

EVALUATING THE REMOVAL EFFICIENCY OF BAFFLE BOXES IN THE TAMPA AREA

*Mauricio E. Arias, Awet Tsegay, and **Cody J. Stewart***

University of South Florida, Tampa, FL, USA

Urbanization has rapidly increased since the mid-twentieth century and is projected to continue at even faster rates. Urbanization is often characterized by impervious surface cover and lack of vegetative space. Impervious surfaces are one of the main contributors to stormwater runoff. Stormwater infrastructure has been aiding civilization with runoff water since 3500 B.C.; however, modern systems must accomplish more than their predecessors. Modern systems must be able to reduce the amount of nutrients, suspended solids, and other pollutants deposited into receiving waters. Some stormwater management options employed today are rain gardens, retention ponds, bio-swales, baffle boxes, and etc. This study will focus on suspended solid removal of four baffle boxes within the City of Tampa. Furthermore, through long-term monitoring, maintenance records, weather data, and field storm sampling, it is this project's goal to evaluate the relationships between weather characteristics (such as rainfall duration, intensity, etc.) and suspended solid removal efficiency. Ultimately, the results from this study will be used to create a Best Management Practice for the utilization and maintenance of baffle boxes within the City of Tampa to ensure their long-term efficiency.

PRESENTER BIO: Cody Stewart is a Ph.D. student in the Civil and Environmental Engineering Department at the University of South Florida. Cody earned his M.S. in environmental horticulture from the University of Florida and his B.S. in Biology from the Indiana University of Pennsylvania.