

Problem



Climatological and topographical limitations make it too difficult to sustain this garden naturally.

Goal

To develop a manual to aid in the implementation of a Rainwater Catchment system at Turn Back Time.

Acknowledgements

We would like to thank Lisa Burris for allowing us to assist on her farm and be a part of such a noble cause. We would also like to thank Evelyn Grainger from Engineers Without Borders for assisting us in the design of the system. Most importantly we would like to thank our Professors Elisabeth Stoddard and Derren Rosbach, as well as William Roe and Sarah Butts for guiding us throughout this term.



Chang, Yuan-Yu & Chang, Chun-Yen. (2017). The Benefits of Outdoor Activities for Children with Autism. . Burris, L. (2017, November 17) Personal Phone interview. Burris, L. (2017, November 4) Personal interview.

Grafman, L., Hawkins, S., White, D., & Tinoco, R. (2016, October 21). Bayside Park Farm rainwater catchment system. Retrieved November 27, 2017, from

http://www.appropedia.org/Bayside_Park_Farm_rainwater_catchment_system

Grainger, E. (2017, November 20) Personal interview Hasse, R. (1989). Rainwater Reservoirs Above Ground Structures for Roof Catchment. Retrieved November 24, 2017, from http://wgbis.ces.iisc.ernet.in/energy/water/paper/drinkingwater/rainwater/calculation.html Hillman, M. (2017). A Spouse's Guide to Building the Perfect Rain Barrel System. Retrieved November 25, 2017, from http://www.emmitsburg.net/archive_list/articles/gardening/water_barrel.htm

Kim, Y., Han, M., Kim, Y., & Mun, J. (2013). *Analysis of Runoff from Building Rooftops for a Rainwater* Management System ,583-590. Retrieved from https://www.irbnet.de/daten/iconda/CIB8120.pdf. Rain Barrel Physics. (2010). Retrieved November 30, 2017, from

http://jensign.com/science/fluidmechanics/rainbarrel/

S. (2013, February 22). How to calculate potential supply of rainwater from catchment area? Retrieved November 24, 2017, from http://greencleanguide.com/rainwater-harvesting-potential-calculation/

"What-er" We Catching In The Garden? Nikayla Sims (BC), Kweku Colecraft (Che), Juan Arreola (AE), Julisse Sabater **Professor Elisabeth Stoddard(SSP) and Professor Derren Rosenbach(CEE)**

Solution Rooktop Rainwater Catchment Communication



Turn Back Time Autism and the Outdoors The Seven Benefits of the Outdoors Autistic Sensitivity • Physical Activity Social Interaction •

• Behavior Cognition Emotion

Benefits of Solution

System can collect up to 2937.6 gallons of water in one barrel

Entire 60x60 area would need approximately 2,250 gallons of water











Future Garden at Turn Back Time

