

Advanced Engineering Class of 2025-2026 Funding

Presented by Lead Designers:
Ebbaan Banae, Chloe Kivett, & Elizabeth Kirkland



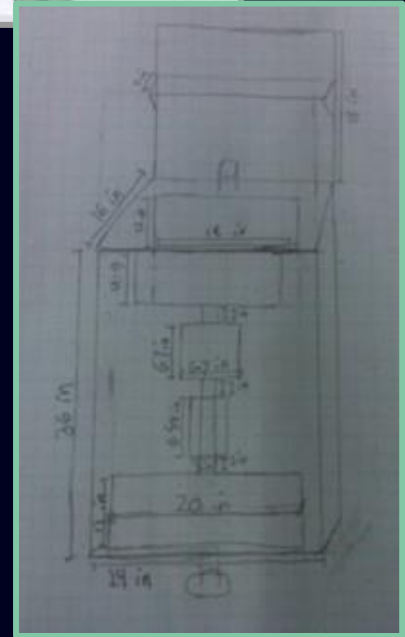
Introductions

Hello, and thank you for having us here. Our names are Ebbaan, Elizabeth, and Chloe, and we are the lead designers of this year's Advanced Engineering class projects. We have three projects this year that we would like to share with you. This year, our project theme is eco-friendly and green architecture builds. These are the ideas we have come up with to fit this theme.

Portable Outdoor Sink Stations

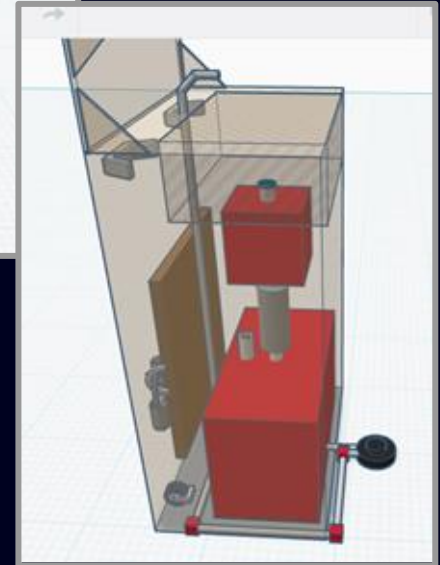
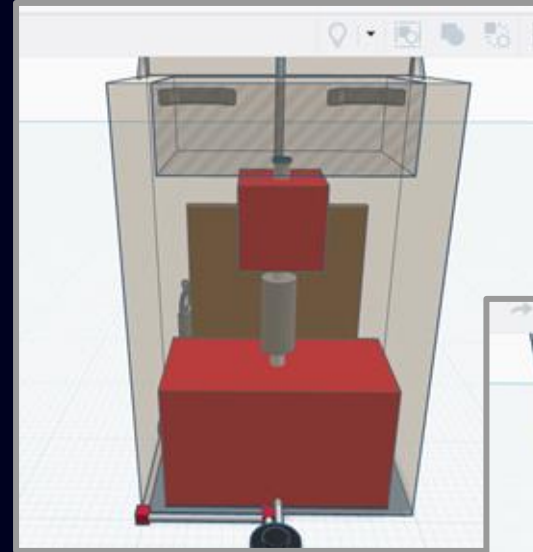
By Ebbaan Banae

The portable outdoor sink stations can be used as a helpful and easy way for students to be able to wash their hands during lunchtime without the school bathrooms getting crowded. Moreover, a bonus about these outdoor sink stations is that they can increase and hopefully maximize the number of people being sanitary, to prevent illnesses during the current flu season. On the aspects of the sink design, it will be a wooden box about 3 feet tall and 2 feet wide. There will be a backboard on the portable sink which will include a shelf to hold necessities such a soap and napkins. On the bottom of the sink, there will be a small cutout where a foot pump is placed. The foot pump is one of the most significant parts of the portable outdoor sink stations, and how they contribute as green architecture, since it conserves water. Furthermore, water conservation is mainly focused on since the foot pump can easily control how much water needs to be used, limiting the amount of water wasted. Additionally, the sink will include wheels and handles for easy portability.



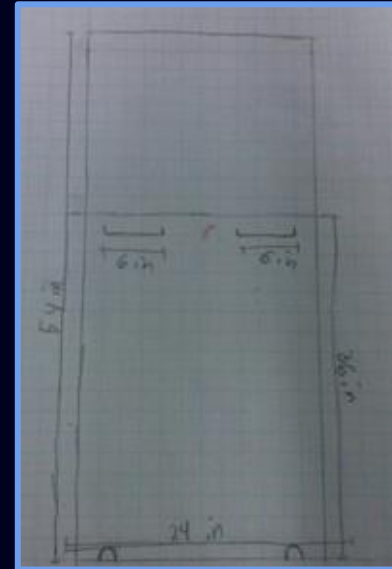
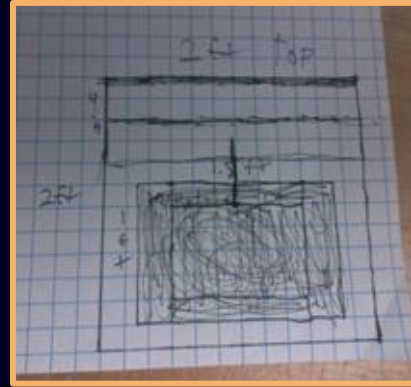
Detailed Look into the Portable Outdoor Sink Stations

In the portable outdoor sink stations, all of the systems are manual. Therefore, no sort of electricity is powering the sink, which makes this sink energy efficient. These models displayed shows that underneath the sink drain, a water filter is attached. Therefore, all the water that gets drained through the sink basin, gets filtered through before getting reused. In summary, the dirty water gets cleaned out by the water filter, and then travels through a pipe into a 7-gallon water tank. That tank is connected by a small pipe, to the foot pump, which controls how much water gets poured out of the faucet.



Estimated Cost of Portable Outdoor Sink Stations

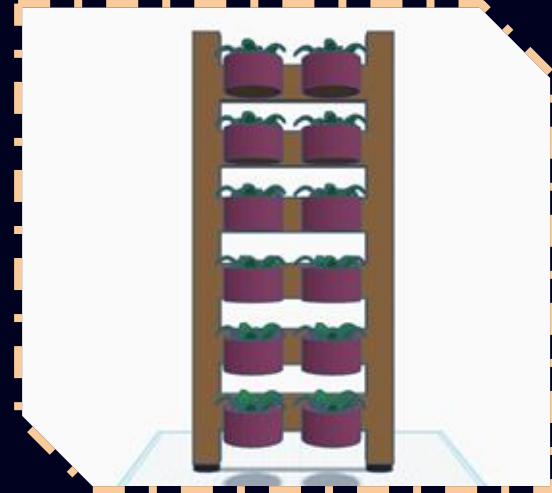
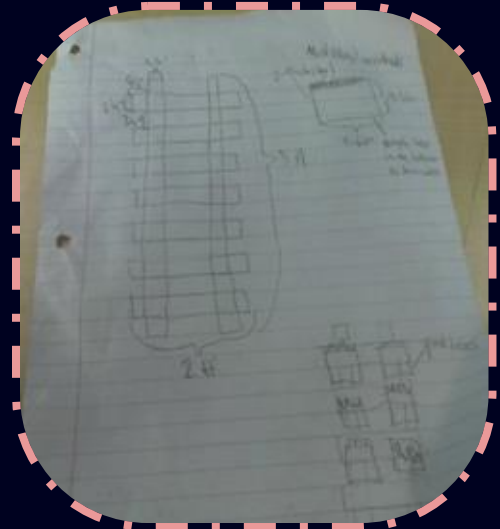
My team and I are planning to create two portable outdoor sink stations. The major supplies we rely on in order for the creation of these sinks would be wood, water filters, PVC pipes, just to name a few. The estimated total price of both the sinks will be around \$400. But, due to uncalculated tax and shipping prices, we will need a little bit more money. Therefore, we ask for about \$450 for our portable outdoor sink stations.



Plant Holders

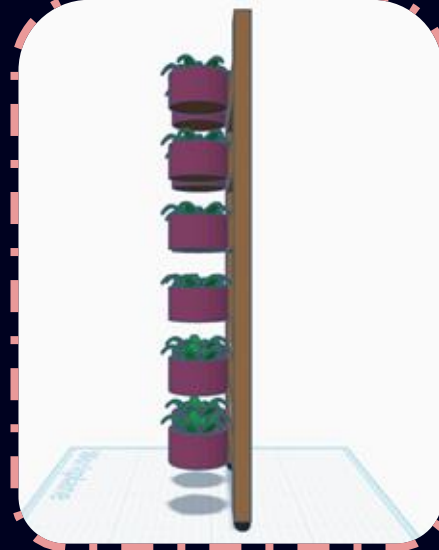
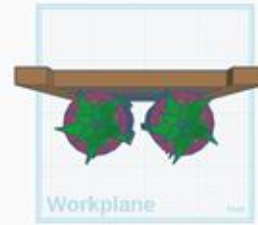
By Elizabeth Kirkland

I came up with the idea of Plant Holders. As you all know, plants absorb CO₂ and reducing CO₂ helps with global warming. My idea is a standing plant holder. I plan on it being 5ft tall and 3ft wide. It is going to have a ladder-like backing. This will be supported by 2 long wooden beams lined up parallel and vertically to each other, with multiple smaller wooden beams going across them parallel to each other horizontally. Each backing is going to have 6 different pots on each side to hold the plants. The plant pots are going to be bought off Amazon. The plants inside will be succulents because they absorb CO₂ and they don't need much water to survive. Perfect for San Diego weather!



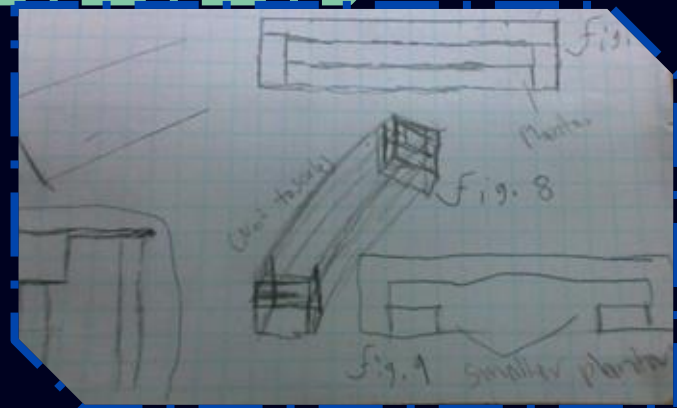
Potential Cost for the Plant Holders

My project is going to be portable in case of relocation and will not take too much material to make. I am planning on making 2 plant holders. Adding up the cost of everything plus the shipping tax, the cost is estimated to be around \$400. This project will reduce carbon footprint and make the school look nicer.



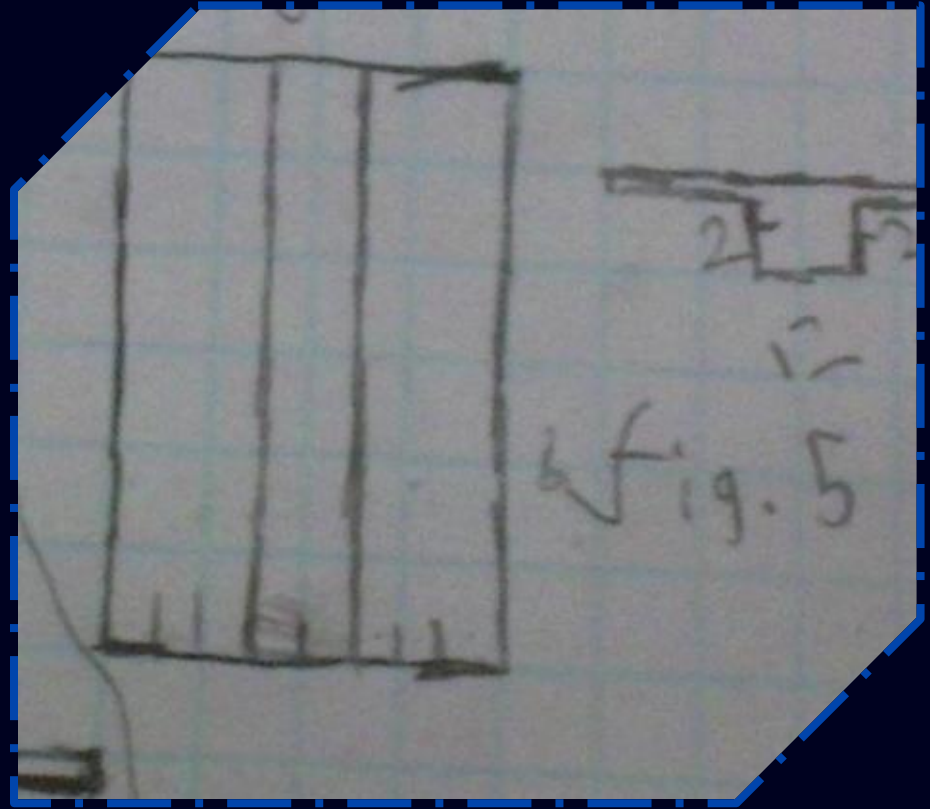
Green Architecture Picnic Table

The green architecture picnic table has a 1 ft. long pit in the middle that will be used as a planter. The table itself will be about 6 ft by 4 ft large, and will be about 3 feet tall. The table will include 2 benches which will also include planters incorporated into them. The benches will be around 6 feet long, 1.5 feet wide, and 1.75 feet tall. This will help the ecosystem by providing a gardening area in the same space as work and lunch area. Having this work area that will serve multiple purposes will improve the productivity and help reduce the carbon footprint of the school.



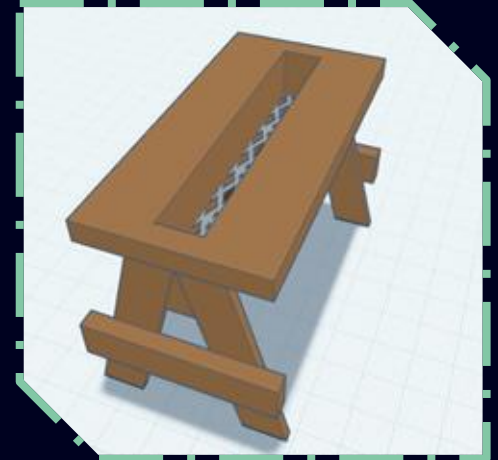
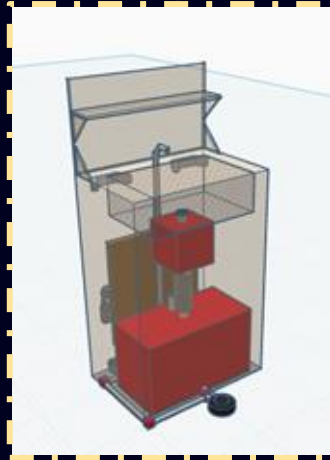
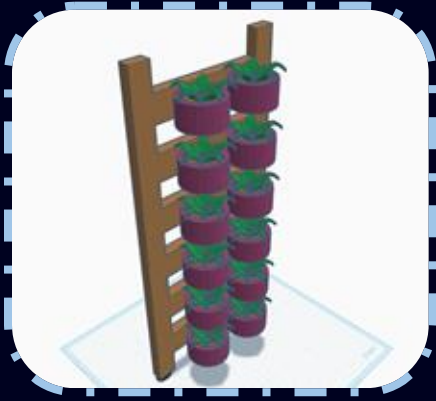
Estimated cost of the Green Architecture Picnic Table

Estimated cost for Lumber and additional supplies throughout the year are expected to be about \$550. This is if we have access to cheaper materials from various sources, with taxes taken into consideration. This is for 1 table and set of benches. Actual price may exceed these estimates if additional purchases are made while building.



Total Price

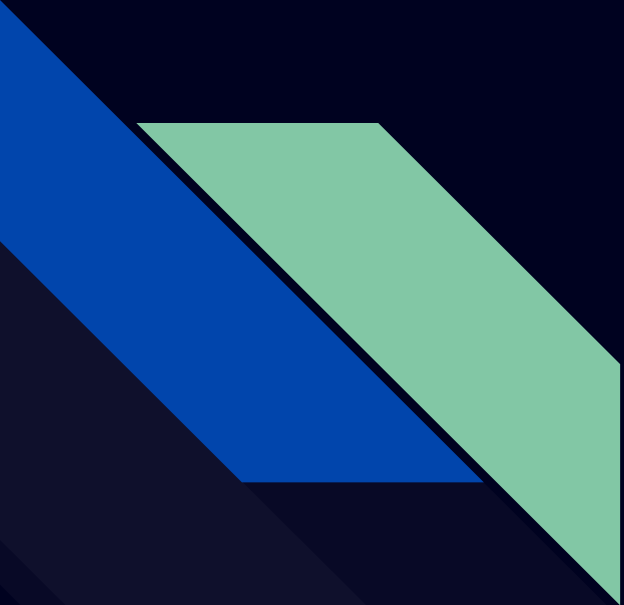
The estimated total price of all of our projects comes up to about \$1400. This is with all of the specifications each of our individual slides went over when calculating the price.





Conclusion

The amount of CO₂ on our Earth is increasing rapidly, and we need to help as much as we can. These projects are great opportunities for the students at Pershing to improve upon their engineering skills, collaboration efforts, and knowledge of the ecosystem. We dedicate a lot of time to these projects that not only impact the school community, but the rest of our community. This path can lead kids to become great engineers, so we are, once again, asking the Foundation for help with funding for these projects.



Thank you for your
time and interest in
making our projects
possible!

Sincerely,

~Students in Mrs. Maggio's Advanced Engineering
Class