**Cochise County**
**Solid Waste Department**

***Public Programs...Personal Service***
www.cochise.az.gov

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## COCHISE COUNTY SOLID WASTE OPERATIONAL EFFICIENCY UPDATE—MAY 2016

The following is the executive summary of the CEC report that was completed in May 2014. Following the executive summary, Solid Waste has provided an update to all the CEC recommendations to date, as well as other considerations and practices we have implemented on our own in order to increase efficiencies, reduce cost, plan for the future and anticipate, plan for and react quickly when necessary to market forces for the benefit of the system and its members.

*EXECUTIVE SUMMARY*

*Civil and Environmental Consultants Inc., (CEC) was contracted by Cochise County (County) to perform a Solid Waste (SW) System Operational Efficiency and Rate Review Analysis. CEC's approach to operational efficiency reviews seeks to balance operational efficiency with regulatory requirements and industry standards.*

*CEC's comprehensive evaluation of the County landfill, transfer stations and community convenience stations (rural transfer stations) resulted in this report which represents a potential pathway to the future that will assist the County in stabilizing costs, realizing the financial benefits of operational efficiencies and continue to perform the waste management services they currently perform for their citizens. The current complex Solid Waste System manages many different aspects of transportation and disposal of all solid waste generated in the county and involves:*

- *An active solid waste landfill.*
- *5 Urban transfer stations.*
- *10 Rural transfer stations.*
- *A closed landfill requiring post closure care and maintenance.*
- *Recycling activities at all 5 Urban and all 10 Rural transfer stations.*
- *Recycling activities at the Western Regional Landfill (WRL).*
- *A fleet of over-the-road transport equipment.*
- *A fleet of off-highway heavy equipment stationed at various SW locations.*

*The age of these various assets combined with the evolution of the waste flow over the last 15 years has prompted this review to look at efficiencies in the system and establish the way to proceed in the future. This document focuses on establishing those efficiencies that impact costs and provide the financial sustenance to continue managing this complex system of services.*

*An overview of CEC's recommendations associated with the major financial drivers of the system are included in this executive summary and include:*

- *Implement a structured density monitoring program that would incude verification through survey of the actual achieved density for the monitoring period. This information would be used as a*

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*performance metric for the operations staff and will provide a basis to make updates to the CPC (Closure/Post Closure) and site development reserve funds for the future;*

- *Implement a detailed soil tracking program to monitor the use of soil for daily and intermediate cover. Soil use has a significant impact on in-place waste density and on regulatory compliance. Aggressively monitoring the quantity of use will result in cost savings for the county while maintaining compliance with state regulations;*
- *Revisions to the maintenance system that track and charge equipment fuel and use rates;*
- *Implement suggested production modifications to the equipment configuration at the WRL and transfer station system;*
- *Detailed evaluation of the capital equipment replacement and reserve spending schedule;*
- *File a permit amendment to modify the cell liner and closure cap profile;*
- *Establish a schedule to update the aging Urban transfer stations to an open top trailer operation;*
- *Establish a long-term plan and evaluation study on the future recycling activities that the county wishes to include in its solid waste system approach.*

*CEC's approach to this pathway involves;*

- *Review of the current operations and the resulting financial outcome as it exists today;*
- *A detailed review of operating practices that impact compliance, operational efficiency and financial results that drive the end-user rate per ton;*
- *Establish an asset replacement schedule that provides the operational efficiencies and the cost of achieving the efficiencies within the financial resources of the system;*
- *Create an anticipated financial picture and pathway to accomplish the goals of sustainability and control of the rates it takes to accomplish the plan;*

**REPORT RECOMMENDATIONS AND COUNTY RESPONSE**

**Recommendation 1:** Implement a structured density monitoring program that would incude verification through survey of the actual achieved density for the monitoring period. This information would be used as a performance metric for the operations staff and will provide a basis to make updates to the CPC (Closure/Post Closure) and site development reserve funds for the future;

**1A. Response:** We have implemented a program of bi-weekly field surveys. We track total daily incoming tonnage and the daily filled area after compaction. This gives density. We are tracking at about 900 lb/cu yd. This compares well with expected densities possible in the arid west of 1000 lb/ cu yd. We are using this to update CPC & site development reserve funds. Because of the improvements in density, we have decreased contributions from $265,000/year to $196,846/year for an annual savings of $68,154. If we can continue to justify this amount (or less if we can improve density even more) we are projected to save about $4 million over the rest of the life of the landfill. An issue that hurts our density numbers that we have tried to solve is mattresses: We average about 100 mattresses a week. We have priced a mattress shredder and found it cost prohibitive. It might be possible to work a cooperative program whereby several regional landfills share a shredder, but we haven't had time to thoroughly evaluate this idea. We also tried to develop a program to donate at least the better mattresses, but have not made this work yet either.

**Recommendation 2:** Implement a detailed soil tracking program to monitor the use of soil for daily and intermediate cover. Soil use has a significant impact on in-place waste density and on regulatory

compliance. Aggressively monitoring the quantity of use will result in cost savings for the county while maintaining compliance with state regulations;

**2A. Response:** We use alternate daily cover (Posi-shell) except on Saturday when dirt is used (as required by our permit). The dirt cover is removed on Monday prior to adding new material. We have researched and are recommending a tarping system for daily cover. This is projected to save $132,000 over 10 years compared to our current methods. This analysis includes replacement cost in 10 years plus cost of tarps and repair for the 10 year period. The system pays for itself in the second year.

**Recommendation 3:** Revisions to the maintenance system that track and charge equipment fuel and use rates. The report stated that fuel use rates were too high and the machine use rates not consistent or justifiable based on industry standards, but that the vehicle maintenance system was efficient and cost effective.

**3A Response**: The Fleet services department has been working to bring these values in line. This is an area of operations that Solid Waste does not have direct control over.

**Recommendation 4:** Implement suggested production modifications to the equipment configuration at the WRL and transfer station system;

**4A Response:** The report made several recommendations regarding Sierra Vista's schedule of trash and recycling pick up and it's affect on our ability to process waste at the SV transfer station. We have added hours to our staff schedules to address these concerns. Use of inmates continues to be a challenge and we continue to look for ways to obtain reliable labor at a reasonable cost for labor-intense operations (like recycling sorting, mattress deconstructing etc.).
The report states that trailer availability at transfer stations is critical to efficient operation and we absolutely agree. The report recommends and we agree that we need one or two more trailers at the busier transfer stations (Sierra Vista, Douglas).
We are leveraging military surplus equipment as backup and to reduce costs of using available equipment for tasks they are not intended for.
We have upgraded our weight tracking software. We still have technology challenges especially at the Rural transfer stations, where we have almost no utility service.
Free Dump Day needs to be revamped in our opinion. It is a huge logistical problem and loss of revenue for the cost incurred. If it is necessary to keep it in some form, we would like to see a voucher system that could be used to give one free dump day per year to individuals. The logistics would need to be thought out, but even perhaps a free dump day (up to a certain weight limit) on your birthday—or within one week of it.
The report recommended equipment changes at the landfill, specifically regarding our D-8 and scraper. Staff disagree with those recommendations because of the caliche we have to rip through. Also the scraper allows us to move dirt very short distances and pre-excavate the next cell which will reduce construction costs for the next cell. We'll be getting an estimate of what that savings is expected to be for cell four shortly.

**Recommendation 5:** Detailed evaluation of the capital equipment replacement and reserve spending schedule;

**5A Response:** We are working with Fleet Services to become more involved in capital equipment decisions. We carefully scrutinize needed replacements and are contributing into a replacement fund for our basic equipment. We also need to get some equipment that is not now on a replacement schedule into a schedule and begin contributing for replacement. We also must start contributing to replacement of transfer stations.

**Recommendation 6:** File a permit amendment to modify the cell liner and closure cap profile;

**6A. Response:** Done and approved by ADEQ at an estimated savings of over $1.8 million in cell construction costs over future cell development (cells 4-12).

**Recommendation 7:** Establish a schedule to update the aging Urban transfer stations to an open top trailer operation;

**7A. Response:** A decision has not been made to proceed to change to open top trailer operation. We believe the estimate for changing over might be overly conservative and should be re-evaluated. We are also evaluating how electricity usage would be reduced with an open top system, as well as the ongoing costs of repairs and attempts to refurbish compactor systems that there are no parts available for any longer. The initial capital cost estimate stopped the conversation. A closer look that included payback period and all other savings needs to be done. It might be feasible to institute a pilot open-top project at one Urban transfer station to get a better handle on costs and benefits to switching systems. The in-house refurbishing of Sierra Vista and Douglas will be monitored to determine the long term viability of that approach. But it seems clear that in the long run, open-top is what we should be doing.

**Recommendation 8:** Establish a long-term plan and evaluation study on the future recycling activities that the county wishes to include in it solid waste system approach.

**8A Response:** Recycling is a program that on the surface is a good thing. Even when prices for recyclables was good, it has been a challenge to make profitable. Now with only one recycler buying materials in Tucson, the challenge is even greater. We recently did away with an inmate crew (and their guard on overtime) for Friday and Saturday in Sierra Vista. At the time this move saved us over $20,000 a year. However since that time prices have fallen yet again and a new weak link has appeared. This is the quality of the mixed recycling we take up to the buyer in Tucson (ReCommunity is the only one left. Waste Management closed their recycling purchasing program a month a go on very short notice). The non-recyclables that are mixed in (residue) are substantially reducing the price/ton that we are receiving. It also appears that the amount of non recyclables included in the amounts we get is increasing. This either increases our costs (in order to clean them out prior to taking up to Tucson so that we can get a higher price) or reduces our revenue. After seeing a profit in March (from eliminating the inmate crew and guard), we are in the red in April due to non-recyclables in the stream. We will need to add a special handling charge (already in our approved fee schedule) or get the members to institute better measures to insure a cleaner recycling stream delivered to us.

**SOLID WASTE RECOMMENDATIONS:**

- Plan for a pilot open-top project at one of the transfer stations in order to fully test implementation costs and cost savings. It is feasible to test at one station since we can easily convert enough trailers to service one station. Track costs and savings for 6 months to one year and report back.
- Keep pursuing all ideas that will reduce costs and/or increase revenues. (Recycling, density, permitting and construction costs, etc.)
- Budget for repair/replacement of transfer stations each year and get other necessary equipment on a replacement schedule.
- Tighten up equipment and fuel charges.
- Produce and deliver a semi-annual report to the RRAB.
- Raise tipping fee to $64.00 July 1, 2016. With the assumptions made on revenues and costs, this will put the system in balance, allow for substantial contribution to transfer station replacement/repair in FY 2017 and negate the need for substantial rate increases until 2020. The rate increase estimated for 2020 will be necessary in order to have adequate funding to design and construct the next cell in 2022.