

## **QUARTERLY PROGRESS REPORT**

June 1, 2017 to August 31, 2017

**PROJECT TITLE:** Use of Solid Wastes in Asphalt and Concrete

**PRINCIPAL INVESTIGATOR(S):** Timothy G. Townsend

**AFFILIATION:** Professor, University of Florida  
Department of Environmental Engineering Sciences

**CO-PRINCIPAL INVESTIGATOR(S):** Christopher C. Ferraro

**AFFILIATION:** Research Assistant Professor, University of Florida  
Department of Civil and Coastal Engineering

**COMPLETION DATE:** December 31, 2017

**PHONE NUMBER:** 352-392-0846

**PROJECT WEBSITE:** <https://www.essie.ufl.edu/home/townsend/research/bu/hc15/>

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### **Work accomplished during this reporting period:**

Graduate students continue to work on the report associated with this project, which contains an extensive literature review of past efforts on the beneficial use of waste-to-energy (WTE) ash in asphalt and concrete. This review explores the state of beneficial use of WTE ash in the United States and around the world over the last few decades on a laboratory and pilot (e.g., test road) scale. The benefits (e.g., reduced natural aggregate demand) and potential concerns (e.g., decreased material strength) associated with beneficial use of WTE ash in concrete and asphalt are noted and examined.

During this time, the Modified Permeability Test developed in the previous reporting period (March 1<sup>st</sup> – May 31<sup>th</sup>) was refined and permeability leaching testing on asphalt was completed. Currently, these results are being processed and interpreted for inclusion into the final report.

### **Work planned for the next reporting period:**

In the next reporting period, the UF research team will prepare and host a Technical Awareness Group (TAG) meeting to present results and encourage discussion among participants. This meeting will also serve as an opportunity to disperse a current version of the report for this project and solicit comments and discussion for the document.

### **Metrics:**

*Graduate Students*

Name	Rank	Department	Professor	Institution
Kyle Clavier	PhD Student	Environmental Engineering	Timothy Townsend	University of Florida
Yalan Liu	PhD Student	Environmental Engineering	Timothy Townsend	University of Florida
Linda Monroy Sarmiento	PhD Student	Environmental Engineering	Timothy Townsend	University of Florida
Chad Spreadbury	PhD Student	Environmental Engineering	Timothy Townsend	University of Florida
Stephen Townsend	Master's Student	Environmental Engineering	Timothy Townsend	University of Florida

*Undergraduate Students*

Name	Rank	Department	Professor	Institution
Ian Vicnansky	Undergraduate Research Assistant	Civil Engineering	Timothy Townsend	University of Florida
Mohamad Shavar	Undergraduate Research Assistant	Civil Engineering	Timothy Townsend	University of Florida

**TAG Meetings:**

The UF research team has begun preparations for a TAG meeting later this year in late September, early October. The UF research team will present results and recommendations from this current project. This meeting is intended for the various members from industry, FDOT, consulting, and local governments listed below.

*Proposed invited TAG members include:*

- John Schert, Hinkley Center
- Cory Dilmore, FDEP
- Ramana Kari, SWA of Palm Beach County
- Joe O'Neill, Hillsborough County
- Kim Byers, Hillsborough County
- Cindy Pelley, Hillsborough County
- Jason Gorrie, JMG Engineering, Inc.
- John Power, Pasco County
- Fletcher Herrald, FDEP
- Kim Walker, FDEP
- Timothy Ruelke, FDOT
- David Dee, GBW Legal

- Christopher Eckert, City of Tampa
- William Embree, Pinellas County
- Keith Howard, Lee County
- Ron Beladi, Neel-Schaffer
- David Gregory, Orange County
- Joost Böggemann, INASHCO
- Johanna Faddis, Miami-Dade County
- Scott Morrison, Meldgaard
- Jay Berry, Wheelabrator
- Elizabeth Kromhout, FDEP
- Koren Taylor, FDEP
- Joe Dertien, FDEP
- Mohammad Sayemuzzaman, FDEP