



## AARON STEPHENS

Vice President – Information Systems & Technology, Material Matters, Inc.

### OVERVIEW

Responsible for managing conceptual design, development, distribution, and client support of Material Manager™ database. Conducted design and development from the ground up, building upon the added expertise of Material Matters’ personnel. Initially marketed to Pennsylvania generators and land appliers of biosolids, the database is now customized to meet the needs of many specific regions throughout the U.S. Continue to design and develop new modules in the Material Manager™ database based on internal and external client needs and requests.

Serve as project manager for current and pending national clients actively using Material Manager database. Also support projects involving technically based studies and food processing residuals, and provide technical peer review.

### PROJECT EXPERIENCE

#### Development of Nutrient Management Application

**Owner:** Material Matters, Inc. – Trudy Johnston/717.367.9697

**Description:** The definitive project at Material Matters has been the development, maintenance, support, and enhancement of the Material Manager™ database, an acclaimed tool for managing the generation, storage, and land application of biosolids. In addition, custom enhancements have been provided to meet the specific needs of large clients such as Parker Ag Services, the Philadelphia Water Department, the City of Raleigh, and the City of Chattanooga. These enhancements include storage accounting, advanced soil phosphorous and pH monitoring, BDMS reporting, and automated import of analytical and load ticket data.

#### Agronomic Scalability Evaluation of Land Application Program

**Owner:** City of Columbus, OH – Robert Van Evra/618.645.7961

**Description:** Evaluated program scale, regional land uses, nutrient content, and other factors to detail the needs for the City of Columbus, OH to fully convert to beneficial land application of the City’s wastewater biosolids. Agronomic considerations for P-based rates allowed for a unique staggered N-based program to be developed, without exceeding P soil limitations.

**Position:**

Sr. Information Systems Manager

**Parent Firm:**

Material Matters, Inc.

**Years of Experience:**

With Firm: 8

Total: 14

**Education:**

2001, FE/EIT

1999 M.S. Agricultural & Biological Engineering, The Pennsylvania State University.

1997 B.S. Agricultural & Biological Engineering, The Pennsylvania State University.

**Professional Affiliations:**

Water Environment Federation (WEF), Residuals Committee  
Pennsylvania Water Environment Association (PWEA), Biosolids Committee

North Carolina American Water Works Association - Water Environment Association (NC AWWA-WEA)

Kentucky/Tennessee Water Environment Association (KY/TN WEA)

**Contact:**

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#### Biosolids Land Application Data Management

**Owner:** City of Chattanooga, TN – Jerry Stewart/423.757.5026

**Description:** Worked closely with the City of Chattanooga to implement an enhanced data program for their biosolids beneficial use land application activities. This was based on the Material Manager database framework, customized to automate data handling between their two established systems, a laboratory LIMS database and a truck scale database, and the Material Manager for biosolids database. This system allows the city to better oversee contracted land application activities, and provides direct control over all data associated with the program.

#### Characterize Process Residuals for Beneficial Utilization

**Owner:** GEO Specialty Chemicals – Mike Weber/610.782.2612

**Description:** Provided services to characterize treatment plant residuals for beneficial reused on agricultural land. This includes assessment of primary nutrients (N/P/K) as well as potential pollutants (metals, chemicals, etc.).

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## PUBLICATIONS AND LECTURES

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- Stephens, A.B., S.R. Weaver, R.C. Brandt, R. Van Evra. 2010. [Part One – A Case Study of Projecting the Costs and Land Requirements for a Sustainable Biosolids Land-Application Program for Columbus, Ohio.](#) WEF Residuals and Biosolids Conference, Savannah International Trade and Convention Center, Savannah, Georgia, May 23-26, 2010.
- Stephens, Aaron B., Trudy E. Johnston, William E. Toffey, Stefan R. Weaver. 2009. [Utilizing Mainstream GIS Mapping Technology for Biosolids Data Management.](#) WEF Residuals and Biosolids Conference, Oregon Conference Center, Portland, Oregon, May 3-6, 2009.
- Stephens, Aaron. 2008. [Biosolids Data Management, Integration, and Mapping.](#) Metropolitan Water Reclamation District of Greater Chicago, Chicago, IL, December 12, 2008.
- Stephens, Aaron. 2008. [Where in the world is my poop?](#) 2008 PWEA PennTEC Conference, Penn Stater Conference Center, State College, PA, June 1-4, 2008.
- Stephens, Aaron B., Frederick L. Creamer, Mike E. Scharp, Robert E. Pepperman, John S. McManis, and Trudy E. Johnston. 2007. [Integrating Operational and Compliance Data for EPA Region 8 States.](#) WEF Residuals and Biosolids Conference, Colorado Convention Center, Denver, Colorado, April 15-18, 2007.
- Stephens, Aaron and Paul Walker. 2002. [Near-Infrared Spectroscopy as a Tool for Real-Time Determination of BOD<sub>5</sub> for Single-Source Samples.](#) Transactions of ASAE. 45(2):451-8.
- Stephens, Aaron. 2000. Characterization of a segmented flow aseptic processing system for processing of foods with particulates. 2000 ASAE International Meeting. Midwest Express Center, Milwaukee, Wisconsin, July 9-12, 2000.
- Stephens, Aaron and Paul Walker. 2000. Near Infrared Spectroscopy as a Tool for Real-Time Determination of BOD<sub>5</sub>. 2000 ASAE International Meeting. Midwest Express Center, Milwaukee, Wisconsin, July 9-12, 2000. Paper No. 006089.