Talking... TRASH

The Newsletter of the SWANA Florida Sunshine Chapter Fall/Winter 2018

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Letter from the President

December 2018

How did it get to be December already? I know I'm not the only one asking that question … Anyway, as this year nears the end, I thought I'd share my SWANA highlights for 2018:

- In mid-January, I attended SWANA's Executive Committee (EC) meeting in San Antonio where I participated in a WASTECON improvement workshop and we discussed future events, governance restructuring, strategic planning and other SWANA business.
- In late January, we held our joint winter meeting with RFT in Orlando which attracted more than 200 attendees many of whom shared their experiences with Hurricane Irma.
- In March, I attended SWANA's mid-year International Board (IB) meeting in Quebec City (where it was way too cold for this Floridian) and we voted to move forward with the governance restructuring proposal.
- In May, I was invited to SWANA headquarters for a deeper dive into WASTECON with a smaller task force where we worked with a consultant to develop an action plan.
- In July, the Florida Chapter celebrated its 40th anniversary in Palm Beach at a beautiful resort that included a great tour and program. Again, more than 200 people were in attendance.
- In August, I went to WASTECON in Nashville which included EC/IB meetings where we met with our new regions, an exhibitor summit, chapter officers meeting, and more.

There were also some conference calls, committee meetings and of course, my actual paying job. But now we're looking forward to next year. Our conference and Road-E-O committee leadership has already met to discuss our joint event in March, which is being held instead of our traditional winter meeting. I really hope you'll consider attending!

If you have any questions or comments regarding these meetings and activities, please feel free to contact me. Meanwhile, I hope you all have a wonderful holiday season and I look forward to seeing you in 2019!

Sincerely,

Tammy L. Hayes
SWANA FL Chapter President

In This Issue

The Chinese Import Ban – A Status Update

Marc J. Rogoff, Ph.D., Senior Consultant, Jeremy Morris, P.E., Principal, and Bill Gaffigan, CVA, Principal, Geosyntec Consultants

What Has Happened?

In July 2017, China notified the World Trade Organization that effective January 2018, it would ban imports of some recycled materials, including mixed paper and most plastics. In March 2018, China went further and implemented a strict new policy limiting contamination levels to 0.5 percent, a near-impossible limit for most single-stream recycling programs. To ensure compliance, Chinese customs have implemented the Blue Sky 2018 program to inspect every container entering any Chinese port and reject and return all containers with more than 0.5 percent contamination. As a result, inspections are now meticulous at the point of delivery in China.

What Are the Impacts of China's New Policies on U.S. Recycling?

The loss of the Chinese market has disrupted an entire global commodity industry, throwing the global recycling industry into turmoil as commodity recyclables prices crashed. U.S. exports of mixed paper to China fell by 95 percent in 2018. Only half of materials formerly shipped to China have found alternative end markets. This has reduced revenues as some materials must be sold at significantly lower prices, sometimes even at a loss. Some material cannot be sold even at a loss and must be redirected to waste-to-energy facilities or landfills. As a result, recycling revenues are significantly depressed. **Figure 1** shows that the national average price paid for a ton of mixed paper dropped precipitously from late 2016 to March 2018, when the Blue-Sky program took effect. The impacts of the import ban first appeared in the Pacific Northwest and Alaska, with several solid waste agencies requesting exemptions from state recycling mandates and landfill bans.

Figure 1 - Recyclables: Comparison of the world's and U.S. recycled paper and plastic sent to China, 2017 Image courtesy of Geosyntec.

During the first quarter of 2018, landfilling of recyclables also began in California. Some agencies like Sacramento County have reported that they will be expending much more effort on education and contamination enforcement. The new market realities have severely impacted the County's recycling budget, with recycled commodities switching from about $1.2 million in annual revenue to$1.1 million in expenses. There are reports from several states of "orphaned" stockpiles of recyclables.

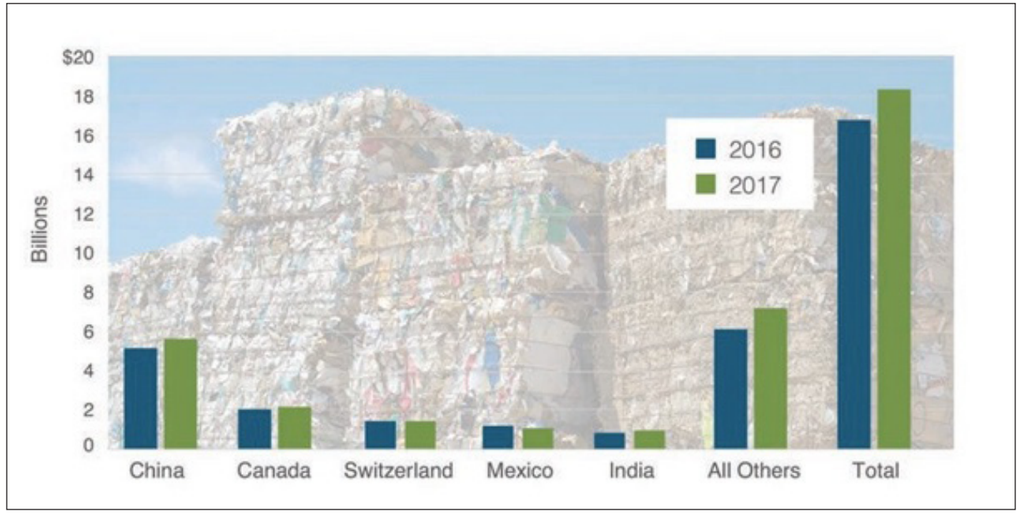
Will China eventually relax their standards and reopen their market for imports? Although no one can predict what China will do, signs indicate that the events of the past year represent a paradigm shift regarding how recyclables will be managed going forward. The China Council for International Cooperation on Environment and Development (CCICED) recently released a paper stating that a further stop to material imports will be in place by 2019. China's government is justifiably concerned about their environment and has given clear signals of their intent to eliminate the importation of contaminated waste for the sake of raw materials. This suggests that China's recycling restrictions are here to stay. While it is anticipated that new markets will eventually develop, the timeline for new market development is highly uncertain due to its dependence on establishing new facilities and infrastructure either in the U.S. or overseas. In the meantime, recyclers have already reacted by slowing down processing lines, and adding labor and high-tech equipment at MRFs to remove contamination, which adds operational cost. Many are focused on the more economic "core recyclables" such as clean cardboard and paper, HDPE and PET plastic bottles, and aluminum cans. Many state and local agencies such as Oregon's Department of Environmental Quality have published statements to make residents aware of the difficulties and urging residents to focus on core recyclables and avoid "wishful recycling."

Dynamics for Recycling

From the authors' perspective as advisors to several solid waste agencies, the traditional form of curbside residential recycling may not make real economic sense for many locales, unless user fees and customer rates are increased, which will enable the providers of these recycling services to recover their real costs. As an example, many MRF processors are now charging waste haulers and communities $50 a ton or more to process recyclables, when they once paid them for these materials. There are two major issues that need to be addressed for any solution to this problem.

Let's first discuss the issue of contamination. Prior to single-stream recycling, curbside customers with the traditional "blue box" were constrained by the size of the container to place all their recyclable materials into that small box—newspapers, carboard boxes, plastic bottles, aluminum and ferrous cans, plastic bags, and junk mail. This discouraged filling the limited volume with non-recyclable materials and materials of questionable recyclability. There was also a secondary check on contamination at the curbside with the hauler eyeballing the materials and leaving behind those materials not considered recyclable. As most communities implemented single stream recycling during the last decade, customers were given large (64 or 96 gallon), lidded rolling carts for recyclables. Worse, many communities were given the impression that recycling was free while trash collection cost money. Accordingly, the customer is now incentivized to place all potentially recyclable material in the large recycling cart, rather than placing items of questionable recyclability in the trash can. As a result, MRFs have seen items such as strings of Christmas lights, car mufflers, plastic bags, bowling balls, dirty pizza boxes and dirty diapers—none of which should be sent to these facilities. Consequently, contamination rates have sky rocketed upwards to 30 percent or more. This contamination results in complex and costly problems for MRF operators who oftentimes are unable to fully eliminate contamination from processed bales of materials sent to markets. Conveyors get jammed or must be slowed down, and additional human sorters must be added to help cull out these materials. All of this increases processing costs, while also lowering the ultimate prices received from the markets.

The second issue is the international market for U.S. recyclables. The Chinese market has now disappeared as the authorities there no longer accept their country being the dumping ground for other's trash. This is part of an overall strategic plan to improve environmental quality in China for a rapidly growing and demanding middle class. As Chinese purchase markets crashed in 2018, U.S. recyclers turned to other markets



Total value of U.S. waste and scrap exports, 2018. Source: U.S. Department of Commerce, 2018.

such as India, Indonesia, Malaysia, Turkey, and Vietnam as temporary fixes, flooding those markets. These nations, unable to meet processing demand, have either imposed bans or closed their markets, and prices have continued their downward spiral.

In summary, our recycling industry is facing an unprecedented turn of events as a result of policy changes halfway across the world. These changes are not the traditional commodity cycles that we have seen for recyclables. It is a common opinion held by most observers that the Chinese ban is not going away—indeed, some in the recycling industry have opined that China appears to be on a path to eliminate imports of all post-consumer recyclables by 2021. Current trade tensions between China and the U.S. are making this into a political issue as well.

Possible Solutions

Recyclers are adapting as quickly as they can but there is no expectation of a return to the old status quo. Over time, help must come from the public in the form of cleaner materials; from regulators by allowing variances from recycling goals; and from municipalities by working with their recyclers to understand the options for retaining sustainable programs for the short and longer term. All this and more will be necessary to ensure the future of recycling as a key community service. In the interim, solid waste agencies will be forced to take steps at the local level to mitigate the current recyclables markets conditions. These could include some of the following solutions.

Take Steps to Reduce Contamination

Local agencies can deploy waste audits to help identify locales in their service area where high levels of contamination continue to exist. A good source of relevant information are advisories issued by the Solid Waste Association of North America (SWANA) and the National Waste and Recycling Association (NWRA). Legislation can be enacted to address recyclables contamination; for example, recent legislation in Florida will require municipalities to limit material contamination in curbside recycling programs. As written, the law establishes that solid waste agencies and not haulers or MRFs are responsible for reducing contamination.

Implement Recycling Education Programs

Education is critical to the sustainability of recycling programs. A good rule of thumb is to spend $1 per household per year to maintain strong participation. For a programmatic change (e.g., switching from single to dual-stream collection), add another $2 to $3 per household to cover a marketing campaign. A strong campaign will decrease resident confusion, lessen contamination and disposal expenses, increase quality and quantity of recovered materials, and maximize use of recycling system capacity. Production-ready examples of campaign materials are available from SWANA, NWRA and other local solid waste agencies. Teams of communications specialists can help design a campaign.

Move Towards Paying True Recycling Costs

Educate the public and businesses as to why recycling can no longer be considered "free," and that because recycling is such a key component of sustainability, it is reasonable and now necessary to be willing to pay to recycle, certainly up to the avoided cost of disposal.

Conduct Proactive Financial Planning

Many agencies have not developed long-term financial plans for recycling programs and have not set aside reserves or "rainy day" funds, despite recycling markets having shown significant variability due to a variety of global and local economic issues. Developing a long-term financial strategy can help mitigate these fluctuations. Solid waste advisory specialists have unrivaled expertise in objectively reviewing, analyzing, and measuring financial performance and comparing them to industry benchmarks using custom financial models.

Improve the Recycling Business Model

Improve the commodity-based business model by transitioning all contracts that rely on commodity prices into alternate contract structures that may allow trading of futures for recyclables. This might require development of an exchange with price-quotes and rules for commodities traded. The goal here is to enable stable inflation protection and reinvestment opportunities and organic growth.

A Larger Policy

The far-reaching impacts of the China import ban have likely not yet played out fully. The current policy by China is part of a larger policy to improve environmental quality for an increasing middle class as well as ongoing trade negotiations with the U.S. However, some conclusions can be drawn at this juncture:

- The Chinese import ban was unexpected and represents a major disruption to the management of recycles in the U.S.
- There has always been—and always will be—pricing volatility in the recycling market; however, the current severely depressed market conditions in the U.S. are expected to persist for at least several years.
- Increased investment in recycling infrastructure and markets will have to be made to improve recyclables quality and to develop local demand for recycled products.
- Much of the cost for recycling will have to be paid by residents and businesses in the form of higher fees for service.
- Communities will have to pay more when they have higher levels of contamination in their recycled materials.
- Dual-stream recycling programs, although typically more expensive in terms of consumer education and collection effort than single-stream programs, may offer lower lifecycle costs and higher recycling rates for communities that are serious about diverting materials from disposal.

Authorities and municipalities are expanding services to stakeholders—doing more with less, while maintaining high standards for safety and environmental compliance. An experienced solid-waste advisory team is a trusted resource for guiding waste-authorities' efforts to successfully meet these challenges. These private-sector and non-profit experts can help provide comprehensive solid waste advisory and engineering planning for your organization at a time of unprecedented economic disruption of recycling markets.

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Landfill Disposal Cell Base Slope – Transmissivity Value and Design Considerations

Ali Khatami, Ph.D., P.E., SCS Engineers

Typical designs of landfill disposal cells include two slopes, one at the base and the other along the leachate collection pipe. The drainage layer covering the entire cell base area follows the slope of the base toward the leachate collection pipe, and the flow in the leachate collection pipe follows the pipe slope. With the growth in application of geosynthetics in the landfill industry, a majority of modern landfill designs include a geocomposite drainage layer, unless granular material is readily available at an economically viable cost in the area of the landfill, which can replace the geocomposite material.

Base slopes are designed to maintain a positive flow toward the leachate collection pipe after long-term settlements of the foundation. In addition to this requirement, sometimes solid waste rules require either a minimum slope at the time of the design or a minimum slope after foundation settlement. These requirements ought to be considered during the design of the base slope.

Cell base area under construction with specified slopes.

Regulatory agencies normally go through a comprehensive review process to make sure that such matters are addressed in a landfill permit application involving design of new disposal cells. However, sometimes designers propose slopes that seem to be significantly steeper than the minimum values required in the rules with no supporting foundation settlement analysis to justify the need for the steeper slopes. Slopes steeper than what is required (technically or regulatory wise) have two draw backs: 1) loss of the airspace which otherwise would have been captured with less steep slope; 2) lower hydraulic transmissivity in the geocomposite drainage layer. Laboratory experiments have shown that hydraulic transmissivity of geocomposites reduce as gradient increases. This phenomenon may be related to higher turbidity in the flow of leachate through the geocomposite voids. The flow path of liquids within the geocomposite structure includes vertical and horizontal barriers that liquid flows around or over within the geocomposite thickness. Steeper slopes increase velocity of liquids through the geocomposite, and higher velocity makes the flow more turbulent; and the higher turbulence reduces hydraulic transmissivity.

One of the most important regulatory requirements on landfill bottom lining system drainage layer is that the maximum head of leachate over the liner should not exceed 1 ft. When this requirement was developed, the general consensus was that the drainage layer consisted of granular materials. Later, when geonets and geocomposites entered the market, the unwritten consensus among solid waste engineers and regulators was that the maximum head of leachate at the base should not exceed the thickness of the geonet or geocomposite drainage layer. With that in mind, the reduction in hydraulic transmissivity of geocomposite laid over steeper slopes can adversely impact the maximum leachate head over the liner. Maximum leachate head is normally calculated from the theoretical model (along with some simplifications to disregard very small terms in the theoretical model) developed by C. A. Moore, J.P. Giroud, B. M. McEnroe, and others. One of these models was later incorporated into the Hydrologic Evaluation of Landfill Performance (HELP) model that is currently used by almost all solid waste engineers in the industry. Such models include a parameter called hydraulic conductivity which is calculated from the hydraulic transmissivity value of the geocomposite drainage layer.

When hydraulic transmissivity value reduces due to steeper slope at the base, the hydraulic conductivity reduces in turn as well. In the Moore's and Giroud's models, the maximum head of leachate is somewhat inversely proportional to the square roots of the hydraulic conductivity, which means the reducing hydraulic conductivity results in an increase in the maximum head of leachate passing through the geocomposite. The relationship between the leachate maximum head and the hydraulic conductivity is a lot more complicated in McEnroe's model.

It is recommended that the minimum base slope to be initially determined based on foundation settlement. Then, the calculated minimum slope compared to the required value in the solid waste regulations, if any. If the rules require a minimum slope at the time of the design, pick the regulatory value if higher than the calculated minimum slope; otherwise, pick the calculated minimum slope. If the rules require a minimum slope after foundation settlement, then add the calculated minimum slope to the minimum slope in the rules and use that in the design.

A 1 percent slope at the base, provided all requirements are met, seems to be a suitable slope. The geocomposite hydraulic transmissivity at 1 percent is higher than the hydraulic transmissivity at 2 percent, and the space difference between the 1 percent and 2 percent slopes can be added to the landfill airspace for waste disposal.

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Sewing of the upper geotextiles of adjacent geocomposite panels.

Geocomposite drainage layer in place.

Geocomposite drainage material delivered to site.

Geocomposite drainaeg material during installation.

Geocomposite drainage layer installation above geomembrane.

Installation of geocomposite in progress.

Is Explosion Proof Video Inspection Required for Monitoring Leachate Lines?

Ramon Rivera

To ensure the safety of both workers on landfill sites and the safety of the surrounding community, it is necessary to conduct regular inspections of leachate lines, typically every two years. A method that is commonly used for monitoring leachate lines is video inspection, and a question that is frequently asked is: 'Should these video inspections be performed using explosion proof cameras or will non-explosion proof video equipment, such as those that are typically used to inspect sewer lines, suffice?'

This is a very valid question, and an important one considering the safety implications due to the potential presence of explosive gases within leachate lines. Some argue that the risk of explosion is minimal, and no more hazardous than sewer lines, due to there being very little to no oxygen present in the leachate lines, which effectively eliminates the risk of an explosion. This may be true at a site where conditions are very dry and methane generation is limited and therefore unlikely to be a factor, especially considering the lack of oxygen within the lines. Landfill managers may hire a professional sewer line video inspection service to conduct the inspection, and they may or may not be aware of the potential explosion risks.

Safety Checks When Monitoring Leachate Lines

So, to be on the safe side it is best to monitor the leachate lines using gas probes before video inspections are conducted to verify the environment does not pose an explosion risk.

You should at least conduct surface readings in the soil surrounding leachate lines to check for methane generation before undertaking any video inspection work. Gas analyzers monitor oxygen and methane, making it effective at detecting any potential explosive risk within leachate lines.

Under Subtitle D of RCRA, MSW landfills must monitor methane around the landfill perimeter. the owner shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specification. If methane concentrations at the monitoring stations at the property boundary exceed the LEL, the lowest percent by volume of an explosive gas in the air that will allow an explosion, then RCRA requires the landfill to report the exceedance to the proper state authority and develop and implement a plan to correct the problem. The state solid waste authority will determine whether the landfill has properly addressed the problem. The methane monitoring must be performed not only while landfills are active, but after they close.

By implementing simple safety measures such as this, potential disasters can be avoided, ensuring a safer working environment for landfill staff and contractors alike.

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Sources

- *Agency for Toxic Substances*
- *Disease Registry*
- *U.S. EPA*

SWANA FL Scholarship Program
Apply by June 1st

PURPOSE:

The Florida Sunshine Chapter of SWANA established a Scholarship Fund to assist deserving students in obtaining a post-secondary education as long as certain requirements are met.

AMOUNT OF SCHOLARSHIP:

Two scholarships will be awarded. Each scholarship will be valued at $2,000 per student, per school year. It will be awarded in increments of $1,000 each, for two semesters, upon receipt by the Board of Directors of the SWANA Florida Sunshine Chapter of student status documentation. Payment will be made in the form of a check, payable to the student, to be used for tuition, books, fees, school supplies and/or living expenses as needed.

Additional information, including eligibility requirements and application, can be found online at http://www.swanafl.org/page-1134605

Facility Spotlight: New River Regional Landfill

Carol Sawyer, Jones Edmunds

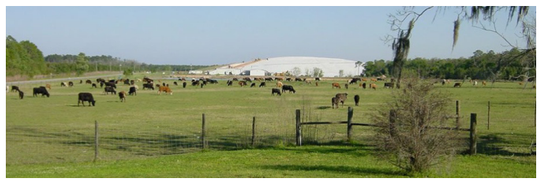
The SWANA Florida Sunshine Chapter Landfill Management Technical Division Committee presents the first Facility Spotlight column. This column will feature Sunshine Chapter facilities and members while discussing issues and challenges with planning, designing, constructing, operating and closing landfills.

Background and History
The New River Solid Waste Association (NRSWA) has operated the New River Regional Landfill (NRRL) since July 1992. It is a publicly-owned facility and the first regional landfill in Florida. The NRSWA consists of Baker, Bradford, and Union Counties and also accepts solid waste from Alachua, Levy, and Gilchrist Counties.

Location
NRRL is 2.5 miles north of Raiford, Florida, east of SR 121.

About the Facility
The facility encompasses ±500 acres in Union County, Florida. Phase I consists of 98 acres permitted for Class I disposal with capacity through 2028. Phase II consists of ±200 acres that is available for future disposal and borrow activities. The facility averages about 1,000 tons per day and is negotiating a high-BTU gas-to-energy contract. NRSWA has worked with the University of Florida on several innovative projects and received SWANA's Gold Excellence Award for landfill management.

Q&A with Perry Kent, NRSWA Executive Director
Perry Kent has made a career at the NRRL. The married father of two has worked at NRRL 26 years, first as a heavy equipment operator and then as the Assistant Director. He took the role as Executive Director in May 2018.



Q: How has life at NRRL changed from when it opened in 1992?
A: When I began working here as an operator, we were accepting about 100 tons per day total between Class I and Class III waste just from our member counties. I was working in non-air conditioned equipment in a 7-acre cell. Today, we handle on average 1,000 tons per day of Class I waste from six counties, manage an 82-acre Class I landfill, and are getting ready to install our first section of exposed geomembrane cover.

Q. What do you enjoy about working at a landfill?
A. No day is ever the same. Things change all the time, and there are always new problems to solve. There is rarely a boring day at work.

Q: NRSWA self-performs a lot of construction. How do you balance operations and construction?
A: This can be tough but you have to be flexible, have a plan, and have well trained and diverse staff. Even with a plan, things change all the time, and you have to have backup plans.

Q. Tell us about your upcoming landfill gas-to-energy project.
A. We are very excited about this project and are working with leaders in the field—Fortistar and Teco Peoples Gas. This will be a landfill-gas-to-compressed-natural-gas (CNG) conversion project. The final product will be pipeline-quality fuel directly injected into the local pipeline. This will be a great beneficial reuse project for our facility and for the State.

Q. What project or feature at NRRL are you most proud of?
A. I am most proud of how progressive we are. We embrace new approaches and technology. We are proud of our positive impact on the solid waste industry through research and innovative designs. We have leadership and staff longevity; we are committed to operating a safe and reliable facility in our community.

Q. What is your biggest challenge?
A. Honestly, in Florida—weather. This impacts everything, and you have to be flexible and plan ahead. Regardless of the weather, you always have to think ahead of how to best take care of your customers, staff and the environment.

Q: What is the worst smell you can ever remember coming from the dump or a bag of garbage?
A: Years ago, a chicken farmer would bring containers of dead chickens that he had stockpiled for a few days. The smell from those containers as he emptied them was unbelievable.

Q. What does a landfill guy do for fun outside of work?
A. I really enjoy working on cars and hot rods. I will tinker with most things.

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Reflections of a Solid Waste Professional

Periodic recounting of events and happenings—some humorous, some not—during my 30+ year career.
Warren Smith

A Story of Two Different Landfills' Capacities

Starting in the late 1970s and early 1980s, primarily in response to rising disposal costs and siting issues, a number of Florida municipal jurisdictions decided to privatize their landfill operations. Hillsborough and Pinellas Counties (where I was employed by both during my career) were two early and notable examples. It was with Hillsborough in 1978 that I had my first experience with privatization, as an answer to the county's operational and environmental issues with the Taylor Road Landfill. There, Waste Management, Inc. was selected by a Request for Proposal process to design, permit, construct and operate the replacement Hillsborough Heights Landfill.

Pinellas County Solid Waste Disposal Complex: Current Bridgeway Acres fill area (bottom/center-left); Future Sod Farm expansion area (center-right); I-75/CR296/Roosevelt Blvd. interchange (top-right).

In the mid 1990s, Collier County, Florida (Naples), in response to landfill capacity and expansion (and siting) issues, also decided to privatize its landfill operations. A key required provision for proposers was to guarantee a minimum of seven years of operational life, which was the county's projected life of the facility. The county was under time pressure to secure and permit an adjacent parcel for landfill expansion, with significant environmental, regulatory and nearby neighborhood opposition. At the pre-bid site tour, it was immediately obvious that with a better "cell footprint" and improved operational techniques, many more than the desired seven years of site life could be achieved. From our technical analysis, my employer, Waste Management, Inc. of Florida, was excited about the landfill site's potential, and hopeful that none of our competitors would see what we saw. A key factor would be to increase the permitted height of the fill, but not so high that it would become visible to neighbors or passersby. Through use of a video surveillance technique (which also resulted in production of a promotional video), we determined that a maximum height of just over 100 feet was appropriate.

When the county received the proposals, only Waste Management offered more site life than the minimum required. Our offer was for 27 years. This longer life allowed for a much lower per ton bid price, primarily by amortizing capital expenses over a much longer timeframe, coupled with a 27 year "life of site" contract. The substantial additional landfill life achieved removed the time pressure on the county to evaluate and plan for future disposal capacity. Waste Management operates the landfill today.

When I arrived at Pinellas County Solid Waste Operations in 1999, the landfill's life was estimated at approximately 35 years. With the county's blessing, the landfill contractor was still using a "trench-fill" base preparation design, thereby losing substantial fill capacity. The Bridgeway Acres landfill was being "high-rised", but only to a height of 90 feet—its original permitted height from initial county operations in 1983. And, at that time, the adjacent future Sod Farm disposal area was permitted to a height of only 55 feet. Again, my experience indicated to me that many more years of life were available. So, we tasked our landfill consultant, HDR Engineering, Inc., to perform a site-life study evaluating changed permit and construction parameters such as: (1) Area fill design; (2) Maximizing available foot-print (including adjacent old, closed landfills previously operated by a private firm, and other inactive fill areas; (3) Permitting an increase to the existing allowable cell height; (4) Changing cell side slopes from 4/5 to 1, to 3 to 1; and, (5) Seeking an exemption to the regulatory airport runway setback. With the implementation of the permissible changed design parameters (permitted landfill height increased to 150 feet; area-fill design used for base construction; airport setback exemption from FDEP; increased side slopes, and; maximizing use of all available property for new footprint), the new landfill site life was projected to be in excess of 75 years. I considered this singular project as likely my most important contribution to Pinellas County's solid waste system, since siting a new landfill elsewhere in Florida's most densely populated county was (and still is) viewed as impossible.

Collier County Landfill: I-75/Alligator Alley (bottom); Current fill area (center); Potential future expansion area(?) (top).

In 2012, the Collier County Landfill was permitted to a new maximum height of 200 feet, and in 2014 Pinellas County recalculated their landfill capacity to the year 2104, or about 85 more years!

For today's solid waste manager or landfill professional, avoiding the almost certain anguish of trying to site a new landfill should always be a top priority. The NIMBY syndrome can only be much worse now. Getting the maximum potential from your existing site, as both Collier and Pinellas Counties have done, is likely always the preferred option for you, and your community.

Warren Smith has been a SWANA Florida member since 1980. He can be reached at (727) 515-0006.

***Thank you to James (Jay) Standiford IV, Interim Landfill Operations Supervisor, Solid and Hazardous Waste Management Division, Collier County, Florida; and to Deb Bush, Division Manager for Public Outreach & Partnerships, Pinellas County Solid Waste for assistance in reviewing this article and providing images.*

Member News

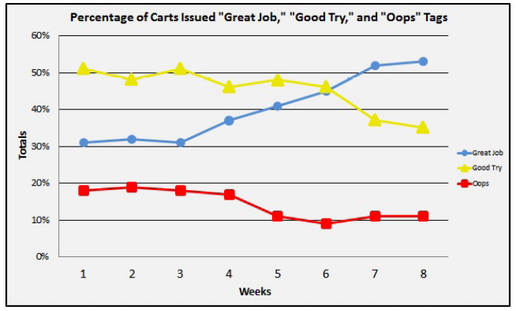
Orange County Takes Recycling Education to the Curb

Jessica Kitt, Senior Utilities Maintenance Coordinator, Orange County Utilities Solid Waste Division

Vacuum cleaners. Tree branches. Motor oil. Kitchen sinks. Leftover birthday cake. What do these items have in common? They've all been found in Orange County's 95-gallon recycling roll carts.

As with most single-stream curbside collection programs, recycling contamination has been a pressing issue in Orange County. While participation is strong, with more than 5,000 tons collected monthly, there is a lot of "wishcycling"—residents putting all kinds of items in the cart with hopes these materials can be recycled. Orange County has been encouraging recyclers to "Think 5" by placing only the top five acceptable materials into their carts—plastic, metal, and glass containers, cardboard and paper. Recycling right is promoted through quarterly newsletters, social media, television, events, and public displays but with no measurable improvement.

Drawing from the tactics of similar successful programs throughout the country, Orange County is taking recycling education to the curb to provide the more than 215,000 single-family households in the program with personalized feedback. A recycling improvement pilot study was launched over the summer to test the effectiveness of tagging carts and gather more insight into recycling habits. For eight weeks, staff lifted the lids of the same 643 carts to do a quick visual scan and attach tags ranging from "Great Job" for perfect recycling, "Good Try" for improvement needed, and "Oops" for mostly garbage or hazardous waste.



The data collected during the pilot study revealed that tagging carts could change behavior. The amount of "Great Job" tags issued for perfect recycling increased from about 30 percent to over 50 percent. "Oops" tags issued decreased about 10 percent but proved to be the most impactful tag. Eighty-two percent of households that received an "Oops" tag improved after one to two tags. On the other hand, "Good Try" tags did not have a strong impact as 43 percent of households receiving a "Good Try" tag got three or more. Furthermore, since "Good Try" was the most frequently issued tag, there were still significant volumes of contamination in each load. Households that received five or more "Oops" tags had their cart turned around for non-collection, which resulted in eight carts not being collected at least once and three not collected repeatedly. Plastic bags, film and wrap were by far the most common contaminants spotted.

To continue to educate residents and improve the quality of recycling loads, the next phase of cart tagging will have only "Great Job" and "Oops" tags, and carts will be turned around on the third rather than the fifth "Oops" tag. While Think 5 is a great way to simplify the recycling message, the action of tagging and not collecting contaminated carts is key to behavior change. Orange County plans to roll out the recycling cart tagging program countywide.

For more information, call the Solid Waste Hotline at (407) 836-6601, e-mail Solid.Waste@ocfl.net, or visit www.ocfl.net/recycles.

Anheuser-Busch Highlights Recycling Efforts

Did you know that Anheuser-Busch's Metal Container Corporation (MCC) manufactures 3 billion aluminum cans and bottles a year for beer, soda and energy drinks at their Jacksonville plant with a 99 percent recycling rate?

According to Randy Burch, Director of Operation for Anheuser-Busch, the company currently has a 99.8 percent recycling rate in its major U.S. breweries and has committed to having 100 percent of their packaging made from majority recycled content or returnable by 2025.

The company was able to highlight their recycling efforts during the recent Florida Recycling Summit at Anheuser-Busch coordinated by the Florida Recycling Partnership. The one-day event held on October 3 began at the MCC with a press conference and tour of the facility before moving to the Anheuser-Busch Jacksonville Brewery for the educational session.

During the press conference, Sen. Rob Bradley, R-Fleming Island, addressed business owners, university professors and environmental enthusiasts from around the state. "This event is about what we can do as citizens to protect our state instead of putting all of the responsibility on government officials," said Bradley. "Florida wants to continue to implement educational programs to raise awareness as we work towards 100 percent sustainability."

John Truitt, Deputy Secretary for Regulatory Program, said the Florida Department of Environmental Protection (FDEP) has a new Recycling Program that assists citizens and industry in protecting Florida's environment entitled "Rethink. Reset. Recycle." The campaign serves to remind Floridians of basic curbside recycling: clean and dry aluminum and steel cans, plastic bottles and jugs, and paper and cardboard. For more information about the campaign, visit FloridaRecycles.org. Through FDEP efforts, Florida's recycling rate has increased from 22 percent in 2011 to 52 percent in 2017.

It's easy to talk about recycling when there's a good story to tell! **Anheuser-Busch** working with @bradleyforflorida and the Florida Recycling Partnership to highlight recycling efforts statewide.

Dawn McCormick, the Director of Communications for Waste Management, the largest recycling company in North America, talked about working with the Florida Recycling Partnership, FDEP and others to educate people on what materials to recycle. So many times, people "wish-cycle" hoping an item can be recycled when it cannot. When people put the wrong items in their recycling bin, it causes the load to go to a landfill instead of a processing facility.

During the educational session at the Brewery, participants heard presentations by Kim Walker and Karen Moore from FDEP; Dr. Tim Townsend – University of Florida and the Hinkley Center for Solid and Hazardous Waste Management; Dawn McCormick – Waste Management and Gene Jones from Southern Waste Information Exchange (SWIX).

Upon conclusion of the Summit, participants had an opportunity to tour the Brewery to see firsthand how Anheuser-Busch recycles and reuses many of the materials used in its brewing process.

The Florida Recycling Partnership plans to hold additional summits and workshops across the state to educate policy makers, business leaders and the general public about the benefits of recycling.

Keyna Cory is the Executive Director for the Florida Recycling Partnership. She can be reached at keyna@flrecycling.org.

Webinar Program CONTINUES…

Florida Sunshine Chapter is a member of the SWANA Webinar Program. This allows Chapter members to attend SWANA live webinars with no out-of-pocket cost. The registration fee has already been paid for by your Chapter.

Chapter members can register themselves for SWANA Webinars online at SWANA.org. All you need is to enter the Chapter's ***NEW*** Debit Card Code at the time of registration.

Visit http://www.swanafl.org. Webinar Program information is under "Committees/Training."

Limited number of registrations available at this time.

Earn CEU's

All individuals that attend a webinar can earn continuing education units.

empower

SWANA Florida Sunshine Chapter has purchased credits/registrations in the SWANA Webinar Program for member use. To use, members need only:

- Select live webinar from SWANA's offerings.
- Register and enter Florida Chapter code listed below.

Visit https://swana.org/Education/eLearning/ChapterWebinarProgram.aspx for more information.

inspire

To allow as many members to benefit as possible:

- View the webinar in a large room and invite others from your agency to attend.
- Coordinate with other smaller agencies to host a webinar viewing. Dorothy Couch, Bridges BTC, will help with coordination: dcouch@mybridges.org, 321-494-6848.

educate

When a group views a SWANA Webinar through the Chapter Webinar Program, all attendees can receive Continuing Education Units (CEU's). To apply for CEU's:

- Provide a sign-in sheet to certification@swana.org.
- Include the webinar title and date, name of the person who registered to receive the logins, and the name and SWANA ID Number of each of the participants.

SWANA's Training Department will allocate CEU credits for SWANA Certified professionals who attended the webinar and are verified Chapter members.

NEW **Florida Chapter Webinar Program**

Debit Card Code is: FL150617

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Upcoming Events

2019 SWANA FL Safety Symposium & Chapter Road-E-O
March 21-23, 2019
Hilton St. Petersburg
Carillon Park
St. Petersburg, FL

2019 SWANA FL Summer Conference
July 28-30, 2019
Grand Hyatt Tampa Bay
Tampa, FL

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