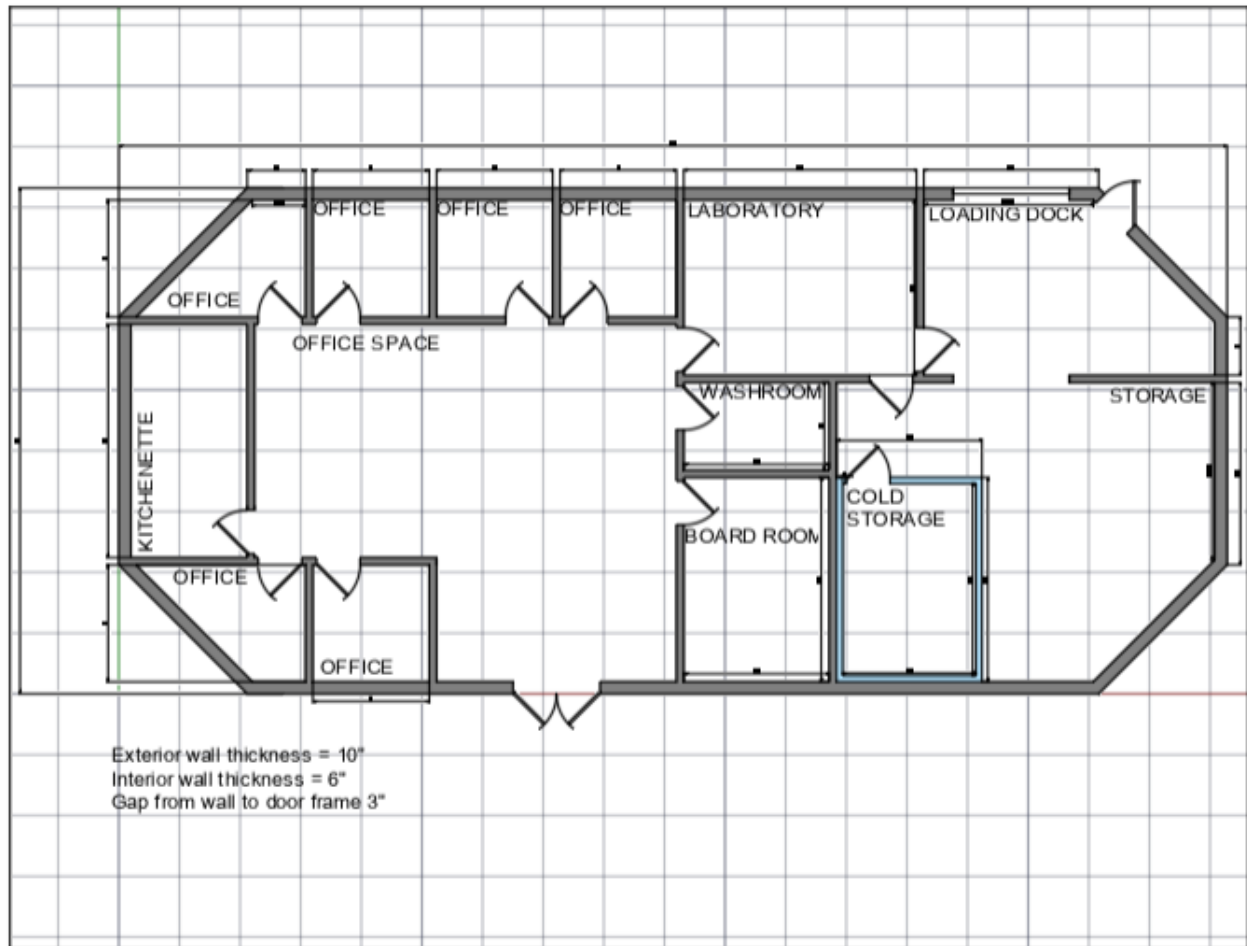


Deliverable E - Project Plan

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GNG1103 - A04
03/11/2023

Building Layout & Components



Our design concept consists of leveraging the aesthetics a canoe provides when fastened as a roof for the First Nations Guardianship Program building we've been tasked with formulating. Given the unconventional nature of such a design, certain criteria had to have been accounted for for the development of the layout.

Angled corners making for unorthodox room designs while also leveraging the more narrow build of a canoe to maximize the amount of sunlight brought in through the windows was a large component of this design.

Utilizing the ideas generated from Deliverable D, we've collectively come to the design presented today and will be showcasing it to the clients for feedback moving forward.

Key components featured in the design include the Garage styled Loading dock, Walk in Cold Storage, Large general storage with connections between the lab and loading dock, several personal offices with a general open space, maximized surface area for windows.

The entire layout would fit snugly under the turned over canoe styled roof, that comes down at each extreme to provide additional support through their fitting underground as foundation. Together the concept provides both a unique, viable and efficient design that plays on the world's largest birch bark canoe.

Prototype Bill of Materials & Design Cost Estimates

- Attached to Submission as Google Sheets
- Link for Reference:

https://docs.google.com/spreadsheets/d/1XUAL7UGoP1UpKj8AyXuiLgV-DbzsYDUMJUpRpX_Wg-s/edit?usp=sharing

As described in the BOM referenced above, we will be developing our initial prototype as a 3D model using the Blender software that is free to download. With members of our group already having experience with utilizing the software, there will be little to no added costs in time spent learning the software.

Significant Project Risks & Contingencies

The critical risk that remains with this project is the feedback received from the client. This is the case as requests to reevaluate and reconsider designs sets us back a significant amount. However, as it was recommended in prior Deliverable assignments, previous ideas and concepts are kept on hand in the event that the need to fall back onto those ideas is necessary.

Another risk that we've considered comes from software failures that result in the prototype being lost. As there is no way to prevent such a failure with 100% certainty, safeguards will have to suffice for the duration of this project.

Following research into safeguarding methodology that are used in other employment settings, we found that the following to be the most viable contingency solution.

This solution entails explicitly laying out proper practices to follow during prototype development using Software. These practices include, saving periodically, maintaining backups on personal computers between the group as well as uploading backups to the cloud for an added level of protection with the benefit of connectivity.

Prototyping Test Plans

Test ID	Test Objective (Why)	Description of Prototype used and of Basic Test Method (What)	Description of Results to be Recorded and how these results will be used (How)	Estimated Test duration and planned start date (When)
1	Learning; Focusing on the water collection system to improve efficiency as we cannot fully predict where the precipitation will fall off the roof currently.	Focused and Physical; Find the effects of rain & snowfall on drainage by folding paper into a rough shape of roof with plastic wrap over it. Run water over the top to simulate rainfall and find where most water falls.	Measure where water flows. Higher levels should be noted so the water collection system can be focused on that area for greater efficiency.	Testing should only take an hour or two. Testing begins November 10th following additional feedback from clients.
2	Learning; The space is looking cramped as we tried to have little wasted space, but it might be too cramped.	Comprehensive and Physical; Look under the roof for indoor space and flow by observing how easy it is to move from room to room.	Observe how moving from office to office or from storages to the loading dock feels, space inside feeling cluttered or need more space	Testing should happen after client feedback and design will not be finalized until confirmed.
3	Verifying; Making sure the roof is stable even under pressure that might be unexpected is	Focused and Analytical; Look specifically at the roof and measure out the load that it could withstand in worst case scenarios or look at how	Record different loads or find out how much the columns and roof can support a	Testing begins November 10th following additional feedback from clients.

	required to meet building codes.	much it flexes in the wind as we are using wood for the roof.	load. Will need a safety factor.	Modifications might have to be made to the roof to accommodate.
4	Verifying; As an important criteria was an abundance of natural light, we must test to ensure that there is a lot of natural light	Focused and Analytical; Look how much light gets into the building and every room at different times of the day and year.	Observe how natural light would enter the building at different times of day and year to make sure that the space is well-lit.	Before finalizing the design, test every prototype to ensure that this design criteria is met.
5	Verifying; We don't want the temperature to change too much in plant processing, especially outside of the freezer and on display.	Focused and Analytical; Look at temperature in plant processing and the insulation to see how easy it is to lose or gain heat and control the inside of the room.	Observe how much insulation we have and how much heat would also move to other rooms.	After the design and size of the room is confirmed, testing can begin.
6	Verifying; While state of the art security is not necessary, it is important that there are some safety measures around the building.	Focused and Physical; Run different scenarios when transporting valuable items or fragile items and ensure safety and ease of access to specific areas where security cameras are such as the loading dock.	Observe how safe each area is and ensure that most areas are covered by CCTV to deter crime.	Testing begins November 10th following additional feedback from clients. Modifications might have to be made to keep each area safe.

Wrike Snapshot Link

<https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=IgOx5Vr5uMg41XZwceRjkOrceU0URpDf%7CIE2DSNZVHA2DELSTGIYA>