

The Green Roof Project

Introduction

Calley Wilson is the head of a group called Green Initiative (GI) at her university. Each year, this group of 40 undergraduate students chooses a 'green' project to undertake within the university, with the goal of making a positive contribution to the environment and raising awareness about environmental sustainability. This year, the group has decided to construct a green roof on top of the Student Centre. Since the Student Centre is visible from all parts of the campus, GI believes that this would be an effective method of drawing attention to their cause. They also see this as an opportunity to have students become directly involved in the project, as they would be asking the student body for input regarding the roof's design.

Calley Wilson

Calley is a fourth-year Fine Arts student that cares greatly for the environment and has been a member of GI since her first year. Her artwork she creates is often a commentary on the sad state of the Earth and the negative impact humans have on it. In her spare time, she organizes art shows showcasing her art and the art of others who are concerned about global environmental issues. These shows are well-attended and are regularly featured in the Arts section of the local newspaper.

In addition to her still art, she organizes public performance art pieces. These types of pieces require a great deal of proactivity, communication and efficiency to create, not to mention the effort it takes to encourage other artists to participate and display their pieces and installations.

Calley is in her second consecutive year as acting President of GI. Calley won her first election by a small margin. Over the course of her first term, she showed her colleagues that she belongs in office. In her first 12 months, GI membership increased by 40% as a result of her proactive and charismatic approach. In her second election, Calley won by a "landslide". GI had never had a higher number of members, and the GI election achieved its highest ever voter turnout.

The president position is a paid position that requires a large amount of dedication. As president, Calley must manage her many other priorities, as it is her last year as a student and she must complete several final projects to obtain her degree.

Green Initiative

The Green Initiative is a student club established in 2008 that has been primarily involved with hosting educational events, such as plays on environmental awareness for university and elementary school students. When Calley took over, GI became more project-based. Calley's vision was to maintain the educational focus of GI while adding more tangible and visible projects to GI's résumé.

There are multiple departments within the GI student club. Departments include Finance and Fundraising, which focuses on management of the group's finances, and Human Resources and Marketing, which involves volunteer recruitment/engagement and retention. The student members are part-time volunteers. They can be involved with multiple departments and appointed to different aspects of a project. When a volunteer is involved with a particular division of the club, they report to the functional manager of that particular division.

Sophia and Grayson are the functional managers of Finance and Fundraising and Human Resources and Marketing, respectively, and they have the autonomy to make minor decisions. However, as Calley has told them, "When in doubt, approach me and I'll make the final decision". Since Calley is the President, she makes all of the major decisions after consulting with the Green Initiative team.

Sophia Ting

Sophia Ting is a Math and Finance student in her third year. She is an academically motivated student who has been a member of GI since her first year of university. This is her first year as acting Treasurer of GI. She has some past experience as a treasurer at her high school, where she controlled the budget for the prom and semi-formal dances.

Sophia has a sound understanding of complex mathematical concepts and best business practices. She also volunteers at a local non-profit business within the city and has helped them grow by assisting them in obtaining new partners. She is used to working with limited budgets and investigating sources for additional revenue.

Grayson Deveau

Grayson Deveau is a Drama and Communications student in his third year. He has been a member of GI since the fall of his first term and is now the Vice President of GI. Grayson shares the same vision as Calley, and together they ran together for the roles of President and Vice President.

Grayson is considered a major extrovert due to his enthusiastic participation in performance and presentations. Aside from leading and organizing plays, he has a great ability to motivate people to try new things. Due to this ability, Grayson has encouraged a number of people to join GI. Aside from Calley, Grayson is the most visual and vocal person in Green Initiative. Grayson has a flair for the dramatics and loves seeking new and innovative things. Usually, Calley has to bring Grayson back to Earth about what GI can and cannot do.

Green Roofs

Calley has already done her research on the different types of green roofs. Through her research she has discovered that there are two types of green roofs. The first form is an extensive green roof, which can maintain basic vegetation and requires a low level of maintenance. Calley wants GI to be more proactive and wants their green roof to be one of the marvels and key attractions on campus. The Green Initiative selected the other type of green roof, an intensive green roof, due to its ability to maintain a wide variety of vegetation, such as bushes and small trees. GI's goal is to build an aesthetically pleasing wildlife garden that incorporates a wide variety of plant species and provides an open space for students to relax and study. The notable disadvantage to an intensive roof is that it requires more attention and maintenance due to its increased complexity. Although the intensive roof does not provide the same level of sustainability as the extensive roof, Calley feels that, with GI's large number of volunteers, maintenance will not be an issue. As an added benefit, Calley believes that a visible intensive green roof will be an advertising tool to help recruit new members and further promote development of GI.

Approval for funding

GI's Administrative Committee spent three weeks completing and submitting Building Modification Forms to the Student Council. They knew that the Council would be required to deliberate on the proposal. It took two weeks before GI received the council's decision. Fortunately, it was positive; GI's proposal had been accepted.

As student fees would be used to help pay for the green roof's maintenance, a student vote was organized. After the vote was first announced, the required three-week waiting period took place, during which any issues would be taken up with the Student Council or Green Initiative. Three weeks passed without any grievances being filed, so the two-day vote was held. The results of the vote were in favour of the green roof, and GI was allotted \$400,000 for their project.

At this point, GI has received funding from the Student Council and the University has approved the construction of the Student Center green roof. Both the Student Council and the University want to have the green roof ready by Orientation Week of the fall term. Both parties see this roof as an venue where students can study and socialize.

The Green Roof Project

Calley wants GI to be as involved in the project as possible. She feels it is important that GI put its own "sweat" into the project and help arrange and construct the green roof. Calley knows that the members of GI lack the technical skills needed to purchase and install the green roof; this means that the hiring of a contractor is a critical component of the project. GI wants to find a contractor who will complete the necessary installations, but will allow Green Initiative members to have the autonomy to design the green roof and purchase and plant the vegetation.

Contractor Interview Process

GI must hire a contractor for the project. They want the contractor to be accommodating to the needs of GI and to respect the involvement of its members in this project. GI wants the contractor to recommend changes but allow Calley and the Green Initiative group to have veto power, since they represent the interests of the student body.

Calley has heard horror stories from friends' parents and past co-workers about construction projects going over budget and over schedule. Calley knows that the green roof is a highly technical construction project and she has only one shot at selecting the contractor. She hopes GI can hire a contractor who has experience placing large quantities of dry soil on the roof of a building.

Calley's goal is to have a contractor hired by the end of May. With today being May 9th, Calley has to start researching contractors from the surrounding areas tomorrow. She expects that researching contractors and setting up interviews will take roughly five days. Calley has already conducted

some research on campus. She consulted with environmental engineering professors and professors who knew about Leadership in Energy and Environmental Design (LEED) buildings. From these conversations, she was directed to local private firms who have had green roofs constructed on their buildings.

From this research, she will compile a list of potential contractors. Next, she will contact the contractors to arrange interviews with each of them. After the interview process, Calley will shorten the list of potential contractors. She expects the interview process to take approximately one week. She has allocated this much time to these tasks as she expects it will take some time to arrange interview dates with all of the potential candidates. After concluding all of the interviews, Calley will request testimonials from previous clients and any applicable references from the potential candidates. Calley expects that this will take only one day since each contractor should readily provide contact information for their references. Calley anticipates that it will take three days to contact all of the references and former clients. Upon completing reference checks and receiving the testimonies from previous clients, she and the GI council will spend two days reviewing this information and finalizing their hiring decision. They will contact their chosen candidate and sign a contract with them soon afterwards.

Green Roof Design

In order to involve as much of the student body as possible, GI plans to hold an “Idea Week”, during which students will be able to submit design proposals for the green roof. Students will be able to discuss where flowers should go and what garden furniture should be included on the roof. GI has already started advertising Idea Week to ensure that they receive a sufficient number of submissions. The advertising of Idea Week began on the first day of May and will be an on-going process until the end of Idea Week when submissions are due. Calley has scheduled Idea Week to run from Monday, May 17 to Friday, May 21. After receiving the submissions, GI will convene on the following Saturday for a few hours to review the proposals, and select the five most feasible options.

Once the five design proposals are selected, GI intends to hold a campus-wide vote on the following Monday. The student body will have one week to vote for their favourite idea, either online or at the GI Coffee Shop.

After hiring the contractor, GI will sit down with the contractor at the start of June and spend two days reviewing the winning design. The contractor will be able to recommend any alterations to the overall design that he/she deems necessary. Grayson will also attend this meeting as he will help decide where certain flowers or plants will be best allocated.

Flowers and Vegetation

Calley has assigned Grayson to organize and order the flowers from retailers to plant on the green roof. Grayson started his research on May 1st knowing that he would spend the first two weeks of this month researching native plants. After researching, he has to finalize the plant species he thinks the Green Roof should have and present them at a GI meeting. GI will then have two days to finalize the list of vegetation and flowers to purchase for the roof. Native plants should ideally remain healthy when planted and thrive in the soil put on the roof.

Grayson thinks it would be a great idea to approach greenhouses for potential sponsorships and donations to the green roof after GI has finalized the vegetation list. In return, GI will create plaques highlighting “founding members”. Grayson is aware of the numerous green houses in the region and has informed Calley that he will require a week to approach potential sponsors.

Grayson also needs to approach campus maintenance about borrowing shovels, rakes, gloves and other gardening tools for the day that the Green Initiative members plan on planting the vegetation. Grayson has informed Calley that he will send an email to campus maintenance on the 25th of May and that he hopes to have a response from the Chief of Maintenance within three days of the email. Grayson’s goal is to have a finalized date and list of required items to the Chief of Maintenance by the end of May.

Green Roof Construction

The construction of the Green Roof will be done entirely by the contractor and his team. Calley and GI will check in from time to time to get project updates from the contractor. Aside from overseeing the construction, GI will be not involved with this aspect of project.

The construction team will be responsible for all of the construction of the Green Roof except for the planting of the vegetation. GI set a completion date of August 22nd for the construction of the

green roof. After this aspect of the project is completed, GI will need to plant the vegetation to meet the target date of having the green roof completed for the new school year.

Planting Day

The members of the Green Initiative plan to play an active role in the planting and installation of the green roof's vegetation. It is important that the students carefully follow the instructions they are given, as none of them have any previous experience with large-scale gardening or construction.

On August 23rd, planting will begin. The hired contractor will need to give Calley the approval that GI can start planting. Grayson was successful in arranging for the plants to be dropped off early in the morning in front of the Student Center. After consulting with the maintenance staff, Grayson found that the staff could prepare everything for them, but in the summer, the maintenance teams are under-staffed and will not have the time to deliver the items to the site. This means that Grayson will have to arrange for pick-up of the equipment. Grayson has arranged with the maintenance staff for GI to be able to keep the equipment until they are finished planting everything.

Once Grayson has the equipment delivered, he will have to create an inventory and have people sign out the equipment they require. Grayson knows that if they lose any equipment, GI will be responsible for paying for that item. After handing out the equipment, Grayson and the members of GI will start the planting process. Upon completion, GI will return all of the equipment it has borrowed. In total, Grayson and Calley have assigned two days to complete the planting of vegetation.

Calley knows what is at stake if the project is deemed a failure. She is concerned about the complexity of the project and operating something with such a large budget. This is new, uncharted territory for her, yet Calley is excited to be the project leader for such a large project and knows that with the help of Grayson, Sophia, the contractor and the members of GI, the project can be a success.