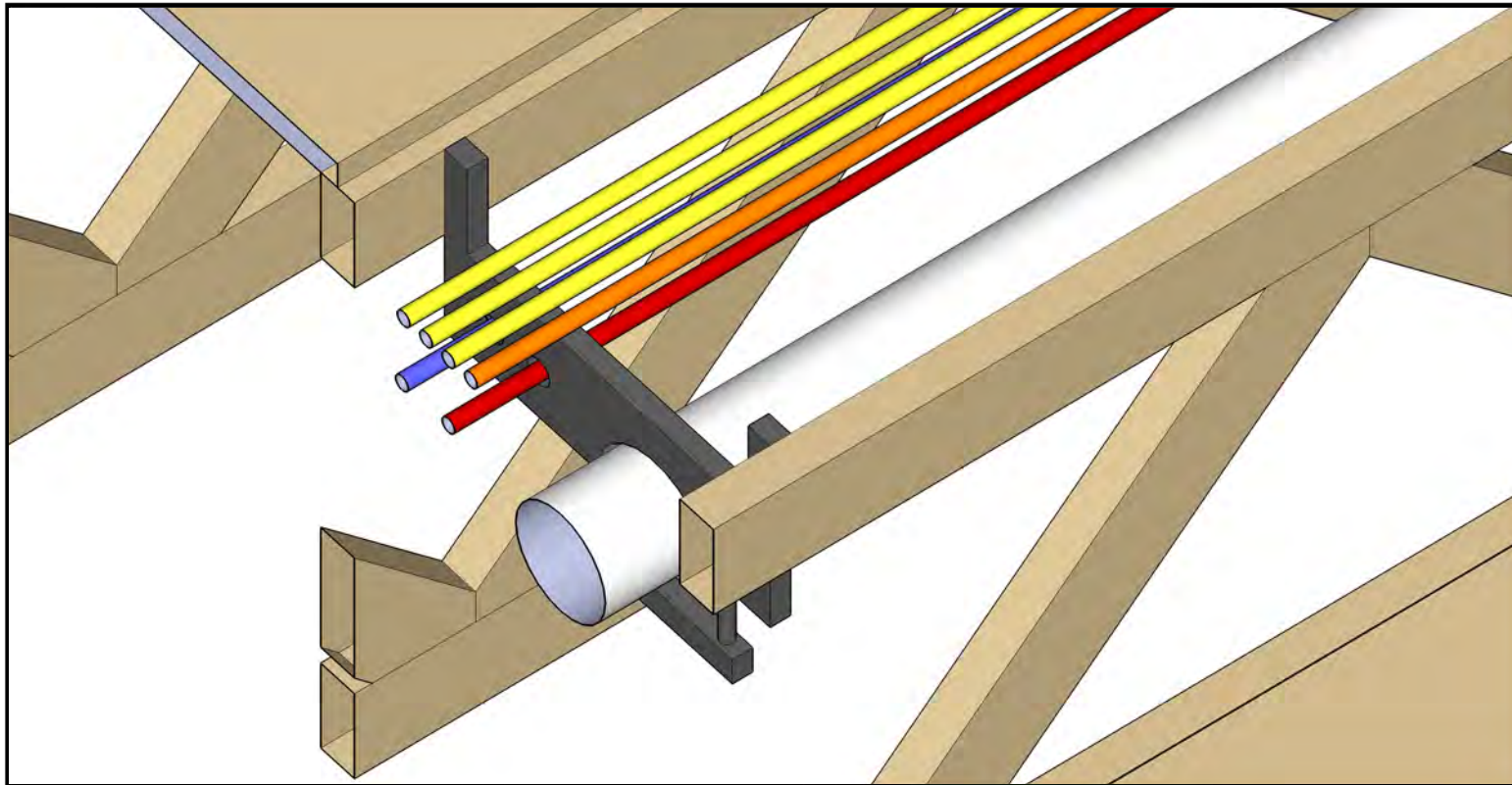
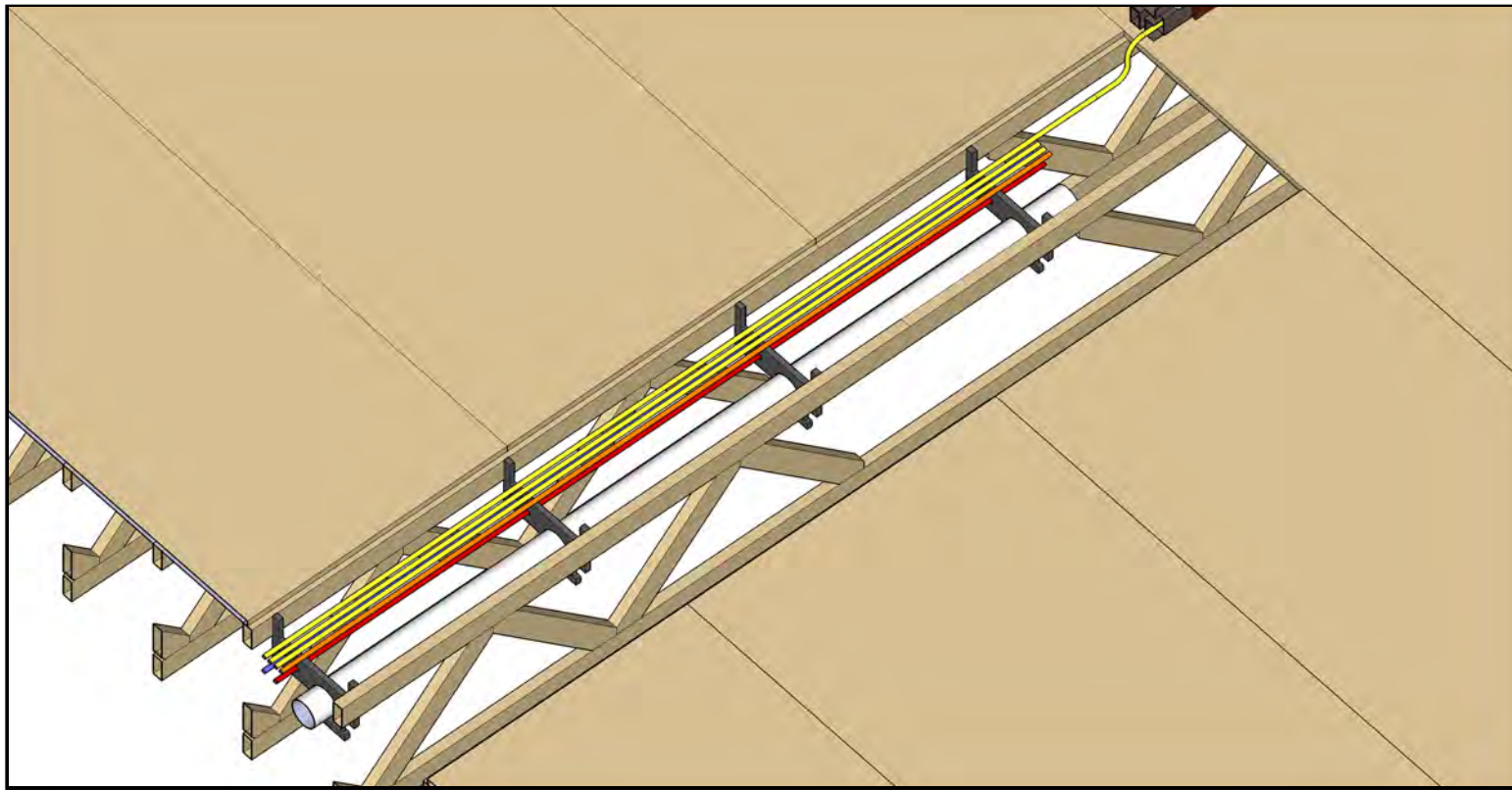
variation four.
1 tenant // 3 bedrooms

HOMEWORKS

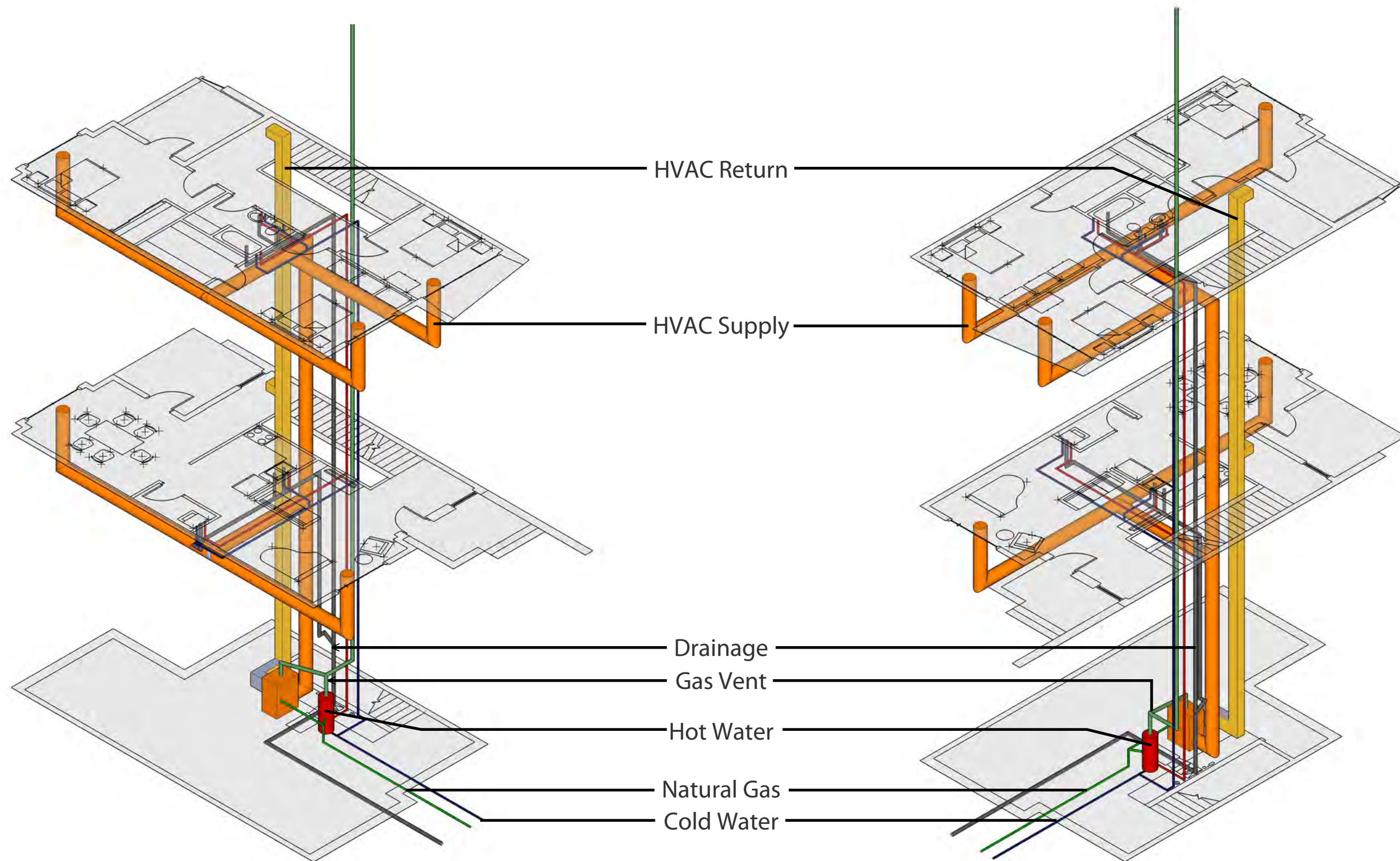
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siteplan.
2 neighborhood options



systems details.



MEP Schematic Axon.
1 tenant // 2 bedroom

shell.

exterior

the exterior of the shell is a simple layout with six bays in which the panels are placed. eleven foot floor to floor heights provide plenty of room for deep floor caviites in which to place HVAC and other utilities.

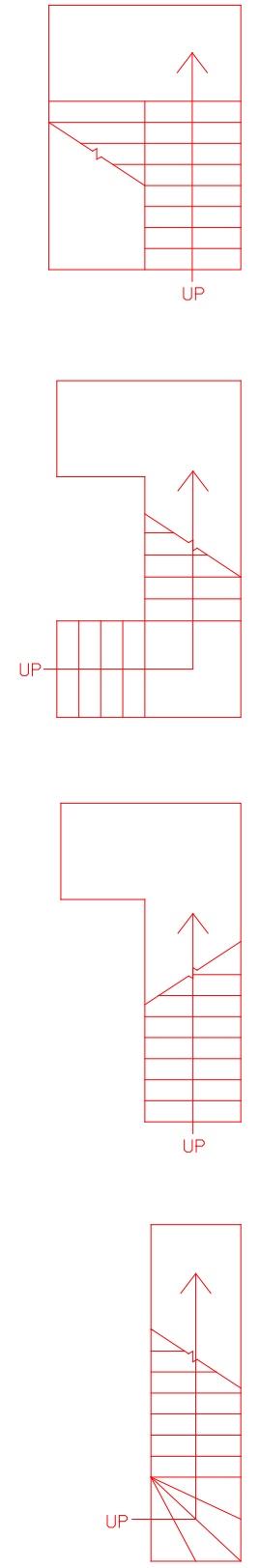
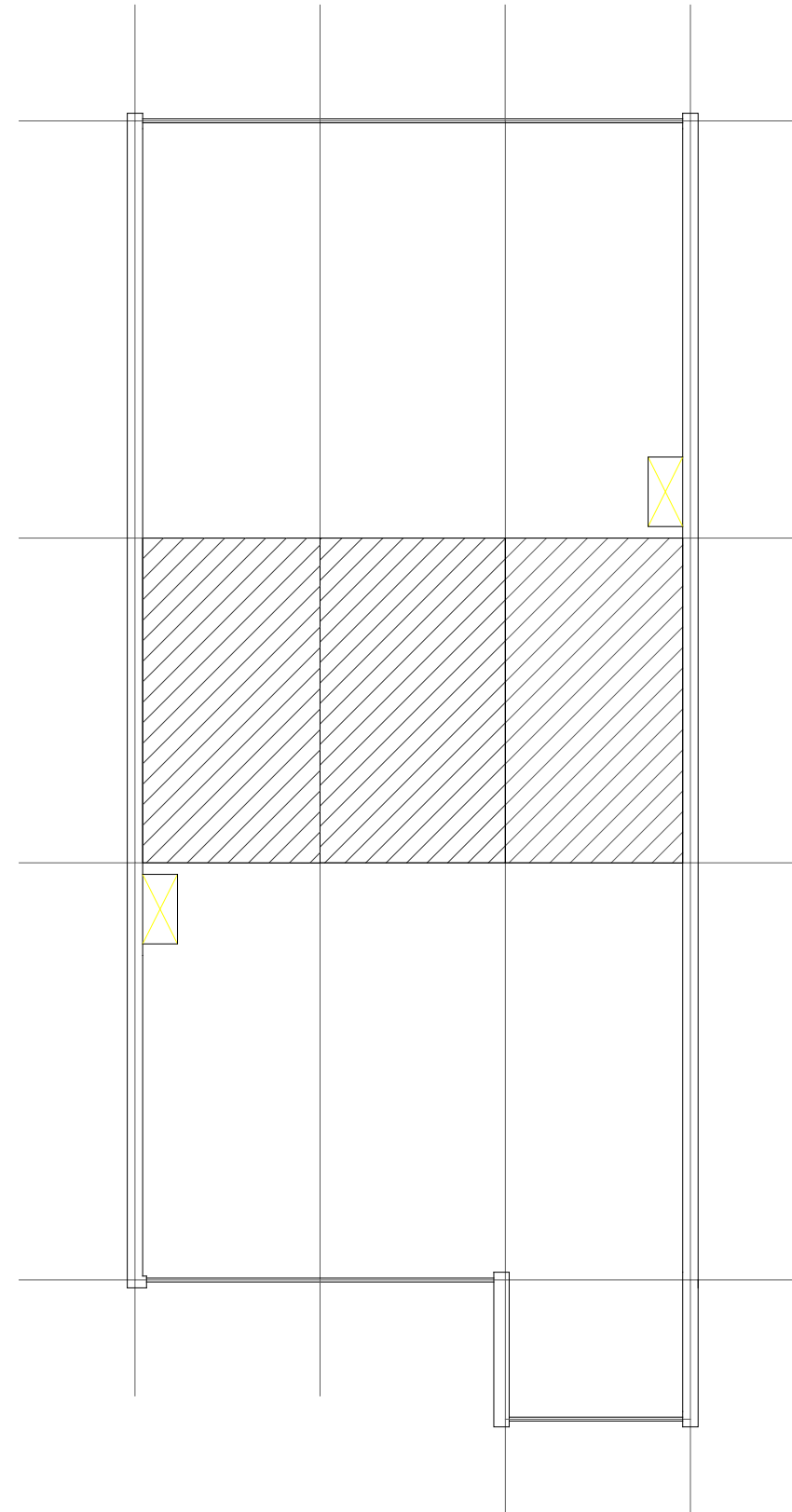
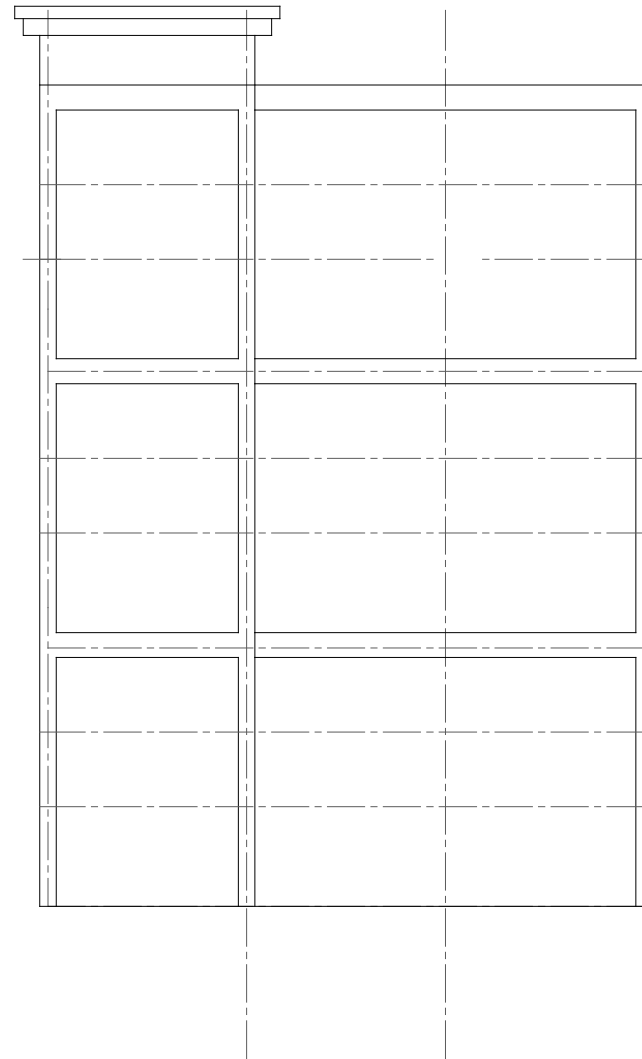
floor plan

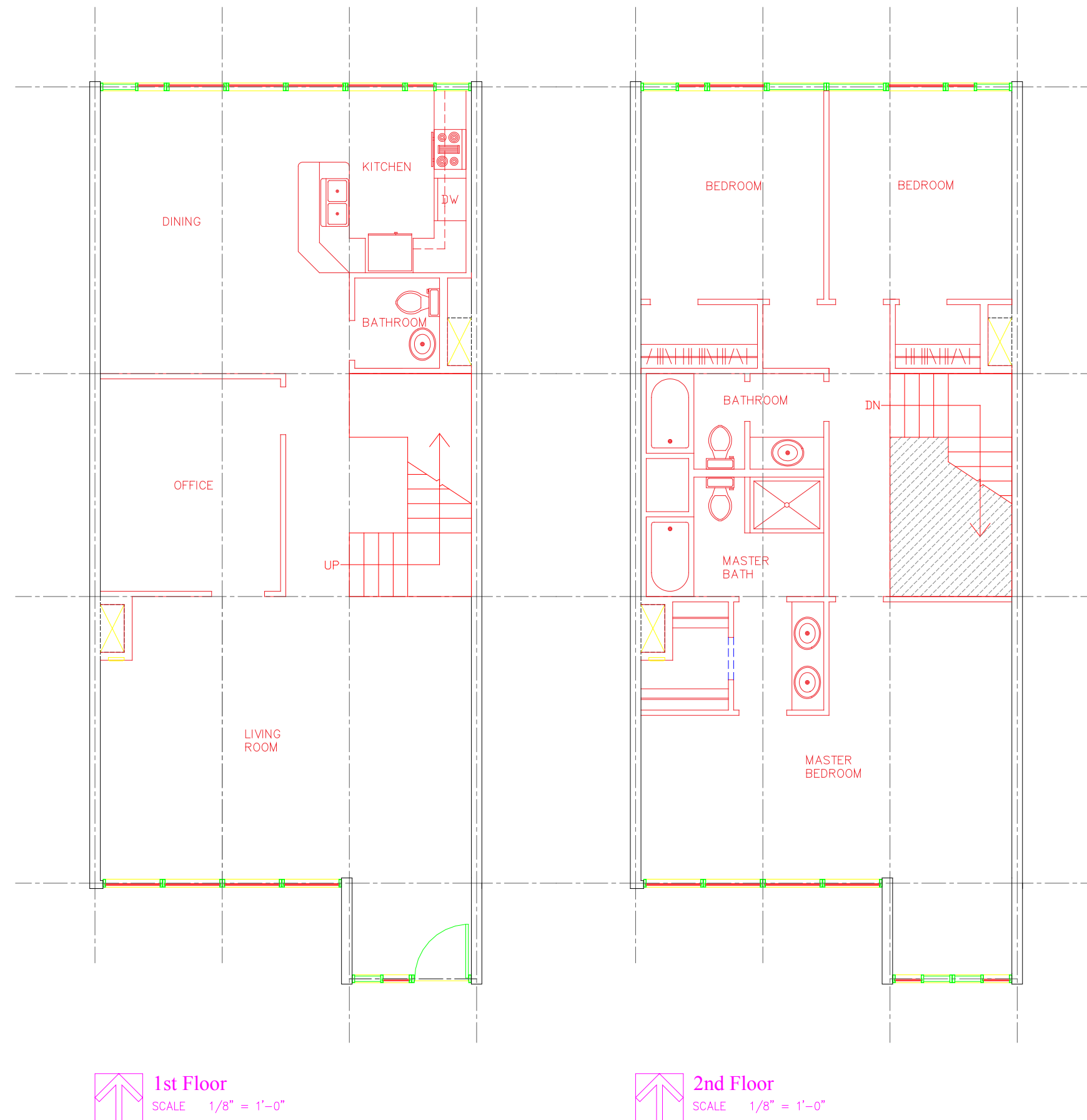
the floor plate it divided into three bays both horizontally and vertically and has two mechanical chases in which all the HVAC, electrical, and data are run from floor to floor.

vertical circulation

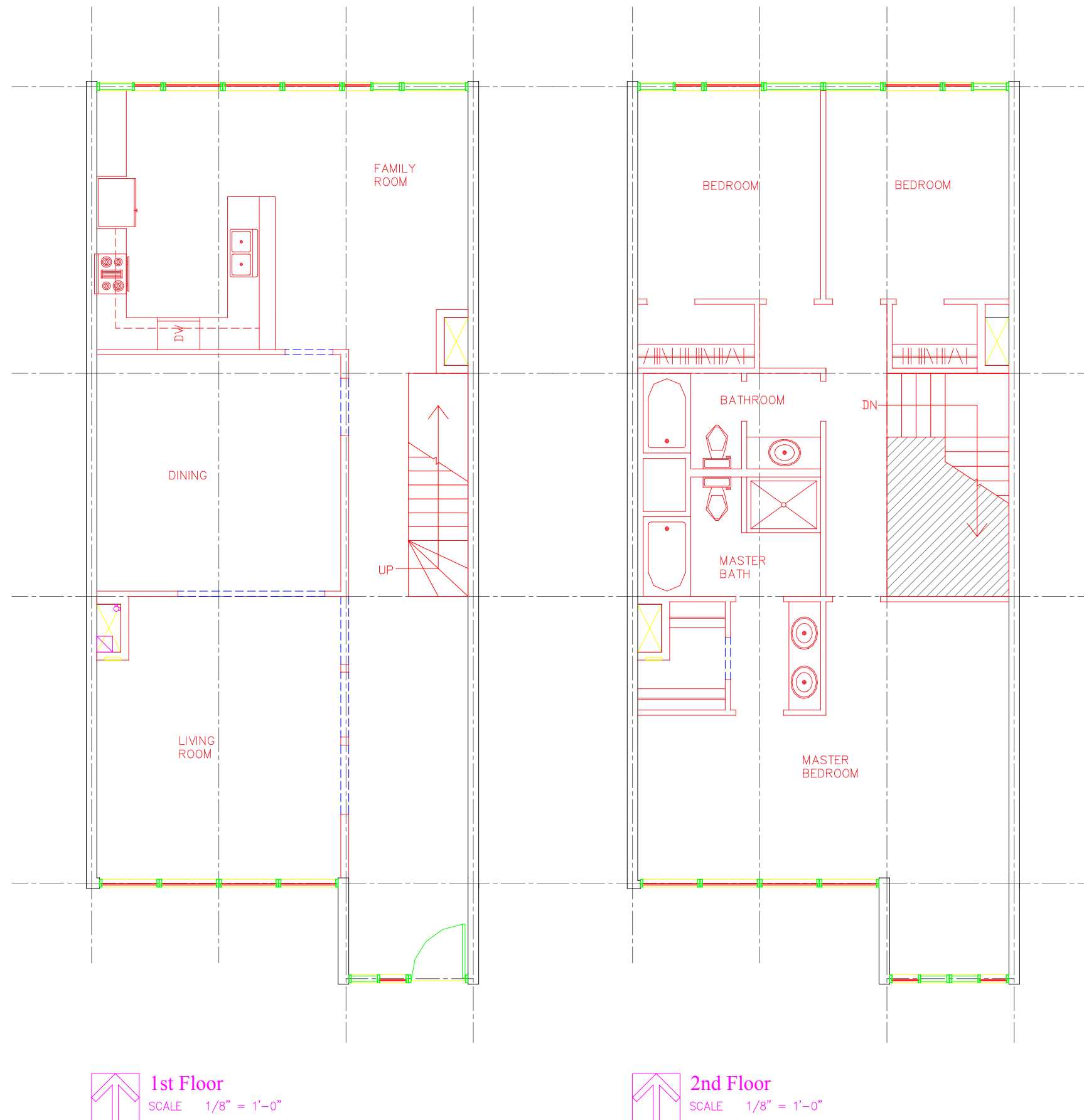
with a consistant size opening for the stairs there are a varity of options. each of the four options can be placed in any of the three places.

Base Building

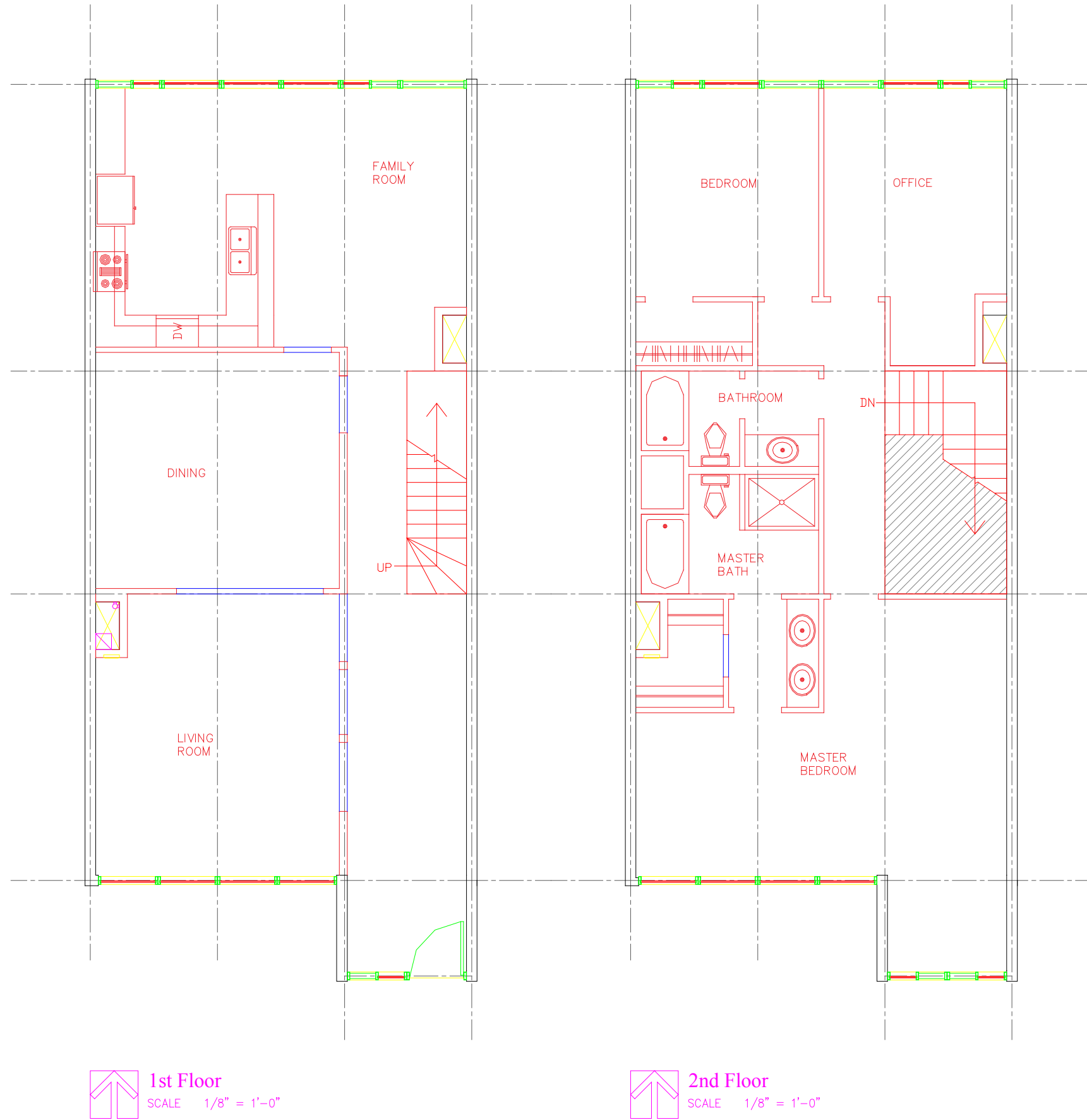




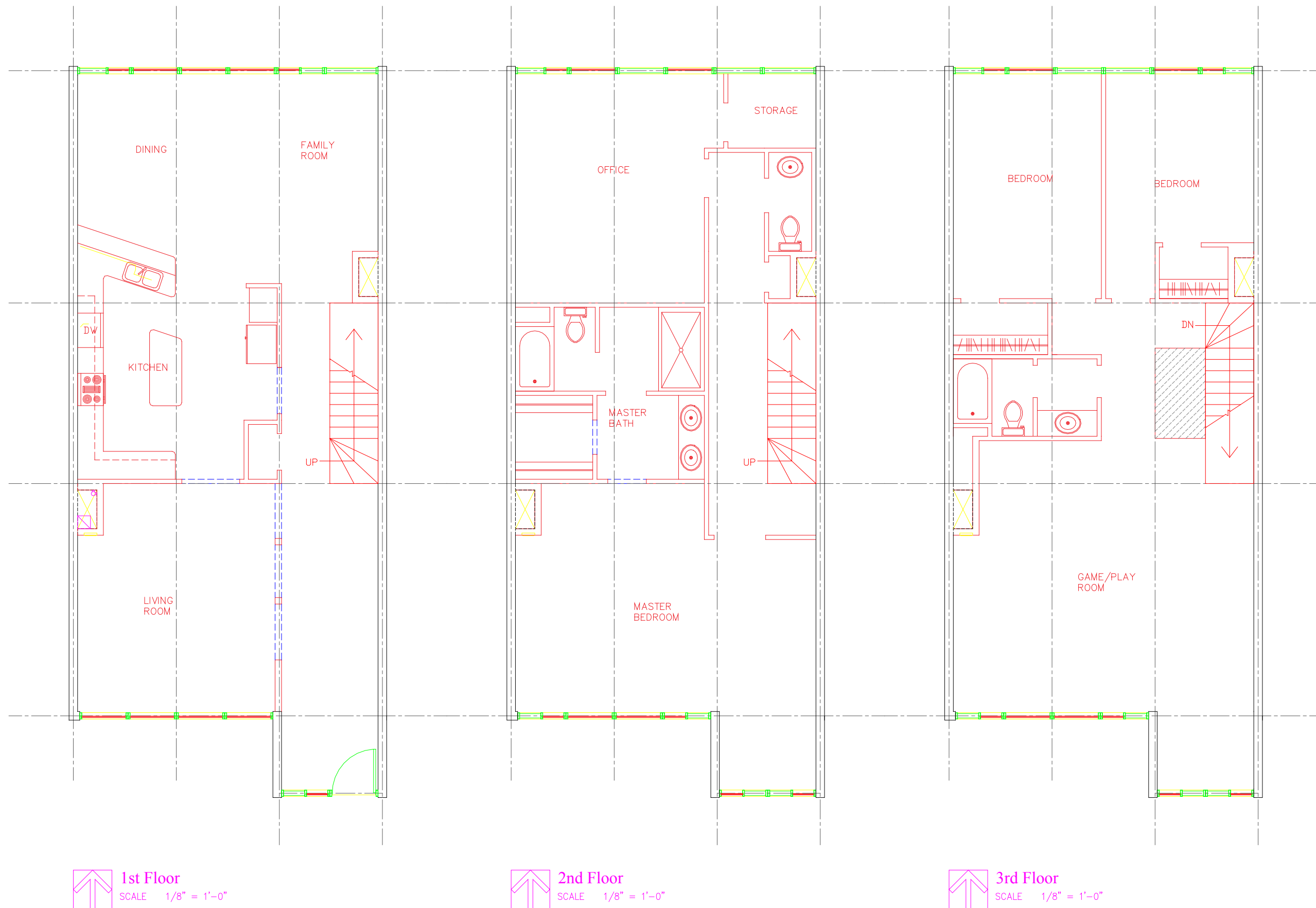
Two Story Option One.
1/8" = 1'



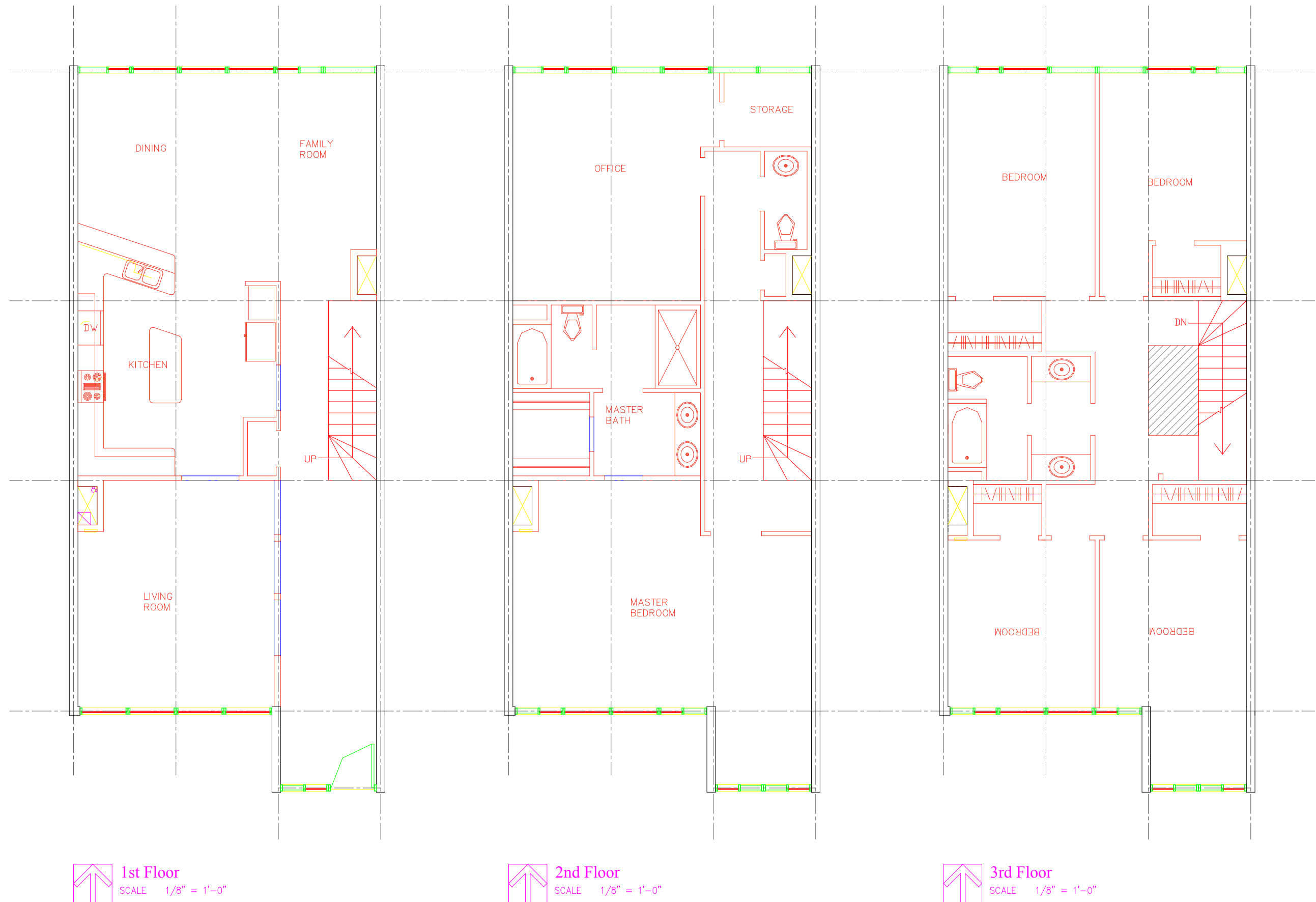
Two Story Option Two.
1/8" = 1'



Two Story Option Two alt.
1/8" = 1'



Three Story Option One.
1/8" = 1'



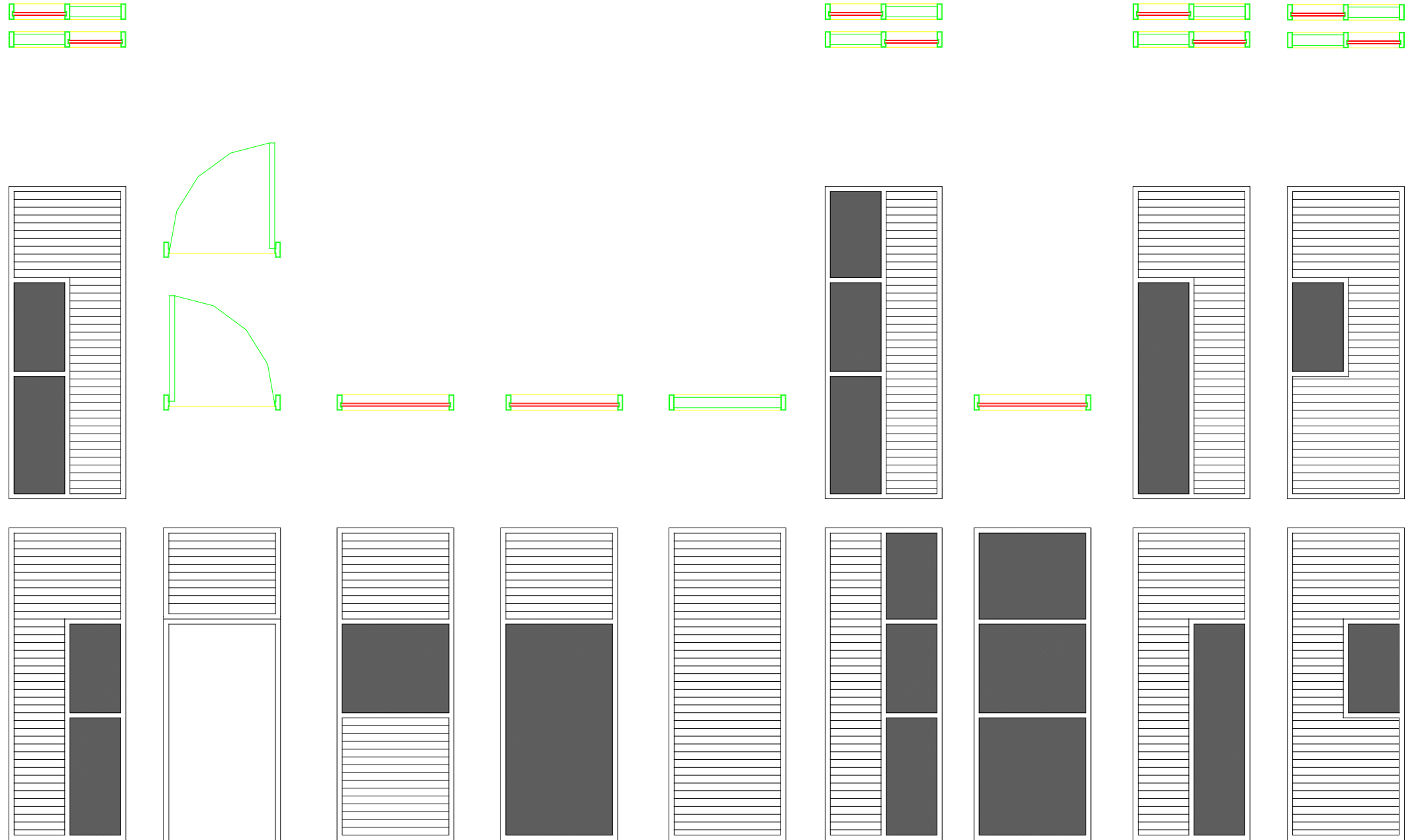
Three Story Option One alt.
1/8" = 1'

panals.

composition.

panals ranging from full height glass
to solid panals provide opportunity for
a varity of lighting solutions.

Facade Panals



facade.

composition.

made from a series of changable panels, the facade is designed to adapt as the interior uses change.

skin/materials.

alumnimun panels with various inserts made up the numerous facade panals; a mix of solid and glass, the panal system provides almost limitless combinations of solid and void to cater to interior rooms.



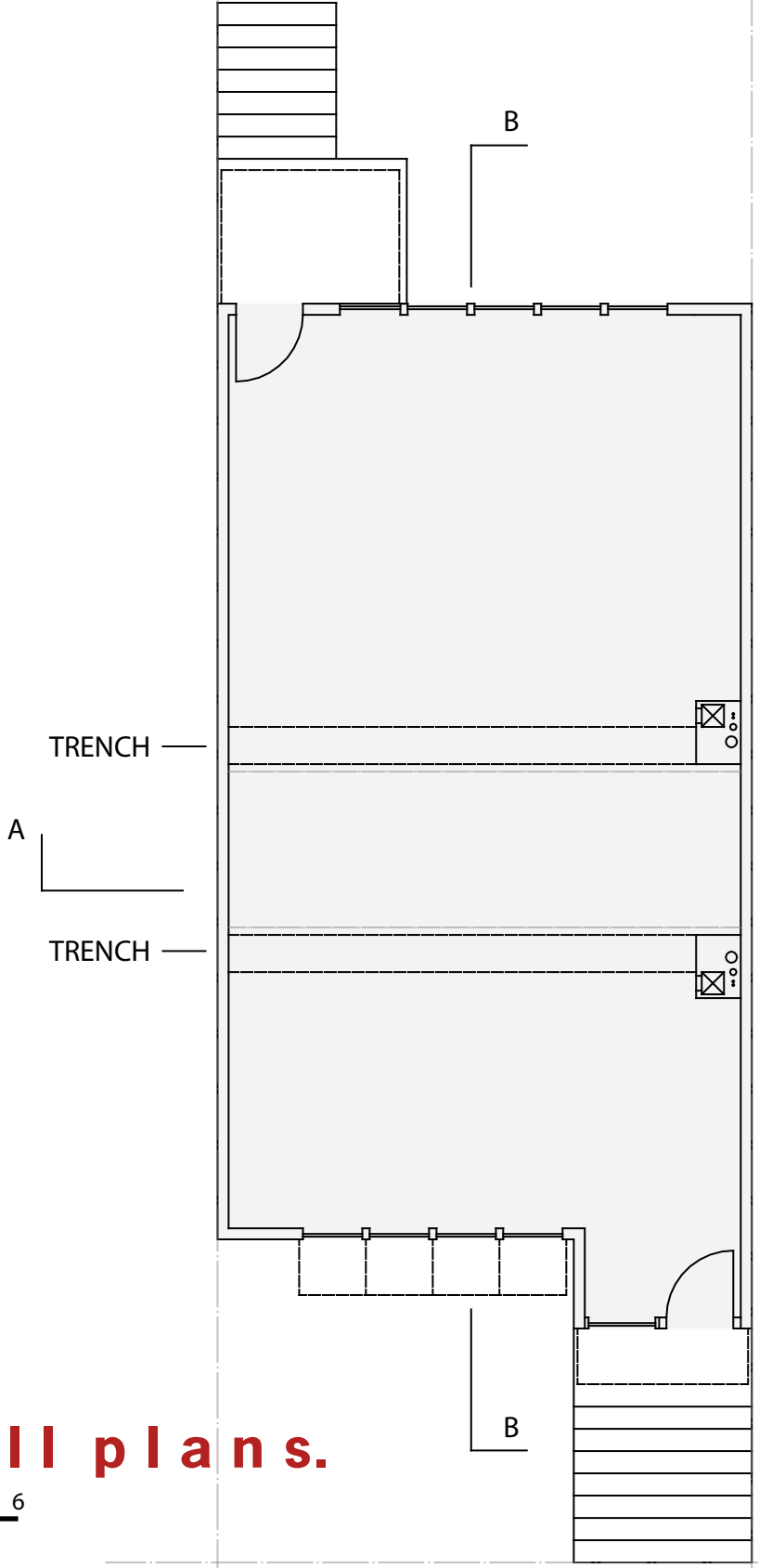
Front Elevation.

1/8" = 1'

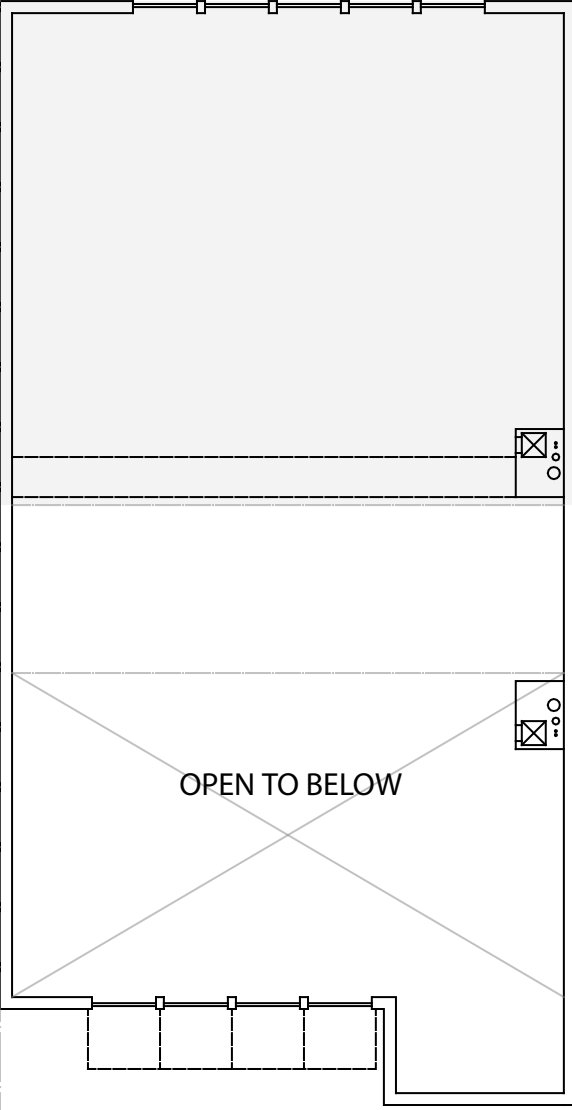


shell plans.

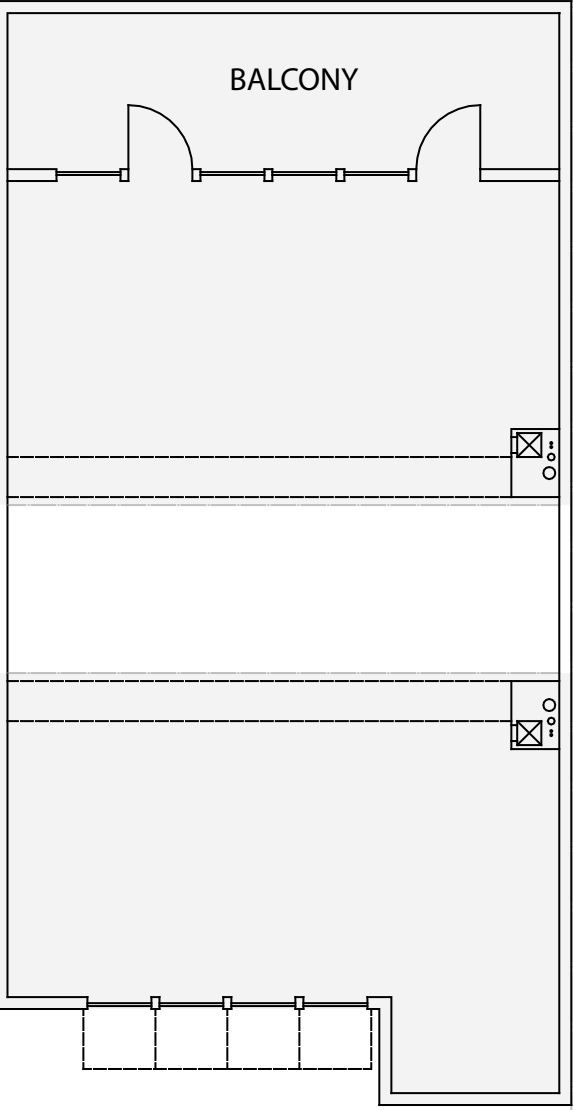
0 2 6



1st



2nd



3rd

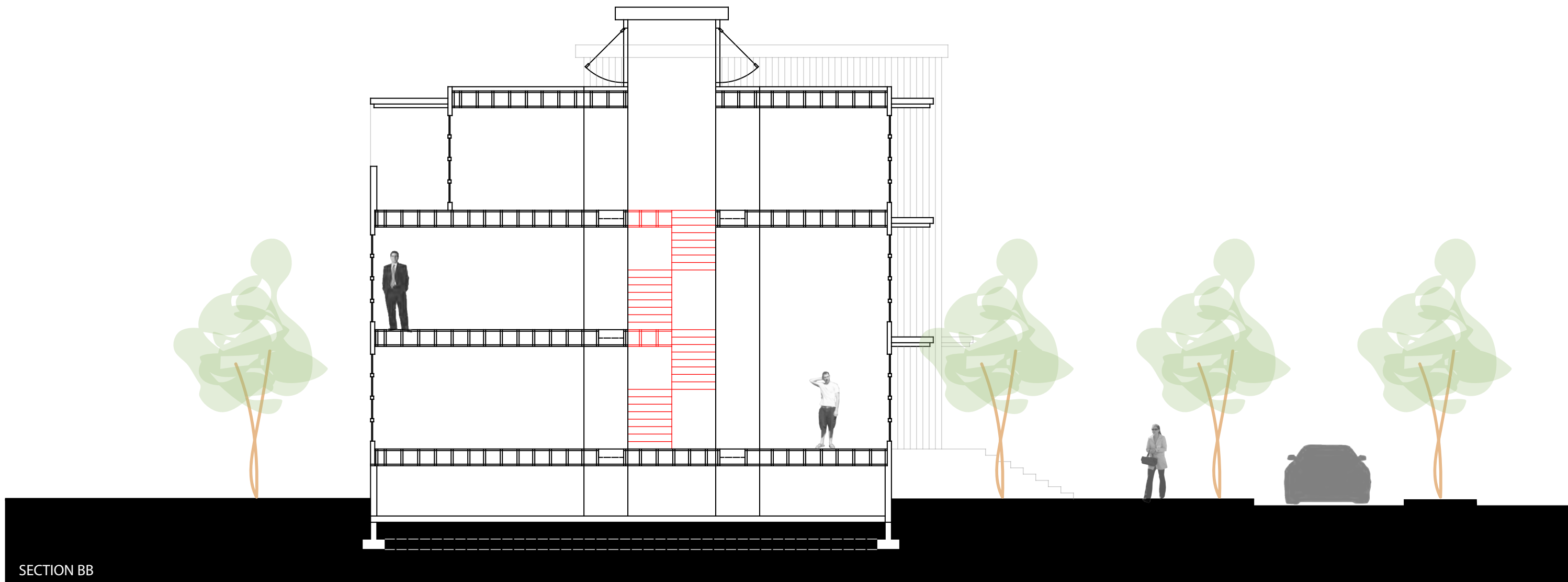
FRONT ELEVATION

sections/elevations.

0 2 6

SECTION AA

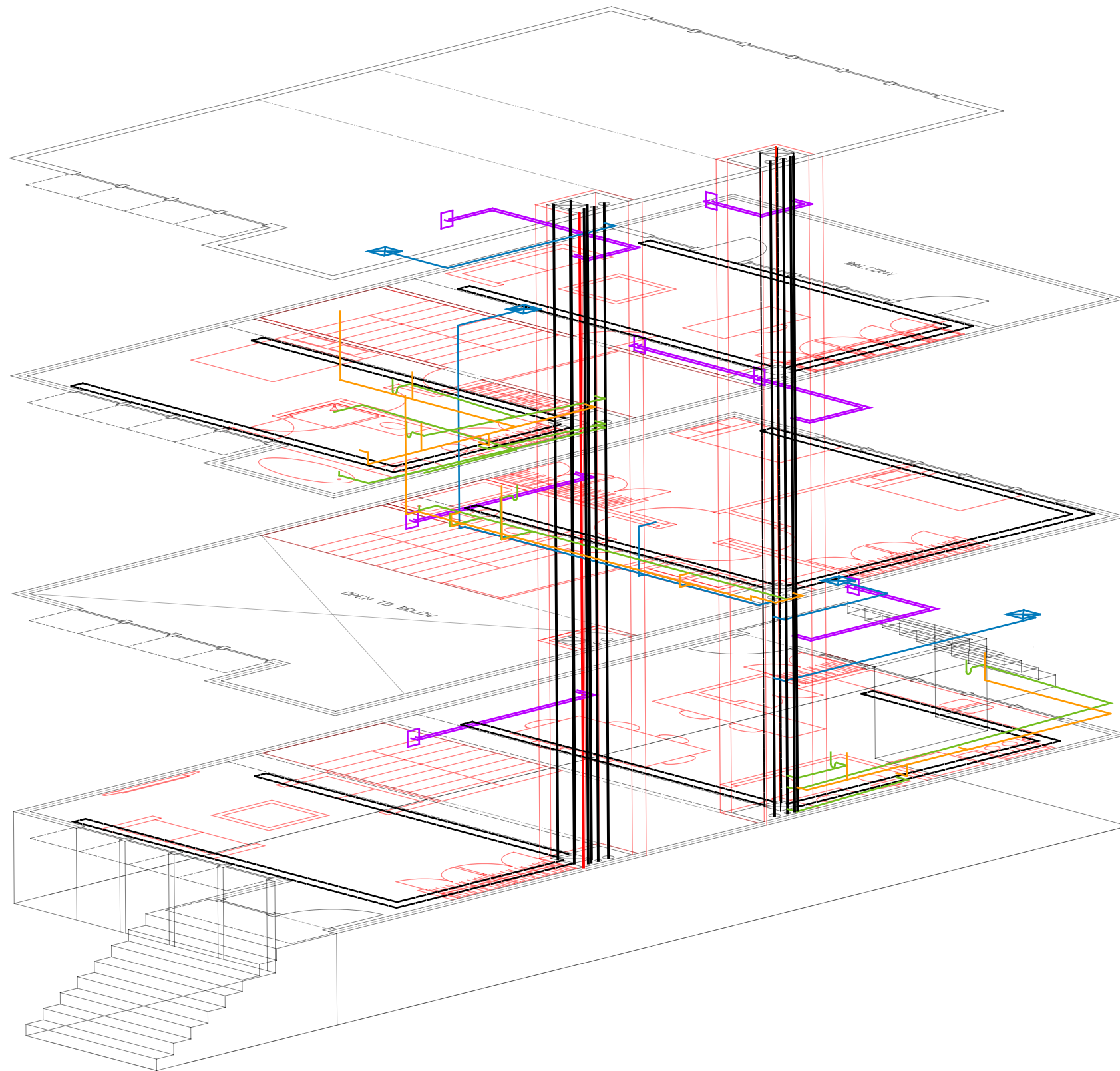
REAR ELEVATION



section.

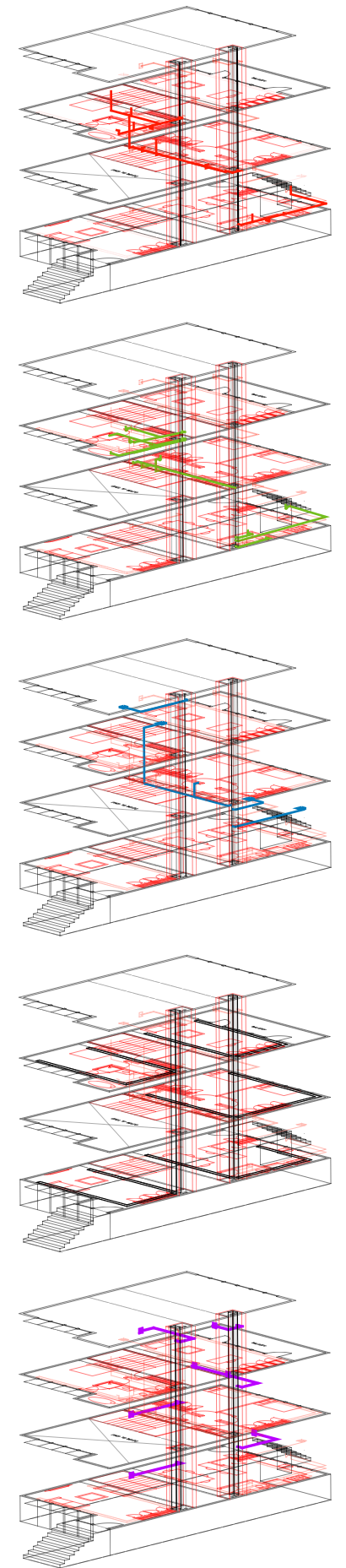
0 2 6

m e p s y s t e m d i a g r a m s . variation one



WATER SUPPLY DRAIN VENT AIR SUPPLY AIR RETURN
* Shell only

Shell systems are colored black.
Infill systems are color coded as noted above.



HOMEWORKS

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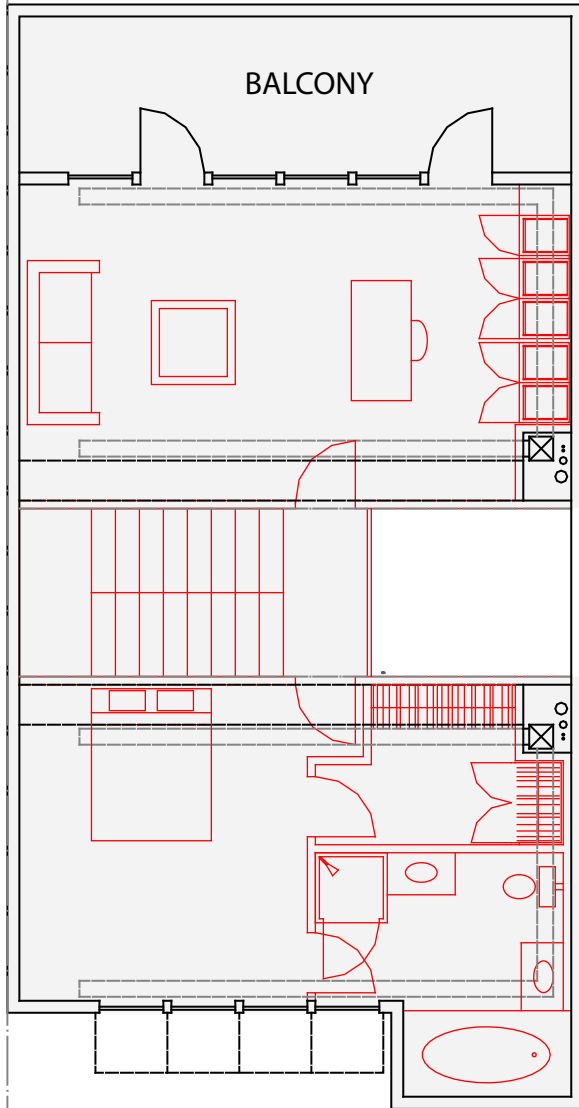
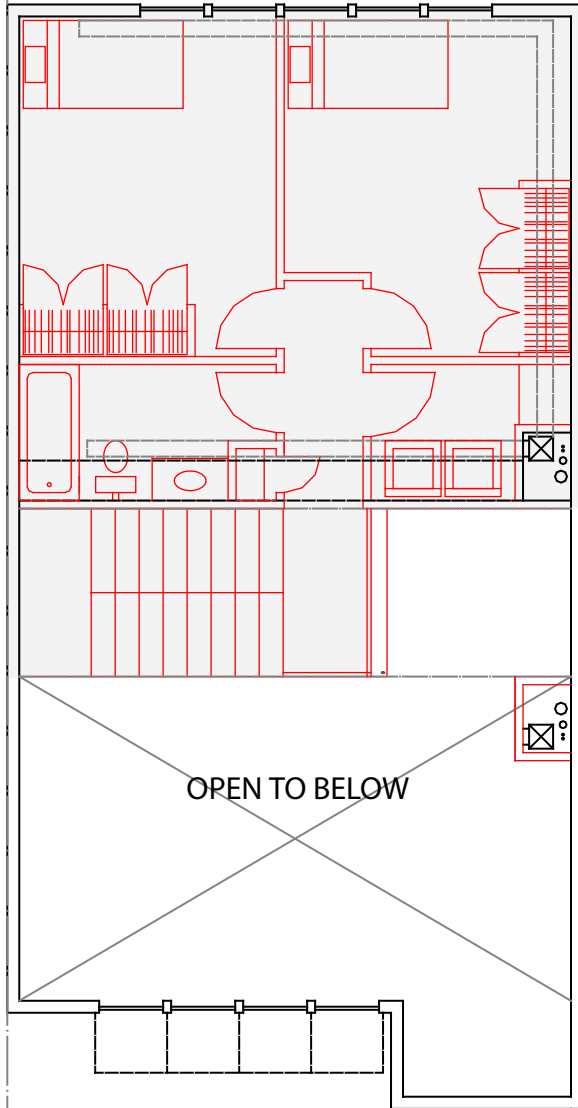
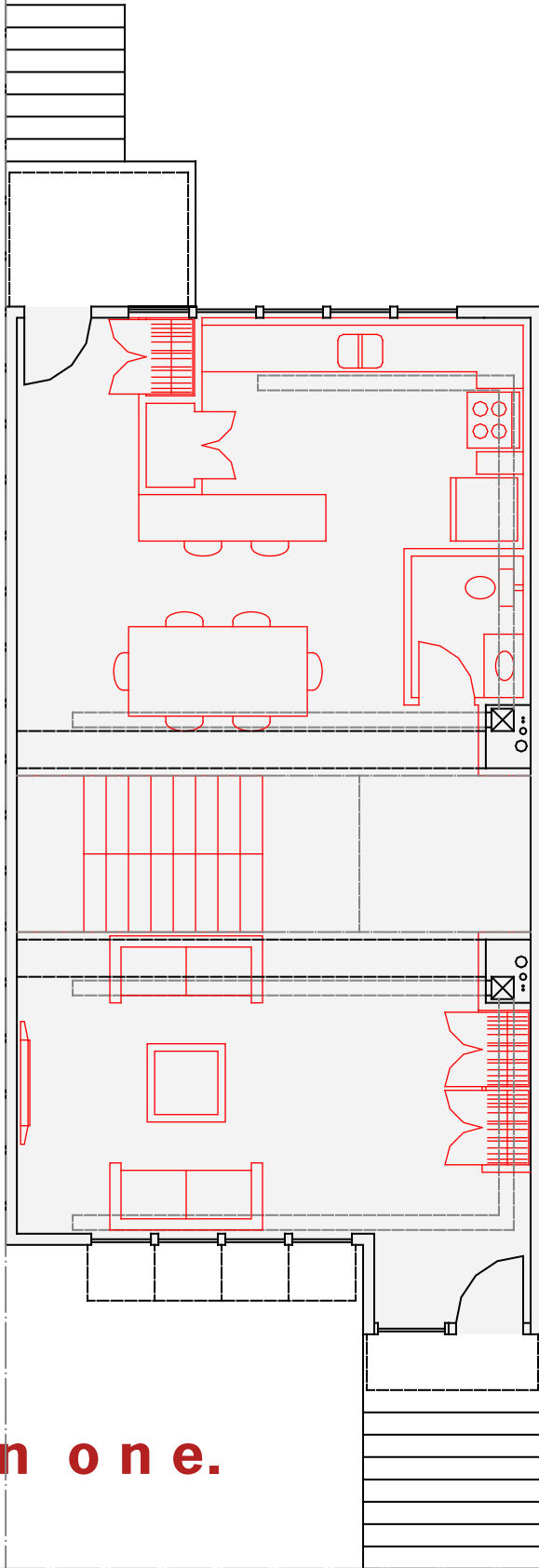
STUDIO KENDALL

5 LITRELL



variation one.

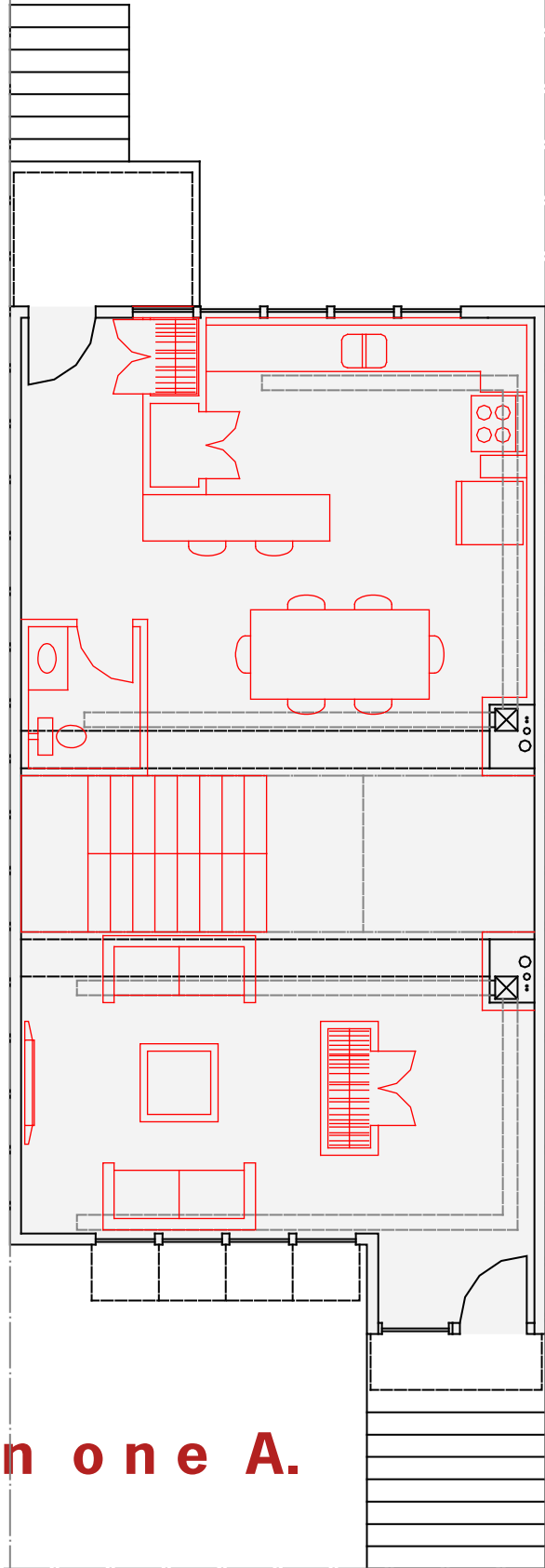
0 2 6



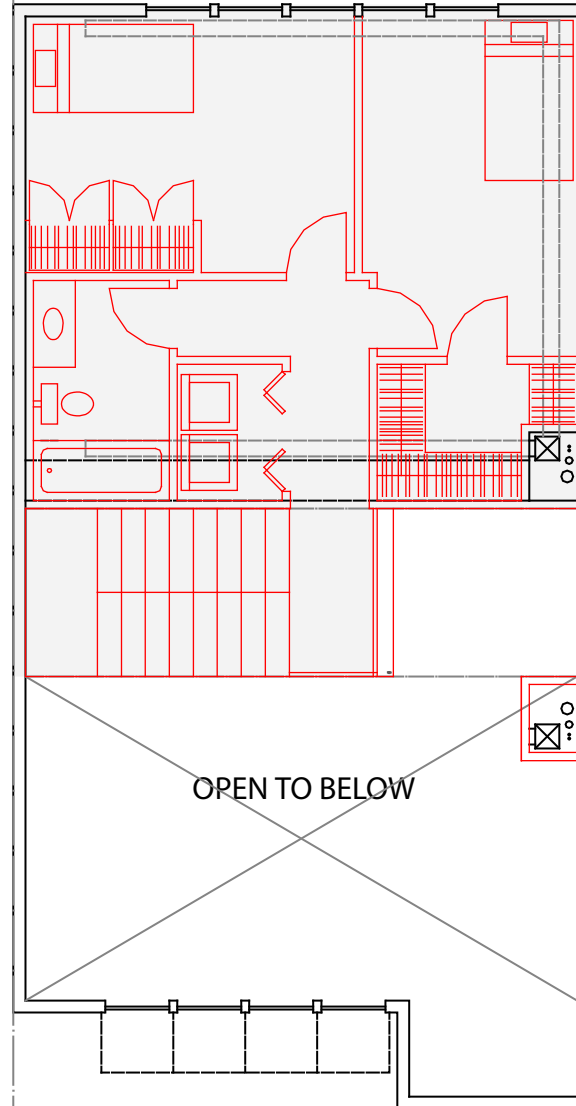


variation one A.

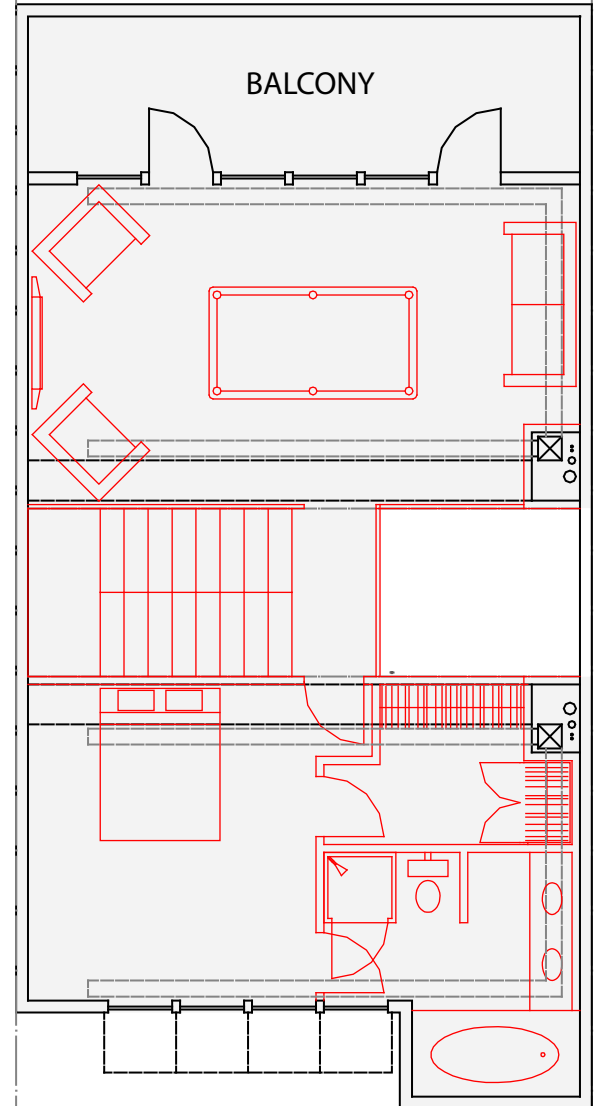
0 2 6



1st



2nd



3rd

HOMeworks

February 16, 2007

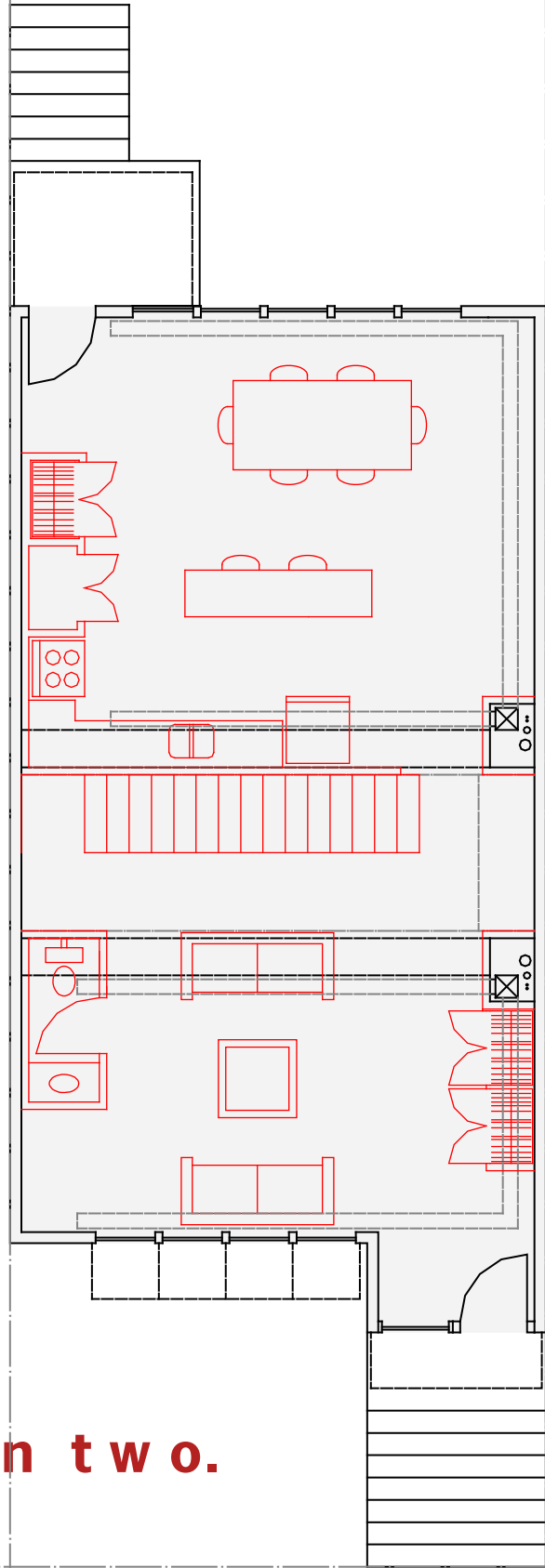
STUDIO KENDALL

7 LITRELL

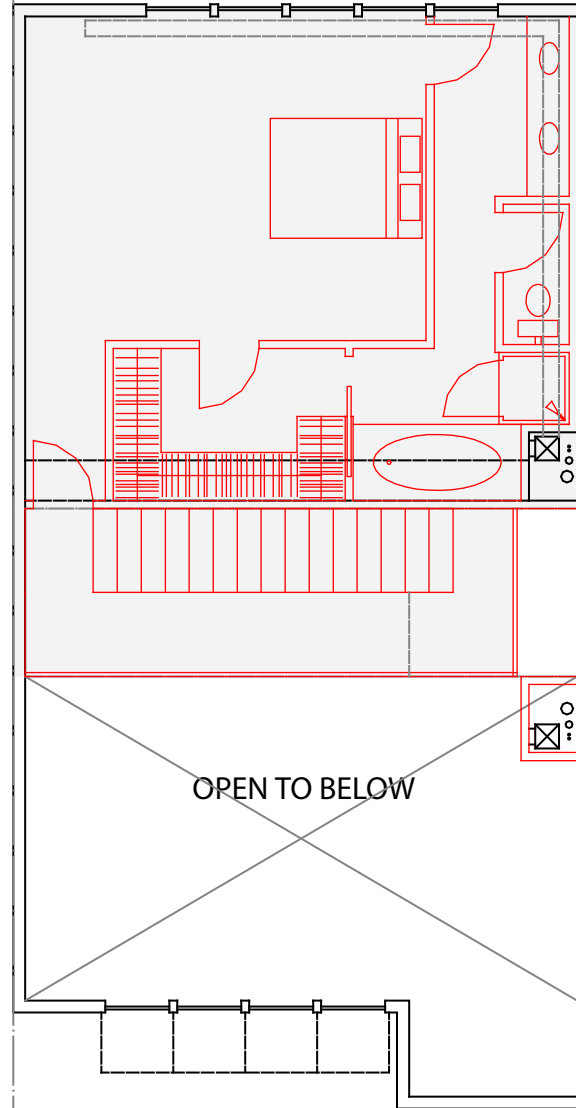


variation two.

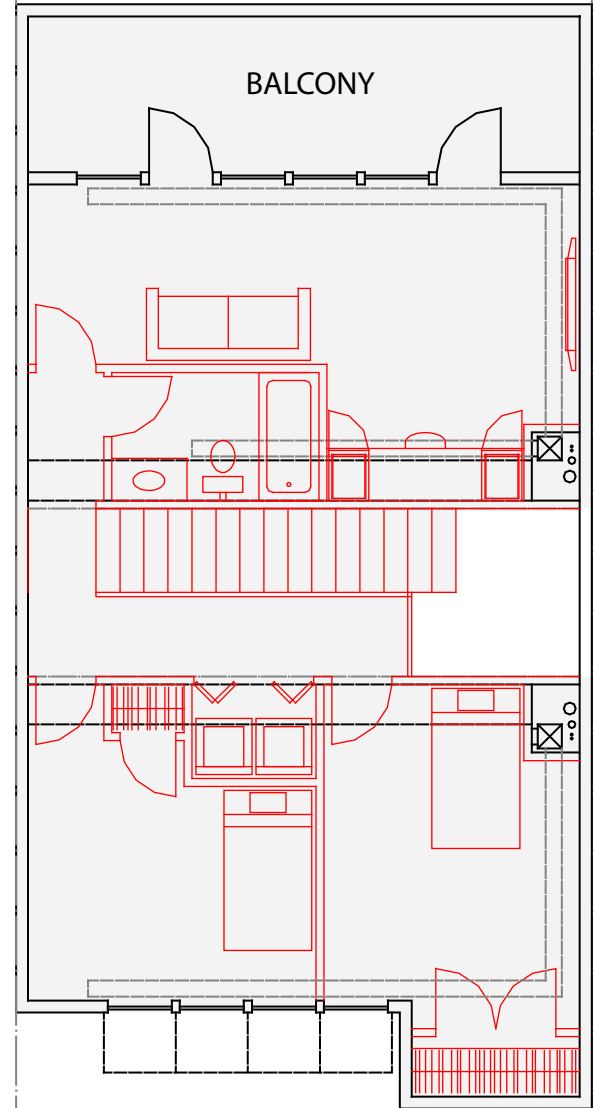
0 2 6



1st



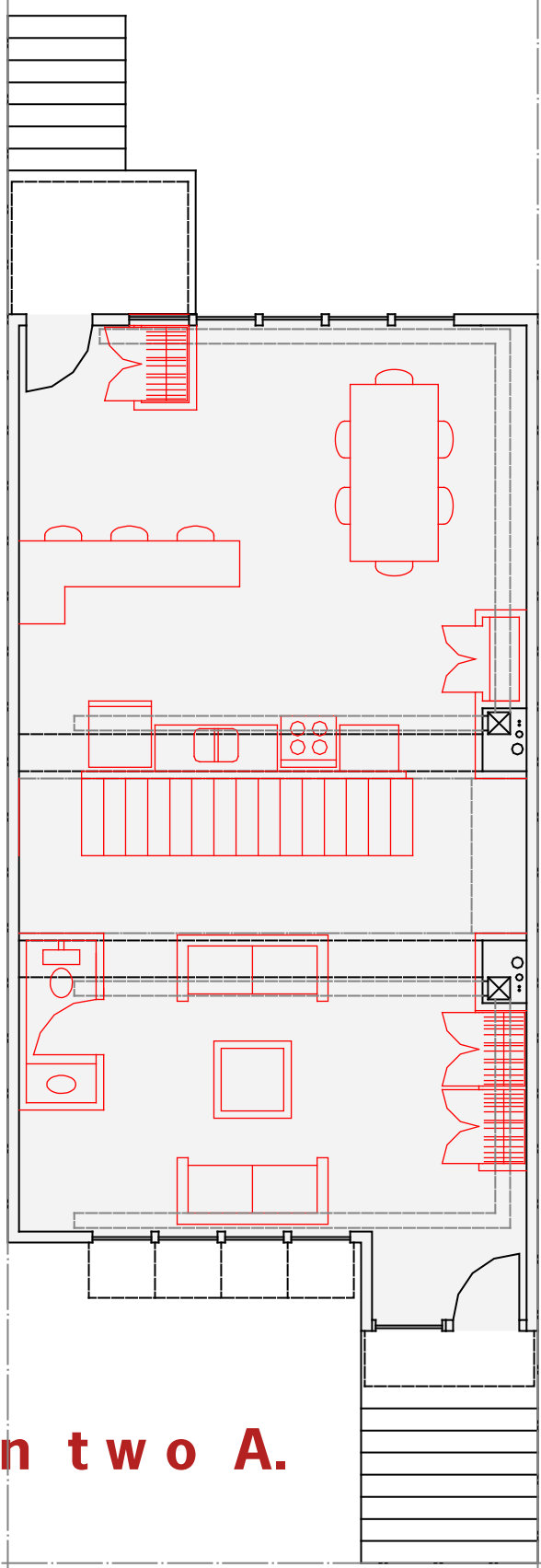
2nd



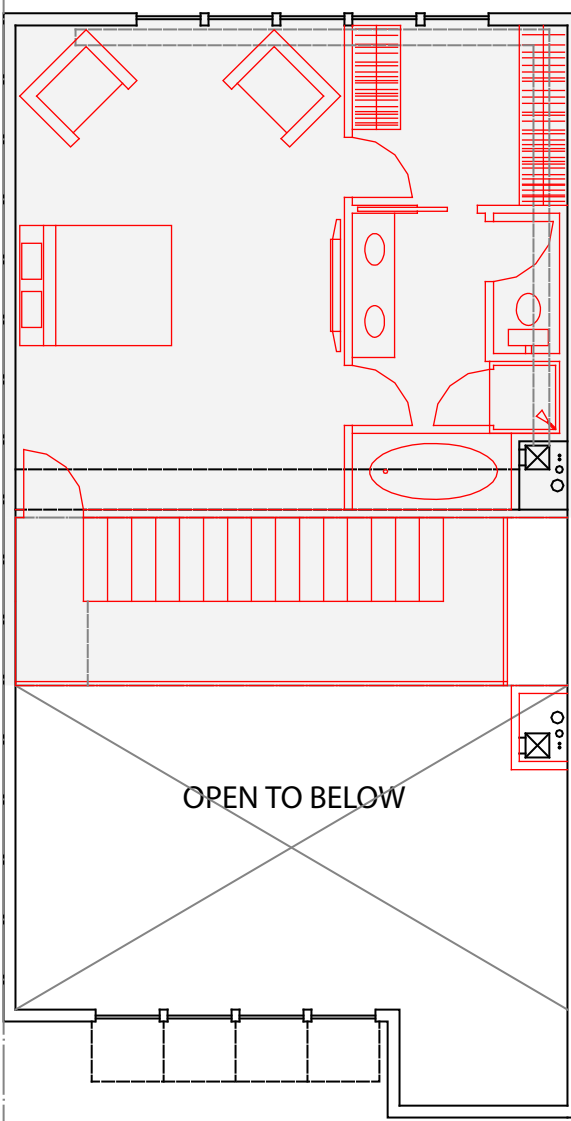
3rd



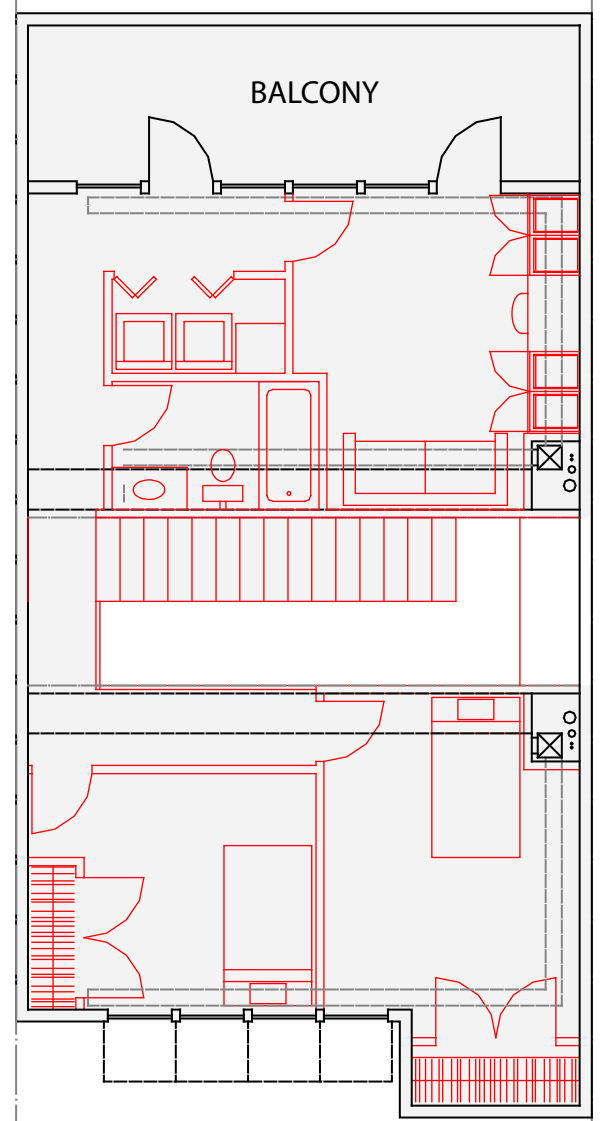
variation two A.



1st



2nd

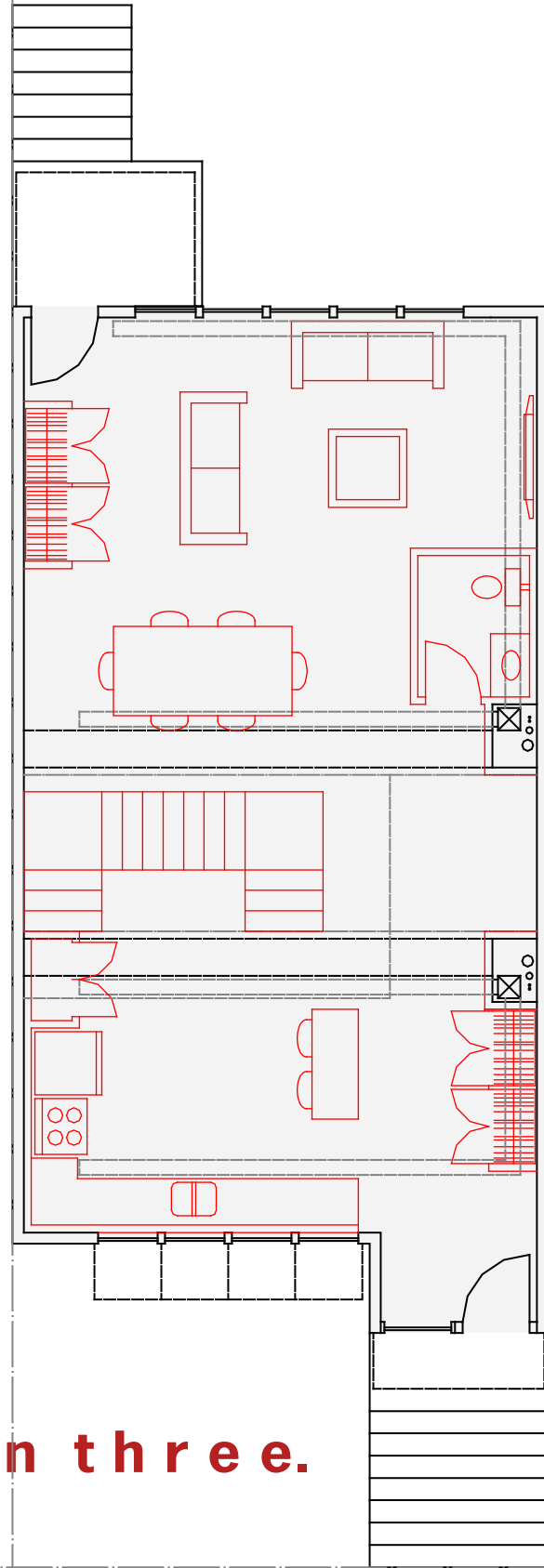


3rd

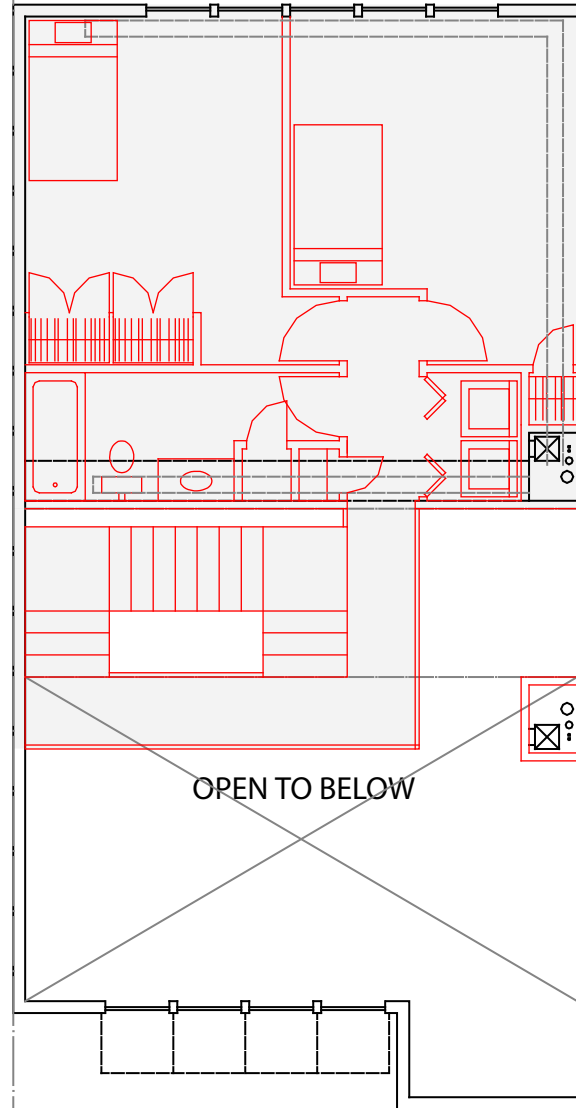


variation three.

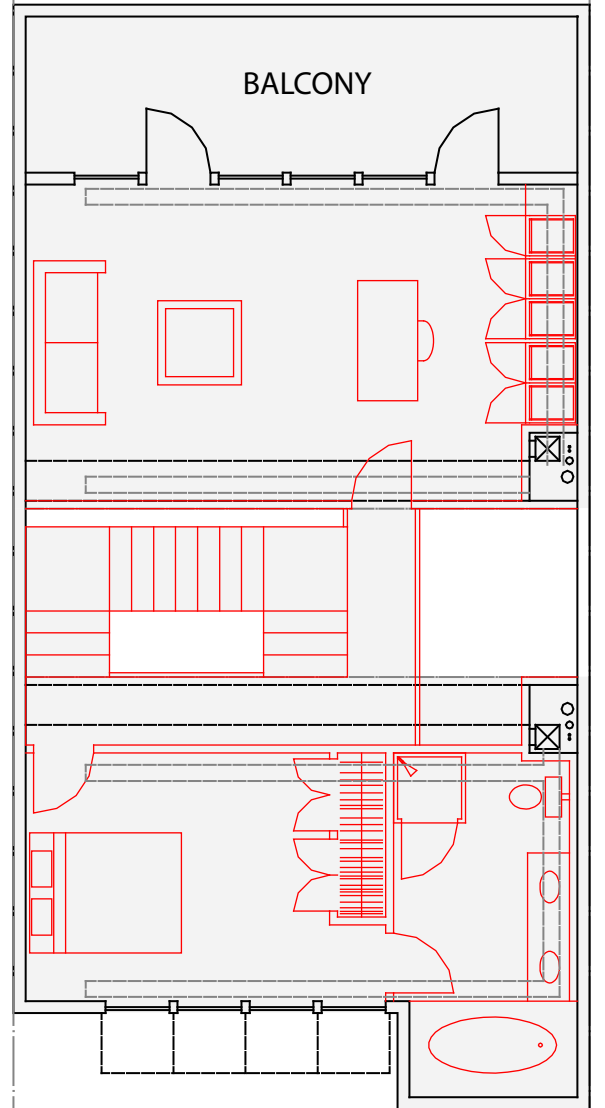
0 2 6



1st



2nd



3rd

HOMEWORKS

February 16, 2007

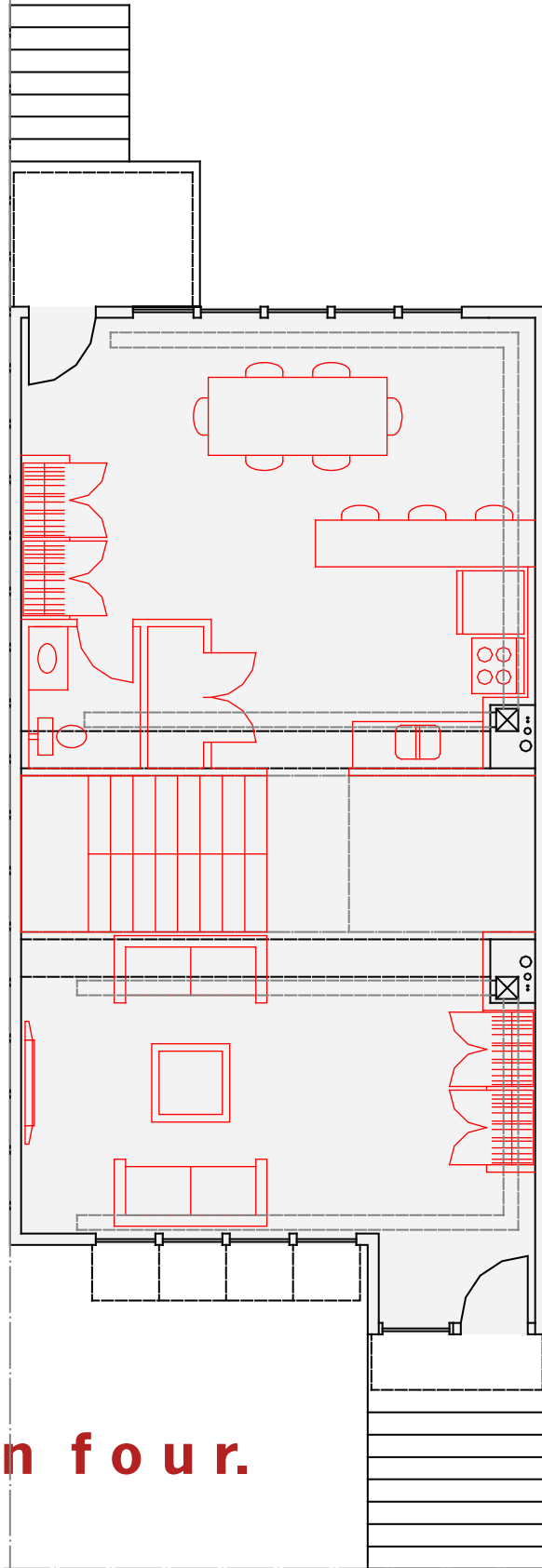
STUDIO KENDALL

10 LITRELL

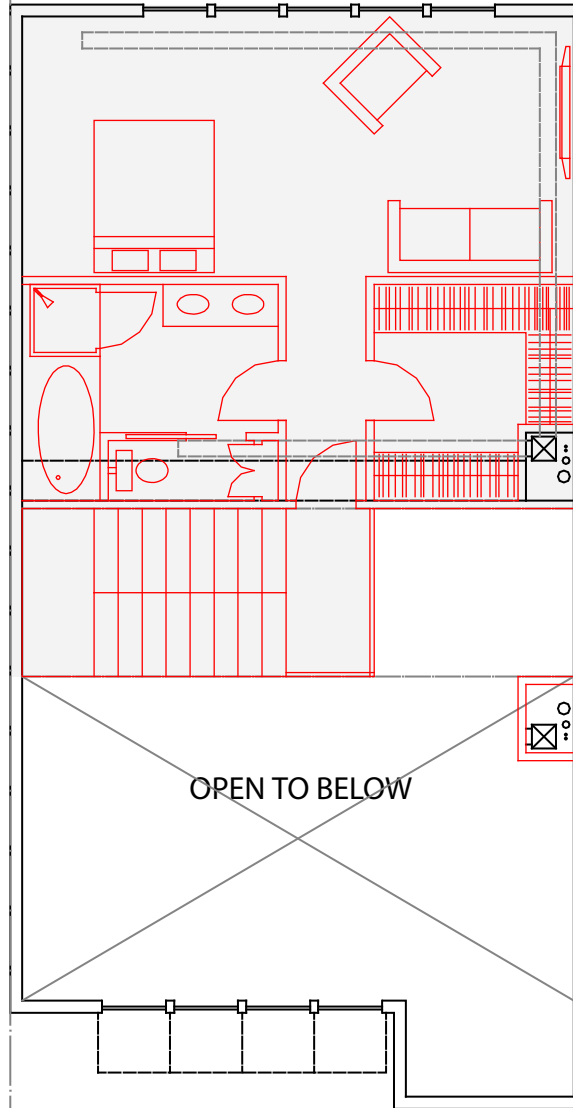


variation four.

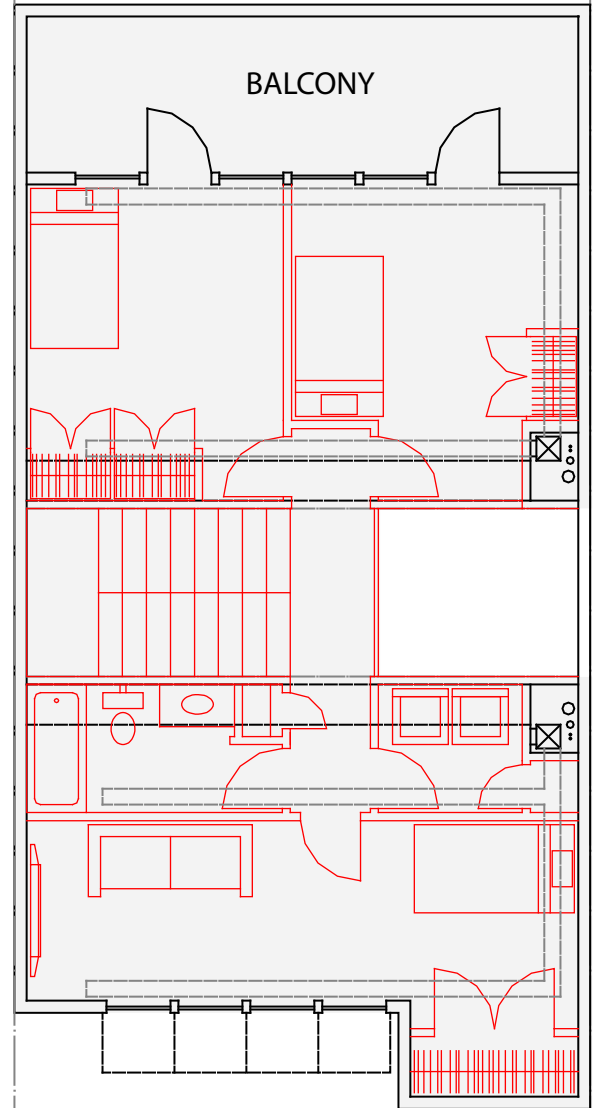
0 2 6



1st



2nd



3rd

variation one.
shell/infill



variation two.
shell/infill

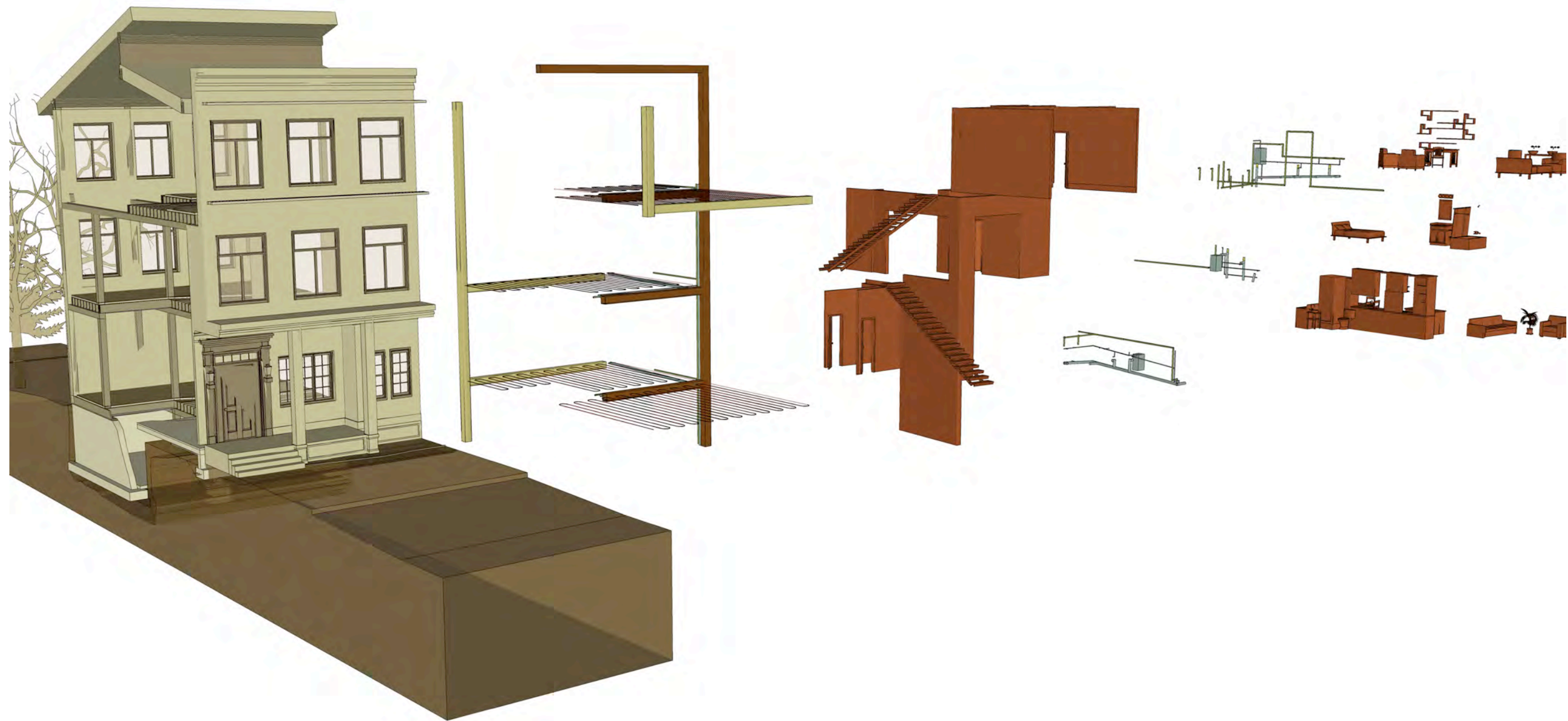


variation three.
shell/infill

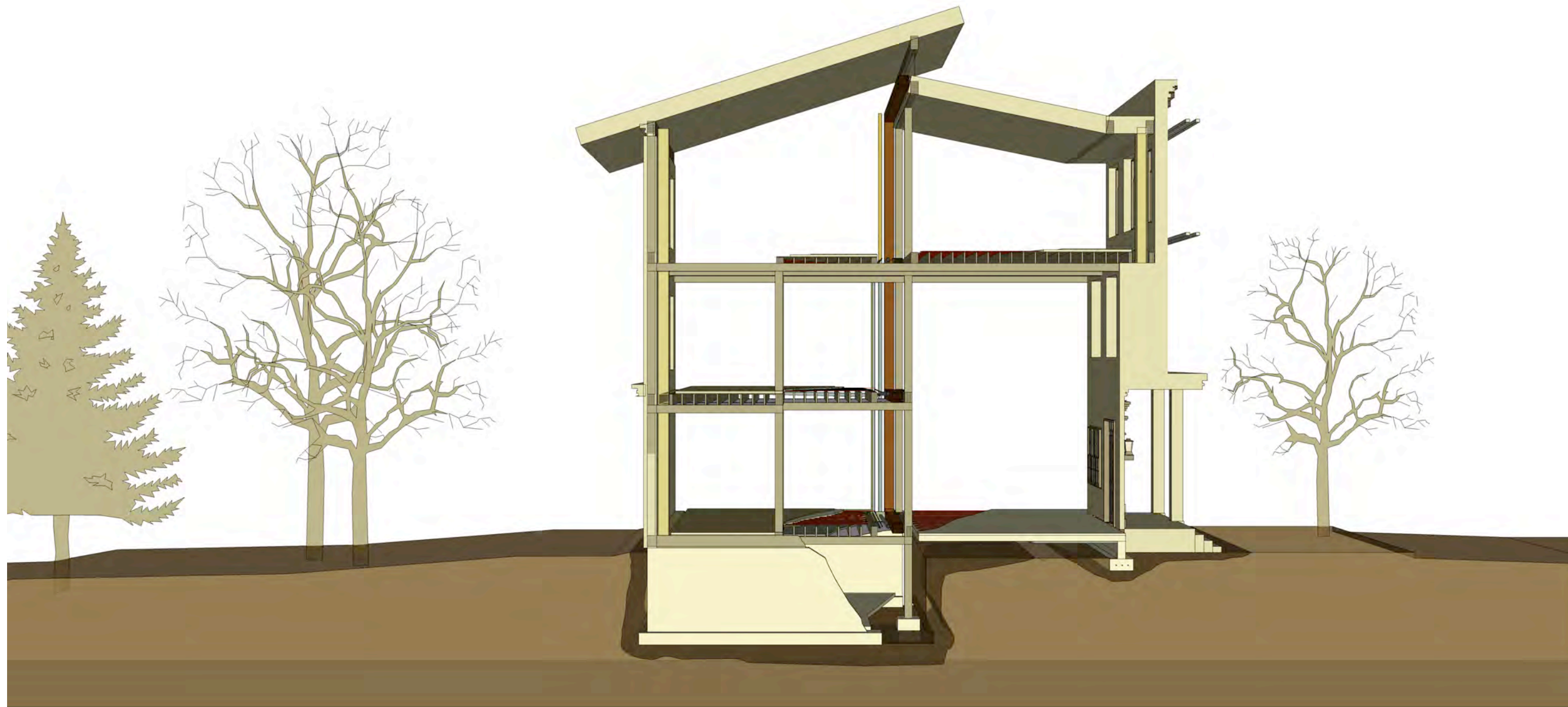


variation four.
shell/infill

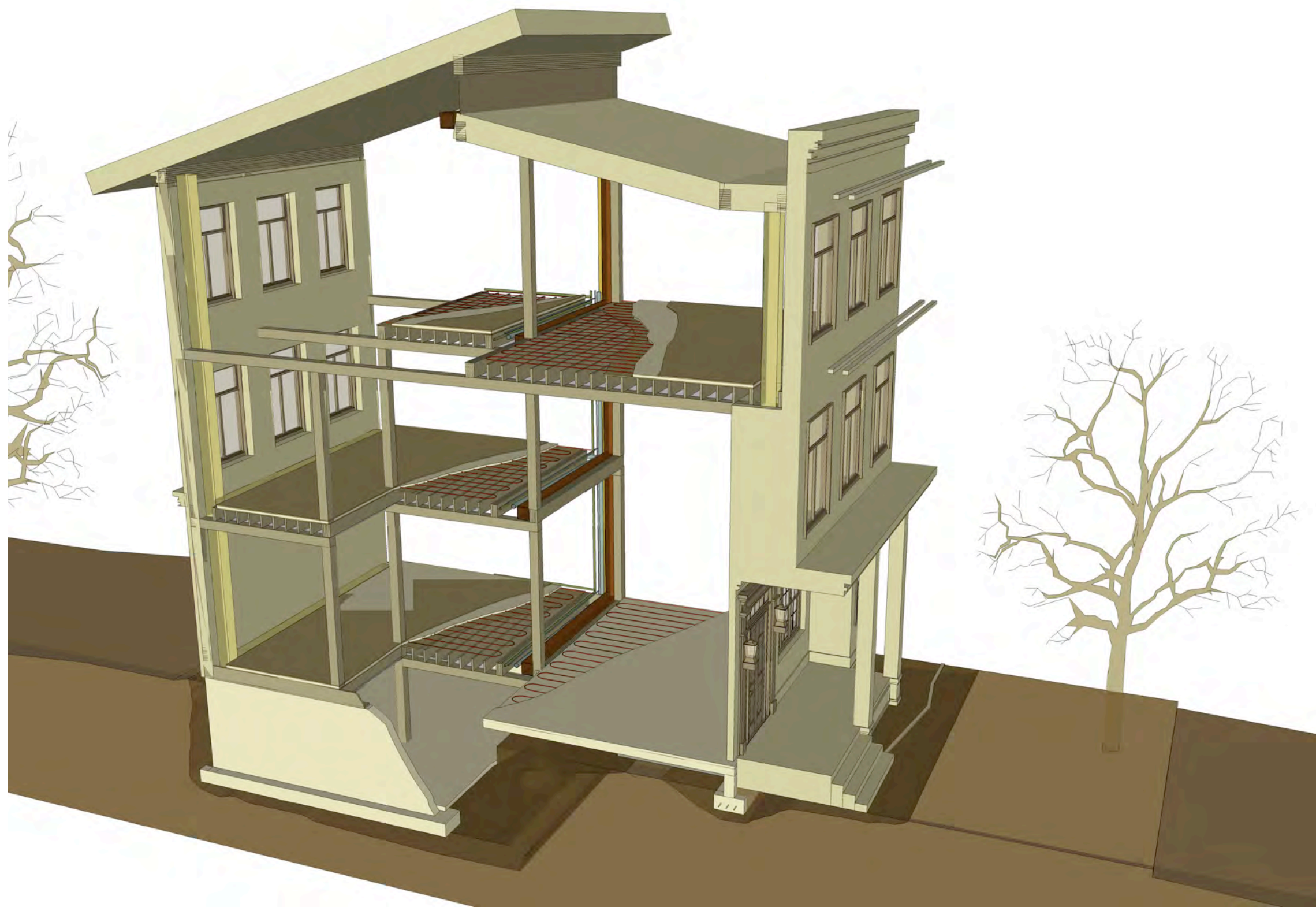




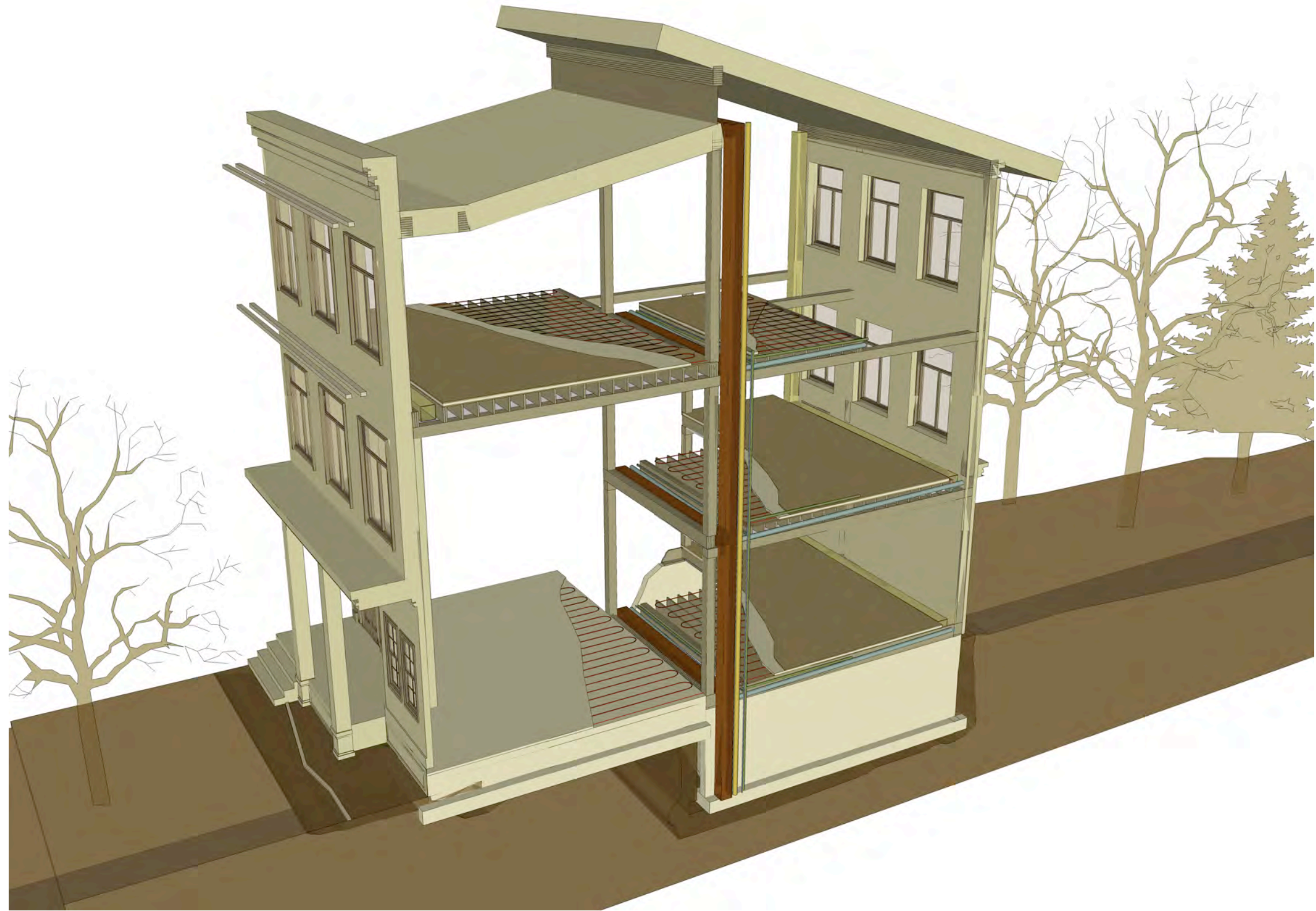
systems progression.
shell/infill



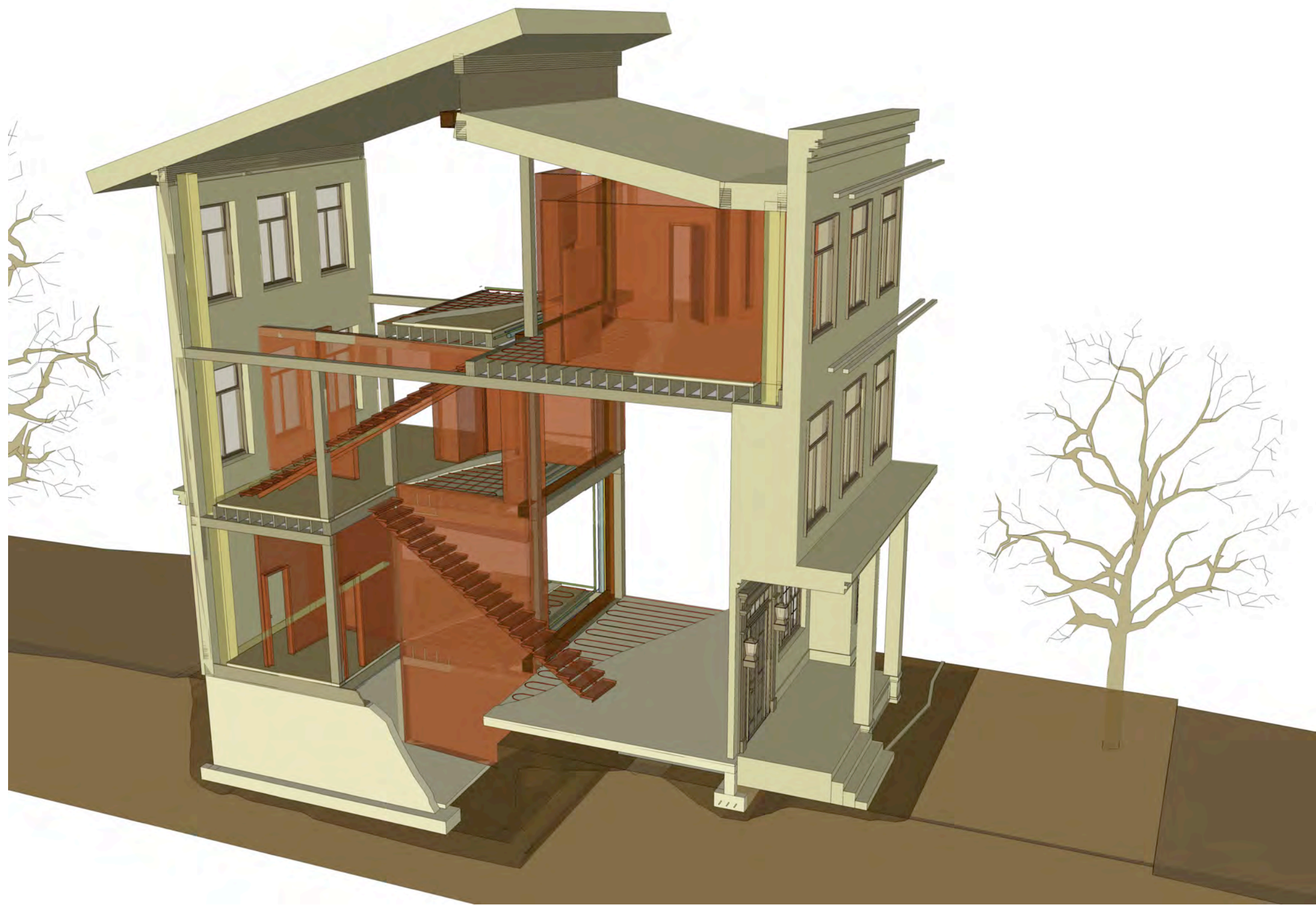
shell section.
shell structure



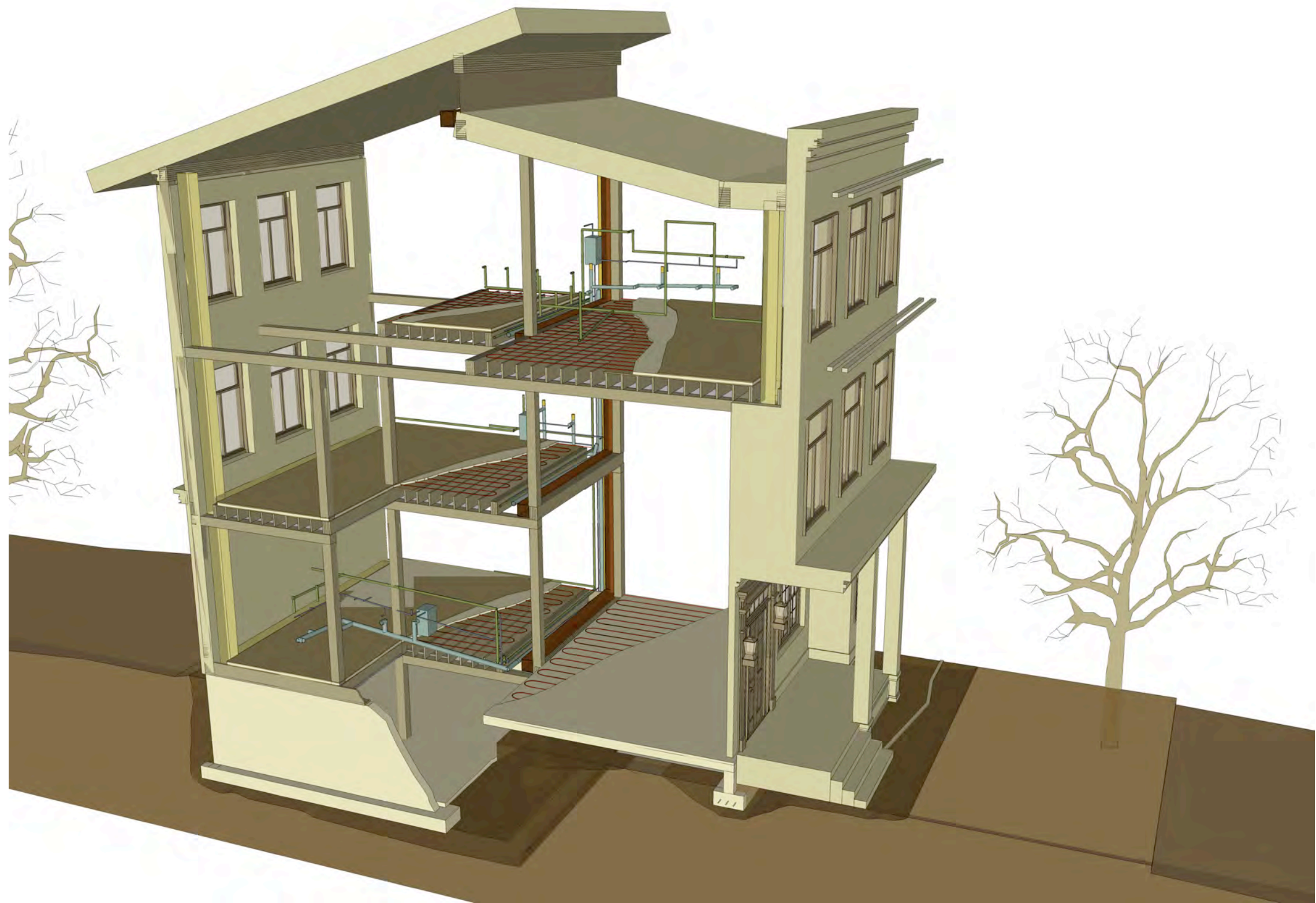
shell section.
shell structure



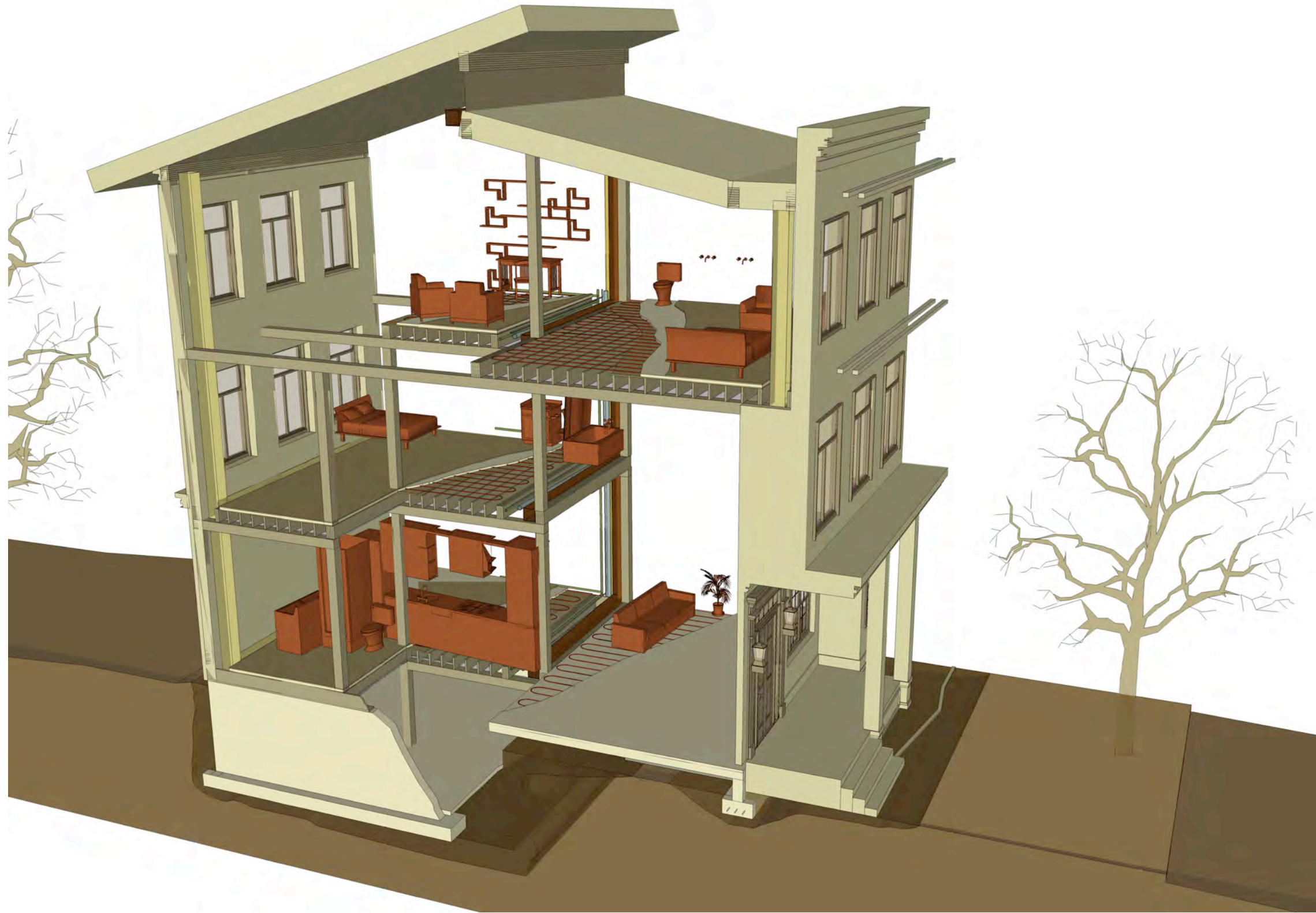
shell section.
shell structure



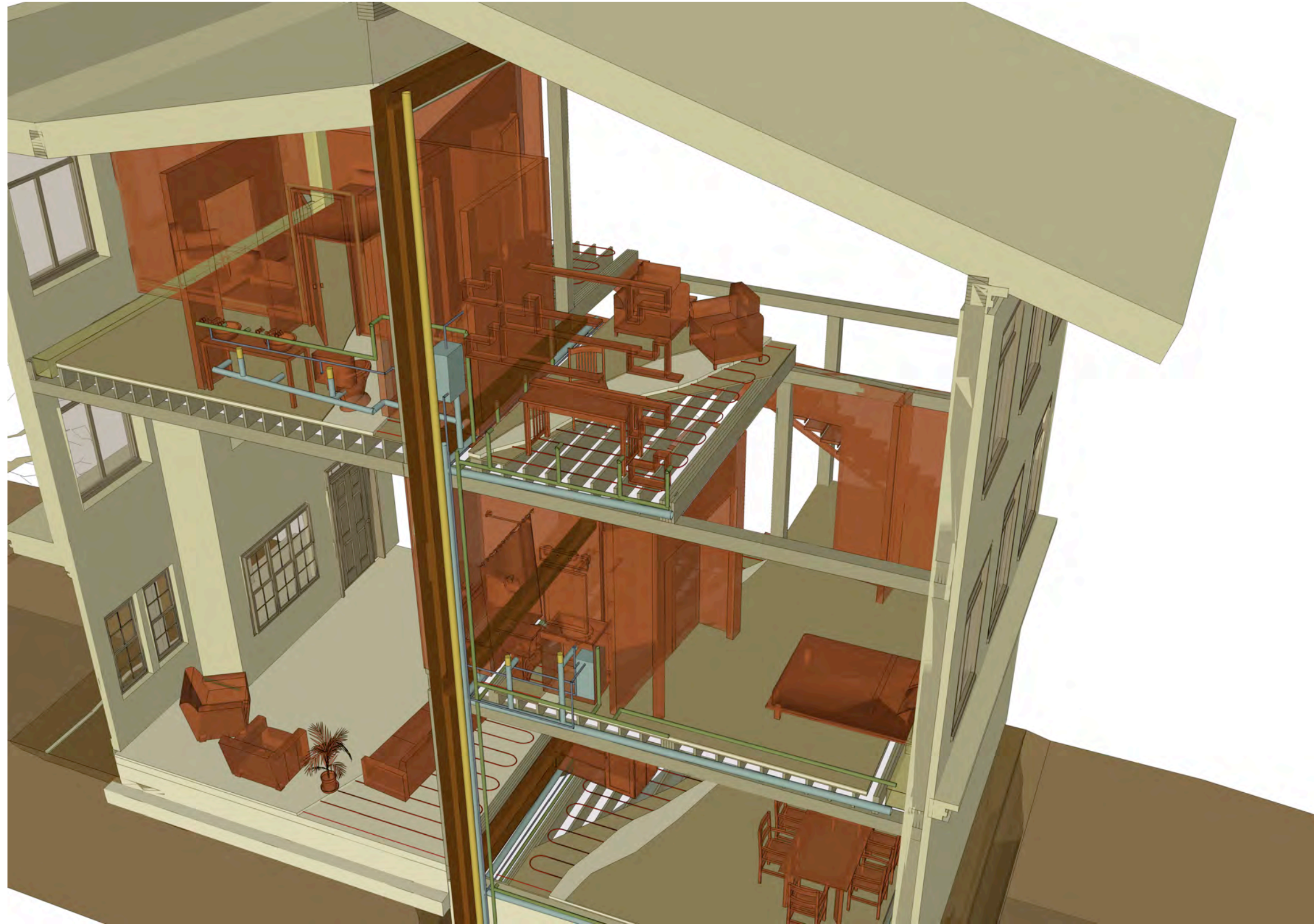
shell section.
shell/structure infill



shell section.
shell/mechanical infill



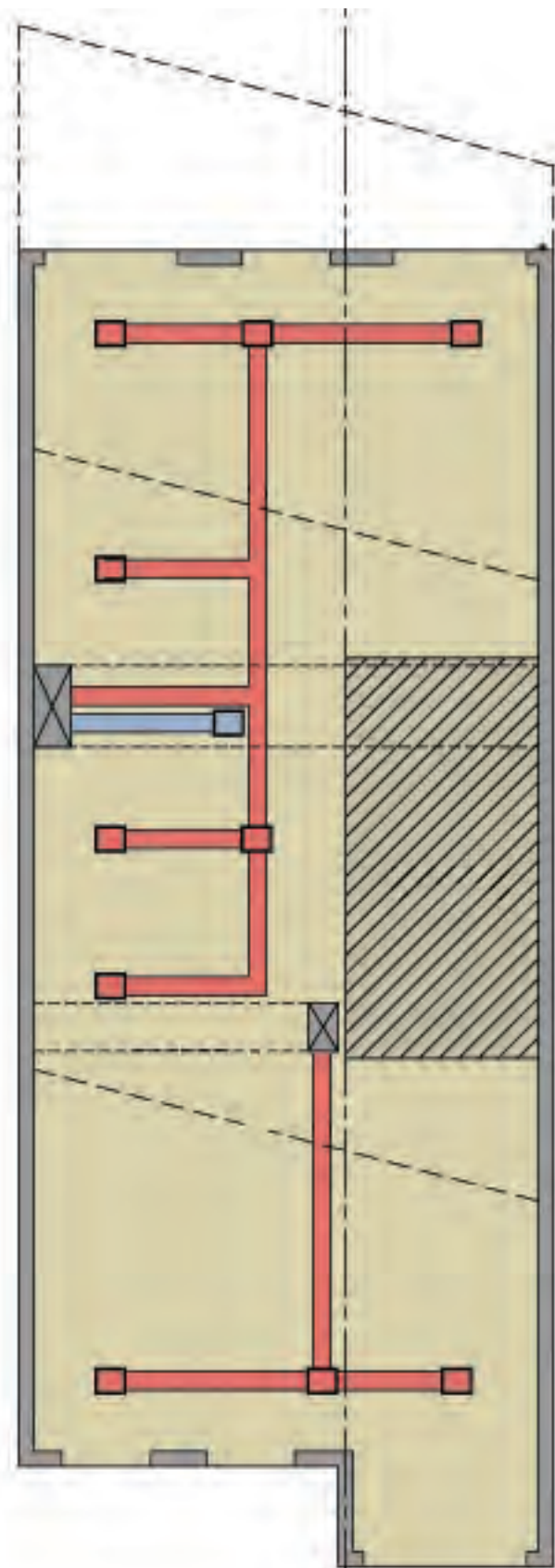
shell section.
shell/furniture infill



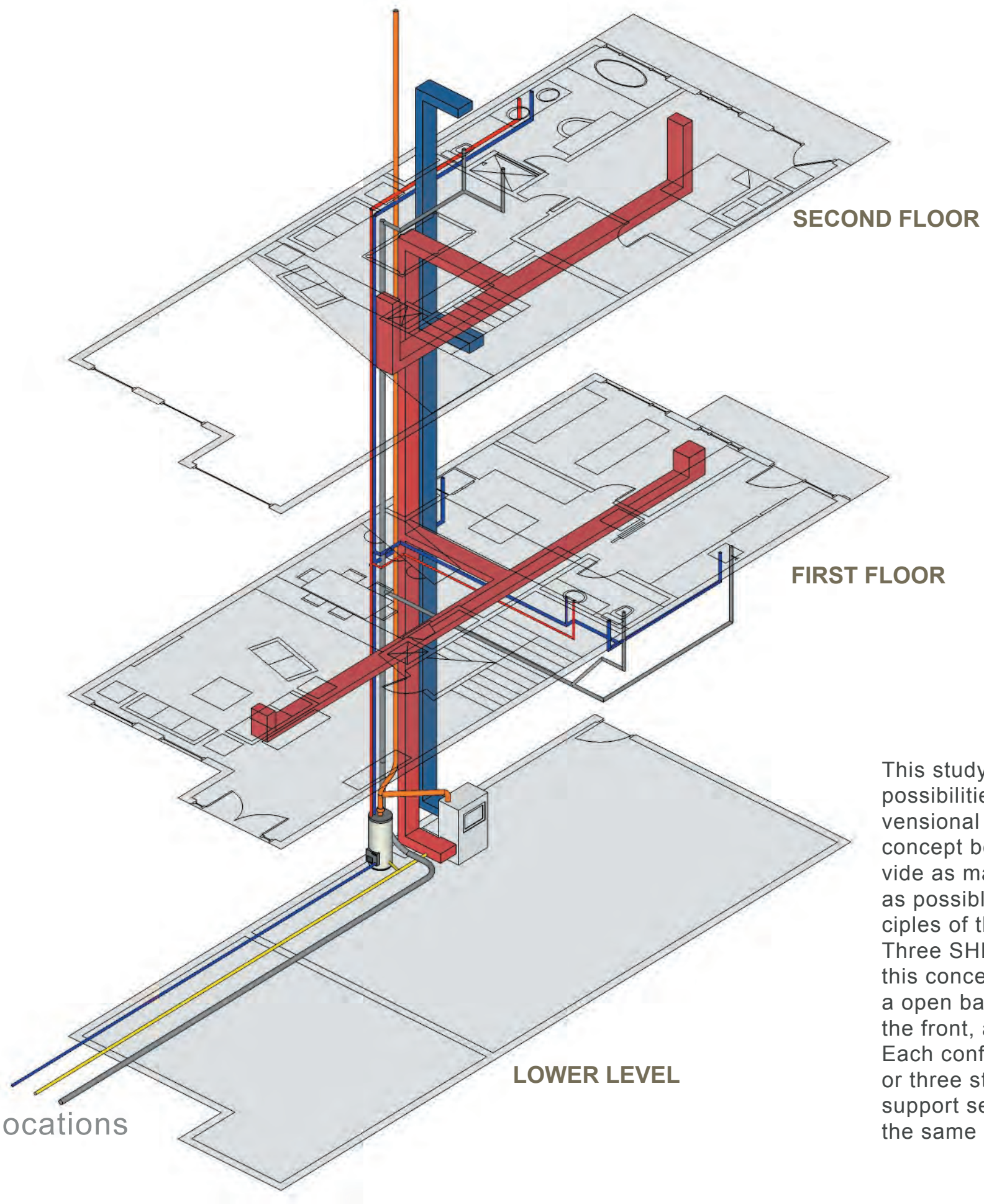
shell section.
systems detail

shell elevation.
east facade

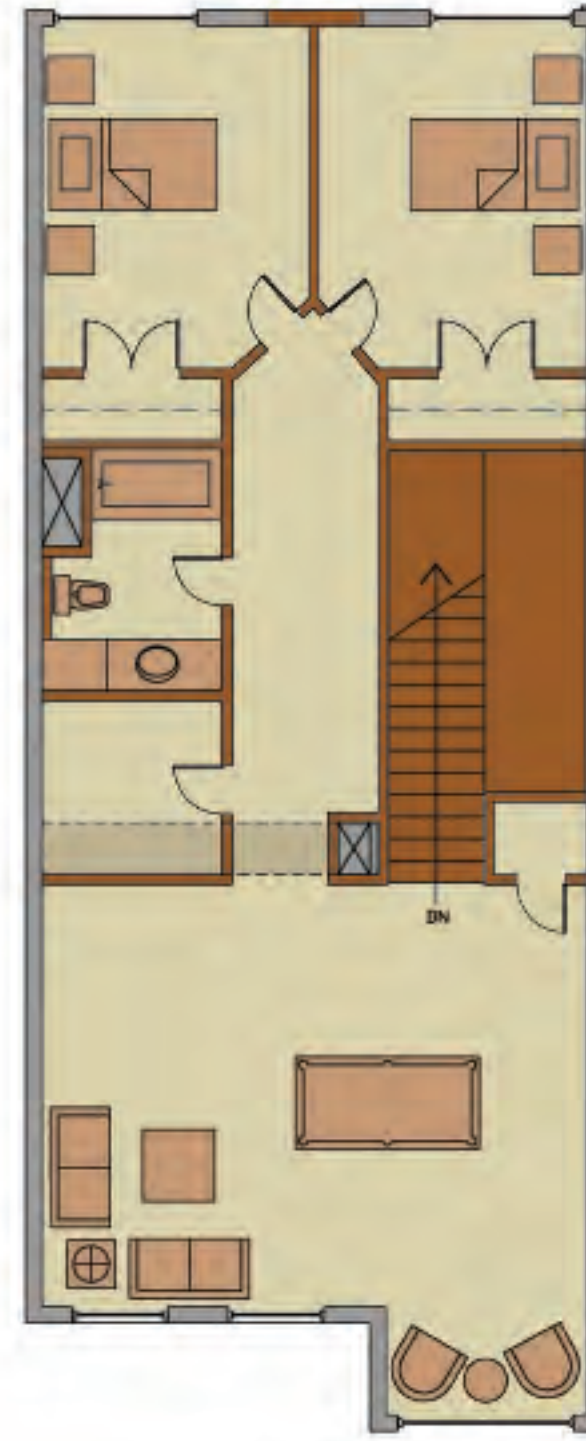
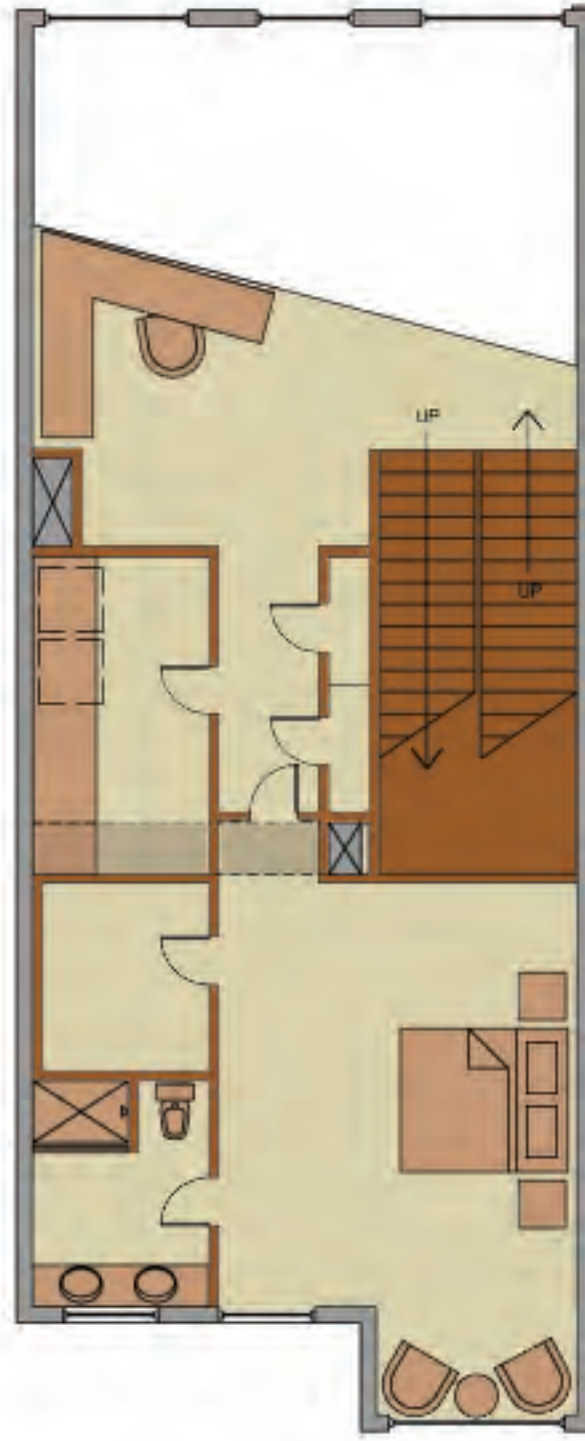
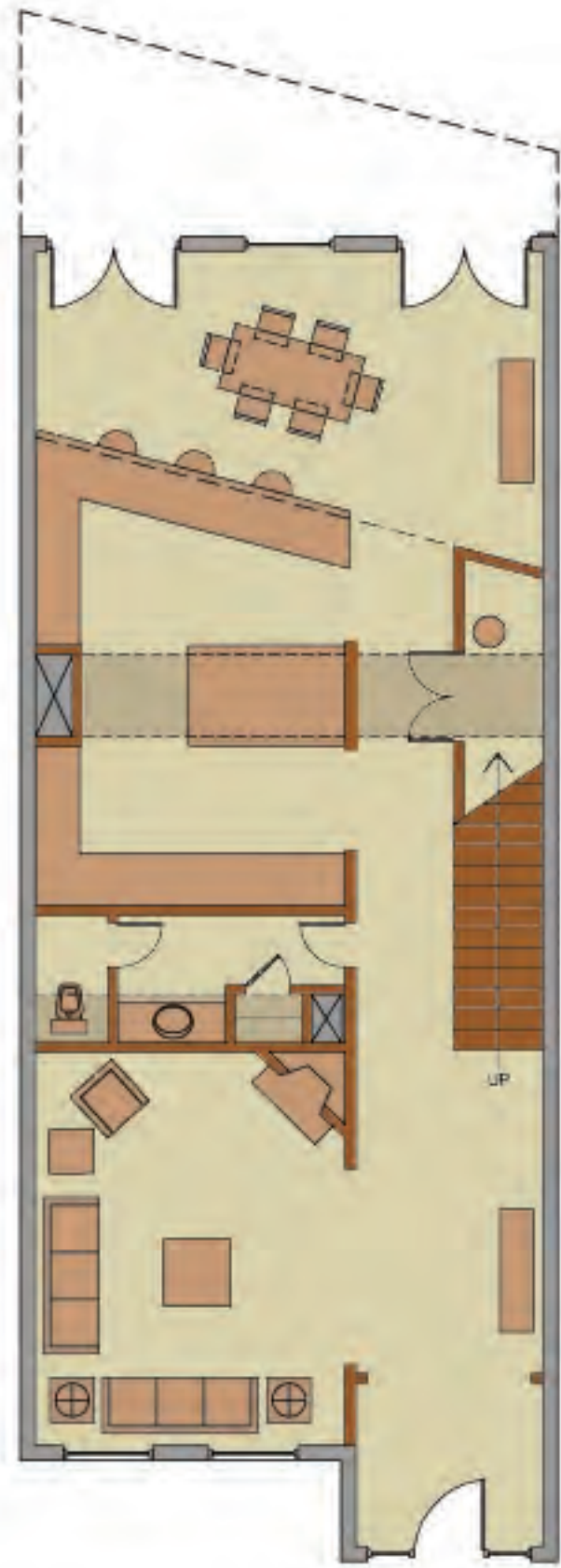




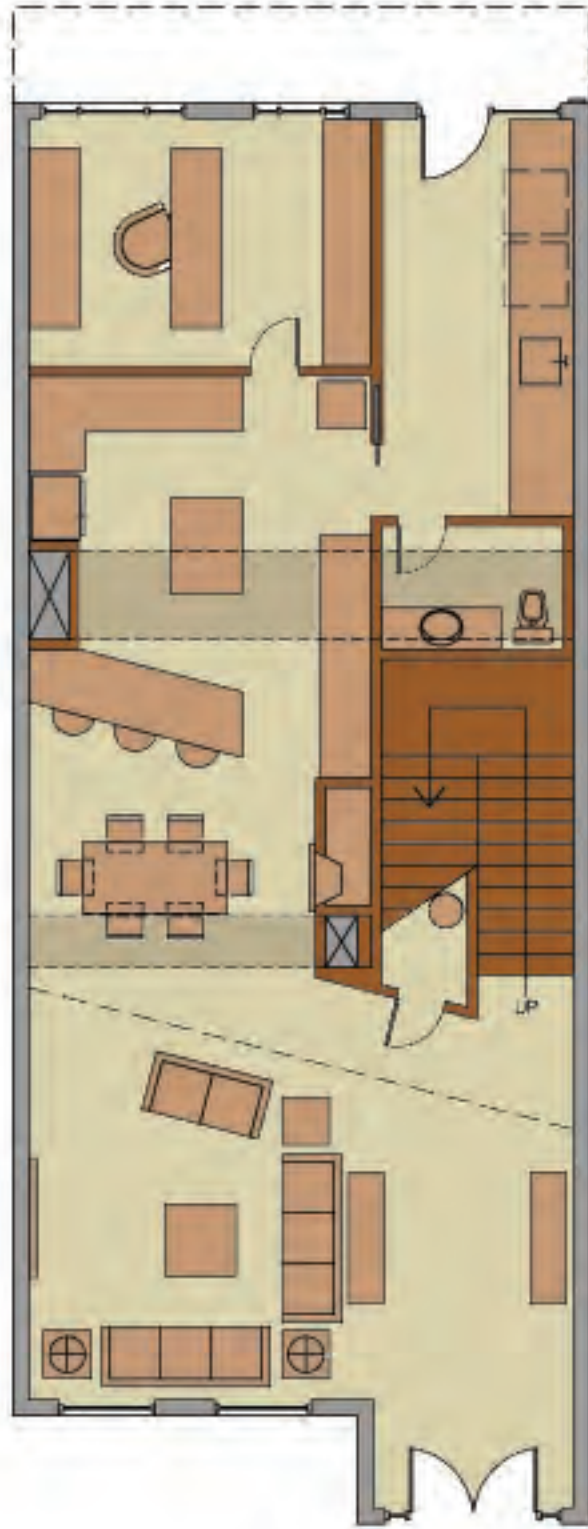
shell design.
plan showing map and stair locations



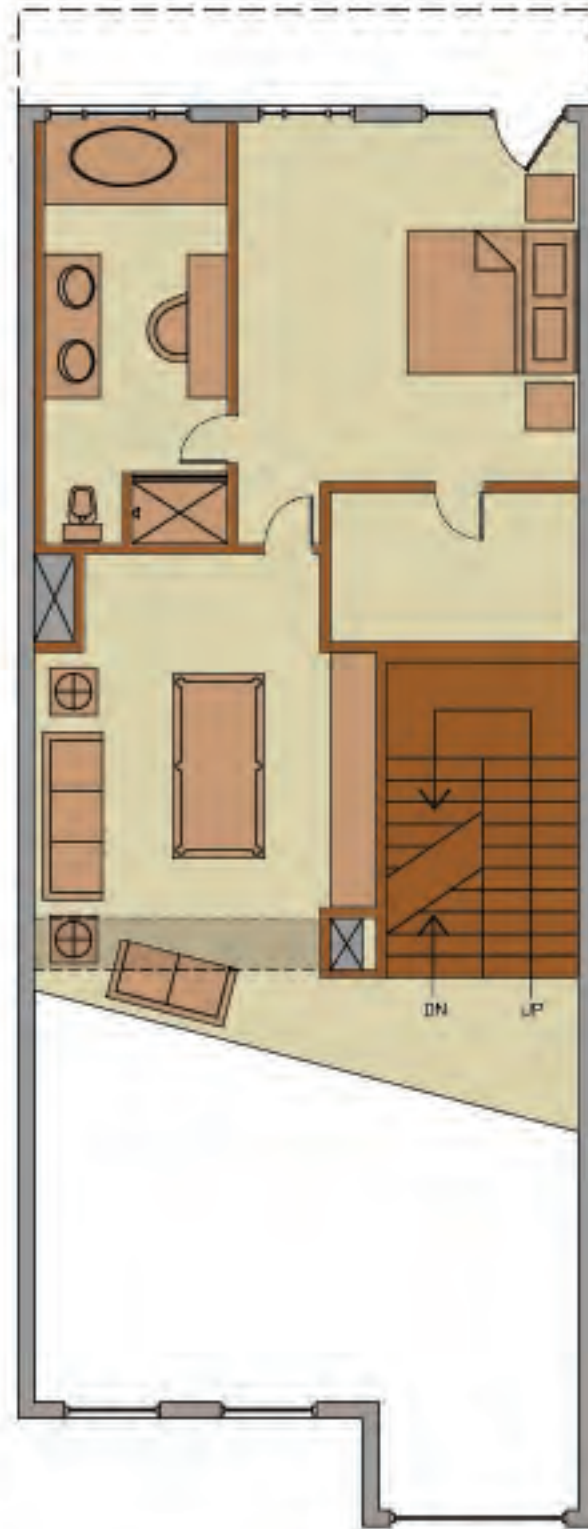
This study was used to determine the possibilities of open building in conventional construction methods. The concept behind this study was to provide as many interior INFILL options as possible, while maintaining principles of the open building method. Three SHELL options are available in this concept. They include: One with a open balcony in the rear, one in the front, and one without a balcony. Each configuration can support two or three stories, and some can even support separate living units within the same vertical space.



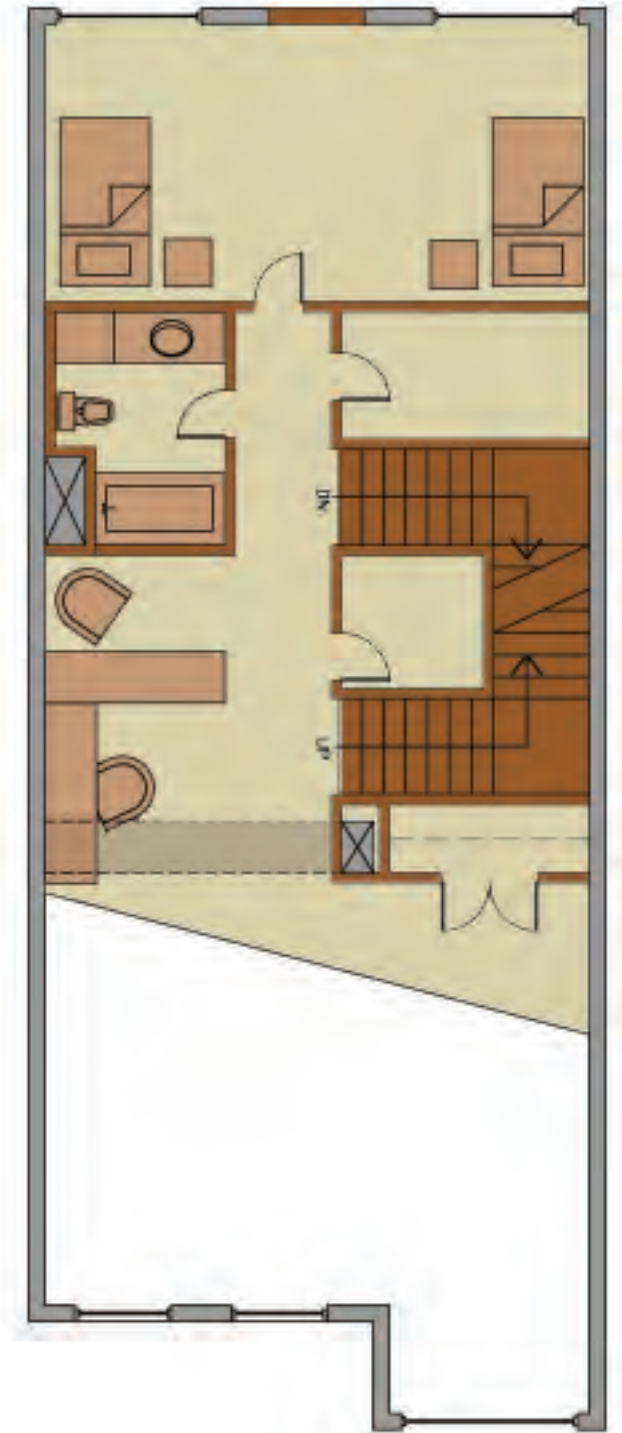
variation one.
straight stair with open volume in back

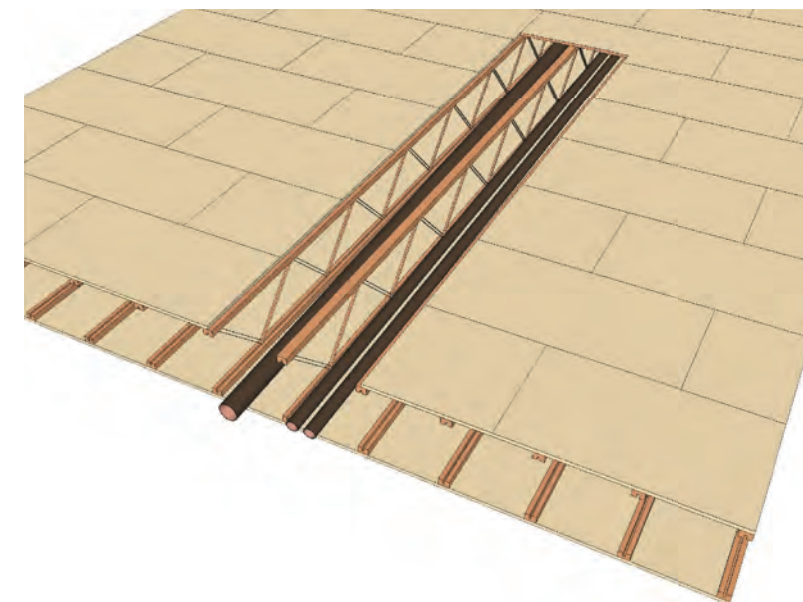


variation two.
cutback stair with open volume in front



variation three.
u-shape stair with open volume in front





trench



cabinets with pipes behind

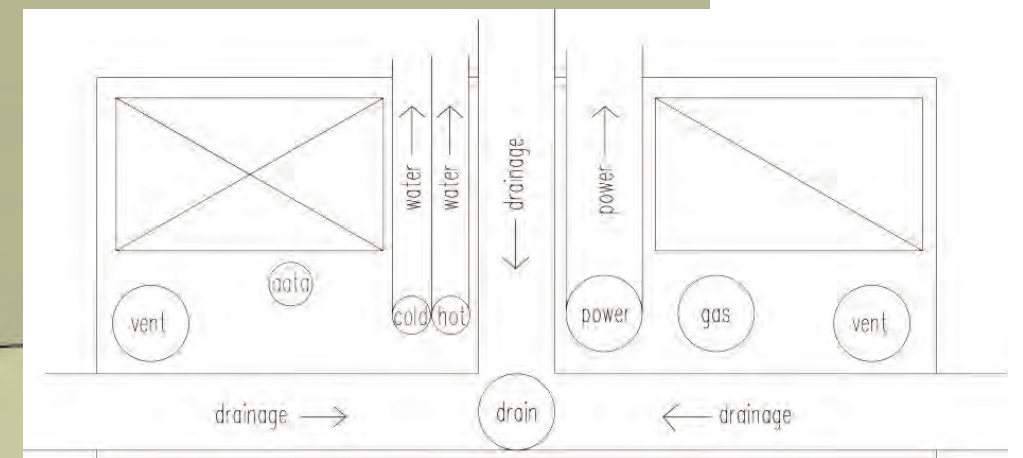
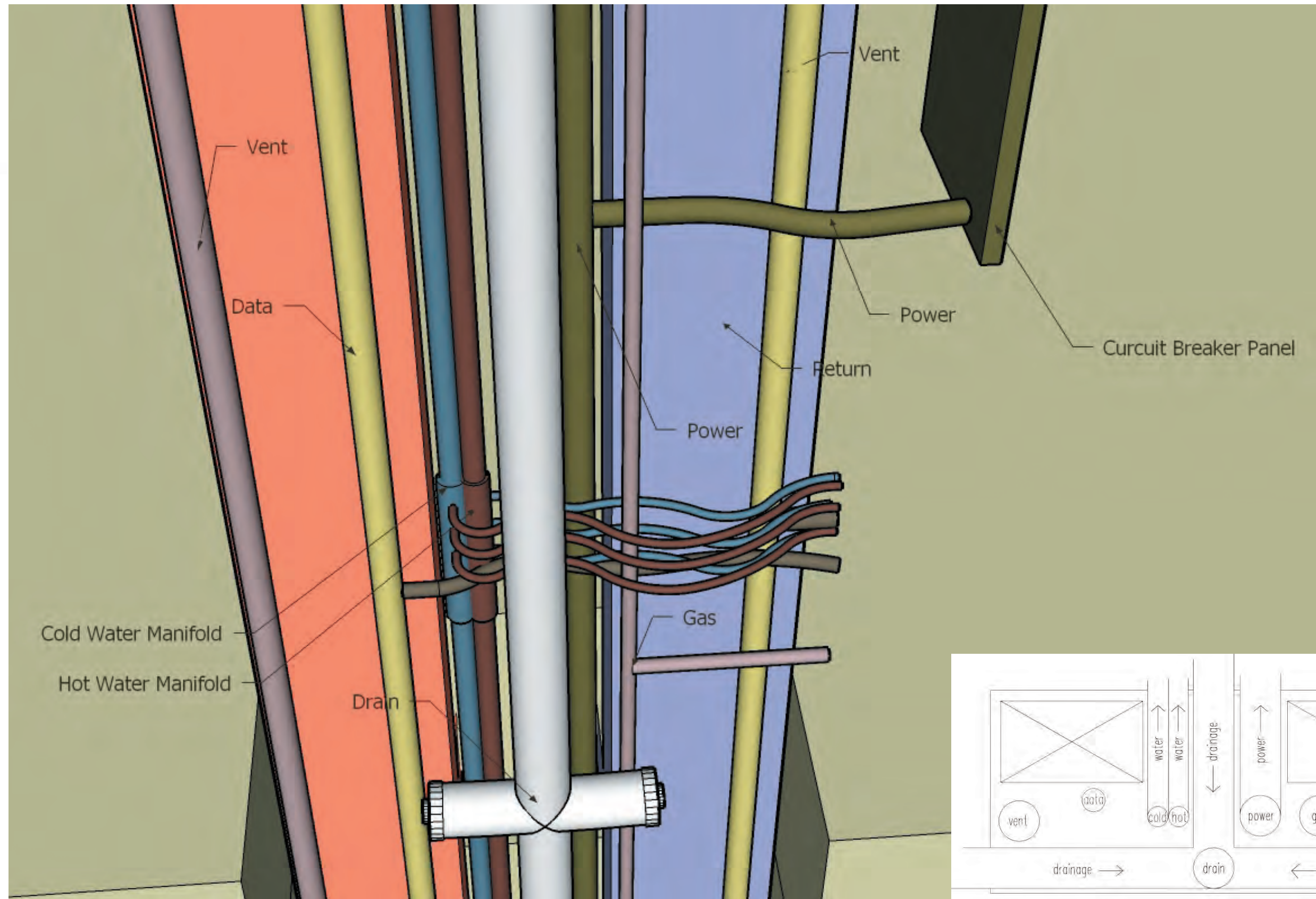
variation four.
straight stair with no open volume



subvariant one.
staight stair with open volume in rear



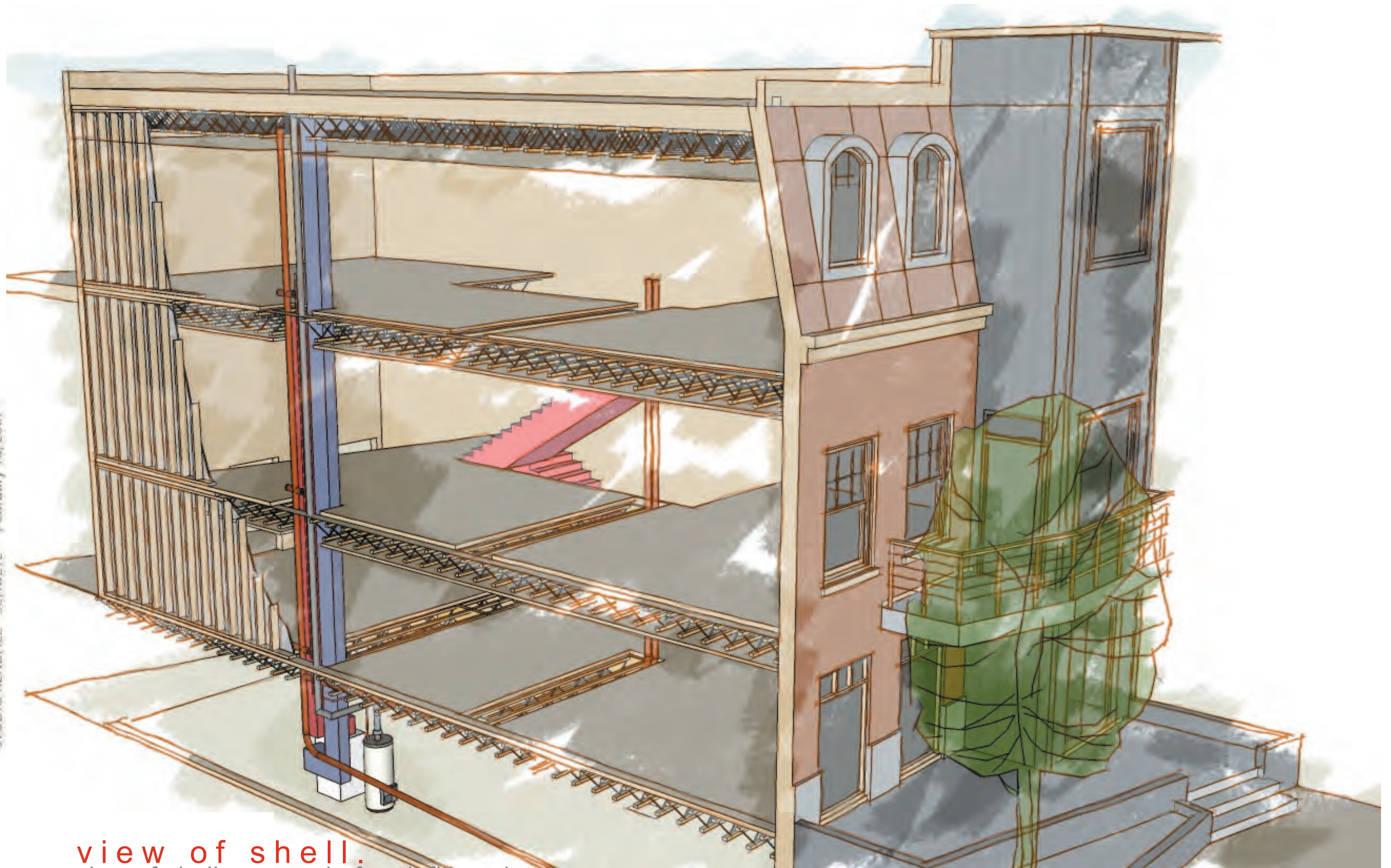
subvariant two.
straight stair with open volume in reear



shaft detail.
showing shaft detail at second floor - variation one



shell elevation.
typical elevation/facade rendering



view of shell.
view of shell as seen before infill package