Deliverable D - Conceptual Design

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Problem Statement

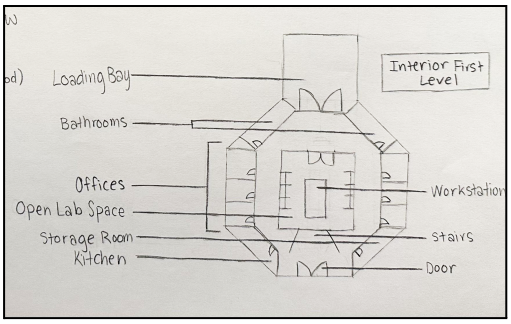
There exists a need for infrastructure to represent the culture of the Algonquins of Pikwàkanagàn First Nations, and aid the Neya Waban Guardians in their work by giving them an office space, and a place to practice cultural activities and medicine harvesting.

Subsystems

Our building consists of 9 subsystems; an open lab space, offices, a loading bay, a bathroom, a kitchenette, storage space, vehicle storage, a circular learning centre, and a sheltered outdoor space. The focus of this deliverable will be on the following: 1. Open Lab Space 2. Offices 3. Loading Bay.

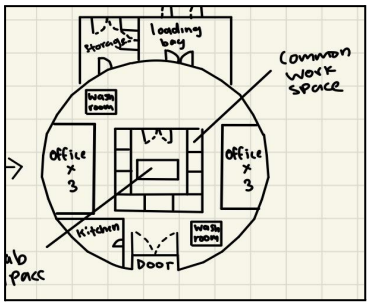
Subsystem 1: Open Lab Space

Ella's Design



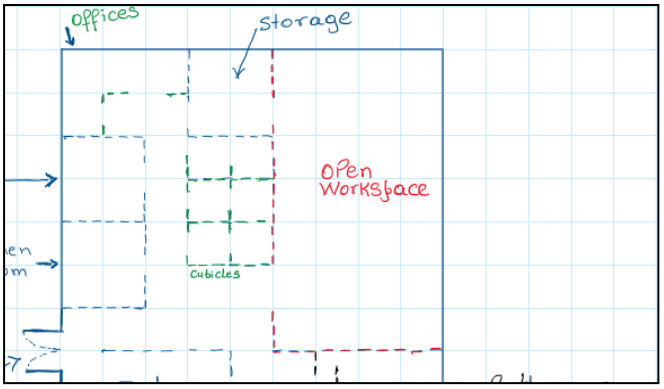
Ella's design for the open lab space is ideal, as it is easily accessible from the loading bay/garage for the transportation of different materials and equipment in and out of the building. It also incorporates the need for extra spaces for computer work in the form of cubicle-esque desks along the side of the room. It is large enough for the workstation to be moved around and out of the room if needed.

Grace's Design



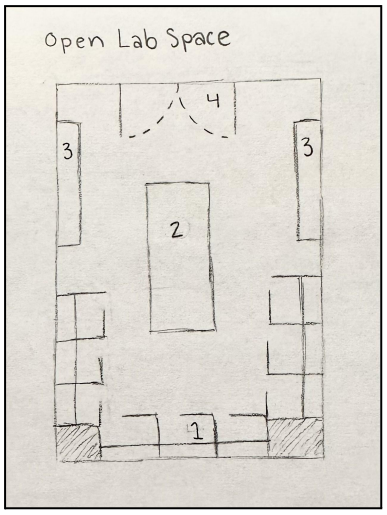
Grace's design for the open lab space (labelled common work space) is very similar to Ella's , and also ideal for the same reasons. It features a few more spaces around the room for computer/monitor work.

Yvens' Design



Yvens' design for the open lab space (labelled open workspace) is different to that of Ella and Grace's in that the cubicles used for computer work are placed outside of the room. This allows for more private work to be done as the cubicles are more secluded than in Ella and Grace's designs.

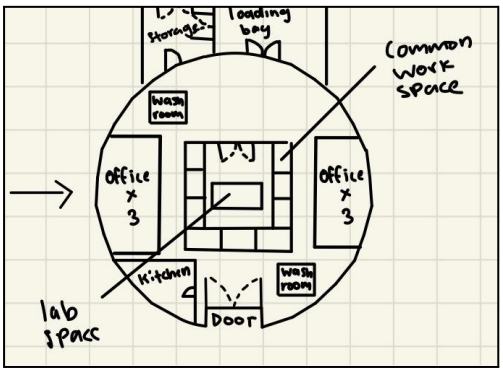
Final design of the Open Lab Space



This concept of the open lab space incorporates the team's favourite ideas of the above designs. The space follows Ella's and Grace's original layouts, but it is now greater in length to make sure that there is more than enough room for efficient work. There are 4 main features to this design, labelled on the drawing. The first is the cubicles, labelled 1. Like in Yvens' design, they are square, and have a wall with a small opening to be used as the entrance/exit. There is enough room for a desk and chair each, so that the people using them can do desk and computer work. The second is the workstation, labelled 2. In this design, it is placed in the middle of the room, to show how big the room is and how the workers can easily share the space between the lab and cubicles. Keep in mind that it is mobile, so it may be moved at any time to utilize the full space of the lab. The third are spaces for cabinets or closets, labelled 3. This is merely an idea to show the client what the space could be used for, and that there is purpose for the blank spaces along the walls. The fourth are the double-wide doors, labelled 4. These are necessary for the easy transportation of the workstation in and out of the room.

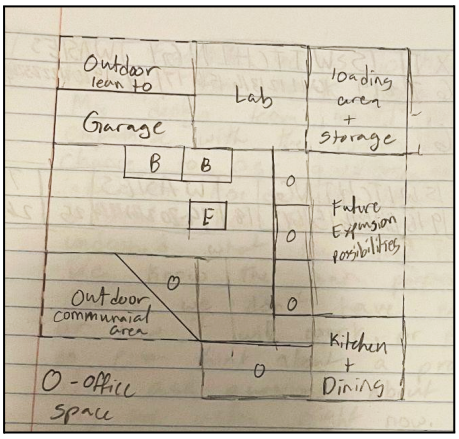
Subsystem 2: Offices

Grace's Design



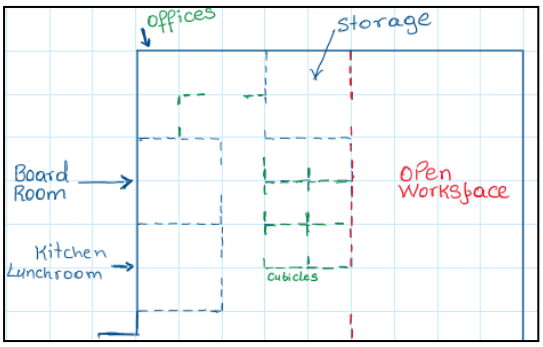
Grace's design for the offices is optimal because it has the amount specified by the client, and they are close to one another in a way so that the layout of the building has some structure. Being on the perimeter of the building also allows for a window to outside for each office.

Atique's Design



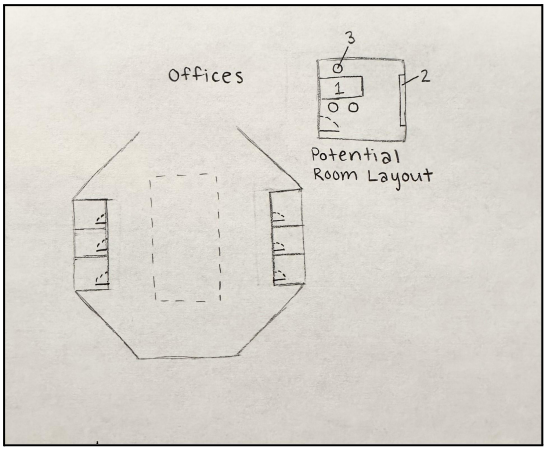
Atique's design for the offices includes an area for possible expansion, or extra space for offices if needed. In the first meeting, the client discussed the possibility of needing extra space in case the program expanded fast. This design is made with that in mind. The different sizes of offices could be useful depending on the work that different team members may need to do in them.

Yvens' Design



Like Grace's design, Yvens' concept gives the offices a location within the building so that they are easily locatable and central to one another. It also allows each room to have window space, and optimizes space by being along the perimeter of the building.

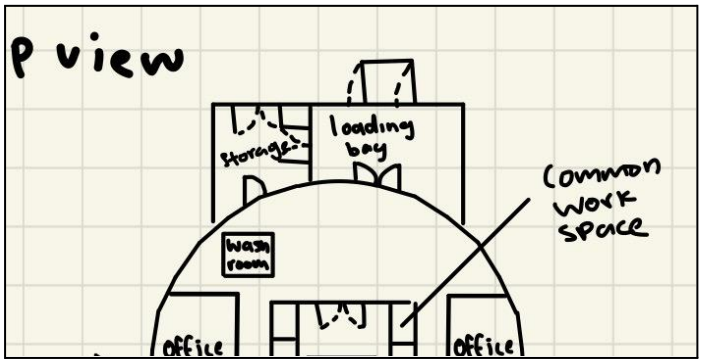
Final design of the Offices



The final concept for the offices are 6 square rooms along the sides of the buildings. This provides each room with a window, as well as being close-by to one another if workers need to go from room-to-room often. Included is a potential layout for the room, to show the amount of space available. There are three main components to the office. The first is the desk, labelled 1. The room is able to accommodate a desk that could be used for any job in the office, like for paperwork or computer work. The second is the window, labelled 2. This is necessary, as any worker with an office is most likely to be in there most of their work day. A window provides not only a possible fire escape for each office, but also a way to keep each worker connected with the outdoors. The third is three chairs, labelled 3. There are three chairs sat around the desk; one for the worker, and two in case of any quick meetings to be had.

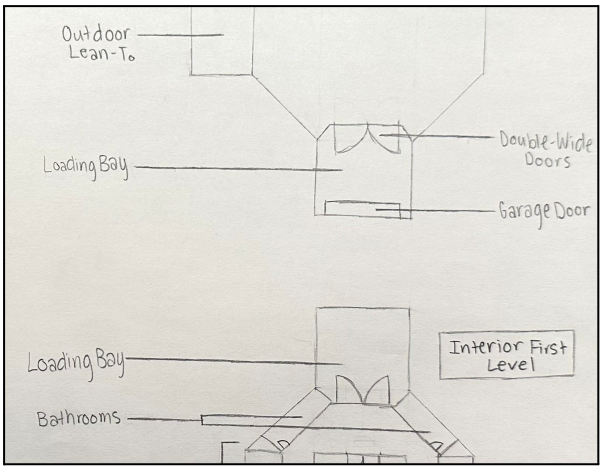
Subsystem 3: Loading Bay

Grace's Design



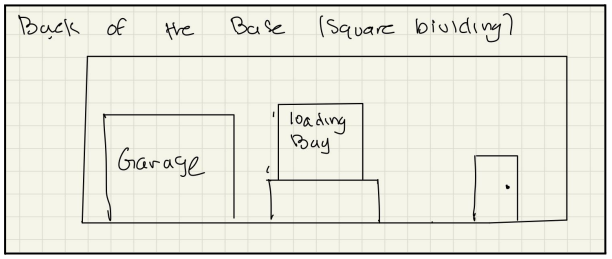
Grace's design for the loading bay is ideal because of its close proximity to both the open lab space and storage space. This will allow for the easy transportation of materials and equipment into the building, storage space, or loading bay. There is also a large door that allows for trucks inside the bay for easy access.

Ella’s Design



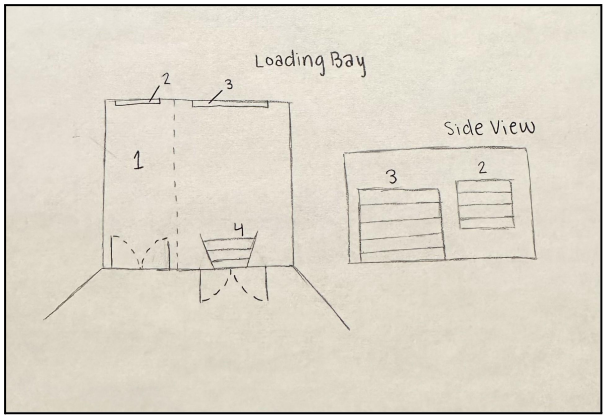
Ella’s design for the loading bay is much like Grace’s, though it is not as close to the storage space. It features a garage door to the outside of the loading bay to optimize space, as well as double wide doors for easy transportation of materials and equipment into the trucks (or vans) or into the building.

Jonah’s Design



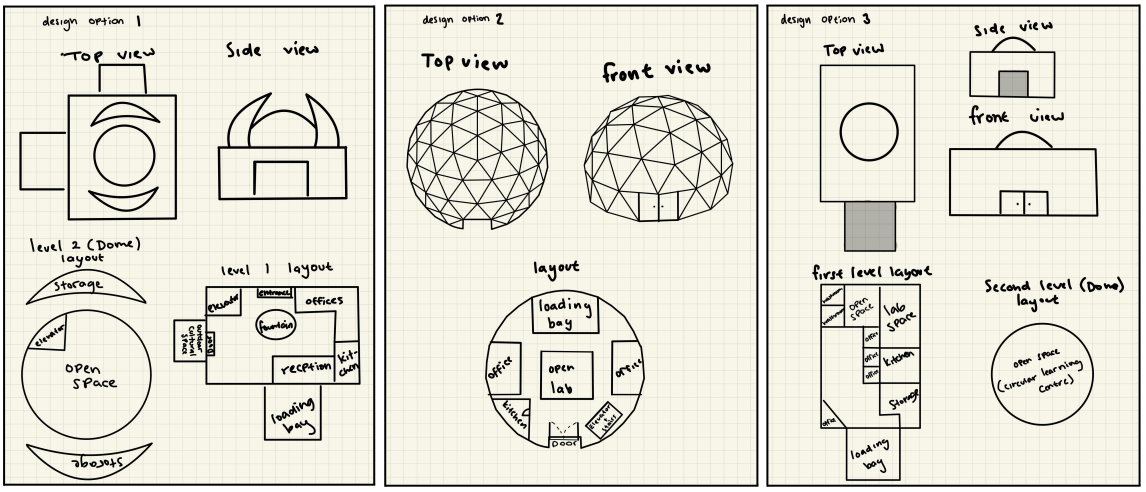
Jonah’s design for the loading bay concerns the height at which its entrance is to the outside. The idea is that a truck (or van) could back up and the bed would rest at the height of the door. This would allow workers to step directly into the bed or van to remove any materials or equipment and take it inside easily. It is also connected to a garage for the vehicle to drive into.

Final design of the Loading Bay



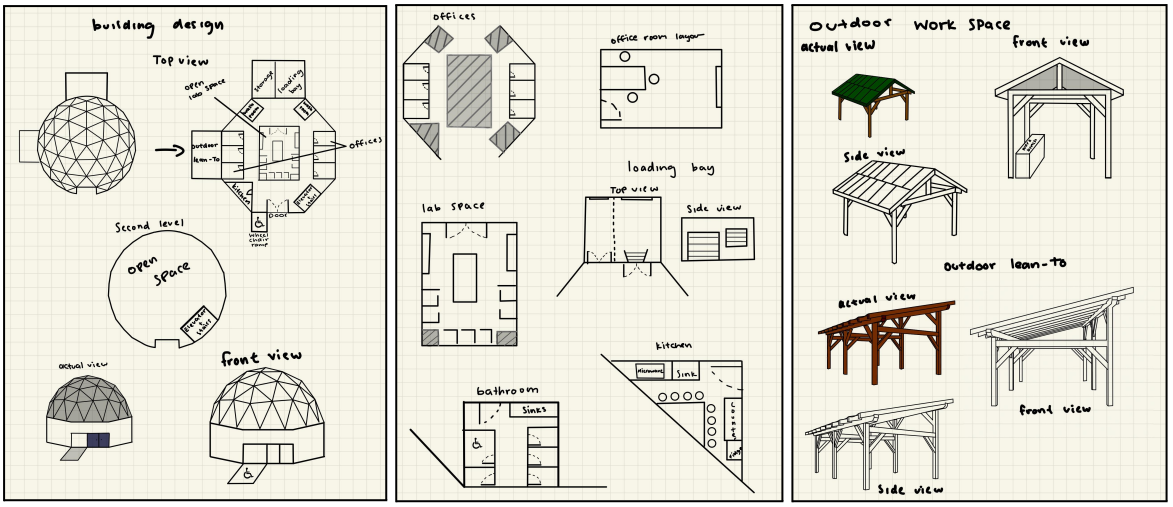
The final design of the loading bay is centred around the idea that there is a need for a loading bay, but also a garage. There are 4 main components to this concept. The first is the raised half of the garage, labelled 1. The floor to this half is at the same level as the opening to the loading bay, and the inside of the building. This allows for a truck or van to back up directly against the opening of the loading bay, and for workers to walk into the truck bed or van and collect any equipment or materials. The second is the loading bay door, labelled 2. It is at the same height at which a truck bed would rest, and opens like a garage door. The third is the garage door, labelled 3. This is to allow vehicles to drive directly into the garage if needed. The fourth are the stairs, labelled 4. These are so anybody looking to get into or out of the garage can enter or exit the building, since they are not the same height.

Possible solutions



These three solutions arose from the different combinations of three individual’s designs.

Final design



The final design incorporates the created 3 subsystems that were the result of the combinations of different team member's ideas. This design was made to incorporate the best part of the 3 chosen designs for each subsystem.