

Monitoring and Modeling Stormwater Quality at UTSA Main Campus

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The main campus of the University of Texas at San Antonio (UTSA) is located on top of the Edwards Aquifer Recharge Zone (EARZ) and currently operates seven sand filter basins that provide stormwater treatment. Recognizing some of the disadvantages of the current stormwater management practices on top of the EARZ and the opportunity for enhancing the use of Green Infrastructure at UTSA, the Department of Civil and Environmental Engineering has partnered with the *Great Edwards Aquifer Alliance* (GEAA) and *San Antonio River Authority* to assess the performance of existing sand filter basins, and to evaluate the performance of alternative infiltration stormwater control measures on campus. The main goal of this study is to assess the quality of stormwater at UTSA Main campus at existing conditions. To achieve this goal, two objectives are defined: (1) Monitor the water quality and determine the effectiveness of one sand filter basin on UTSA main campus prior to any enhancement to establish a baseline; (2) Develop a hydrologic and hydraulic simulation model of one catchment of the campus where future LID will be implemented. Future phases of the project intend to implement and monitor at least one SCM LID structure on campus. The results obtained in this study will form the base line for comparison between the existing stormwater conditions and the proposed LID scenario.

Biography: Marcio Giacomoni, Ph.D. (Texas A&M University, 2012), joined the Department of Civil and Environmental Engineering at The University of Texas at San Antonio as an Assistant Professor in January 2013. The goal of his research is to develop and apply systems analysis methodologies, including simulation and optimization techniques, to support sustainability of water resources systems. His research interests include stormwater management, green infrastructure and low impact development, drought management, and sustainable and resilient water and wastewater infrastructure.