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A landfill where the wildebeest roams

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On a cool, rainy day, “Rowdy” the rhinoceros isn’t about to come out of his heated-floor pen. But the kangaroos are hopping, the antelope and oryx are grazing, and as Texas Disposal Systems’ recycling director Paul Gregory steers his Chevy Suburban over damp gravel, a camel trots to keep pace, lips flapping in the wind.

For Creedmoor, Texas, population 221, this incongruous combination of landfill and exotic game ranch, with its stock of globally curated species and rustic ranch-style pavilion to delight nearby Austin’s glitterati, is just the icing on the wedding cake. Which is how Gregory describes tiers of trash and clay that will, by the time they’re capped, essentially be three mountains of garbage, 62 feet deep and 60 feet high.

Whatever controversy there was some 25 years ago when Gregory’s father, Bob, and uncle, Jim, got the permit for this site 15 miles south of Austin is now distant memory, even as the facility takes in 3,000 tons of trash a day.

The privately owned landfill is now Creedmoor’s largest taxpayer, largest employer, and purportedly best industrial neighbor. When the holidays roll around, the company gives every nearby family a Christmas tree and a ham. The landfill staff even tend to the once-neglected adjacent cemetery where Jacob T. Wilhite, founder of



Sable antelope graze in a fenced field at Texas Disposal Systems’ landfill in Creedmoor just south of Austin. TDS’ exotic game farm was an alternative to a golf course or a ball field in the landfill’s required buffer zone, as nearby property owners feared either would raise their property values and taxes.



Shoppers look through items in the resale area at Texas Disposal Systems’ landfill in Creedmoor just south of Austin. The facility takes in a lot of barely used exercise equipment.

the Texas Health Department and still Creedmoor's most famous citizen, is buried.

Soils are key when you're in the landfill business, and Gregory compared the consistency of the clay under Creedmoor to hand-milled soap, ideal for building a landfill that won't seep contaminants into the environment.

Over time, it became a full-fledged exotic animal breeding operation that hauls trash for more than 120 home owners associations and municipalities, including Austin, San Antonio, and San Marcos.

The landfill also composts food waste from the Alamo Heights Independent School District as well as about 130 schools in the Austin Independent School District. It recently completed a San Antonio River Authority composting facility, potentially a 50-year contract involving 54 acres of property.

It's a competitive market, and the fisticuffs have come out in legal battles over contracts and municipal recycling revenue that as of late hasn't materialized. But Texas Disposal Systems can tout its vast facility as one of the industry's top-rated landfills.

Landfills, most of which are now privately run, are a \$52 billion-a-year business. The Creedmoor facility is an example of how they have evolved over the years from smelly, open-air dumps to picturesque green spaces that recycle more of their trash than they bury in the ground.

The TDS landfill recycles about 25 tons, the size of two whales, per hour. It's part of a national industry that in 2014 turned 135 million metric tons of trash into resellable commodities, like aluminum sheets, with a market value of about \$80 billion. Two decades ago there were about 500 curbside recycling programs. Now there are about 10,000.



A pile of paper and plastic to be sorted at Texas Disposal Systems' \$17 million materials recycling facility on the site of their landfill in Creedmoor, just south of Austin.

While there may not be another landfill in the U.S. that's host to wildebeest and buffalo like the Creedmoor facility, there's a growing trend to beautify old and active landfills with gardens, playgrounds, and walking paths.

Mount Trashmore Park in Virginia Beach, Virginia, is a former landfill that's been transformed into a 165-acre expanse of lakes, paths, and picnic grounds as well as a skate park. The Tiff Nature Preserve in Buffalo, New York, is a 264-acre former landfill that's now an oasis of trees, wildflowers, and marshland fauna that can be rented for weddings.

Des Moines, Iowa's, Metro Waste Authority hosts students for tours of its landfill, which has about 800 acres that are farmed and 500 acres of prairie, woods and wetlands. Here in San Antonio, Republic Services Inc.'s Tessman Road Landfill's green-colored solar energy cover was a first-of-its kind way of using a landfill cap in 2009, as well as a biogas-to-energy system beneath it, to generate electricity.

“If you really think about the evolution of waste management, we’re kind of coming full circle,” said Anastasia Welch, vice president and project director at Long Beach, California-based SCS Engineers, an environmental consulting and construction firm. “In the olden days, kind of really before a lot of the development took off in the 1900s, there was separation, there was reusing. And a lot of things that are happening now.”

Environmental protections

Many of the changes were spurred by the increase in trash volume due to the explosion of fast food and packaged goods as well as the environmental awareness brought by the 1970s Love Canal toxic waste disaster, which prompted President Jimmy Carter to sign the Superfund environmental cleanup bill into law.

The new laws required landfills to protect the environment more by lining the bottoms to keep toxic waste from seeping into nearby groundwater as well as other measures to ensure our trash didn’t become a public health hazard.

Recycling trash used to be profitable, as developing nations like India and China sought out the cheaper materials and consumers willingly provided free raw materials, allowing businesses like Texas Disposal to take the maintenance of landfills to a high art.

But recycling is all about the global commodities market, and with commodity prices so low right now and the U.S. dollar so high, the export market has suffered. The volume of high-value paper recyclables has also fallen by 18 million tons since the turn of the millennium as more people go digital and use less paper, making operations like the Gregories’ anomalies.

Houston-based Waste Management, the North America’s largest solid waste and recycling company, has closed or sold off dozens of its recycling facilities during the past few years. During its fourth quarter 2015 earnings report, the company noted that prices for recycled products tumbled 18.6 percent from the same three-month period the year before.

For shareholders, the good news was that even if recycling was down the company was making money just taking in the trash.

“We are encouraged by the positive momentum we are seeing in these volumes and expect them to continue throughout 2016,” Waste Management CEO David Steiner told investors.

The Austin City Council adopted a “zero waste” plan in 2011. The goal is to reduce the amount of trash sent to landfills to 10 percent or less by 2040. Texas Disposal Systems handles about half of Austin’s recyclables, but the company lost \$2.7 million on the contract over the past two years because the market has been paying less for recyclables than it costs to process them, according to an Austin-American Statesman report.

Some communities have stopped recycling low-priced commodities altogether. Houston plans to eliminate glass from its curbside recycling program as part of its two-year contract with Waste Management, city officials said in March. Houston Mayor Sylvester Turner said the deal would lower processing costs while keeping Waste Management from having to lay off local employees.

Don Smith, Waste Management's area vice president, at the time called glass a "negative-value commodity."

"Removing glass from the recycle stream was a painful decision but allowed the city to keep the interests of the residents of the city of Houston front and center as they worked with us to find a solution to the city's recycling needs," Smith said in a news release.

Careless consumers

The drop in commodity prices meant the industry was having to make some difficult decisions, said Sharon Kneiss, CEO and president of the National Waste and Recycling Association.

"There are some challenges with recycling and our overall objective is to make recycling sustainable," she said. "It is a commodity business and the prices have been down for over two years now. Some of this is due to lower demand for exports from countries like China and India. Some of it is due to the price of oil, quite frankly, because now we're competing with much lower prices for plastics."

Plastics are affected by oil prices because they are a petroleum product, manufactured from hydrocarbon gas liquids, a byproduct of petroleum refining, and natural gas.

The plastics going into the waste stream meanwhile are thinner and carry less value, she said.

"Recycling has traditionally been counted by weight, and this is kind of disrupted by the lightweighting. So we really need to think how we account for recyclables," Kneiss said.

The goal now may be for recyclers and customers to figure out how to make sure the customers, in many cases municipalities, can pay for the recycling while sharing the risks and rewards as commodities prices fluctuate, she said.

Joshua Reno, an anthropology professor at Binghamton University who wrote the book "Waste Away: Working and Living with a North American Landfill," said the trend toward larger, corporate owned landfills has largely been driven by federal regulations that made it more expensive to deal with trash and has distanced most Americans from decision making about their waste.

The Resource Conservation Recovery Act, which passed in the 1970s, required landfills to be lined and have systems to deal with gas release and leachate, the liquid that drains through the landfill.

"In part, the corporate consolidation happens because you need more money, more capital, and more land," Reno said. And consequently landfills get bigger to pay for the cost of meeting those regulations."

To research the book, Reno worked at a privately owned landfill in Michigan. He said one big takeaway was how sophisticated the modern landfill was, a big departure from the deeply ingrained image of the garbage business as a haven for corruption and organized crime.

"We can bemoan what we don't like about the big waste companies and there's things we should criticize them for," he said, "but what we had before wasn't so great."

Things that may be lost by the corporatization of waste include the awareness that came with the old-time local dump and the kind of innovation that might come from a more scrappy mom-and-pop operation, he said.

“When you get big companies acquiring lots of sites they’re all run by directive, with the profit motive in theory, but they are trying to reduce risk, and they’re trying to reduce their bottom line.”

David Biderman, CEO of the Solid Waste Association of North America, said a lot of the problem came down to consumers putting too many things in their recycling bins. Sorting through people’s junk drove costs up.

“I was in New York City’s Penn Station a few weeks ago on a Sunday coming back from Washington, and as is my habit I looked in the recycling bin,” he said. “And there was all sorts of stuff in there. And it bothers me because the city of New York and Amtrak have set up this system to divert as much paper, plastic, metal and glass as possible and the people traveling through Penn Station are putting regular stuff in there.”

TDS innovations

The Texas Disposal Systems’ landfill was the first one in the state that had a fully integrated recycling and composting permit. Among the property’s 13 spin-off waste-related businesses: a tree farm, composting operation and chain of garden shops, artists’ workshop for recycled metals, and resale operation that has been dubbed “Austin’s best unadvertised garage sale.”

The same homeowners who feared a landfill in their backyard would sink their property values feared a golf course or ball field — typical amenities for the required landfill buffer zone — would raise those values too much and increase property taxes. A game farm made for a nice compromise. It’s also allowed the Gregories to claim an agricultural tax exemption.

The key is keeping as much as the trash as they can out of the landfill, Paul Gregory said, with hopes the 2,000-acre contiguous property will be operational for another 75 to 100 years.

“My dad and uncle’s opinion was they make no money burying trash,” he said. “Burying trash is a cost. They make their money charging at the gate. So where they can divert material streams from landfill disposal, it not only prolongs the life of the landfill and saves air space in the landfill, but it also keeps out materials that shouldn’t go in the landfill. Like organics and recyclables.”

Bob and Jim Gregory grew up helping their father, James, with his San Angelo-based scrap metal business, Acme Iron and Metal. They started Texas Disposal Systems in 1978 with a single roll-up truck and in 1984 purchased Acme, which they still operate.

By the late 1980s, they were tired of paying dumps to take in what they hauled from around West Texas and Austin, which was already generating a lot of recyclable computer parts.

“We announced we were going to control our own destiny so to speak,” Paul Gregory said. “Because other landfills can manipulate landfill rates.”

He said that they have thrived thanks to their innovative re-use and resale of other people’s trash.

“We privately own this landfill. So where most landfill owners are publicly traded companies that have to report quarterly earnings, we have a much more longer-term view in terms of the site being developed in preservation on landfill space,” he said.

Their tours start at the gatehouse, alongside of which is a resale shop where you can buy everything from exercise machines and gold clubs to yes, the pre-renovation kitchen sink.

There are piles of mulch and composting food waste that literally steam with microbes breaking it into soils; Gregory described it as a “your compost pile in your yard on steroids.”

The soils will be sold by grade at Garden-ville, an organic farming specialty shop a division of Texas Disposal Systems acquired in 2000. There are so far seven Garden-ville shops in the region; an eighth is scheduled to open within the next few weeks.

There are piles of tire chips that can be burned as fuel like coal. Piles of glass are ground so fine you can walk barefoot on them; the glittering material is becoming popular as an alternative ground cover.

There’s a 12-bay shop to maintain the company’s 250 trucks, all emblazoned with animal pictures. The fuel island dispenses \$15,000 in diesel every day.

The 9 million cubic yards of dirt that was dug out to accommodate the trash was used to level out another part of the property for a manufacturing park.

The \$17 million materials recycling facility, or MRF, is a 106,000 square-foot building that processes 65,000 tons of recyclables of each year, with workers and automated processes separating out wine and beer bottles by color, metals by type and grade. Bales of aluminum, paper and crushed glass lined the outside of the facility. Few landfills have such a facility on site.

“It looks like we’re full of bales because the markets are down right now,” Gregory said. “So we sit on material when it’s down and sell in peaks. ... Most others don’t have the land. It’s just a competitive advantage we have over others.”

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Reticulated giraffes observe visitors at Texas Disposal Systems' landfill in Creedmoor just south of Austin.



A bale of aluminum cans at Texas Disposal Systems' materials recovery facility, or MRF, on the site of their landfill in Creedmoor. It's unusual for a landfill to also host a MRF, but it allows TDS owners to hold onto metal and other recyclables until commodities prices rise.



Bales of waste products in a warehouse at Texas Disposal Systems' landfill in Creedmoor just south of Austin. The recycling industry has been suffering the effects of low commodity prices.



A bale of aluminum cans, left, and a bale of paper products at Texas Disposal Systems materials recovery facility, or MRF, on the site of the company's landfill in Creedmoor. Volumes of paper, a high-value recycling commodity, have decreased dramatically over the past 15 years.



A forklift operator moves bales of cardboard, left, next to bales of aluminum cans at Texas Disposal Systems' materials recovery facility on the site of the company's landfill in Creedmoor. "It looks like we're full of bales because the markets are down right now," said Paul Gregory, TDS' director of recycling and organics.



Broken up and tumbled glass at Texas Disposal Systems' landfill in Creedmoor just south of Austin. While many large recyclers see glass as a "negative value" commodity, TDS is marketing the smoothed glass chips to landscapers.



A baler operator lifts light-gauge ferrous materials into a baler at Texas Disposal Systems' landfill in Creedmoor just south of Austin. TDS' focus has been on diversion, and they've spun off 13 businesses from their landfill operation.



Art sculpture produced from scrap metal decorates the entrance to Texas Disposal Systems' offices on the site of their landfill in Creedmoor just south of Austin. TDS has had a staff artist and maintains a workshop to create items to sell at their chain of Garden-Ville stores.



Steam rises from rows of organic compost as they "cook" at Texas Disposal Systems' landfill in Creedmoor just south of Austin. Food waste composting is said to be the next frontier in waste diversion, as the 31 percent of the nation's food supply that is wasted ends up contributing to landfills' methane gas emissions.



Rowdy, a White rhinoceros at Texas Disposal Systems' landfill in Creedmoor, gets a visit from Paul Gregory, the landfill's director of recycling and organics.



A group of Scimitar-horned oryx in a fenced field at Texas Disposal Systems' landfill in Creedmoor just south of Austin. The company's mounded landfill is seen in the background.



An ostrich, right, stands next to a small tree in a fenced field at Texas Disposal Systems' landfill in Creedmoor as trucks in the background unload trash.



A Dama gazelle watches visitors at Texas Disposal Systems' landfill in Creedmoor just south of Austin. The company's mounded landfill is seen in the background.



An ostrich, right, is seen in a fenced field at Texas Disposal Systems' landfill in Creedmoor just south of Austin, as heavy equipment pushes garbage in the company's landfill.



Garbage trucks from Texas Disposal Systems' landfill in Creedmoor, are decorated with photographs of exotic animals that live on the landfill's footprint.



A pile of tires are ready to be shredded at Texas Disposal Systems' landfill in Creedmoor just south of Austin.



Mulch is produced at Texas Disposal Systems' landfill in Creedmoor just south of Austin.



Dromedary camels are among the many exotic animals living at Texas Disposal Systems' landfill in Creedmoor just south of Austin.



Joe Martinez, a Garden-Ville product assembler, works on candle and flower holders at Texas Disposal Systems' landfill in Creedmoor.



This large lion is made of some of the scrap metal collected at Texas Disposal Systems' landfill in Creedmoor.



Detail of a bale of tin cans at Texas Disposal Systems' landfill in Creedmoor.



Cardboard and paper waste is pushed to a conveyor belt for sorting at Texas Disposal Systems' \$17 million materials recovery facility at their landfill in Creedmoor just south of Austin. TDS takes in waste from more than 90 homeowners associations and ci



A large vehicle is dwarfed by the piles of waste to be sorted for recycling at Texas Disposal Systems' materials recovery facility at their landfill in Creedmoor.



Workers sort through cardboard and paper waste at Texas Disposal Systems' materials recovery facility in Creedmoor just south of Austin.