Talking... TRASH

The Newsletter of the SWANA Florida Sunshine Chapter Summer 2014

Thank you to Sun Recycling for hosting a technical tour during our Summer Conference.

Enhancing Energy Recovery + Building Sustainability

Leveraging our integrated solid waste management expertise and using a design-build approach that incorporates LEED® Platinum design, we are helping the Solid Waste Authority of Palm Beach County implement the first new U.S. waste-to-energy facility in more than 15 years. Learn more at **cdmsmith.com/energy**.

CDM Smith®

listen. think. deliver.®

WATER + ENVIRONMENT + TRANSPORTATION + ENERGY + FACILITIES

Letter from the President

August 2014

Our 2014 Summer Conference was a great success with 166 attendees and a perfect 50-50 split of public and private sector members. Our thanks go to our sponsors and everyone who helped to make the conference such an enjoyable and productive event, particularly our Conference Committee Chair, Tammy Hayes, and our Chapter Administrator, Crystal Bruce. Feedback was very positive and we plan to incorporate suggestions into our upcoming two day winter conference to be held at Clearwater Beach. Stay tuned as dates are being finalized.

The next six months are full speed ahead for our Chapter: our first two day winter conference and WASTECON coming to Florida next summer will have us jumping. We are in need of volunteers to help. Several folks signed up to assist at our summer meeting and more assistance is needed as we showcase our Chapter to the country. Just let Crystal or me know you are available and we will get you involved.

I would like to congratulate Jim Becker, Kim Byer, and David Derrick for re-election to the Board and welcome Monica Bramble to the Board as a new Director. We look forward to everyone's contributions to the Chapter and our industry.

I hope you enjoy reading this issue of Talking Trash and as always, your input is most welcome and appreciated.

Mitch Kessler
President, SWANA FL

In This Issue

Siloxanes in Consumer Products and Their Impact on Landfill Gas

Written by Sharon Surita, Berrin Tansel, PhD P.E., Department of Civil and Environmental Engineering, Florida International University

Silicon was discovered through the investigation of the reduction process of potassium fluorosilicate with potassium in the early 19th century. It wasn't until the period between 1947 through 1950 with the development of silicone fluids that the product range was expanded to antifoaming agents, textile impregnates and surface coatings. Silicones or polysiloxanes consist of silicon atoms bonded with hydrogen and oxygen atoms that can form various configurations because of their flexibility.

Various industries have embraced the use of siloxanes due to their antimicrobial and water-repellant properties. Among these industries are electronics, paper, textiles, construction, medical equipment, cosmetics and even the food industry. Silicone patents have been exponentially increasing in recent years and although there has been an associated reduced emission of greenhouse gases, a concern is beginning to arise in the operation of gas-to-energy facilities. Siloxanes that are not volatilized prior to combustion, form silicon dioxide deposits on engine components as they are combusted. This deposition has necessitated increased maintenance practices or addition of polishing treatment units in order to prevent complete engine overhauls. Research sponsored by the Hinkley Center is exploring the loading rates of siloxane containing products into waste streams and their potential impacts on the landfill gas quality and energy costs.

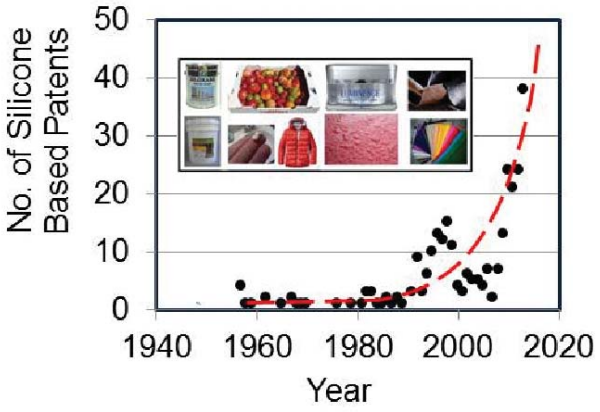


Fig. 1. Historical silicone patents (1957–2013).

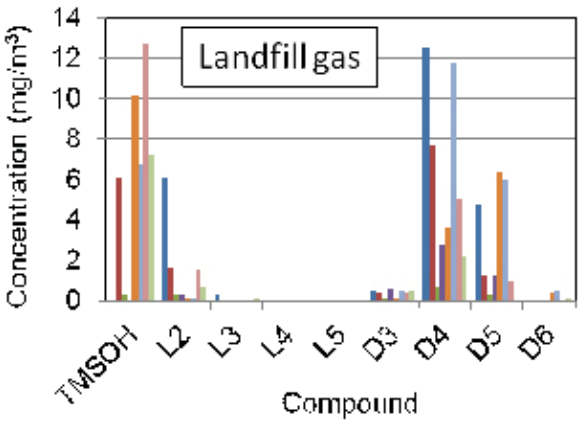


Fig. 2. Siloxanes detected in landfill gas in South Florida.

Siloxane loading to landfills is directly related to the life cycle of the consumer products. Because siloxanes are used in significant quantities by both the paper and construction industries, the loading of siloxanes to landfills is expected to increase as the products reach the end of their use time. For instance, paper products containing siloxanes will be added to the solid waste streams at a much faster rate than wood used in construction. Increased use of siloxanes in consumer products will impact the quality of landfill gas and energy costs.

Typical total organic silicon compound concentrations in landfill gas are in the range of 3–24 mg/m^3. Analysis of gas samples in South Florida showed that the most common compounds in biogas from sewage sludge were octamethylcyclotetrasiloxane (D4) followed by decamethylcyclopentasiloxane (D5) while in landfill gas the most common siloxanes were trimethylsilanol (TMSOH). There is significant variation of concentrations found in landfills worldwide. Physical parameters analyzed; including temperature, precipitation as well as socio-economical parameters such as median income, did not appear to influence siloxane concentrations encountered.

We are very proud of offering the best equipment to you as you are very proud of working for a better environment.

And here is some of our products and solutions

- Solar Spark Vent Flares
- LTL Biogas Flares
- Electric Landfill Leachate pumps
- Intrinsically safe control panels
- Level sensors & meters
- Flow monitoring & gauging
- Leachate floating evaporators
- Pneumatic pumps & controls
- ACCU-Flo Meters
- ACCU-Flo & eFLO Well heads
- AEMS Automated Extraction Monitoring System
- Calibration Gas
- Gas Pods
- GEM5000
- ITC Flex Hose
- Knock Out Pump Systems
- LAPS Landfill Automatic Pump Station
- TDL-500 Surface Emission Analyzer
- WBS-Wellbore Seals

Proud Supporter of WOUNDED WARRIOR PROJECT

VOSB

DIAMOND SCIENTIFIC

1-321-223-7500 | info@DiamondSci.com | www.diamondsci.com

University of Florida Football and WCA: Making Strides to Zero-Waste

Written by Taylor Cremo, WCA UF Account Executive

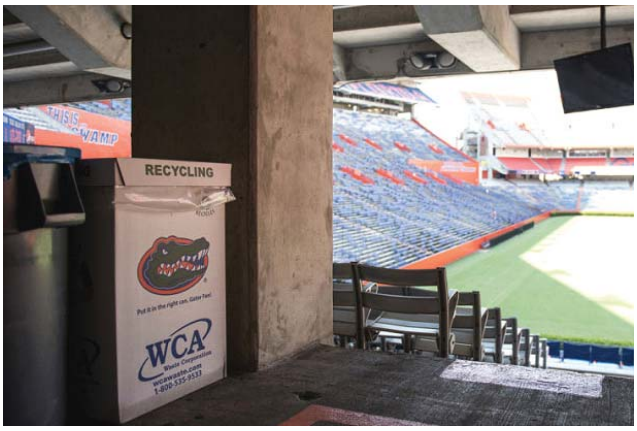
The 2013 University of Florida Football season set new standards for recycling in athletics. Armored with an aggressive goal and dedicated team, the University Athletic Association, in partnership with WCA, and UF Office of Sustainability achieved tremendous progress on their shared path to "Zero Waste."

In 2005, UF President Bernie Machen signed the Presidents' Climate Commitment, solidifying the institution's sustainability vision. Recognizing the same necessity, Brian Barton of the UAA quickly rose to the occasion and set a zero-waste goal.

The signing of a new waste contract with WCA presented the opportunity for this goal to transform into reality. WCA's ability to collect and haul organics greatly aided the constructive partnerships already in place. Additionally, WCA hired a new staff member dedicated solely to the Zero-Waste goal. Taylor Cremo worked with all integral partners, including Brian Barton of UAA, Joseph Floyd, Zero Waste Coordinator of UF Office of Sustainability, Mike Clark of Centerplate, Inc., Ryan McMeekin GM of Watson C&D, catering divisions and student volunteers throughout the season.

The following paragraphs demonstrate just a few of the necessary components stakeholders worked on to achieve an ultimate game diversion rate of 78%.

The contained environment of a stadium allowed for smart purchasing and even smarter waste management. Starting in 2009, the UF Office of Sustainability and concessions worked to transition all purchasable items to be either compostable or recyclable. From food items to food packaging, all materials were considered. For example,



- Plastic straws switched to compostable straws, then later only made available by request.
- Cup size options reduced and switched to recyclable souvenir cups.
- Single-serve condiment packets switched to larger pumps with compostable condiment cups.

In addition to purchasing decisions, operations played one of the most integral roles in large-scale diversion. With a stadium capacity of over 88,000 fans, operations staff required clear direction. From set-up to next-day clean-up, countless staff members were trained and supervised to ensure consistent waste streams, and, finally, that color-coordinated bags reached appropriate containers. To illustrate one example, bathroom paper towels were collected as organic matter. This waste stream alone required differentiated liners, janitorial direction, driver education and a separate roll-off container. In another operational example, "Green Team" circled all stadium areas throughout the game, removing any visible contamination from compost and recycling bins.

As material exited the facility, WCA drivers monitored collection to report any contamination. The material was then transferred for a thorough sort. This sort was managed by WCA and carried out by student volunteers and Watson C&D employees.

A clean organics waste stream ensured a better product for partner Watson's managed compost windrows. Almost 60,000 pounds of collected organics were composted with this system, naturally transforming "garbage to garden." Ms. Cremo and Mr. Floyd distributed UF compost samples to Gator Football fans, sharing the sustainability story and receiving overwhelming support.

The 2014 Recycle Florida Today Environmental Sustainability Award also marks this program's tremendous accomplishment.

This support propels a 2014 goal of first Zero Waste stadium in the Southeastern Conference. The Florida Gators aim to not leave footprints on the environment - only the competition.

What Is In Your Waste Stream? And Why You Should Know

Part one of the benefits of conducting waste and recyclables composition studies.

Written by Shane Barrett, Kessler Consulting, Inc.

Since the passage of the State's 75% recycling goal, many communities in Florida are developing new programs and making operational changes to increase waste diversion and recycling. Like any important decision, decisions regarding your solid waste programs should be based on facts and data. That's why knowing what is in your waste stream – not only material types, but also from which sectors they are being disposed – is vital to any solid waste decision maker.

One way to determine which materials are being disposed by various sectors of a community is by conducting a waste composition study (WCS). A WCS is a field study designed to determine the percentage by weight of specified material categories, including recyclable materials, disposed of by identified generator sectors. The most common generator types included in a Florida WCS are single-family residential, multi-family residential, and commercial/ industrial/institutional; however, additional generator sectors are often included depending upon how the study results will be used. For example, with the growth of organics recycling, many communities are using WCS events to identify large food waste generators.

Waste composition studies should be conducted periodically to monitor progress in your waste reduction programs or changes in consumer trends. A WCS is especially important if considering program changes that require significant capital investment. A properly designed WCS, conducted by an experienced firm, will yield the following benefits:

- **Benchmark current recycling efforts or compare to previous studies:** Comparing the percentage of recyclables in the waste stream with that of future or past studies will provide an indication of the effectiveness of your recycling efforts.
- **Identify recycling opportunities:** WCS results identify the types of recyclable materials that constitute the largest percentage of the waste stream, as well as the sectors of the community that offer the most return on your financial and time investments.
- **Aid in program planning:** Study data can also be used to identify changes in waste composition that might impact other solid waste programs or facilities.
- **Identify seasonal variations in the waste stream:** Waste stream composition can change with the seasons as a result of tourist populations, climate, and vegetative growth, and other factors. Multi-season studies can determine the effect of seasonal variation on the waste stream.
- **Assist in State reporting:** The FDEP requires each county to report the total tons of material generated and recycled by material type. WCS results can be used to accurately report these tonnages in lieu of the State's WasteCalc model.

Depending on the objective, WCS events can be developed to analyze waste streams as large as whole counties or as small as an individual business or specific community program. Regardless of the scale of the study, WCS results will clearly demonstrate what materials should be targeted for increased waste diversion. **After all, if you don't measure it, you can't manage it.**

4th Annual

MSW to Biofuels and Bio-product Conference and Expo

www.renewable-waste.com/biofuels

Researched & Organized by:

Renewable Waste INTELLIGENCE

EARLY BIRD SAVINGS
register by 15th Aug and save $150!

HYATT REGENCY HOTEL, ORLANDO, 6-8 OCT 2014

Secure finance, partnerships and feedstock to ensure commercialization of your MSW to bio-products projects

- **FINANCE:** Bridge the gap between the finance community and new technology to kick start delivery of your facility
- **PARTNERSHIPS:** Build collaborative partnerships with waste stream owners technology providers and financiers to get the stamp of approval your project needs
- **TECHNOLOGY:** Secure an EPC contractor that can demonstrate low risk to your MSW to bioproduct technology solution
- **BEYOND BIOFUELS:** alternatives – Discover lucrative alternatives to biofuels production exploiting the likes of syngas, hydrogen, and chemicals
- **POLICY AND REGULATORY ISSUES:** get smart on the latest shifts in state and federal policy by ticking the boxes to ensure that your project succeeds

TOP SPEAKERS

Craig Stuart-Paul
CEO
Fiberight

Tim Cesarek
Senior VP Business Development
Enerkem

Josh Silverman
Co-founder and CSO
Calysta

Kyle Teamey
CEO
Liquid Light

Jeff McDaniel
Commercial Director
Velocys

Anne Germain
Director of Waste & Recycling
National Waste & Recycling Association

WHO ARE YOU GOING TO MEET?
200+ Senior Level Execs

- EPCs
- Municipalities
- Private waste management companies
- Advanced biofuels producers
- Advanced chemicals producers and stakeholders
- Government agencies
- MSW to biofuels developers
- Financial institutions and investors
- Consultants

3 Key Reasons why you cannot afford to miss the MSW to Biofuels and Bio-Products Conference & Expo's awesome event

1 You will hear from the key industry pioneers reaching commercialization including Enerkem and Fiberight. Discover how they did it, how it is economically viable and who they partnered with

2 Meet the people who can get your projects financed in the long term and those that can secure you long term off take agreements.

3 Meet municipalities looking for technology options to convert their waste to biofuels.

SPEAKING ORGANIZATIONS:

American Chemistry Council · Baltimore · Edmonton · Enerkem · Fiberight · IF, LLC The Art Of The Possible · NOVOMER · GBB Solid Waste Management Consultants · Global Settlements LLC Funding Source Introductions · National Waste & Recycling Association · Biodiesel Board · CUNY · WM Waste Management · Kilpatrick Townsend · Liquid Light · Calysta · SMUD · SWANA · Velocys

EXCLUSIVE
POST-CONFERENCE SITE VISIT TO TOPLINE ENERGY FACILITY!

Recent Municipal Assessment Proves CNG Economically Feasible

Written by Marc J. Rogoff, Ph.D, SCS Engineers

Two current significant trends in solid waste management are the transition by waste haulers and municipalities of their collection fleets from diesel to compressed natural gas (CNG) or liquefied natural gas (LNG) fuels and expanding investment in natural gas fueling stations. Waste collection manufacturers report that within the last three years, more than half of their new vehicle sales include those designed to burn natural gas.

The reasons for the conversion from conventional fossil fuels to natural gas include a variety of economic, environmental, and political considerations. Foremost among these is that natural gas produced in the United States appears to be the lowest cost alternative fuel source. Traditionally, the price of a barrel of oil has been about six times that of a thousand cubic feet of natural gas. With the widespread use of fracking technology to recover significant quantities of natural gas, this ratio has jumped to as high as 12:1. Depending on geographic location and proximity to gas lines, the average price of natural gas today can cost $1.50 to $2.00 less per diesel gallon equivalent (DGE). Projections from government, corporate, and non-profit prognosticators suggest that natural gas will continue to be plentiful and relatively cheap compared to diesel fuel.

Typical refuse truck fuel use averages between 8,500 to 10,000 gallons per year at an average fuel efficiency of 2.5 to 3 gallons per mile. Thus, the growing differential between natural gas and diesel fuel, municipal or hauler operated trucks can shave as much as 30 to 50 percent on fuel costs. What was once prompted by environmentalism due to the promulgation by United States Environmental Protection Agency (USEPA) of new restrictive federal heavy-vehicle emission regulations has now been largely driven by the promise of significant long-term fuel savings.

With an estimated industry wide fleet of more than 175,000 vehicles, including traditional packer trucks, front-end loaders, automated side loaders, recycling trucks, and roll-off trucks, the long-term replacement of the waste collection fleet is now underway. Several of the major waste hauling firms in the United States have already made capital replacement plans to replace their existing diesel-fuel refuse collection vehicles with natural gas vehicles as they are scheduled for replacement. A few municipalities as well are entering the arena as "early adopters" on this wave to natural gas.

Exhibit 1. CNG Advantages and Disadvantages

Advantages	Disadvantages
Lower fuel costs compared to diesel on an equivalent energy basis	Increased capital costs for fueling station and maintenance facilities and CNG fleet vehicles.
Reduced reliance on imported fossil fuels.	Potential decreased fleet availability (Time Fill).
Emissions compared to diesel fuel vehicles.	Increased O&M costs for fill station operation.
Reduced environmental controls and monitoring requirements	Reduced thermal efficiency
Lower engine noise	Reduced fuel economy
Ease of installation	Increased vehicle weight
Ease of fueling operation	Uncertain secondary resale market
Fully automated operation	
Safety	
Independence	
Engine durability	

Feasibility Assessment

There are both qualitative and quantitative factors in assessing whether or not CNG makes sense for a municipality's solid waste collection fleet. Exhibit 1 lists some of the major qualitative advantages and disadvantages of CNG. To better quantify the CNG alternative, a pro forma life-cycle cost model can be used to compare the cost-effectiveness of deploying a CNG vehicle fleet to a conventional diesel fleet. The pro forma model should include the life-cycle costs associated with using CNG versus diesel, including capital costs for fueling infrastructure (time fill or quick fill or combination thereof) and vehicle costs, operational and maintenance costs, fuel efficiency, and fuel costs. The payback and life-cycle savings will vary based on local fuel costs, tax incentives, credits, and

available federal, Florida and regional grants.

Economic Analysis

SCS has utilized its proprietary CNG Pro Forma Model to evaluate the economic feasibility of CNG for use by several Florida solid waste collection agencies. For simplicity sake, we assumed that the local government would purchase all of the new CNG vehicles at once. These new vehicles are currently more expensive than traditional diesel-powered vehicles. We have recently seen a premium of 20 percent on these types of vehicles. For modeling purposes, we assumed reasonable estimates, capital costs for a time-fill station, Fleet Division maintenance improvements, and natural gas pipeline extension. Fuel costs were derived from current Henry Hub prices, and assuming a seven percent penalty for the less efficient CNG engines. The Model also assumes estimated operations and maintenance costs for the CNG station as compared to the current diesel fueling operation. Payback periods for the trucks have ranged from two to three years and seven to 10 years depending on the type of fuel station.

Surface Water Management System Modeling and the Effect on Percolation in Sizing the System

Written by Ali Khatami, Ph.D., P.E., Myles Clewner, L.E.P. and William Heikkinen, E.I.T., M.S.C.E., SCS Engineers

The subtropical weather in Florida, and more specifically in south Florida, drops as much 60 inches of rain over land in a year period. Short term storms with high intensity are very bothersome to landfill operators for management of water running off their slopes. Also, long-term storms can potentially drop up to 22 inches (Ref., rainfall charts in the Environmental Resource Permit Information Manual, Volume IV by the SFWMD) of rain over parts of south Florida within a 72-hour period. Management of surface water runoff at landfills is possible through large dedicated systems constructed at the landfill perimeter and beyond. Surface water management systems not only have to meet capacity requirements, but also treatment requirements that are built into the state regulations. With landfill operators wanting to keep their final slopes unclosed for as long as possible in order to pursue future lateral expansions (i.e., future cell constructions might overlay existing cells), the business of sizing the surface water management system becomes more complicated. On one hand, the land is needed to permit lateral expansions to the landfill footprint to increase permitted airspace; and on the other hand, the size of the surface water management system for a larger landfill footprint requires larger areas for retention and/or detention of surface water. Optimization of surface water management systems has been an important factor during the past decades as available landfill airspace is rapidly being consumed. Parameters that must be considered in the optimization of the surface water management systems are many, and some are based on natural characteristics of soils involved, while others are based on applicable rules and regulations set by state agencies such as the Water Management District and the Florida Department of Environmental Protection, and/or local drainage authorities.

One of the parameters that has been proven to be of substantial impact on the storage capacity of a surface water management system is the percolation rate of storm water into the ground and surficial aquifer. Many of the existing permitted surface water management systems for landfills in Florida do not consider percolation of storm water into the ground as currently designed. The South Florida Water Management District (SFWMD) specifically allows percolation of storm water into the ground during and after the storm event. On numerous occasions, the authors have used this feature in the rules to incorporate percolation of water in perimeter ditches and retention/detention ponds into the ground in the hydraulic models designed for several landfills in Florida. Specific percolation tests are normally performed to determine vertical hydraulic conductivity of soils at the bottom of retention/detention areas. There are also specific test procedures prescribed by the SFWMD to determine the horizontal hydraulic conductivity of the surficial aquifer that receives surface water through soils at the bottom of surface water management systems. Then, percolation rates of storm water under various hydraulic heads in the perimeter retention/detention areas (i.e., perimeter ditches and ponds) are calculated and incorporated into the hydraulic model used for the facility design.

The authors have used the generally accepted model by the SFWMD entitled “Advanced Interconnected Channel and Pond Routing” (adICPR) for many years for the design and permitting of surface water management systems for landfills. adICPR allows flow through channels and culverts in both directions, which makes it very suitable for horizontal flow through surface water management systems with horizontal perimeter ditches at landfills in coastal areas, such as the majority of the Florida environment. adICPR also allows infiltration of surface water in the ground to be modeled by using certain features in the software. The percolation rates are a function of hydraulic head in the system and vary as water depth varies throughout the storm period and after completion of the storm. The authors’ experience with the design of surface water management systems has proven that the size of the retention/detention ponds can be significantly reduced by considering percolation of storm water into the ground.

One example of this application of percolation rates is a recent modification that was performed for a large landfill in South Florida. The surface water management system was

(Surface Water Continued)

previously designed and permitted by others without consideration of percolation into the ground in the hydraulic model. Based on the hydraulic results, the permitted design required a 41-acre detention pond to be constructed by the time the entire permitted footprint of the landfill was constructed. The authors modified the design and incorporated percolation of storm water into the ground in the hydraulic model. The new hydraulic results indicated that an 8-acre detention pond should be sufficient to handle runoff from the same landfill footprint. The model and all supporting calculations were submitted to the permitting agency, and the permit was obtained within a short period of time. The savings associated with this optimization (i.e., reduced construction costs) were significant for the client, especially considering the fact that the original design had the pond being constructed in several phases, while the new design involved a single construction event for the 8-acre pond that would serve the landfill throughout its remaining life.

Reuse Road Constructed in Pasco

Written by Justin Roessler[1], John Power[2], Christopher Ferraro[3], Timothy Towsend[1] - [1]University of Florida, Department of Environmental Engineering, [2]Pasco County Solid Waste Director, [3]University of Florida, Department of Civil Engineering

As part of recent efforts by the Pasco County Solid Waste and Public Works departments, the Hinkley Center for Solid and Hazardous Waste Management, and the University of Florida, a one thousand foot section of test roadway was built using bottom ash from the Pasco waste to energy facility. Test sections of ash base, ash amended concrete and asphalt were constructed, as well as supporting concrete and asphalt control sections. Ash was used as a twenty five percent replacement of the aggregate within the asphalt and concrete and as a one hundred percent replacement of the road base course. Prior to use in the roadway, the ash was screened to achieve the appropriate particle size and aged for three months to reduce leaching. Ageing of the ash allows carbon dioxide to react with the material, stabilizing certain trace metals within the ash. Batching of both the ash amended concrete and asphalt was successful, with plant operators reporting no significant differences when utilizing the material. Fifteen groundwater wells have been placed adjacent the roadway to monitor any potential impacts to the surrounding groundwater. Additionally, lined test patches *(see photo)* were constructed to extract leachate from under the roadway surface.

The reuse road has been in operation for a period of one month. The ash amended and control concrete slabs have been instrumented to measure temperature and strain *(see photo)* and further structural testing is ongoing at the University of Florida civil engineering materials laboratories and the Florida Department of Transportation. Environmental testing using the newly adopted EPA LEAF methods is being conducted at UF's solid and hazardous waste management laboratories. This project represents a comprehensive effort to examine ash recycling and increase knowledge on opportunities for responsible reuse of this waste stream.

Control and "Ash-Crete" roadway test sections

Ash base being placed in lined test patch

Instrumentation placed in concrete slab

"Ash-fault" roadway construction

Food Waste Recycling in the Modern Age

Written by John Burkett, Consultant, Kessler Consulting, Inc.

In the United States, food waste is the largest single material being discarded in landfills. More than 36 million tons of cheese, bananas, and potatoes were landfilled in 2012 alone. Think about that number. Put into perspective, the weight of food we bury every year in this country is equal to 2.3 trillion empty aluminum soda cans. If stacked end-to-end, these cans would stretch five times further than Mars; halfway to Jupiter. You get the idea. We Americans put a *lot* of food in the ground year after year. This material has real value and benefits, and there are more responsible management methods for this forgotten waste stream that provide the added advantage of diversion from landfills.

Large-scale residential and commercial food and organics collection and recycling techniques have been in use for many years in Europe and Canada. While the U.S. has been slow to follow suit, some local communities here have stepped outside the box and begun to collect food waste separately from municipal solid waste (MSW) and recyclables. Food waste recovery is quickly gaining traction around the country as we become aware of the benefits of both keeping this material out of landfills, and converting its nutrient-rich by-products into a natural fertilizer and soil amendment for future use. This keeps this valuable organic content in the food cycle, reducing our dependence on chemical fertilizers and pesticides. Additionally, anaerobic digestion technology now allows food scraps to generate biofuels, which can be converted into natural gas to fuel the very vehicles that collected the material in the first place. Recycling organics can naturally improve the ways we grow our food, gardens, landscape, produce fuel, and divert materials away from landfills.

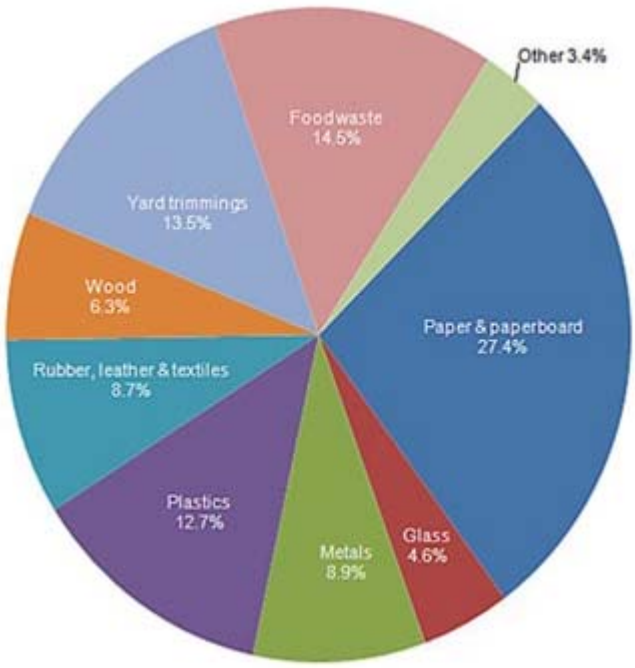
Strong waste diversion initiatives at the state or local level are often key reasons for establishing a food waste recycling program. Without them, achieving the political support can be a losing battle. For example, as part of Florida's statewide recycling goal, local communities are working to achieve 75% diversion by 2020. Naturally, food waste recycling should be considered an integral component to reaching this goal. Initially, large commercial generators like restaurants, supermarkets, and hotels are ideal places to target food waste collection. Small-scale pilot programs can determine if adequate support exists to embrace the new program. Fortunately, many locations have mature yard waste processing infrastructures, which can offer the perfect setting for conducting such a pilot program. If a pilot program proves to be capable of yielding a high-quality marketable finished compost product, it's time to scale up the program. Kessler Consulting, Inc. worked with Charleston County, SC to do just that. We conducted a pilot study, which proved so successful that the County now has a permanent commercial food waste composting operation; the first of its kind in the state.

The other main barrier to widespread food waste collection is a viable large-scale processing outlet. Some jurisdictions rely on private processors, while others have determined that an in-house expansion of an existing publicly-owned yard waste site is the most feasible. The level of technology can vary widely, ranging from a simple low-cost turned windrow operation to multi-million dollar anaerobic digestion systems. The level of sophistication depends on the amounts and sources of incoming feedstock, processing labor availability, space constraints, sources of capital, and desired end-product (biofuels and finished compost). It is important to do your homework and tailor a system

(Food Waste Continued)

around your location's individual characteristics. Not every small community can support a state of the art anaerobic digestion system, but managers should remember that the lowest cost options aren't necessarily the best choices.

In addition to recycling and diversion vs. landfilling, the icing on the cake is that earthy, natural plant food that can be sold or donated, however the organization decides. It could be offered to local businesses and residents at no charge as a public relations enhancement, or for sale to boost revenues. The bottom line is that food waste has real and significant benefits, and disposing of it in landfills will soon be an archaic practice and thing of the past. Get ready for the next wave in American communities' curbside solid waste collection programs: food waste! Here we come!



MSW Breakdown in America (Source: EPA)

Member News

FL Chapter Member Recognized by SWANA International

Warren N. Smith was awarded the Life Member award by SWANA International. This prestigious award is conveyed to only one member annually with approval by the International Board. Criteria for consideration of this award includes length of service, commitment to SWANA and its chapters and superior commitment and service to his/her employer.

Warren has had a significant and positive impact on each organization with which he has been associated. He has developed employees and associates to promote good solid waste practices, positively represented the field of Solid Waste to members of the community and regulatory agencies and worked toward the goal of efficient and effective Solid Waste Management. He has remained not only active, but involved and has promoted SWANA throughout his career. His career has spanned both public and private organizations and he has been involved in every aspect of Solid Waste. He is respected and viewed as a leader by all in the industry and in SWANA who have had the pleasure of working with him. It is because of this respect and in recognition of Warren's continuous contributions to SWANA and the Solid Waste industry that

the Florida Sunshine Chapter Board of Directors unanimously voted to nominate Warren Smith for the Professional Achievement Award - Life Member.

Member News

Kessler Consulting, Inc. Opens Northeast Office

Kessler Consulting, Inc. (KCI) announced the opening of their Northeast office in the Portland, Maine area. This office will allow KCI to better expand their services in the region. Peter Engel, who has previously been with KCI for more than ten years, has rejoined KCI and is responsible for this office. Peter brings more than 25 years of solid waste consulting to KCI and is familiar with many of our clients. KCI's President, Mitch Kessler, is "excited about Peter's return to the KCI family and the expanded services we can offer in the Northeast U.S. and Canada." Mitch is eager to again service this part of the country where he "was born, raised, and spent the early part of my career."

SCS Engineers Welcomes Professional Engineer Carlo Lebron

SCS Engineers has hired Carlo Lebron, P.E., to serve clients in the southeastern region of the United States. Carlo, located in the SCS Tampa office, will be a Project Director and will help lead SCS's waste management practice for public and private clients in the region.

Carlo brings to SCS more than 15 years of experience providing comprehensive solid waste management services and landfill gas marketplace programs. Carlo is the Chairman of SWANA's Landfill Gas Field Services Committee and helped develop their latest field manual. He retains his professional engineering registration in several states in the southeastern U.S. and in Puerto Rico. "We are excited to add such a savvy and well-respected solid waste professional to our SCS team," said Ray Dever, SCS Engineers Vice President and Tampa Office Director. "Carlo's creative solutions and effective strategies will soundly support our solid waste management, landfill gas, and gas to energy programs."

Orange County Utilities Receives Community Service Award

The Orange County Utilities (OCU) HHW program has been selected to receive the 2014 North American Hazardous Materials Management Association (NAHMMA) Florida Chapter Community Service Award. The award recognizes that the program goes beyond simple inspection or collections and was presented at the 2014 NAHMMA National Conference in Orlando. The HHW collection facility at the Orange County Landfill will also be the featured tour during the conference.

Over the past several decades, OCU has made the collection and proper disposal of household hazardous waste (HHW) a priority to protect the environment and enhance the lives of county residents. Since 1992, OCU has collected and disposed of or recycled about 2,600 tons of household hazardous and other prohibited wastes.

The first permanent county HHW collection facility was constructed at the Orange County Landfill on the east side of the county in 1991. Another permanent HHW facility was constructed at the McLeod Road Transfer Station on the west side of the county in 1997. Over the years other services were added to the HHW program including electronics recycling and cooking oil collection.

In addition, quarterly HHW community collection events were established to provide convenient locations for residents to drop off household hazardous and electronic waste. The collection events are held at various locations throughout the county. They have been well received by Orange County residents, who have requested additional collection events in their communities.

Under the supervision of the OCU Solid Waste Division, a contractor operates the two permanent HHW facilities and the quarterly collection events, providing equipment and personnel to properly collect, handle, pack, and transport the wastes to certified recycling or disposal

(Member News Continued)

facilities. Utilizing a contractor to perform the collection and arrange the disposal or recycling of household hazardous and electronic waste has resulted in several operational advantages and benefits, including:

- A manned collection location that is available on a daily basis
- On-site expertise in addition to county personnel
- Prompt handling and packing of wastes, minimizing the use of storage sheds
- Liability to Orange County minimized
- A convenient disposal location for Conditionally Exempt Small Quantity Generators (CESQG)

The Orange County HHW program also serves residents through other Orange County departments and divisions. The Neighborhood Services Division coordinates community clean-up events throughout the county, where chemicals and other wastes are collected and delivered to the permanent HHW facility at no charge to residents. The Environmental Protection Division manages the CESQG program and coordinates with small businesses to use the landfill's HHW contract, by appointment only, during the last week of each month.

The OCU Solid Waste Division is active in the community and conducts HHW and recycling educational programs for schools, civic organizations, and various community events. County employees explain how to identify, handle, and dispose of household hazardous materials properly. Tours of the landfill's HHW operation and adjoining landfill are available to allow residents to see the waste disposal process and encourage their participation in local waste collection programs. The county also utilizes brochures, flyers, media alerts, Orange County TV, newspaper ads, instructional pamphlets, and the county website (www.ocfl.net/HHW) to inform residents about available waste collection and disposal services.

Tony Boatman
June 20,1956 -
March 31,2014

This newsletter is dedicated to Tony Boatman, a long time friend and colleague of many in the solid waste industry. His dedication to the SWANA Chapter, his warm smile, and big hugs will never be forgotten.

Talking Trash Newsletter

Editor in Chief
Kim Byer
Hillsborough County
byerk@hillsboroughcounty.org

Managing Editors
Deb Bush
Pinellas County Solid Waste
DBush@pinellascounty.org
-and-
Kelsi Oswald
Pinellas County Solid Waste
KOswald@pinellascounty.org

SWANA Florida Sunshine Chapter
3724 Johnathon Avenue
Palm Harbor, FL 33685
Phone: (727) 940-3397
Fax: (727) 231-0693
Email: info@swanafl.org
Chapter Administrator: Crystal Bruce

Chapter Officers & Directors

President
Mitch Kessler
(W) 813-971-8333
mk@kesconsult.com
Kessler Consulting

Vice President
Tammy Hayes
(W) 813-281-2900
hayest@cdmsmith.com
CDM Smith

Treasurer
Sam Levin
(W) 407-475-9163
Slevin@S2Li.com
S2Li

Secretary
Deb Bush
(W) 727-464-7803
dbush@pinellascounty.org
Pinellas County Solid
Waste

Immediate Past President
David Deans
(W) 407-806-4104
david.deans@atkinsglobal.com
Atkins North America, Inc.

Director 13-15
Keith Howard
(W) 239-533-8000
khoward@leegov.com
Lee County

Director 13-15
Bob Hyres
(W) 407-869-8800
bhyres@wasteprousa.com
Waste Pro USA

Director 13-15
Michael Gordon
(W) 727-587-6760
migordon@largo.com
City of Largo

Director 13-15
Rick Stevens
(W) 904-825-1049
rstevens@ci.st-augustine.fl.us
City of St. Augustine

Director 14-16
Kim Byer
(W) 813-272-5977 x 43131
byerk@hillsboroughcounty.org
Hillsborough County

Director 14-16
Jim Becker
(W) 407-836-6635
jim.becker@ocfl.net
Orange County

Director 14-16
Monica Bramble
(W) 941-240-8060
mbramble@cityofnorthport.com
City of North Port

Director 14-16
David Derrick
(C) 321-624-6143
dlderrick@earthlink.net