

Solid Waste UPDATE



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Get Caught 

Galena C&D Landfill after Joplin A Short Haul on the Mother Road

by Charley Bowers, Bureau of Waste Management

U.S. Route 66, which was established in 1926, is America's Mother Road; it was our country's first major highway. It ran 2,448 miles from Chicago, Illinois to Santa Monica, California. It has since been replaced by the interstate highway system, but during the summer months the remaining portions of America's Mother Road are traveled by many tourists and vintage car buffs on nostalgia inspired road trips. From Joplin, Missouri to Galena, Kansas the distance they travel on Route 66 is about seven miles.

The short distance between Joplin and Galena was important when an EF-5 tornado struck Joplin on May 22, 2011. A major consideration in tornado recovery is debris disposal. When choosing a tornado debris

disposal site, three important considerations are proximity, proximity, and closeness. With the closest Missouri landfills over 40 miles from Joplin, it became apparent

that much of the debris would come to the closer Kansas landfills. Specifically, debris would come to Galena, where the closest landfill is located. Within two days of

tornado touchdown, tornado debris began to arrive at the Galena landfill, primarily

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BWM Studies Adequacy of Kansas Waste Reduction Efforts

by Bill Bider, Director, Bureau of Waste Management

The Kansas Legislature passed HB 2249 last session requiring KDHE to carry out a study of the adequacy of waste reduction efforts in Kansas. A report summarizing the results of the study must be submitted to the Legislature in January

2014. HB 2249 also established a new prohibition on local governments related to establishing landfill disposal restrictions for private landfills that serve waste generators outside of the city or county in which it is located. The required

study was directed in light of an action taken by Johnson county in 2010 to restrict yard waste disposal in the Deffenbaugh landfill which serves several other counties in addition to Johnson County. Johnson County claimed that the state should have banned

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Major Waste Tire Clean-Up Project Nears Completion

by Perry Piper, Bureau of Waste Management

CATSCO d.b.a. Tire Recovery was a tire processor located at 7259 Kaw Drive in Kansas City, Kansas. The facility was permitted by KDHE and began operations in 2006. CATSCO received two tire processing equipment grants from KDHE in 2007 and 2009. Due to an illness and eventual death of the owner and primary operator, the site was not properly maintained and tires and ground rubber piles continued to accumulate at the site throughout 2010 and 2011. Ultimately, the site was abandoned in 2012 by the current owner.

In August 2012, KDHE secured the site with a locked gate and tire barrier to prevent unauthorized dumping from taking place. In October 2012, a pre-bid meeting was held for bidders interested in cleaning up the site under a state contract with KDHE with a goal of recycling as much of the accumulated material as feasible. On December 20, 2012, C.S. Carey, Inc. of Kansas City, Kansas was awarded the contract.

By mid-August 2013, C.S. Carey, Inc. had recycled 1,635 tires, 14.17 tons of inner tubes, and disposed of 5,682.88 tons of waste tires in a landfill.

The expected completion date of this project is September 30, 2013. The photos to the right show the clean up of two large piles of tire shreds that has taken place.



Land-Spreading of Oil & Gas Drilling Waste

by Bill Bider, Director, Bureau of Waste Management

In 2012, the Kansas Legislature authorized land-spreading as an allowable disposal method for water-based drilling waste (cuttings and mud only). KDHE was directed to work with the Kansas Corporation Commission (KCC) to initially develop best management practices (BMPs) and an online application process to initiate land-spreading activity. KDHE was also directed to establish regulations by January 2014 that codify the online application process. The authorizing statute also establishes KCC as the administering state agency of the land-spreading program even though the applicable regulations will be adopted by KDHE.

The online application was available for use by drillers and their contractors in the fall of 2012, but no land-spreading took place until April 2013. At the time this article was prepared, only one land-spreading project had taken place in Kansas (Rice County). All other waste was managed in one of the following ways: (1) traditional disposal in on-site pits, (2) disposal in a permitted Subtitle D municipal solid waste landfill, (3) disposal in a permitted underground salt cavern in Reno County, or (4) exported to Oklahoma where the waste was land-spread. It is noteworthy that two factors probably result in a significant amount of waste export when the drilling occurs close to the Oklahoma border. First and most important is that Oklahoma has not set an upper limit on the chloride concentration in drilling waste to be land-spread as we have in Kansas (10,000 parts per million). Some land-spreading companies have argued it is not necessary to set this limit because it is possible to reduce the loading rate to avoid over-application; however, that rate was set in Kansas with input from Kansas State University agronomists to minimize the risk of impacts to agricultural land. A second reason is unfamiliarity with the Kansas land-spreading requirements compared to the Oklahoma requirements which have been in place and followed for many years.



Since horizontal drilling appears to be less than anticipated in Kansas, especially by the one company that was most interested in land-spreading (Chesapeake,) it is possible that little land-spreading will occur in Kansas. The high chloride level of much drilling waste generated in Kansas will also minimize land-spreading unless the 10,000 ppm chloride limit is eliminated or changed.

(continued on page 3)

Growth in Single-Stream Collection of Recyclables

by Rodney Ferguson and Kris Hicks, Bureau of Waste Management

Old landfill closings that came with new environmental laws helped to spur on recycling in the early 1990s in Kansas. As recycling steadily grew, several material recovery facilities were built by large waste disposal companies. Curbside recycling became a way to provide the necessary volume of recyclables for these operations to succeed. Over time, the Material Recovery Facility (or MRF) has become a very sophisticated sorting operation.

In Kansas, there is no present threat of a landfill capacity crisis; however, modern landfills can be expensive. New landfill cells can cost tens of thousands of dollars per acre to build, and the financial assurance required for post closure care adds more to that figure. Local leaders make decisions based on contract details, costs, and liabilities or landfilling compared to more extensive material recovering and processing using MRFs. This comparative review can create opportunities for curbside collection of recyclables and the use MRFs.

Kansas currently has three large MRFs including a Waste Management MRF in Shawnee County, a Deffenbaugh MRF in Johnson County, and a Waste Connections MRF in Hutchinson. Some have enough volume to handle all plastics #1-7 and they are even starting to accept what is called bulky rigid plastic such



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Land-Spreading

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It is noteworthy that the regulations will address the naturally occurring radioactive material (NORM) level in the drilling waste in addition to the chloride concentration. Even though there is little concern about NORM levels in waste generated in Kansas (based upon historical sampling results), the Kansas Attorney General's office that reviews all new regulations required KDHE to write the regulations to allow out-of-state waste to be brought in for land-spreading (per the Interstate Commerce Clause of the U.S. Constitution). KDHE has less confidence that NORM levels will be safe for all imported drilling waste; therefore, it was necessary to add provisions in the regulations to address NORM. This addition may also impact the desire of drillers to land-spread waste in Kansas. Oklahoma does not address NORM in any drilling waste which is land-spread in their state.

Galena C&D Landfill (continued from page 1)

from individuals and their hired haulers. However, the City of Galena's construction and demolition (C&D) landfill was a typical small town, one man, one front end loader, and no scales operation averaging 50 to 100 cubic yards (less than 25 tons) per day that would be overwhelmed by full-scale tornado cleanup efforts. Also, the site's permitted disposal volume was 95,000 cubic yards and the United States Army Corps of Engineers (USACE), who FEMA had tasked with debris removal, made a preliminary (over) estimate that 3,000,000 cubic yards of debris would need to be disposed.

To accept the anticipated increased waste volume, on June 7, 2011 Galena applied for a disposal without a permit (DWOP) authorization to expand their waste disposal area beyond its permitted footprint. On June 9, 2011 the Bureau of Waste Management (BWM) issued the DWOP authorization with three conditions attached. The conditions were: 1) the landfill's permit would be updated to incorporate the DWOP authorization's debris disposal area into its permitted disposal area, 2) enhanced waste screening was required to remove non-demolition wastes such as household hazardous wastes, electronic wastes and large appliances from the debris, and 3) no disposal was to take place on the flood plain along the site's periphery. Included in the enhanced waste screening process were randomly scheduled, unannounced, screening process inspections to verify that screening was being performed properly. These inspections occurred at least twice a week and were performed by an independent third party hired by Galena. Additionally, KDHE Bureau of Environmental Field Services personnel inspected the site twice weekly to check compliance with the DWOP requirements and KDHE C&D regulations.

To physically manage the debris, Galena partnered with Joplin's Jordan Disposal Services who provided the equipment and manpower to operate the expanded landfill. By mid-June Jordan Disposal Services had constructed a new landfill entrance off Route 66 and installed entrance and exit scales. When this occurred, USACE loads started arriving at the landfill and soon most of Joplin's tornado debris was arriving at Galena. At peak flow conditions over 5,000 tons of waste arrived at the landfill per day and over 250 trucks per day traveled Route 66 from Joplin to Galena. Landfill traffic and dust control were operational issues as the summer of 2011 was hot and dry, and regularly over 30 trucks would be simultaneously on site. By mid-August over 16,500 truckloads of tornado debris had been disposed into the Galena landfill and by years end approximately 210,000 tons of debris had crossed the new scales.

The City of Galena's revised landfill permit was issued in May 2012 incorporating the DWOP area into the landfill's permitted disposal area. Through 2012, as Joplin recovered and rebuilt, debris disposal slowed, but 2012's disposal into the Galena landfill was still 10 times pre-tornado tonnages. Today, while Joplin continues rebuilding, the City of Galena and Jordan Disposal Services continue their partnership. However, Route 66 is largely returned to the tourists.

Closed MSWLF Monitoring & Inspections

by Maureen Ruhlman, Bureau of Waste Management

Status Review for Active and Closed Landfills

In the February 2013 issue of Solid Waste Update, we reported that the bureau had assumed responsibility for overseeing post-closure care and groundwater monitoring at closed landfill sites in Kansas. The Bureau of Waste Management work unit specifically assigned to these monitoring activities is the Hydrogeologic Unit (Hydro Unit) which is part of the Solid Waste Permitting Section. In addition to closed landfill project oversight responsibilities, the Hydro Unit also reviews the groundwater monitoring reports for active landfills.

Currently, the population of active and closed landfills for which the Hydro Unit provides groundwater monitoring oversight is 69 and 95 respectively. While closed landfills are not typically sub-categorized by the type of accepted waste, the 69 active landfills are further delineated as follows: 18 are Municipal Solid Waste Landfills (MSWs), 33 are Small Arid Landfills (SALs), six are Construction and Demolition (C &D) Landfills, and 12 are Industrial Landfills.

As of 2013, there are 41 active landfills and 76 closed landfills with known groundwater contamination onsite. Of the aforementioned landfills, eight active landfills and 47 closed landfills have groundwater contamination that exceeds the federal Safe Drinking Water Act Maximum Contamination Level (MCL) or Kansas Risk Values. For most solid waste facilities, inspections can be expected annually; however, for both MSWs and SALs, inspections should be anticipated on a semi-annual basis.

Beneficial Use Alternatives for Closed Landfills

Most MSW landfill closures resulted when the federal Subtitle D regulations came into effect in Kansas in 1994. Those regulations mandated cell liners, leachate collection systems, and other requirements that made it no longer feasible to operate landfills in many small cities and counties. Landfills closed, transfer arrangements were made and cities, counties, and private companies were left with the ongoing costs of post-closure care.

Over the past several years, KDHE has been working with the owners and care takers of the closed landfill facilities to find beneficial uses and ease the burden of post-closure monitoring costs.

Some of the closed landfills have switched from simply mowing the landfill every year to haying and baling the cover vegetation. KDHE is currently gathering data on the possibility of allowing grazing to control the landfill cover vegetation. A grazing plan could keep vegetation at bay without the cost of mowing. Leasing the closed landfill properties for activities such as hay production and grazing could provide some additional revenue for those with the responsibility of post-closure care.

While buildings and enclosed structures are prohibited on or near closed landfills (unless appropriate methane monitoring is installed), adding open shelters and dirt mounds is allowed. Several landfills are now being utilized by city and county law enforcement as shooting ranges and a place to hone their skills. Additionally, due to lead rounds commonly used at shooting ranges, placing the range on the landfill decreases the amount of environmentally impacted land.

These are just some of the ideas for the beneficial use of a closed landfill. BWM is always open to suggestions from the facilities and works to ensure that the environment is properly monitored while also allowing local communities to benefit from these under-utilized properties. It is important to note that proposed activities on closed landfills must be approved by the BWM project manager.

If you have questions about either closed or active landfills, contact BWM staff at 786-296-1600.

Waste Reduction Effort

(continued from page 1)

yard waste disposal in municipal solid waste landfills but because they did not do so, the county believed it needed to establish their own disposal ban. The Legislature disagreed with such a county action that would impact other cities and counties, but they did agree to investigate whether statewide actions on yard waste or other recyclable materials was warranted. This led to the KDHE requirement to perform the study which could serve as a basis for future legislative action.

To begin the study, KDHE assembled information on current statewide waste management practices and made that information available to the public along with an online survey to assess public opinion about the adequacy of waste reduction practices in the state. Careful analysis of the survey results are necessary because it was an open survey, meaning anyone could participate. This could potentially bias the results if people with certain strong interests participate at a higher rate than what is representative of all Kansans. To help understand this effect, several survey questions ask participants to provide personal information that can be correlated with other answers.

KDHE is also gathering information through meetings with stakeholders, through telephone calls, and through extensive data analyses obtained through miscellaneous facility reports and permit documents.

The results of the survey will be summarized on KDHE's website by early fall. The study report taking into account all relevant information will be written in late fall or early winter and it will be made available online to the public at the same time it is submitted to the Legislature. We thank everyone who participated in our survey or provided information in other ways to help with this effort.

Single Stream Collection

(continued from page 3)

as crates, buckets, toys and lawn furniture. A significant key is having enough material to justify the cost of the recycling equipment. This is where municipal programs can help the overall efforts.

Single stream recycling is becoming more common in Kansas not only in the larger urban areas but also in many smaller communities. All MRFs have different sets of equipment to process and separate mixed recyclables. Some take glass mixed with the other recyclables, but this practice can make the material difficult to market. For instance, glass can have too many bits of paper or ceramics mixed with it, and the separated paper is often contaminated with glass shards. Some curbside programs have adapted to these problems by collecting glass at community drop-off locations.

A recent phone survey conducted by KDHE indicated that curbside in Kansas is growing. Most of the larger metro areas: Kansas City, Wichita, Salina, Hays, and Topeka have curbside recycling. Others, such as Lawrence and Eudora, plan to offer city-wide curbside recycling in the near future. Of special note is the growth in curbside recycling in several smaller cities and counties. Curbside recycling is expected to continue to grow in the coming years as waste haulers expand the services offered to their customers.

Get to Know KDHE Solid Waste Staff

Wally Mack

Environmental Scientist



Position in KDHE/BWM:	Environmental Scientist Hydrogeologic Unit, 2002 to present
Birthplace:	Madison, Wisconsin
Education:	U. of Wisconsin-Madison B.S. in Natural Resources Soil Science major
Other job experience:	KDHE/Bureau of Environmental Remediation, 1999 to 2002 US Geological Survey, 1985 to 1999
Family:	Wife, Diane
Influential persons:	Parents, family and my wife, Diane
Favorite pastime activities:	Music, genealogy, gardening, fossil hunting, Boy Scouts, and 4H
Favorite foods:	Sweet potatoes, salmon and anything with jalapenos
Book I'd recommend:	The Silmarillion by J.R.R. Tolkien, the epic tale of good vs. evil Washington's Crossing by by David Hackett Fischer
Vacation spot I'd recommend:	Canyonlands and Arches National Park, Utah
Little known fact:	Found my first shark tooth this summer in Russell County



SWANA
SOLID WASTE ASSOCIATION
of North America

SWANA & KDHE's Annual SWM Conference & Operator Training Course

On November 6-7, 2013, the SWANA Kansas "Sunflower Chapter" and KDHE will be hosting the annual SWANA/KDHE Solid Waste Management Conference and Operator Training Course. The event will be held at the Best Western Wichita North Hotel & Suites, 915 E. 53rd St. North, Park City, Kansas. Telephone: 316-832-9387.

Storm Water Management at Landfills

by Sam Sunderraj, Bureau of Waste Management

First and foremost, distinguish between storm water and leachate/contact water.

Precipitation that has contacted waste must be managed as **leachate (MSW Landfills)** or **contact water (C&D landfills)**. It must be controlled totally for rain events up to the 25-year 24-hour event. This is typically done by building berms that are large enough to contain the water that has contacted the waste in the working face. It is also



very important to minimize the quantity of water that has to be controlled as leachate/contact water. This is accomplished best by the following operational practices:

1. Keeping the working face small and compact,
2. Placing at least 12 inches of soil on the areas uphill of the working face, and
3. Diverting run-off of those uphill areas around the working face with suitable berms/terraces.

By doing this, the majority of precipitation can be managed as storm water that can be discharged off-site if the runoff flow is slowed down to pre-development conditions. The rest of the storm water should be a small amount that should be

totally contained close to the working face for management as leachate/contact water. Sizing of berms/terraces, containment ponds, and management options for leachate/contact water should be clearly noted in the site-specific Facility Operation Plan.

At other places in a landfill, **storm water** should be slowed down to minimize erosion. This is done with berms/terraces and let down structures. Alternately, erosion resistant coatings on intermediate cover soils may be an option.

Contact your landfill permit manager if you have questions about your specific site. Readers may find this newly released storm water calculator interesting - <http://www.epa.gov/nrmrl/wswrd/wq/models/swc/>.



Storm Water Management at Processing Facilities

by Shelley Schupp, Bureau of Waste Management

Solid waste processing laws and regulations do not specifically address storm water management requirements, but a solid waste processing “facility shall not cause a discharge of pollutants into waters of the state, in accordance with KSA 65-164.” For practical purposes, storm water management criteria are based on the type of waste processed and its corresponding regulations.

The best alternative for storing materials at solid waste processing facilities is to store the material so it is not exposed to precipitation or storm water. This can be accomplished by storing materials within buildings, providing cover over the materials, or storing in containers with a lid. For containers that do not have a lid, the facility owner must ensure that the containers do not leak or will not overflow. Most solid waste processing facilities do not store unprocessed or processed materials outside because of the nature of their business (e.g. transfer stations, e-waste recycling, reclamation facilities, medical waste processing, industrial waste-water processing, HHWs, and incinerators).

With the exception of composting, solid waste processing facilities that process outside are typically construction and demolition (C&D) recycling facilities. C&D processors often sort out wood, shingles, metal, rock, and cardboard from roll-off containers of C&D waste. Storm water runoff from the waste storage and processing areas is considered contact water and must be managed as such. Contact water management regulations found within the C/D landfill regulations KAR 28-29-304(e) are considered relevant to C&D processing facilities for the same reasons this potentially contaminated water must be controlled at landfills.

Requirements for storm water management from composting facilities depend upon the material to be composted. For manure composting, the concentrated animal feeding operations (CAFO) storm water management requirements are applicable. For food waste composting (or other putrescible composting materials), the contact water is considered leachate and must be managed per municipal solid waste landfill requirements (KAR 28-29-108(j)). For yard waste composting, the storm water runoff will not be considered contact water nor leachate, but still must be managed so it does not cause pollution into waters of the state.

For all facilities that process waste outside, storm water run-on shall be prevented. In general, the facility owner should coordinate with the KDHE Bureau of Water to determine NPDES requirements for any storm water that does discharge from the facility.

KOR/BWM Partnership to Sponsor WORKS!

by Rodney Ferguson, Bureau of Waste Management

Each year, the WORKS! Conference provides important opportunities to discuss and learn about waste reduction, recycling, HHW and composting in Kansas. We are excited to announce a new partnership with the Kansas Organization of Recyclers (KOR) to join forces on this annual event.

The benefits of this merger will provide tremendous opportunities, including:

- Attract exciting speakers from Kansas and across the nation
- Continued focus on areas that matter: recycling, composting, household hazardous waste, energy and more
- Expanded opportunities for education, training and information sessions
- Allow organizations to save money on travel and fees by merging the KOR and WORKS! annual conferences into a larger, more exciting event
- Expands opportunities with distributors, manufacturers, suppliers and other industry partners

What stays the same?

- Continued involvement from KDHE BWM staff, providing input, information, training and being available to work with stakeholders as we assist KOR in their management of this event
- Exciting keynote speakers and breakout sessions focusing on topical issues
- Thriving exhibit hall, providing handouts and information
- Tours and hands-on opportunities
- HHW and compost training and education
- Annual awards from KDHE BWM and KOR, honoring those in the industry.
- Input on topics and sessions from the KOR membership.

What changes?

- Expanded opportunities for demonstrations and hands-on training
- Additional social events, allowing for more interaction among attendees
- New opportunities for manufacturers, suppliers, distributors and other industry partners to participate in conference events

This is a bold new step with KOR and BWM as active partners in the planning, development and design of this conference. This merger is not KOR giving up its conference in favor of the KDHE BWM efforts, but instead an opportunity for KOR to expand its efforts and ensure we continue to make this conference a premier event.

March 25 -27, 2014 in Topeka will mark the 20th anniversary of this event and hope you will be able to join us!



Tonnage Fee Audits at Landfills

by Christine Mennicke, Bureau of Waste Management

The Bureau of Waste Management (BWM) conducts audits at solid waste facilities that pay the state solid waste tonnage fee. The purpose of an audit is to determine if the facility is complying with the state of Kansas statutes and regulations concerning solid waste tonnage reporting and fee payment.

The facility being audited is usually notified four to seven days before the audit and told which reporting periods will be reviewed. This ensures that solid waste facility staff responsible for the tonnage reports will be present and that the required records will be available. The facility is asked to provide all records (scale tickets, logs, spreadsheets, etc.) that were used to calculate the tonnage reports and fee payments for the reporting periods being audited.

During the audit, the BWM staff member asks a series of questions about the facility's methods and procedures. Then the facility's records are inspected and compared to the tonnage report submitted to BWM for that period. The person conducting the audit checks to see if the amounts of waste and the types of waste were reported correctly and, if necessary, provides explanations and suggestions to help the facility improve its recordkeeping and reporting.

If it is determined that the facility has underpaid the tonnage fee, the additional amount must be submitted to BWM; if the facility has overpaid the tonnage fee, the facility will have a credit which will be used to reduce the amount of subsequent tonnage fee payments. Depending on the type and magnitude of any problems found during the audit, BWM may issue a notice of violation and/or require a facility correct tonnage reports for the previous three years.

The most common problems found during tonnage audits are addition errors and inclusion on the tonnage report of waste that was recycled rather than landfilled. C&D facilities often are not aware of all the wastes that are exempt from the tonnage fee.

Ten to twelve audits are conducted each year and facilities of different types and sizes are chosen from across the state. To date, BWM has conducted tonnage audits at 72 facilities.

More information about tonnage reporting and fee payment can be found on the BWM website at http://www.kdheks.gov/waste/about_swtonnagereporting.html.

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Calendar Items

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| Nov 6-7 | SWANA/KDHE Solid Waste Management Conference and Operator Training Course - Park City, KS |
| Mar 25-27 | 2014 WORKS! Conference
Topeka, KS |



Solid Waste Update

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