Design Process
Site Analysis and Plan

This rendering of the site and its surroundings shows the continuation of surrounding lines onto the site. The intention of this drawing was to analyze all the surrounding city lines and use them to help organize the spaces that make up The Sustainable Middle School of Vancouver.

This site plan was done before analyzing the surrounding roads and paths, this plan was just a starting point of my overall idea of spatial organization and views.
Sketch of an early bubble diagram placing spatial organization.

This site plan was also done before analyzing the surrounding roads and paths. This site plan, as well as the site plan on the previous page did not engage the community enough.
This site plan was the first one I did using surrounding city roads to help organize the site. I was happy with a lot of the layout but after thinking about sun angles and day lighting I realized the North classrooms would not get enough sunlight.
These are two more options I explored for classroom layout, the option on the right still didn't allow for enough day light and the option on the left didn't work because the southern sides of the classrooms were too narrow.

Fourth classroom layout plan, I like this pan but decided to edit it further so that the classrooms had a more interesting layout.
Classroom Design Process
This was an early sketch I did inspired by one of Architect Terunobu Fujimori’s desings. This was a concept for one single standing classroom unit.

These were two more early design concepts I had for the design of the classrooms. The bottom design is another design inspired by Fujimori, I originally wanted each classroom to have a tree house feel, but I realized that actually elevating each classroom would be impractical. The top drawing is based off of what I seemed to see a lot of while I was researching sustainable schools.
Although I did not have the design finalized I knew that I wanted to use timber braced frame construction. This is a drawing of how timber would be used in the classrooms. PISE would be used in some structural outdoor spaces, PISE is a type of packed earth construction that is environmentally friendly, strong and aesthetically pleasing.

Along with structure I began thinking about materiality, I realized I could use materiality to help emphasize my metaphor. Each building could have a stone base with wood siding and a window that appears to reach toward the sky, a design like this would be very reminiscent of my parti, which among other things was a stacking of materials that you often see in nature.
These are the first drawings I had combining my initial design ideas with the size and shape of my classrooms from my plan (this was the plan where the rooms were square and connected). These drawings became irrelevant once I changed the classroom layout but they were still useful for realizing aspects of my design that would be important.

These are some concept sketches I did when I first decided that the classrooms should be separate.
... Start from other side...

Elevations
I did an analysis of sun angles on my design to see how far apart they would need to be. The buildings need to be about 30 feet apart so that the peak doesn't block the sun for the building to the north of it. Having 30 feet between the buildings should work out fine, and allow for plenty of outdoor space.
This is a perspective of the classroom design from the week of February 21.

North Elevation

East Elevation

South Elevation

West Elevation

These elevations were completed for the thesis midterm on March 14. They start to finalize daylighting and material choices.
I originally planned on using earth-berm structures along the roads to block unwanted views. In my later designs this became unnecessary but I still decided to have the cafeteria be an earth-berm building so that the roof could be an accessible place to eat and have a view to the ocean. The structure of an earth-berm building is not very different from a normal building, the building just needs to have a heavier structure where there is heavy soil. Another consideration for earth-berm designs is getting light into the back of the building.
Before I began design for my cafeteria I knew that I wanted it to be a dominant structure on my site plan. The cafeteria is at the center of multiple merging points on the site plan and the cafeteria is a place where the whole school will come together and gather.
This is the design that I had for my cafeteria at the time of midterm presentations. The main change in the cafeteria was the outdoor covered seating. A large portion of the cafeteria was subtracted to allow for a sheltered outdoor eating space. This subtraction to the southern portion of the building also allows for more southern light exposure.