



The Problem

Runoff is destructive toward cities and ecosystems alike. The excess water floods sewer systems and pollutes local waterways.



Project Goal

Find a feasible way to cut down the amount of runoff on the WPI campus through rooftop rainwater collection.

Rooftop Rainwater Collection System on Foisie Innovation Studio Nolan Bell (ME), Dylan Felty (CE), Chenggu Wang (ME), Katherine Williamson (ME) Advised by Professors Marja Bakermans (BBT) and Beth Eddy (HUA) Methods

Interview Elizabeth Tomaszewski Find location for system Data collection Data manipulation Specifics of system

Sata











). Retrieved December 4, 2015, from <u>http://www.home-water-works.org/indoor-use/showers</u> ilets. (2013, January 3). Retrieved December 4, 2015, from http://www.conserveh2o.org/toilet-water-use November 1). Rooftop Rainwater Collection at WPI [Personal interview] partment of Facilities Utility Consumption Documentation Rain droplets royalty free stock photo [photograph], Retrieved from https://upload.wikimedia.org/wikipedia/commons/a/a3/Rain_droplets.jpg

Storm drain [photograph], Retrieved from https://upload.wikimedia.org/wikipedia/commons/0/09/Storm_Drain.JPG O'Neil, Daniel X. [photographer] (2012), Retrieved from https://c1.staticflickr.com/9/8015/7436310112_3344846839_b.jpg When It Rains, It Drains [photograph], Retrieved from, <u>https://upload.wikimedia.org/wikipedia/commons/7/7c/Storm_Drain_Label_EPA.jpg</u>

Our solution is a rainwater collection system designed for the rooftop of the new Foisie **Innovation Studio.**

48in of rainfall per year 48,125 ft³ of water potentially

collected

Of toilet water usage will be covered with our collected water

Water quality laws Filtration research Cost vs Benefit Implementation?

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Solution

Next Steps