

**Campus RainWorks Challenge Video Transcript
for Missouri University of Science and Technology Design Team**

Narrator: Our campus contains many impervious surfaces that add to stormwater runoff. Stormwater management is key to minimizing this runoff. Last year our campus used 15 million gallons water for irrigation of landscaping and another 4 million gallons to maintain our fields; which came to a total cost of \$52,000. Missouri S&T has recognized these factors and has installed many of these green technologies, with plans to install more.

Chancellor Cheryl B. Schrader: Well Charles I know how important it is for Missouri S&T to use sustainable practices, and especially stormwater management using green infrastructure. I know that your team has done quite a lot of work to further us along. Tell us about it.

Charles: We have five design teams, we started off by examining the campus master plan and we found opportunities to protect and improve the ecosystem using stormwater management techniques. And in addition we found opportunities to enhance student learning, faculty mentoring, and visitor awareness.

Chancellor Cheryl B. Schrader: What did the students learn from the design team experience?

Charles: The students gained both knowledge and experience from working with campus supporting contractors. Here, let's take a closer look at what the five individual design teams are.

Green Roof Team: Implementing a green roof instead of a traditional roof has many benefits to campus including improved air quality, increased insulation and cooling of the building, reduction in runoff, protection of the building from UV rays, and doubling the life expectancy of the roof. By adding this to campus we can help educate the community and our campus about this technology. Not only will it add aesthetic value to the environmental engineering classes and labs but we can also use it for hydrology labs in water resources.

Permeable Pavement Team: The use of permeable pavers on our campus can greatly reduce stormwater runoff and improve water quality. We plan on installing strips of permeable pavers to each side of a walkway in order filter water between the joints where it will eventually infiltrate back into the groundwater. Below these pavers is a gravel sub-base that allows the water adequate time to be stored before infiltrating through the soil. The water that cannot be infiltrated is handled by an under-drain system and sent to the wetland and water storage facilities.

Water Storage Team: The rain storage system will store water to be used for landscaping and at the athletic fields. The system would reduce stormwater runoff. The system would be designed to supply enough water in between rain storms. There are two systems, a system at the athletic field and a system at the creek where all the other systems are sending their water to; such as rain gardens, green roofs, wetlands, and permeable pavements.

Subsurface Wetlands Team: Our subsurface wetlands will serve as a great aesthetically pleasing addition to the campus, as well as a great filtering system for the rain water storage and Schuman Pond. It will also serve as a great research tool; we can plant the plants in four different quadrants to see which ones

will work best. Also it will be used as a great lab tool for our hydrology labs on campus. Finally it will serve as a way to prevent some of the flooding that occurs in that area.

Rain Garden Team: Our rain garden is a system that allows for the diversion and infiltration of stormwater through a shallow depression using local grasses and plants. We have selected the grassy area directly behind the library, as well as the creek bed area west of the civil engineering building. Additionally we will install signage and park benches that will increase campus awareness and create ideal spots for lunches and casual enjoyment.

Entire Team: Thank you EPA!