CITY CLERK'S OFFICE
DATE 9/15/14 TIME 12:02pm
RECEIVED BY Adam Schlachter
RECEIVED BY

AGENDA

REGULAR MEETING

SANTA FE SOLID WASTE MANAGEMENT AGENCY
SOLID WASTE ADVISORY COMMITTEE (SWAC)
MEETING #12

SEPTEMBER 18, 2014
1:30 P.M.
CITY COUNCIL CHAMBERS
SANTA FE CITY HALL
200 LINCOLN AVENUE
SANTA FE, NM

I. Call to Order

II. Roll Call

III. Approval of Agenda

IV. Approval of Minutes for Meeting #11 – July 31, 2014

V. Matters from the Public

VI. Presentations

(A) Presentation, Discussion and Possible Action Regarding the Agency and Systemwide Sections of the Solid Waste Assessment and Management Study (Dave Yanke - Leidos/NewGen Strategies & Solutions).

(B) Caja del Rio Landfill Presentation (Randall Kippenbrock – SFSWMA).

(C) Discussion with Possible Action Regarding the SWAC At-Large Members (Adam Schlachter – SFSWMA).

(D) Update on 2014/2015 Amnesty Day Calendar at BuRRT (Adam Schlachter – SFSWMA).

VII. Matters from the Committee

VIII. Next Meeting Date

X. Adjournment

Anyone needing further information or requiring special needs for the disabled should contact Adam Schlachter at (505) 424-1850, extension 420.

SOLID WASTE ADVISORY COMMITTEE MEETING #12
OF THE
SANTA FE SOLID WASTE MANAGEMENT AGENCY
September 18, 2014

ITEM	*ACTION*	*PAGE*
CALL TO ORDER AND ROLL CALL	No Quorum	1-2
APPROVAL OF THE AGENDA	No action	2
APPROVAL OF MINUTES FOR MEETING #11 JULY 31, 2014	No action	2
MATTERS FROM THE PUBLIC	None	
PRESENTATIONS		
PRESENTATION, DISCUSSION AND POSSIBLE ACTION REGARDING THE AGENCY AND SYSTEMWIDE SECTIONS OF THE SOLID WASTE ASSESSMENT AND MANAGEMENT STUDY (DAVE YANKE – LEIDOS/NEWGEN STRATEGIES & SOLUTIONS)	Information/discussion	2-12
CAJA DEL RIO LANDFILL PRESENTATION	Information/discussion	12
DISCUSSION WITH POSSIBLE ACTION REGARDING THE SWAC AT-LARGE MEMBERS	Discussion/No action	12
UPDATE ON 2014/2015 AMNESTY DAY CALENDAR AT BuRRT	Information/discussion	12-13
MATTERS FROM THE COMMITTEE	Information/discussion	13-14
NEXT MEETING DATE: November 19, 2014		15
ADJOURNMENT		15

MINUTES OF THE MEETING
SOLID WASTE ADVISORY COMMITTEE MEETING #12
OF THE
SANTA FE SOLID WASTE MANAGEMENT AGENCY
City Council Chambers
September 18, 2014

I. CALL TO ORDER

A meeting of the Solid Waste Advisory Committee of the Santa Fe Solid Waste Management Agency, for the Comprehensive Solid Waste Management Plan, was called to order by Vice-Chair Tim Gray, on Thursday, September 18, 2014, at approximately 1:30 p.m., in the City Council Chambers, 200 Lincoln Avenue, City Hall Santa Fe, New Mexico.

II. ROLL CALL

MEMBERS PRESENT:
Vice-Chair Tim Gray, Bureau Chief, NMED/Solid Waste Bureau, State of New Mexico
Randall Kippenbrock, Executive Director, SFSWMA
Olivar Barela, Solid Waste Division Manager, Santa Fe County
Selina Robinson, Waste Management of Central New Mexico Selina Robinson
Lawrence Garcia, Acting Director, Environmental Services Division, City of Santa Fe
Eric Lucero, Operations Manager, Environmental Services Division, City of Santa Fe
Louise Pape, Sustainable Santa Fe Commission
Karen Sweeney, County At-Large Resident
Ted Swisher, Habitat for Humanity
[Vacancy] Private Recyclers
[Vacancy] City At-Large Resident
[Vacancy] City At-Large Resident

MEMBERS EXCUSED:
Chair John Lopez, County At-Large Resident
English Bird, Executive Director, NM Recycling Coalition, Recycling Advocacy Organization
Simon Brackley, President, Santa Fe Chamber of Commerce, Business Groups
Larry Dennis, Facilities Manager, St. Vincent Hospital, Institutions
Andrew Leyba, County Resident, Caja del Rio/Las Campanas Area
Robert Martinez, Operations & Maintenance Division Director, Santa Fe County
Mary Jane Park, City At-Large Resident
Lisa Randall, Santa Fe Public Schools – Schools
Kim Shanahan, Executive Officer, SF Area Homebuilders Ass'n, Business Groups

STAFF PRESENT:
Randall Kippenbrock, Executive Director – SWMA
Danita Boettner, BuRRT Site Manager, SWMA
Adam Schlachter, Education & Outreach Coordinator, SWMA
Rosalie Cardenas, Office Manager, SWMA
Melessia Helberg, Stenographer

OTHERS ATTENDING:
Tejinder Ciano, Executive Director, Reunity Resources
Susan Daniel, Eldorado 285/Recycles
Joe Eigner, Eldorado/285 Recycles
David Friedman, Friedman Recycling Co.
Craig O'Hare, Santa Fe County

There was not a quorum of the membership for conducting official business. Vice-Chair Tim Gray opened the meeting for purposes of hearing reports. The meeting was adjourned following the presentation of reports, and no votes were taken.

III. APPROVAL OF THE AGENDA

No action.

IV. APPROVAL OF MINUTES FOR MEETING #11 JULY 31, 2014

No action.

V. MATTERS FROM THE PUBLIC

There were no matters from the public.

VI. PRESENTATIONS

A) PRESENTATION, DISCUSSION AND POSSIBLE ACTION REGARDING THE AGENCY AND SYSTEMWIDE SECTIONS OF THE SOLID WASTE ASSESSMENT AND MANAGEMENT STUDY (DAVE YANKE – LEIDOS/NEWGEN STRATEGIES & SOLUTIONS)

A copy of a power point presentation *Santa Fe Solid Waste Management Agency Operational Assessment*, prepared by Leidos and NewGen Strategies and Solutions, is incorporated herewith to these minutes as Exhibit "1."

A copy of a draft *Solid Waste Assessment & Management Study Santa Fe Solid Waste Management Agency Section*, dated September 2014, is incorporated herewith these minutes as Exhibit "2."

A copy of a draft *Solid Waste Assessment & Management Study Systemwide Section*, dated September 2014, is incorporated herewith these minutes as Exhibit "3.

Randall Kippenbrock introduced David S. Yanke, New Gen Strategies & Solutions, and David Gregory, Leidos, who presented information regarding this matter. Please see Exhibit "1" for specifics of this presentation.

The Committee asked questions and commented as follows:

- Louise Pape said she is very familiar with the Boulder transition when it went to the automated bins. She said one of the things that motivated people was that the trash cost was increased, and she believes the price of trash has to increase here for people to be motivated.

- Ms. Pape said contractors have shown interest in the separation of C & D materials and there is no mention of this here at all, noting it is done in many places, including Boulder. The only option here is to throw it away, "but of course there is no away."

- Mr. Yanke said he is an advocate for pay as you throw. He said in the City Cost of Service Study which is the first section, they recommend pay as you throw. However, we recommend that the City get the automated recycling program in place first over the next year to 18 months, and then implement the pay-as-you throw program. He said they did talk about it in that Study in the report.

- *[Ms. Pape's remarks here are inaudible because she was not speaking into the microphone]*

- Mr. Gregory said the Agency faces two issues with C & D recycling. First is they don't have control of the waste stream on C & D. He said when they implement C & D recycling the price for disposal goes up. He said C & D recycling is generally effective where you have low expenses on the disposal. He said, "The chicken and egg question they face currently is because they don't control the control of the flow of that waste stream, and if they put in C & D recycling the price goes up and it will drive more of the waste stream away. They do have issues they need to determine with that, plus at 30,000 tons a year it is not a whole lot of C & D compared to some of the other operations that process C & D recycling, so that is the reason it is not mentioned. We thought about it, but it wasn't specifically called for analysis in the report."

- Mr. Yanke said in this business, the volume is what you need. And we have C & D recyclers that are active in the Dallas/Ft. Worth area, in the Houston area and there are huge volumes, and that's what drives the economies. The problem is, like David said, if you're in this area, you just don't have enough volume right now. He said we're not saying you shouldn't ever do it, but right now they wouldn't recommend it because it's going to be cost-prohibitive.

Joe Eigner, Eldorado 285/Recycles said in the report they talked about the very high level of trash and rejects in the commingled recyclable stream, and asked them to comment on that.

Mr Gregory said in analyzing the amount of tonnage received at BuRRT, versus the amount of tonnage of incoming recyclable materials versus the amount of materials sold at the end of each years, they did two years of analysis to address any long term issues associated with that. And the first year they had 23%, and it's either residue/rejects, not quite sure what it is. It is material that comes in as recyclables and it's not sold as recyclables. In the second year, the amount was 30%. It's a pretty high number, noting 20% is still a high number for incoming residue rate. And that tends to be a function of a number of things. He said, "Again, go back to this education issue as to what you should be putting in the bin, what are you supposed to putting in for recycling. So if people are throwing.... again there are different types of metals that are recyclable on a MRF recycling line, but an engine block is not one of them. That is a recyclable material, but it's not recyclable through the processing line. It may end up as rejects or residue."

Mr. Gregory continued, "We do offer a number of recommendations for the Agency to undertake to try to make sure they improve that rate, but there are two pieces. I guess another issue also is, and we compared those numbers and reviewed them with Agency staff, they did advise that at the end of the fiscal year that there was a large amount of material in storage that had not been processed because of some down time on the processing line, or that had not been sold. So there was a lot of material in inventory and the reason there are two years of data there, and you can look at it in aggregate and in average. But even that 20% number is a relatively high number, although I am sure there are MRF operators that see 20% in certain waste streams, and their initial effort is to try to work back upstream to provide some education and improvement to get that number a lot closer to the 10% rate."

Mr. Yanke said when Austin went to automated 5 years ago, there was simple education which Santa Fe also can do, where it's sealed into the plastic on the cover of the can or a huge sticker which shows these are the materials. It shows pictures of the 5 materials in English/Spanish, and then there are pictures of what you don't put in. This is basic education and answers a lot of those questions to help with that type of issue.

- *[Vice-Chair Gray's remarks here are inaudible]*

- Lawrence Garcia asked the average amount they've seen for glass subscription.

Mr. Yanke said they have seen subscription programs put in place where it is done for recyclables overall, so he doesn't have a just glass subscription, but he can get some examples if he would like. He said some cities have its overall recycling on a subscription basis, which they don't recommend, because you don't get everybody doing it and you don't get the economies.

- Mr. Garcia said on page 9, the Cost of Service Analysis for the Agency, the overall revenue requirements is at $7,743,000 for the first year, which includes all of the overhead, the design of the cell, cell construction, and the liner and everything concerned. He said on the next page it has total cost of $4,158,826. He doesn't understand the difference between those two.

- Mr. Yanke said if you look at the $7.7 million you have the landfill which is on the next slide, which is the $4.1 million and then you have all of the other services and programs, the MRF, the mulching, the eWaste, yard waste, which add up to the $7.7 million which then is offset by the tipping fee revenue received at the landfill and $1.3 million is received at BuRRT from the people bringing in garbage or glass or mulching, etc.

- Mr. Garcia asked, on page 11, when you calculate the price per ton for processing the recycling, if that includes revenues for sales of the materials.

  Mr. Yanke said that's just the cost of operating before revenue offsets, the $153 is the gross cost before revenue received for materials.

- Mr. Garcia said then that is the price per ton for recycling materials shown on page 11. He asked if they looked at what would offset the cost per ton for processing.

  Mr. Yanke said at the BuRRT they are receiving $50 per ton and it costs $82.62 per ton, so they are under-recovering roughly $32. He said the Transfer Station is the citizen collection where they drop garbage and it is hauled away in semis to the landfill – that's $82.62 per ton. The MRF recyclables to market cost $153.50 per ton for processing and handling.

- Mr. Kippenbrock said there is a zero tipping fee charged to the City and the County. The cost of service is $153 per ton. He said last year they averaged revenue of about $100 per ton, so there is still an under-recovery of $53 per ton. He said every service category is under-recovered with the exception of the landfill.

- Mr. Garcia, referring to page 18, said regarding the system-wide monthly meeting, he thinks we really should be doing a monthly meeting. He said the recommendation for flow control was to amend the ordinance. He asked about enforcement.

  Mr. Yanke said flow control is a huge and potentially controversial issue and it can involve litigation with parties. They are not recommending a sweeping, all-encompassing flow control ordinance, noting it already is being done on the residential/commercial side. They are recommending only for C & D. He said Dona Ana just passed flow control, and one of the key things to do is to sit with the private haulers and talk with them and explain the goals, the reason you are doing this. He said when you have schools, hospitals, City and County buildings being are being renovated, when tax dollars are being used, the waste should go to a governmental entity.

Mr. Yanke said if the City is going to do flow control, they should lay out a game plan and the key part is sitting with the private haulers to discuss the format, how it is being done and the reason for doing this. He said you track the loads coming into the Landfill, which Caja del Rio has the ability to do, and look at those and see if this makes sense.

Mr. Garcia said currently they are dumping loads at the landfill, but are taking the last loads to another landfill, so he doesn't think that data can be tracked.

Mr. Yanke said it always comes down to enforcement when you implement programs. If you go to automated recycling there will have to be education and enforcement to deal with contamination. He said most people want to do the right thing, but others don't. There has to be an enforcement, and the same with flow control.

– Kippenbrock said, regarding flow control, we're talking about 6 major private haulers, Waste Management, Capital Scrap, Western Disposal, Roadrunner, MTT, and one other. He believes all 6 are bring the waste to the landfill, with the exception at the end of the day. He said Roadrunner and Western Disposal do pick and choose, depending on the weight of the containers, and take it to Albuquerque. He said it's not a sweeping change, but we need to tighten the belt by amending the City's Solid Waste Ordinance as well as amending the building permit. He said his guestimate, based on his experience, is that the leakage is about one month of landfill waste, which is equivalent to about $400,000 per year.

Tejinder Ciano asked Mr. Yanke to expound on the transportation as an impediment to a higher recycling rate.

Mr. Yanke said the biggest challenge is where to transport the materials to market. He said for example, Dallas and Houston are both metropolitan areas with more than 4 million people. He said there is a market for glass in Dallas, so glass is in the curbside programs, and they take glass even at the single stream MRF's. He said in the Houston area, many of the communities do not offer glass recycling in their automated program because there is no glass processor, noting they have to haul the glass to the processing plant in Waxahachie, near Dallas. And the cost is prohibitive to haul the glass. He said for Santa Fe, the nearest markets are Albuquerque and Phoenix, and the transportation costs become a deal killer.

Mr. Ciano asked what we can do to get our recycling rate up here.

Mr. Yanke said there are cost effective materials currently in the curbside recycling program. This is one of the reason they recommend going to automated cycling, noting you consistently see a bump in recycling when you go to automated. In connection with pay as you throw, it creates an incentive to recycle versus putting it in the garbage can. He reiterated automated will increase the recycling rate and what is diverted. It's a fact. He said they are looking at commercial cardboard which is a good quality product. All markets go through fluctuations. He noted Mr. Friedman is in the audience and said Mr. Friedman can tell you about fluctuation in the market place. There is no guarantee, but it is a valuable commodity and if you recycle more of it if you divert it and sell it.

Mr. Yanke said they rode the garbage routes as part of the operations review, noting they saw a lot of cardboard being landfilled that could have been recycled. He said there has to be enough cardboard for it to make sense for a commercial cardboard recycling program.

- Mr. Kippenbrock said, regarding pay as you throw, the City and the County already have 96 gallon carts. He asked if pay as you throw means different containers. He asked how the City can get into the program without spending a lot of money. He asked Mr. Yanke to elaborate on the County franchise, and where the County is going with that.

  Mr. Yanke said, regarding pay as you throw, you have 96 gallon carts, but the City can look at purchasing different size containers. He said people can put out additional waste beyond just the 96 gallon cart right now. He would recommend first of all on the pay as you throw, with everything going on to have a limit for the 96 gallon cart and raise the rate for anything beyond the 96 gallon cart. He said as we move forward with automated recycling, he would recommend getting some smaller carts. He said depending on the community and the pricing of pay as you throw, you will see the 64 gallon maybe 60-70% of the market with 20% for the 96 gallon and 10-15% with the 32 gallon. You can then implement pay as you throw which drives people to do the recycling.

  Mr. Gregory said it costs more to have pay as you than it does to have one rate. He said there are incremental costs to administer that element of the program.

  Mr. Yanke said once it's set up, it is pretty straightforward.

- Mr. Garcia said the City is very interested in pay as you throw as an incentive to increase recycling and diversion as well as because it is the right thing to do and people should pay for what they are generating. He said the pricing structure has to be put together properly so all of the associated incremental costs are charged to the right person. He said the other pierce to this is enforcement, noting Mr. Yanke said 60-70% of people will go for the 64 gallon cart and have the garbage bulging over the top and expect the City to service it. So the other element to success is the enforcement, commenting we probably would have to hire additional staff members to be out there to look at that and make sure people are doing the right thing.

- Vice-Chair Gray said Santa Fe has a 7% recycling rate, and needs to hire more people and enforce some of these things to get more recycling. The residents aren't going to do it on their own.

- Mr. Garcia said he agrees, but everyone doesn't agree. He said a lot of the public doesn't want to recycle and we have to change that thought process through incentives. He said that will be presented to the PUC on October 1st. He said the City is working toward that, reiterating we have to change the peoples' thought process. He heard someone say anything beyond 30% outflow will require regulation. He commented there are costs involved with enforcement, and this has to be sold to the decision-makers and it can't be outrageous and needs to be done effectively and efficiently to cover all our bases.

Mr. Yanke said the one thing I don't want people to walk away and say if we pay as we throw, "Dave Yanke said 60% are going to 64 gallon carts. I said that, but I didn't mean it that way. If you go to Austin, you'll find pricing where the 96 gallon is $10 more per month. A lot of people get $10 more for a 96/64." He reiterated how this breaks out is driven by pricing and the recycling service you offer, so it is all a month and this is his disclaimer on that piece.

- Mr. Garcia said for clarification, Mr. Yanke mentioned 30-60-90, and asked if that is the pay as you throw system he would recommend or if the City should be just looking at a 60-90.

  Mr. Yanke said he probably would lean toward a 60-90 right now and not a 32. He said there is a challenge right now with the trucks, and sometimes the 32 gallon is too skinny and the claw can't hang onto it and it flings it into the garbage truck. He said he would start the with the 60-90 because of the logistical challenge.

  Mr. Yanke said when you do implement pay as you throw automated cans, you want to make sure it is clear to people how to use the cans. He said there can't be huge sticks sticking out of them or florescent bulbs, for example. You are often talking about having 2-3 Code Enforcement agents assigned. He said you start with the soft approach along with education. He reiterated that most people want to do the right thing, but you have to educate them. He said you keep a data base of those violations to see who is causing problems. He said once you have habitual offenders then you start with the fines.

- Vice-Chair Gray said in Carlsbad when it did its curbside pilot, is the driver would record the address for follow up if there are problems. He asked if the City has a Code Enforcement Officer for solid waste.

- Mr. Garcia said yes, and they are looking to expand from the current part-time person to 3 full time persons. He said there are a lot of areas which need enforcement, not just the pay as you throw. He reiterated that when a program is put together he wants to make sure to cover all aspects so it is a workable program and doesn't fail.

  Mr. Gregory said Mr. Garcia has to sell this to the elected officials, and sometimes you need to be able to make the case that there are costs and benefits. He said we talked about the recycling rate in Santa Fe, noting he hasn't found two recycling rates which were calculated quite the same. You need to make sure you are consistent internally and look at it year to year to see how these programs make changes and measure that moving forward.

  Mr. Yanke said regarding Mr. Kippenbrock's question about the County franchise. He said in the County report they recommended the County move toward a franchise system in the urban areas within the County, where you break it into districts or zones where there is one hauler which offers garbage and recycling services to increase the diversion and those materials would "go to BuRRT or what have you." He asked if the County would like to give an update as to where we stand on this.

Craig O'Hare, Santa Fe County, said the Solid Waste Task Force that wrapped up earlier this year struggled with this issue. They were looking at exclusive franchise areas where the County would award a given service area they came up with to one hauler, but they weren't making the service mandatory on the citizens living within the area. Participation was voluntary and they still could go to the Citizen Convenience Centers. He said there are advantages and disadvantages, but they thought from a socio-political standpoint that would have a greater chance of being approved by the Governing Body. He said the County Commission will be addressing the issue of franchising at the next Board of County Commissioners meeting on September 30, 2014. He said they also are looking at doing a substantial overhaul on the Solid Waste Ordinance adopted in 2010, based on the Solid Waste Task Force recommendations. They are making the recycling of all recyclable materials mandatory at the Citizen Convenience Centers. They will be issuing warnings initially and focusing on education.

- Vice-Chair Gray said, with regard to recycling rates, we don't discount everything under the sun as recycling, but do follow what the EPA says is recycling in New Mexico.

- Vice-Chair Gray noted there is a recommendation against getting into the food waste composting right now, and asked if that is for the Agency.

  Mr. Yanke said he is looking at this for all three entities, noting the City has moved into that area with a pilot program. He said right now with everything on the City's plate, he would hold off on food waste and go for the low hanging fruit which is easier to get.

- Vice-Chair Gray asked about a private company wanting to do that.

  Mr. Gregory said the issue is the priority of the efforts to undertake. And while food composting is a valid and viable approach, it is not an initial priority.

- Ms. Pape said the old convention center previously was an old high school which was demolished and the new building is LEED certified, The City was required to divert as much of the C&D as possible, and it did. She asked why we couldn't "do that more because we've already done it." The report notes the possibility of making the landfill cheaper, and she would beg you not to do that, because we really do need to pay for the damage we do to the earth by putting all this stuff in the ground.

- Ms. Pape asked if anyone has done a survey of the total diversion for the City. She said there are 28-36 homes where she lives and they divert 50-60% with the existing resources. She wonders if this plan is sufficiently ambitious.

- Ms. Pape said they mentioned the ramps they have to climb to dispose of cardboard. She and her husband fill up an F-250 with cardboard every week from their community. She said if they had to go up steps to do it, it would be even harder. She said what would work is to have the bin be lower "than where the people are, where you just drive in."

Mr. Gregory said there are associated safety issues with the ramps and stairs to make sure they are safe and if there is a rickety step it is replaced.

Mr. Yanke most said people aren't taking an F-250 full of cardboard every week. He said there are two ways to do it. The drop-off can be at a lower grade, but it costs money to do the work to get it lower. He said the County can do that if they find a lot of money. He said currently there are short steps going up and you stand on that, and if you are throwing stuff over and if you lose your balance it's not a good situation. We have seen stairs going up and then a 4 x 8 foot platform going all the way down. We don't want them thrown up and over because they don't always lay well which goes to an issue on the compaction rate for cardboard. This is one of the reasons "we're talking about that type of ramp."

Mr. Yanke said with regard to LEAD certified, they did talk about that. This is a place where they would recommend if you're doing something that is LEED certified, let's do it there, versus having the agency get into another business where there aren't significant amounts of material to make it cost-effective.

Mr. Gregory said they did not address that there would be source separation at the point of generation. Their approach was that the Agency not get into the C & D recycling business, and there's a big difference. The challenge is when you mix everything together and you need to pull it apart there is a problem. And it's not mentioned about having them put in a C & D recycling facility. What that does is to push the requirement, if you want to achieve LEED, back to having 2-3 different dumpsters and doing separation at the source which is the most efficient way to do it. It reduces the greenhouse gas input because it isn't being trucked. It's more efficient because you've done it before it is mixed together. He said his perspective for the report is don't get into that business, because if it is being done elsewhere, you don't want to create an incentive for them to go away from it. It could be addressed by Ordinance, and not an effort to be undertaken by the Agency because it can be done at the source.

Mr. Gregory said they don't have information on what happens when people haul it directly to other locations.

– *[Ms. Pape's remarks here are inaudible because she was speaking away from the microphone]*

Mr. Schlachter said Ms. Pape can drop her stuff at the Transfer Station and they don't have to put it in the bins. He said, "You can drive your truck where the cardboard is dumped and dump it off your truck."

Mr. Eigner said on page 14, the recommendation is, "The Agency should solicit proposals for off-site transport and recycling of recyclables." He said that sounds as if he is recommending the MRF shut down and ship stuff to Friedman in Albuquerque. We haven't had any discussion about that. He said the bad reject rate may have to do with how hard it's proven to be to educate people about items. He said he is at the Eldorado Station twice a week, and the commingled dumpster is very clean. He said there seems to be a huge block. He said at Friedman those are acceptable

along with single layer cardboard which is a major component of the waste stream. He asked if the Agency has looked into this possibility.

Mr. Gregory one of the first points is, we recommended that the Agency look at sending the material off-site, getting firm prices to compare and make sure it makes sense. One of the reasons is because we looked at whether it can take in more materials, separate into more additional quantities of different types of materials. The challenge is not always finding a market, but it's also if you can support and create a sufficient quantity to make it feasible to ship it off. He said the challenge with the MRF is that it was an after-thought put into an existing building. They do the best they can and it does a good job for the most part, but to get the next "oomph" out of it, it may need to go off site for processing.

Mr. Yanke said there is a good operational analysis in the Agency section which does sensitivity on pricing of the two major variables of fuel and the pricing for the commodity mixture. It can be a huge cost savings that would save money for the Agency to invest in services to increase diversion rates. He said there aren't enough bays to store all of this stuff.

Vice-Chair Gray said Mr. Schlachter mailed out a 112 page document.

Mr. Ciano said, regarding food waste, in the alternative options evaluation you say, "The designated compost area at the landfill offers an opportunity for a partnership for composting." In your recycling goals you include food waste in the year 2020. He understands they are saying they don't believe it is a high priority for the City or the agency to be "involved in the collection, transportation and operation of composting." He asked if this is correct.

Mr. Yanke said you want to be careful what you get into. He said food waste is a huge waste stream, 15-20% and he would love to have the City, County, Agency to start getting after that. He said, "But what I would rather do is, right now, let's prioritize over the next 2-3 years the top issues these 3 entities have and work on those. He said if you want to keeping doing what is being done with the private operator with whole foods, great. He said he said if you put a program in place and let somebody else go and do it, it's not consistent with the plans for the Agency and the City in terms of diversion. He said, "The short answer is, if there is a huge groundswell to move forward with food waste and somehow we missed it in the study and people want to move on that sooner, they can look at it, but I'm just concerned we're going to overwhelm staff with everything that is already on their plate. So I'm a little hesitant to move forward with it right now, but I wouldn't want to just give carte blanche to go do whatever without some input from the City and Agency."

Mr. Yanke said, "If they want to explore a private operator to come in and do more, Lawrence you're the City, you've got all the restaurants, what's your opinion on it."

[Mr. Garcia's response was inaudible]

Mr. Gregory said you need to consider the issue at hand and the implications of the unintended consequences of such, but it's not the highest priority at the moment. He said we're not saying don't do it, we're just saying we can't say "do 45 things at once. It's just not fair."

Mr. Yanke encouraged people to look at the City report where they did a really good analysis of what it costs to do food waste, noting there will be a summary of all of the recommendations in the Executive Summary.

Short break 3:45 to 4:00 p.m.

B) CAJA DEL RIO LANDFILL PRESENTATION (RANDALL KIPPENBROCK – SFSWMA)

A copy of a power point presentation, *Caja del Rio Landfill Operating and Permitting*, is incorporated herewith to these minutes as Exhibit "4."

Randall Kippenbrock presented information via power point. Please see Exhibit "4" for specifics of this presentation.

Mr. Garcia asked, regarding the basalt removal and blasting, "how thick is the underneath the buried garbage in the current cells."

Kippenbrock said the groundwater is approximately 325 feet, garbage is 75 feet below grade, so there is 200 feet of separation between the bottom of the waste to the top of the water. He doesn't know the various thicknesses of the basalt, but it is there.

C) DISCUSSION WITH POSSIBLE ACTION REGARDING THE SWAC AT-LARGE MEMBERS (ADAM SCHLACHTER – SFSWMA)

Mr. Schlachter said there is a vacancy in the City at-large membership, noting Louise Pape is the Sustainable Santa Fe Member, but there are two others Mary Jane Parks and Neva von Peski who has resigned from SWAC effective last month. He asked people interested in serving from the City to contact him so they can submit the names to the Board.

D) UPDATE ON 2014/2015 AMNESTY DAY CALENDAR AT BuRRT (ADAM SCHLACHTER – SFSWMA)

A copy of a Press Release regarding *Tire Amnesty Days at BuRRT* a Success, is incorporated herewith to these minutes as Exhibit "5."

Adam Schlachter reported on Amnesty Day. He said they had their first Amnesty Weekend on September 6-7, and they collected 175 tires representing 7% of the day's customers. The next amnesty event will be held on September 27-28, 2015, when they will be doing a Trash Amnesty weekend at BuRRT, and the fee will be waived for anyone who comes with any loads of trash, and everything else will be at the normal fee. There will be signs advertising the Trash Amnesty weekend starting Monday, noting they have two portable signs to put out. He said hopefully, it will be less congested than the last time they did it because it is being expanded. It is on the website and on the *Santa Fe Reporter* website.

Oliver Barela how many County people participated.

Mr. Schlachter said there were 4 from the County and 32 from the City..

VII. MATTERS FROM THE COMMITTEE

Mr. Garcia said this is diverse group, and "I agree that tracking the current diversion that we're actually doing, we're missing the boat. I wanted to challenge everybody from this group... to figure out how to track the diversion actually taking place in Santa Fe and Santa Fe County... to show what is being diverted currently." He said there is a huge diversion happening from alkaline batteries to the diversion of cardboard by big box stores. The only diversion we're calculating for the City and the County is coming from SWMA. He said he hears "dismal rates" quite often but we're a lot better "than we are showing ourselves to be." He thinks we need to find a way to be able to track diversion within the State so we can start getting to the 70%.

Vice-Chair Gray wished him the best of luck, noting it is a nightmare dealing with Target.

Mr. Garcia said there are others as well. He thinks it's happening, but we just can't show it's happening. He said there issues with proprietary information, but still thinks we should move forward and take on this job.

Mr. Gregory said just make sure you call it diversion and don't call it recycling, because reuse and such isn't recycling. He's on the right track with diversion, noting he is a fan of diversion over recycling.

Vice-Chair Gray said, "Now when you start having diversion rates, you have a challenge with diversion rates, because what is the amount generated. So the question of diversion is okay, just so long as it's generated and then we've diverted this amount. But very often a diversion rate is based on a baseline of a certain year when they documented it, and then they said okay now. That's what California does. They say we know we disposed of 100 tons in 1986 or whatever the baseline is. Today we disposed of 50 tons and there's some calculations in there with the number of people, etc., so you go, oh, so now we know the rest of it had to be diverted. It's a really a tough nut to crack."

Mr. Garcia said that might be the second piece to reporting this diversion is basically, "from what base did we get to where did we go to."

Vice-Chair Gray said he did a quick calculation of the numbers of all the WalMarts and what it did to the recycling rate. He said you have to add all of that tonnage to your MSW tonnage and then you divide it out. It increased us 1%. It's a great effort and showing the re-use is a cool thing that not many people do.

Karen Sweeney said she agrees with Tim that the idea of not enforcing because we can't or we don't want to is over. We need to enforce. People want to do the right thing and if the wrong thing isn't pointed out to them they can't do the right thing. She think's it is critical, and it's not fair to those doing the right thing that the others get by. She would like to see a different approach to enforcement. She said across the nation they inspect the trash and recycling and if you're doing it wrong, they let you know. "It's not a big deal." They have pride in doing the right thing when they know the community is doing the right thing.

Ms. Sweeney said she has been on SWAC for several years, and she's never sure what we're doing, except raising issues over and over again. She said after these reports were released, there was some really negative press that bothered her. She said Mr. Eigner wrote a nice piece for *The Santa Fe New Mexican* on several issues that were raised and incorrectly reported. She thinks our Committee has to do this over and over again – we have to be in the press on the radio. She defended the report on a radio show because, for example, "they thought a graduate student could have done the report for a lot less than what you charged." She said she kept waiting for the "City fathers" to come forward and they didn't. She said we have a role that needs to be more proactive than it has been.

Vice-Chair Gray agreed, saying we need to have action items, subcommittees and do more than just sit here and talk and listen.

Ms. Sweeney said she was in Boulder when EcoCycle, a volunteer group started, and they had block captains that went around informing people on a friendly, neighborly basis, which she thinks needs to be done in Santa Fe.

Vice-Chair Gray said perhaps enforcement isn't penalties/monetary, it is just letting people know the right thing to do, understanding that everyone in Santa Fe isn't going to recycle. So maybe enforcement isn't the fair thing, but perhaps financial incentives are a good type of enforcement.

Ms. Pape thanked Mr. Kippenbrock for his presentation. However, she works in climate and there are estimates that 30% or more of our emissions are from things we consume, and once you throw your little doo-dad in the landfill, to get another one, you have to dig up a mountain somewhere else, for example. There is huge, embodied energy in everything we consume. The Mayor has appointed a Climate Task Force which is interested in reducing our emissions. She said we need to get serious about reducing things that go to the landfill, and a long term goal would be to keep the same landfill for the next 50 years.

Vice-Chair Gray said he has a manual in this regard which he thinks could be given to that task force.

VIII. NEXT MEETING DATE

Mr. Schlachter said the next meeting will be on November 19, 2014, and the Committee will be electing a new Chair and a Vice-Chair. Individuals interested in serving should let him know.

Mr. Garcia would like to get some action items and subcommittees for the next meeting to empower the members to keep returning and participating.

Mr. Schlachter asked members to let him know their ideas for subcommittees so he can move forward with setting them up.

IX. ADJOURNMENT

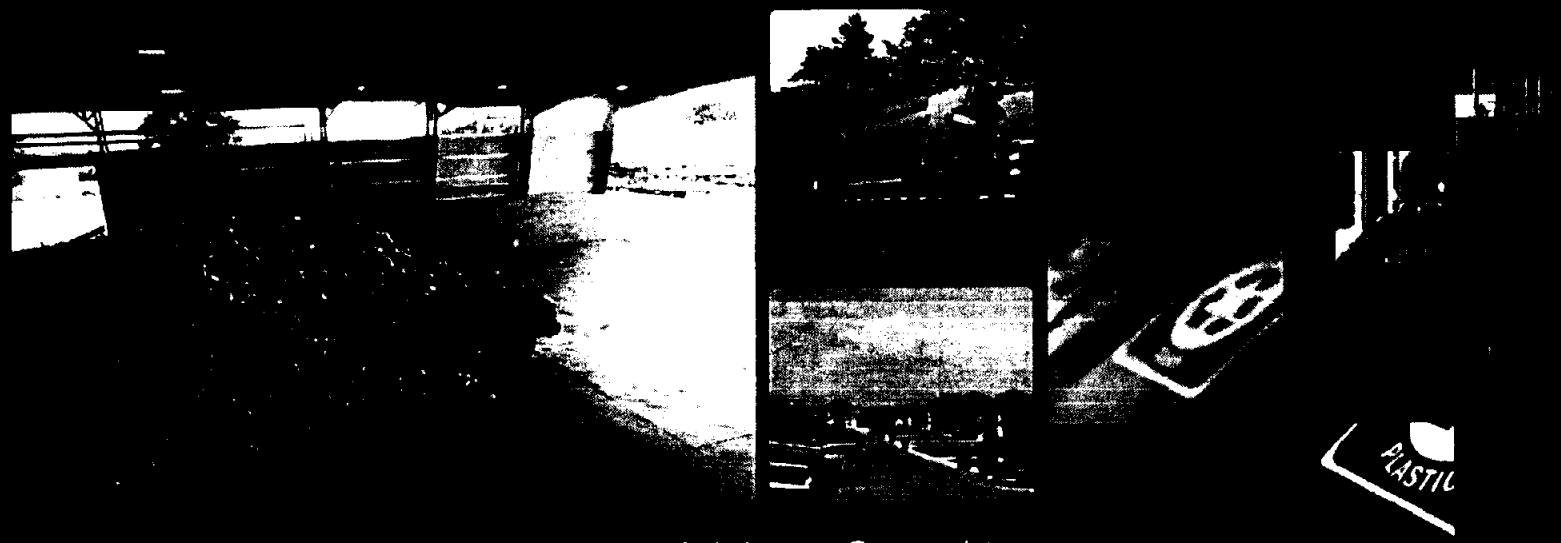
The meeting was adjourned at approximately 4:30 p.m., with no action being taken.

10/23/14

John Lopez, Chair

Tim Gray Vice-Chair

Melessia Helberg, Stenographer



September 17, 2014 – Solid Waste Advisory Committee
September 18, 2014 – Joint Powers Board

Santa Fe Solid Waste Management Agency Operational Assessment

Exhibit "1"

Presented by:
David Gregory
David S. Yanke

leidos

NewGen Strategies & Solutions

ECONOMICS STRATEGY STAKEHOLDERS SUSTAINABILITY www.newgenstrategies.net

Purpose of Meeting

- Provide Main Findings and Recommendations on the Solid Waste Assessment & Management Study
  - Santa Fe County – Overview
  - City of Santa Fe – Overview
  - Santa Fe Solid Waste Management Agency - New
  - Systemwide Section - New

Project Status

Section	Status
Santa Fe County	Completed March 2014
City of Santa Fe	Completed August 2014
Agency	Tentative Completion October 2014
Systemwide	Tentative Completion October 2014
Final Report[1]	Tentative Completion October 2014

1. Includes all of the above sections, plus an executive summary

County: Key Findings & Recommendations

- Optimize payloads to meet or exceed industry standard.
- Cancel the purchase of one walking floor transfer trailer and one transfer trailer cab.
- Expand HHW materials collected at specific CCC locations.
- Close or relocate all CCCs currently on Pueblo land.
- Develop a comprehensive data management system
- Develop and implement operational metrics to measure efficiency.
- Improve customer accessibility to drop-off areas.
- Improve CCC signage.
- Consider implementing a solid waste management system in the unincorporated County.
- Modify the rate structure.

City: Key Findings & Recommendations

- Eliminate additional back-up vehicles.
- Monitor the dependability and annual maintenance cost of vehicles over their useful life.
- Transition current recycling operation to automated collection.
- Remove glass from current recycling operation and transition to a glass drop-off program.
- Evaluate residential and commercial customer interest in glass subscription program.
- Invest in industry software and data management.
- Expand commercial cardboard recycling program.
- Improve container maintenance practices.

City: Key Findings & Recommendations (continued)

- Upgrade the fleet management facility to match the work effort and equipment being operated.
- Provide training to staff to work on equipment, particularly CNG vehicles.
- Implement use of data tracking systems to monitor and manage performance of the fleet.
- Enforce use of fuel key system to assure mileage and miles per gallon can be tracked.
- Develop written operating procedures including written PM practices in accordance with manufacturers' specifications.
- Investigate reducing back-up equipment.
- Investigate increased integration of solid waste fleet maintenance operations with the City's other fleet maintenance activities.

Agency Scope of Services

- Cost of Service Analysis
- Operational Assessment
  - Caja del Rio Landfill
  - Buckman Road Recycling & Transfer Station (BuRRT)
  - Other Agency Operations
- Evaluate Alternative Options

Cost of Service Analysis

Service Categories

Caja del Rio Landfill

- Disposal
- Cell Development
- Composting
- Administration
- Operation & Maintenance

Buckman Road Recycling & Transfer Station (BuRRT)

- Transfer Station
- Material Recovery Facility (MRF)
- Household Hazardous Waste (HHW) Collection
- Green Waste Grinding (Mulching)
- White Goods (Appliances)
- Scrap Tires
- E-Waste (Computers, Printers, Televisions)
- Administration
- Operation & Maintenance

Cost of Service Analysis (continued)

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Overall Revenue Requirement	$ 7,743,248	$ 7,895,141	$ 8,051,121	$ 8,631,302

Two Types of Costs:

- Direct:
  - Costs directly allocated to service category (e.g., wages, benefits, equipment purchase, repair, and fuel expenses).
- Indirect:
  - Administrative (e.g., management personnel, office supplies, professional & legal services)
  - Operation & Maintenance (e.g., water/electric utilities, buildings & grounds maintenance, operation and safety supplies).

Caja del Rio Landfill

Revenue Requirement				
	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Total Costs	$ 4,158,826	$ 4,231,310	$ 4,305,676	$ 4,801,976
Cost per Ton[1]	$ 30.66	$ 31.19	$ 31.74	$ 35.40

1. Excludes tonnage from BuRRT as this is not charged a tipping fee at the Landfill.

- Over-recovery at the Landfill is used to support the diversion programs at BuRRT.
- Overall, the Landfill is running well.
- Do not recommend closing the Landfill and transporting elsewhere (cost prohibitive).

Buckman Road Recycling & Transfer Station (BuRRT)

Transfer Station

Revenue Requirement

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Total Costs	$ 1,351,097	$ 1,381,567	$ 1,412,914	$ 1,445,162
Annual Tonnage[1]	16,353	16,353	16,353	16,353
Cost per Ton	$ 82.62	$ 84.48	$ 86.40	$ 88.37

1. Includes solid waste tonnage from construction and demolition debris, commercial, and residential sources.

- Overall, the transfer station operation running well.
- Evaluate replacement of transfer tractor-trailers due to age and condition (≈ 18 years old).

BuRRT (continued)

Glass Recycling

	Revenue Requirement			
	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Total Costs	$ 208,932	$ 212,396	$ 215,956	$ 219,615
Annual Tonnage	2,285	2,285	2,285	2,285
Cost per Ton	$ 91.43	$ 92.94	$ 94.50	$ 96.10

- Agency will need to most likely continue to provide this service.
- Agency needs to purchase a larger glass crusher.

BuRRT (continued)

Green Waste Processing - Mulching

	Revenue Requirement			
	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Total Costs	$ 461,782	$ 472,389	$ 483,299	$ 494,521
Annual Tonnage	7,375	7,375	7,375	7,375
Cost per Ton	$ 62.61	$ 64.05	$ 65.53	$ 67.05

- The Beast horizontal wood grinder has been proven problematic.
- The Agency should consider outsourcing this service along with the composting operation (e.g., private-public partnership).

BuRRT (continued)

Material Recovery Facility (MRF)

Revenue Requirement				
	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Total Costs	$ 1,045,093	$ 1,071,669	$ 1,098,971	$ 1,127,019
Annual Recycling Tonnage[1]	6,809	6,809	6,809	6,809
Cost per Ton	$ 153.50	$ 157.40	$ 161.41	$ 165.53

1. Excludes glass recycling

- MRF estimated to under-recover in FY 2015.
- The Agency should solicit proposals for off-site transportation and recycling of the recyclables.

Cost Comparison

Service Category	Tipping Fee	Cost of Service Rate
Caja del Rio Landfill	$40.00/ton	$30.66/ton
Transfer Station	$50.00/ton	$82.62/ton
Glass Recycling	$20.00/ton	$91.43/ton
Green Waste	$20.00/ton	$62.61/ton
MRF	$0.00/ton	$153.50/ton
HHW	$50.00/ton	$2.39/pound
E-Waste	$50.00/ton	$298.04/ton
White Goods	$10.00-15.00/unit	$16.13/unit
Tires	$2.00/tire	$2.13/tire

Other Agency Operations

- Agency staffing is currently adequate.
- Current educational messaging is inconsistent in the region.
- Agency should take the lead for developing recycling messaging because it is responsible for final recycling/disposal.
- Agency staff should work closely with County and City staff to assure a consistent message.
- Use the SWAC to help assure sound messaging.

Alternative Options – Evaluation

- Contract grinding of green waste is likely to cost less than continued operation of the Agency's grinder.
- The designated compost area at the Landfill offers an opportunity for a partnership for composting.
- Customers in the Santa Fe area will continue to deliver glass for recycling, but glass has limited value and will likely continue to be costly to manage by the Agency.
- The Agency should allow out-of-county waste from surrounding counties at the current rates. (e.g., incremental waste from Rio Arriba, San Miguel, Los Alamos Counties).

Systemwide Issues

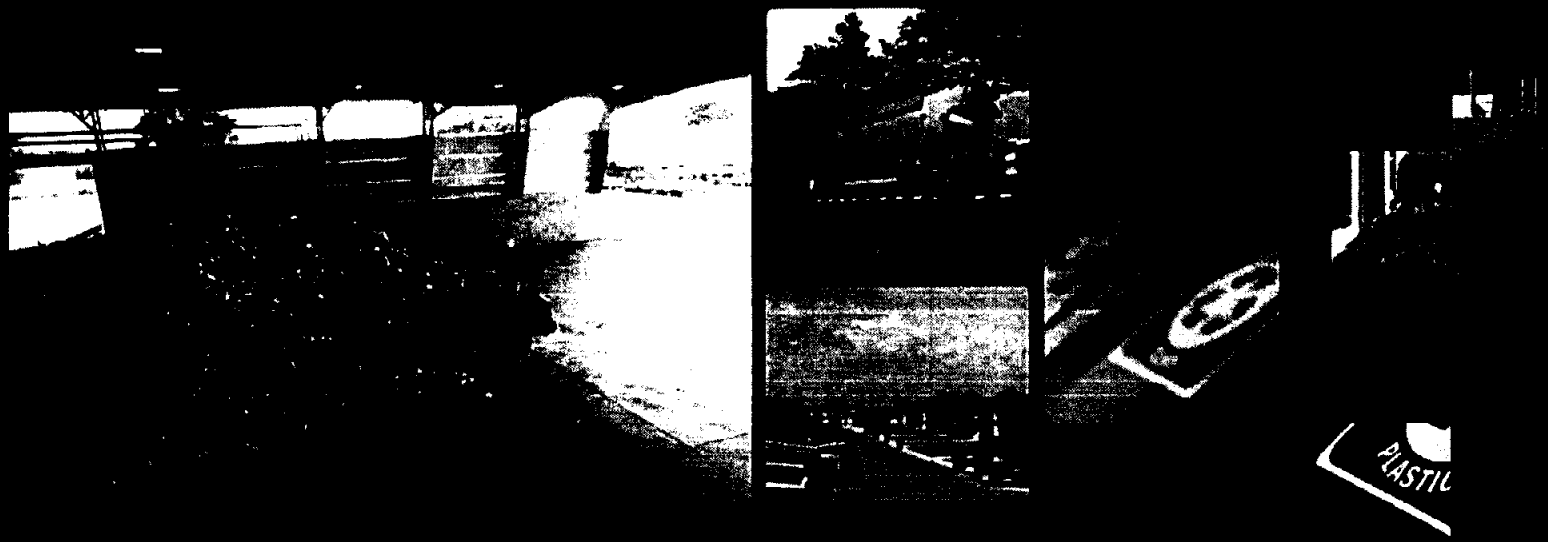
- Education and Outreach Programs
  - Funding at $2 - $4 per citizen annually ($290,000 - $580,000 per year).
  - Consistent messaging and signage required.
  - Monthly meetings.
  - Education/outreach manager for all three entities – housed in Agency.
- Flow Control
  - Recommend the City of Santa Fe to amend its ordinances requiring all construction and demolition debris to be landfilled at the Landfill. Note: Small self-haulers already go to the Landfill, however, some major private waste haulers do not. Flow control is already exercised by the City for residential and commercial wastes.

Systemwide Issues (continued)

- Recycling Goals
  - Transportation is a major impediment to achieving high recycling rates.
  - Currently, the recycling rate is 8% - 9%.
  - 16% - 20% by FY 2018 (with automated City residential; expanded commercial cardboard).
  - 25% - 30% by FY 2020 (food waste; maturing of current programs).
- Consolidation Opportunities
  - The opportunity for cost savings is real, but politically it remains to be seen whether the commitment to undertake such a task is there.

Next Steps

- Incorporate comments.
- Issue final Agency and Systemwide reports by October 2014.
- Finish entire report by October 2014.



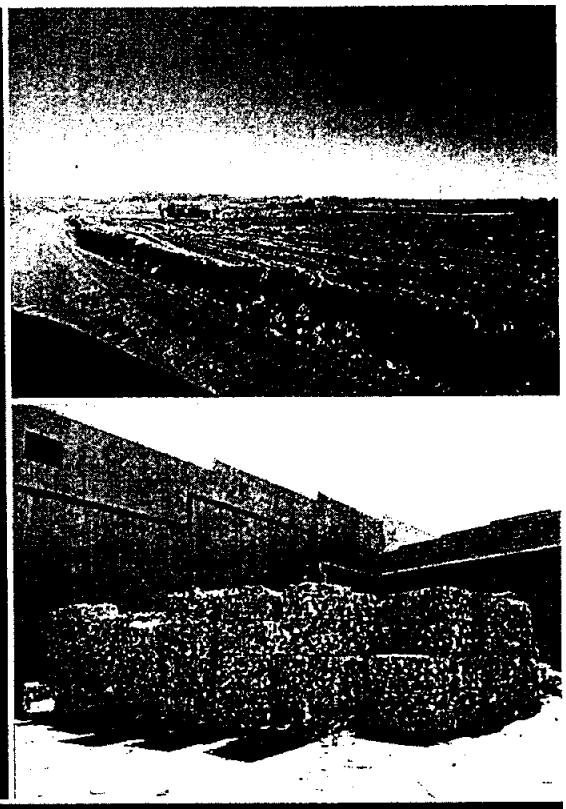
Questions or Comments?

Mr. David S. Yanke
dyanke@newgenstrategies.net
Direct: (512) 649-1254
Cell: (512) 773-5494

Mr. David Gregory
dgregory@louisberger.com
Direct: (813) 513-9296

NewGen Strategies & Solutions

3409 Executive Center Drive
Suite 128
Austin, TX 78731
Phone: (512) 479-7900
Fax: (512) 479-7905



SANTA FE SOLID WASTE MANAGEMENT AGENCY
CITY OF SANTA FE AND SANTA FE COUNTY

Solid Waste Assessment & Management Study
Santa Fe Solid Waste Management Agency Section

DRAFT | September 2014

NewGen Strategies & Solutions

leidos

Exhibit "2"

Solid Waste Assessment & Management Study

Santa Fe Solid Waste Management Agency
City of Santa Fe and Santa Fe County

Table of Contents
List of Tables
List of Figures
List of Appendices

Section 1 COST OF SERVICE AND FUNDING OPTIONS 1-1
1.1 Introduction 1-1
1.2 Current Solid Waste Services 1-1
1.2.1 Landfill Services and Fees 1-1
1.2.2 Buckman Road Recycling & Transfer Station (BuRRT) 1-2
1.3 Project Approach 1-3
1.3.1 Data Request 1-3
1.3.2 Cost Allocation Meetings 1-3
1.3.3 On-going Staff Communications 1-4
1.4 Methodology Overview 1-4
1.5 Development of the "Test Year" 1-5
1.5.1 Selection of the Test Year 1-5
1.5.2 Development of the Revenue Requirement Forecast 1-5
1.6 Allocation of Costs to Service Categories 1-6
1.7 Allocation to Customer Classes 1-10
1.8 Determination of Billing Units 1-11
1.8.1 Caja del Rio Landfill 1-11
1.8.2 Buckman Road Recycling & Transfer Station 1-11
1.9 Calculation of the Cost of Service 1-12
1.9.1 Caja del Rio Landfill 1-12
1.9.2 Buckman Road Recycling & Transfer Station 1-14
1.9.2.1 Transfer Station 1-14
1.9.2.2 Material Recovery Facility 1-14
1.9.2.3 Miscellaneous Services at Buckman Road Recycling & Transfer Station (BuRRT) 1-15
1.10 Current Rate Recovery 1-18
1.11 Recommendations 1-19

Section 2 OPERATIONAL ASSESSMENT OF THE CAJA DEL RIO LANDFILL 2-1
2.1 Facility Overview 2-1
2.1.1 Scale Facility 2-2

2.1.2 Administration Building 2-2
2.1.3 Fleet Maintenance Building 2-2
2.1.4 Landfill Operations 2-3
2.1.5 Compost Area 2-4
2.1.6 Landfill Gas Flare 2-5
2.1.7 Rock Blasting and Crushing 2-5
2.1.8 Environmental Protection 2-6
2.2 Operations Review 2-7
2.2.1 Material Types and Quantity Managed 2-7
2.2.2 Staffing 2-9
2.2.3 Equipment 2-10
2.2.4 Airspace Utilization 2-12
2.2.5 Landfill Cell Development 2-13
2.2.6 Traffic 2-13
2.2.7 Litter 2-14
2.2.8 Waste Placement in the Landfill Cells 2-14
2.3 Blasting Contract 2-14
2.4 Options for the Landfill 2-15
2.4.1 Issues Related to Long Hauling Waste 2-16
2.4.2 Issues Related to Closing the Current Landfill 2-16
2.4.3 Planned Future Activities At the Landfill 2-16
2.4.4 Conclusion 2-17
2.5 Findings and Recommendations 2-17

Section 3 OPERATIONAL ASSESSMENT OF BUCKMAN ROAD RECYCLING AND TRANSFER STATION 3-1
3.1 Facility Overview 3-1
3.1.1 Citizen Recycling Drop-off 3-2
3.1.2 Scale Facility 3-2
3.1.3 Household Hazardous Waste Collection Facility 3-3
3.1.4 Administration Building 3-3
3.1.5 Transfer Station Building 3-4
3.1.6 Small Vehicle Unloading 3-4
3.1.7 Tipping Floor Operations 3-5
3.1.8 Transfer Operations 3-6
3.1.9 Green Waste Processing 3-6
3.1.10 Glass Crushing 3-7
3.1.11 MRF 3-8
3.2 Operations Review 3-9
3.2.1 Material Types and Quantity Managed 3-9
3.3 Staffing 3-14
3.4 Equipment 3-15
3.5 MRF 3-17
3.5.1 Effect of Various Flow Rates through the MRF 3-17
3.5.2 Ability of the MRF to Attract Additional Tonnage 3-19

3.5.3 Ability to Process Additional Material Types through the MRF 3-19
3.5.4 Hauling Materials for Off-Site Processing versus Operating the MRF 3-20
3.5.5 Other MRF Outsourcing Considerations 3-24
3.5.6 Comparison of MRF Options 3-27
3.6 Joint Planning Agreement between City and County 3-28
3.7 Findings and Recommendations 3-29

Section 4 OPERATIONAL ASSESSMENT OTHER AGENCY OPERATIONS 4-1
4.1 Organization and Staffing 4-1
4.2 Education and Outreach 4-3
4.3 Findings and Recommendations 4-3

Section 5 EVALUATE ALTERNATIVE OPTIONS 5-1
5.1 Mulching of Green Waste 5-1
5.2 Composting 5-2
5.3 Food Waste Composting 5-3
5.4 Glass 5-4
5.5 Reuse 5-4
5.6 Evaluate Out of County Waste 5-5
5.6.1 Markets 5-5
5.6.2 Pricing 5-6
5.6.3 Incremental Revenues 5-6
5.6.4 Incremental Tonnages 5-7
5.7 Findings and Recommendations 5-7

Section 6 SUMMARY OF KEY RECOMMENDATIONS 6-1

List of Tables

Table 1-1 Inflation Factors 1-6
Table 1-2 Revenue Requirement 1-6
Table 1-3 Revenue Requirement, by Service Category 1-7
Table 1-4 Revenue Offsets 1-8
Table 1-5 Net Revenue Requirement, by Service Category (Less Revenue Offsets) 1-9
Table 1-6 Service Category Allocations 1-10
Table 1-7 Projected Tonnage by Year 1-11
Table 1-8 Projected Tonnage by Year 1-12
Table 1-9 Projected Units by Year 1-12
Table 1-10 Disposal Cost of Service and Tipping Fee 1-13
Table 1-11 Transfer Station Cost of Service 1-14
Table 1-12 Material Recovery Facility Cost of Service 1-15
Table 1-13 Household Hazardous Waste Cost of Service 1-16

Table 1-14 Tire Recycling Cost of Service 1-16
Table 1-15 E-Waste Recycling Cost of Service 1-17
Table 1-16 White Good Recycling Cost of Service 1-17
Table 1-17 Green Waste Processing Cost of Service 1-18
Table 1-18 Glass Recycling Cost of Service 1-18
Table 1-19 Revenue Projections Based on Current Rates 1-19
Table 2-1 Material Received at the Landfill, Fiscal Year 2013 2-8
Table 2-2 Average Daily Deliveries to Landfill, FY 2013 2-8
Table 2-3 Top Customers Delivering Waste to Landfill 2-9
Table 2-4 Landfill Staffing 2-9
Table 2-5 Landfill Equipment 2-11
Table 2-6 Landfill Tonnage and Airspace Consumed through FY 2013 2-13
Table 2-7 Sales of Basalt Rock, FY 2013 2-15
Table 3-1 Materials Managed at BuRRT, Fiscal Year 2013 3-10
Table 3-2 Materials Managed at BuRRT, Fiscal Year 2014 3-10
Table 3-3 Tons of Recyclables Managed by Source, FY 2013 3-11
Table 3-4 Tons of Recyclables Managed by Source, FY 2014 3-11
Table 3-5 Recyclable Materials Shipped from BuRRT, FY 2013 3-12
Table 3-6 Recyclable Materials Shipped from BuRRT, FY 2014 3-13
Table 3-7 Comparison of Recyclables Received to Commodities Shipped 3-13
Table 3-8 BuRRT Staffing 3-15
Table 3-9 BuRRT Assigned Equipment 3-16
Table 3-10 MRF Cost for 6,500 Tons per Year Managed 3-18
Table 3-11 MRF Cost for 10,000 Tons per Year Managed 3-18
Table 3-12 Potential per Ton Rebate or Fee for Off Site Recycling Depending on Average Market Value, at 6,809 Tons per Year 3-21
Table 3-13 Per ton Revenue (Cost) for Processing and Transportation, at 6,809 Tons per Year 3-21
Table 3-14 Revenue (Cost) for Processing and Transportation, at 6,809 Tons per Year 3-22
Table 3-15 Additional Trailers per Day for Recycling 3-22
Table 3-16 Total Processing, Transportation, and Overhead Costs, at 6,809 Tons per Year, plus 100 percent of Overhead Allocation[1] and 50 Percent of Operations and Maintenance Costs 3-23
Table 3-17 Total Processing, Transportation, and Overhead Costs, at 10,000 Tons per Year, plus 100 percent of Overhead Allocation[1] and 50 Percent of Operations and Maintenance Costs 3-24
Table 3-18 MRF Operating Cost for Processing Paper Only 3-25
Table 3-19 3-26
Potential per Ton Rebate or Fee for Off Site Recycling of Containers Only Depending on Average Market Value 3-26
Table 3-20 Cost per Ton for Processing and Transportation of Containers Only at Various Average Market Value Rates 3-26
Table 3-21 Total Containers Only Processing and Transportation Costs at Various Average Market Value and Various Tons per Year 3-26
Table 3-22 Comparison of Options 3-28

Table 4-1 BuRRT Staffing 4-1
Table 4-2 Landfill Staffing 4-2
Table 5-1 Green Waste Processing Cost 5-1
Table 5-2 Distance from Los Alamos to Landfills 5-6

List of Figures

Figure 2-1. Landfill Scale House 2-2
Figure 2-2. Fleet Maintenance Building 2-3
Figure 2-3. On-Site Fuel Storage 2-3
Figure 2-4. Landfill Compactor Operating on Work Face 2-4
Figure 2-5. Garbage Truck Delivering to Landfill Work Face 2-4
Figure 2-6. Compost Area 2-5
Figure 2-7. Landfill Gas Flare 2-5
Figure 2-8. Drill Rig Preparing Bore Hole for Blasting in Front of Blasted Rock 2-6
Figure 2-9. Groundwater Monitoring Well 2-7
Figure 3-1. Instructional Sign at BuRRT Citizen Recycling Drop-off 3-2
Figure 3-2. Scale Facility 3-2
Figure 3-3. HHW Facility 3-3
Figure 3-4. Transfer Station Building with Administration Building 3-3
Figure 3-5. Transfer Station Building 3-4
Figure 3-6. Small Vehicle Unloading 3-5
Figure 3-7. Excavator Used to Pack Transfer Trailers 3-5
Figure 3-8. Transfer Station (Note Tractor-Trailer Entering Lower-Level Tunnel) 3-6
Figure3-9. Beast Horizontal Grinder 3-7
Figure 3-10. Glass Crushing Operation 3-7
Figure 3-11. Manual Sorting of Recyclable Materials 3-8

List of Appendices

A Cost of Service and Funding Options | Schedules 1-7

Section 1
COST OF SERVICE AND FUNDING OPTIONS

1.1 Introduction

The Santa Fe Solid Waste Management Agency (Agency) retained Leidos Engineering, LLC to conduct a cost of service and rate design study. The Agency was created by means of a duly approved Joint Powers Agreement between the City of Santa Fe and Santa Fe County. The governing body of the Agency is a Board of Directors designated in accordance with the Joint Powers Agreement.

The goal of a cost of service and rate design study is to determine solid waste fees that adequately recover the costs of providing services. The total cost of providing service includes costs associated with operations and maintenance (O&M) and cash capital outlays. The organizational structure of this report is described below:

- Current Solid Waste Services
- Project Approach
- Methodology Overview
- Development of the "Test Year"
- Allocation of Costs to Service Categories
- Determination of Billing Units
- Calculation of the Cost of Service
- Current Rate Recovery
- Recommendations

1.2 Current Solid Waste Services

Solid waste services provided by the Agency include the following:

1.2.1 Landfill Services and Fees

The Caja del Rio Landfill (landfill) is owned and operated by the Santa Fe Solid Waste Management Agency. The landfill currently operates between 7:00 am and 5:00 pm, Monday through Saturday. Based on data provided by Agency staff, Leidos estimates that the landfill received approximately 152,000 tons of refuse in FY 2014. Approximately 65 percent of disposal at this site is from residential and commercial collection services; 21 percent of disposal comes from construction and demolition waste; 11 percent of disposal is diverted from the Buckman Road Recycling & Transfer Station (BuRRT); the remaining 3 percent of disposal is related to miscellaneous waste (i.e. dead animals, sweeper, sludge, etc.). The current tipping fee ranges between $40.00

and $80.00 per ton, depending upon the type of customer and/or material being disposed.

- Landfill Service Fees:
  - Vehicles 12,500 – 18,000 lbs GVW: $50.00 per ton
  - Vehicles 18,000 lbs GVW and over: $40.00 per ton
  - Immediate Burial: $80.00 per ton
  - Petroleum Contaminated Soil (>1,000 ppm TPH): $60.00 per ton
  - Use of Scale for Weighing Only: $15.00 per use
  - Minimum Load Charge: $5.00 per load
  - Uncovered Load Surcharge: $25.00 per load

1.2.2 Buckman Road Recycling & Transfer Station (BuRRT)

The Agency also owns and operates the Buckman Road Recycling & Transfer Station (BuRRT). BuRRT currently operates between 8:00 am and 4:45 pm, Monday through Sunday, and includes both a material recovery facility (MRF) and a transfer station on site. The transfer station received approximately 16,353 tons of waste in FY 2014. Approximately 74 percent of incoming waste came from residential and commercial customers, and the remaining 26 percent of waste was attributed to construction and demolition waste.

Approximately 6,809 tons of conventional recycling material was processed at BuRRT in FY 2014, with the vast majority of material coming from inside Santa Fe County. Additionally, approximately 2,285 tons of glass and 7,375 tons of green waste were disposed of at the facility in FY 2014. The current tipping fees vary between customer and material type, which is outlined below.

- BuRRT Trash and Recycling Fees:
  - Transfer (Refuse) Service:
    - Vehicles less than 4,500 lbs: $6.00 per load
    - Vehicles 4,500 – 5,500 lbs GVW: $9.00 per load
    - Vehicles 5,500 – 6,500 lbs GVW: $12.00 per load
    - Vehicles over 6,500 lbs GVW: $50.00 per ton
    - Vehicles with Trailers: $50.00 per ton
    - Minimum Load Charge: $6.00 per load
    - Uncovered Load Surcharge: $15.00 per load
  - Recycling Service
    - Conventional Recycling - No charge
  - Vehicles over 10,000 lbs GVW (out of County): $20.00 per ton

- Green Waste: $20.00 per ton
- Contaminated Green Waste: $60.00 per ton
- Minimum Load Charge: $5.00 per load
- Scrap Tires: $160.00 per ton
- Passenger Car Tire: $2.00 per tire
- Commercial Truck Tire: $6.00 per tire
- Scrap Metal: $15.00 per ton
- Freon Bearing Appliance (contains CFC's): $10.00 per unit
- Non-Freon Bearing Appliance (White Goods): $5.00 per unit
- Household Hazardous Waste: $50.00 per ton
- Electronic Waste: $50.00 per ton
- Mercury Containing Lamps: No Charge
- Uncovered Load Surcharge: $15.00 per load

1.3 Project Approach

Leidos developed a series of key tasks that provided the foundation for the conduct of the cost of service study. Leidos utilized the following sources of information regarding the Agency's current system and financial requirements.

1.3.1 Data Request

Leidos submitted detailed data requests to the Agency to collect historical financial and operational information regarding the Agency's solid waste operations. The information requested included:

- Detailed financial reports and budgets
- Solid waste policies and ordinances
- Personnel rosters
- Solid waste and recycling tonnage reports
- Fleet inventory and operating/capital costs

1.3.2 Cost Allocation Meetings

Leidos held meetings with Agency staff to initiate the cost of service study and allocate solid waste operational costs (both labor and capital) to the appropriate solid waste and recycling services. These meetings served as a forum to confirm the scope of services, discuss the data collected by Leidos and finalize the cost centers to be used.

1.3.3 On-going Staff Communications

During the course of the cost of service study, Leidos conducted several conference calls with Agency staff. These conference calls provided the opportunity for Leidos to review project progress, verify assumptions and receive input from the Agency.

1.4 Methodology Overview

The items listed below provide the background necessary to understand how data compiled in each task provides the information required to determine the cost of service and fees that will adequately recover the cost of service.

- **Development of the "Test Year":** The first task in conducting the cost of service analysis is the development of an annual revenue requirement for a "Test Year". The revenue requirement represents the total revenue that an entity will need to recover during a year in order to fund all expenses associated with the provision of solid waste services. Leidos worked with Agency staff to select a historical period that reflected the typical operation of the Agency's system.

  Leidos then reviewed the financial data and worked with Agency staff to make any adjustments to costs to make them representative of a typical year. The resulting "Test Year" was used as the basis for forecasting expenses from the fiscal year beginning July 1, 2014 (FY 2015) through FY 2018.

- **Development of the Revenue Requirement Forecast:** After developing the revenue requirement for the "Test Year", Leidos worked with Agency staff to project changes in costs due to inflation, salary increases, new equipment, etc. This resulted in the four-year revenue requirement forecast.

- **Allocation of Costs to Service Categories:** Next, Leidos worked with Agency staff to assign and allocate costs to various service categories. The service categories represent the primary solid waste and recycling services provided by the Agency and were determined with the assistance of Agency staff. The annual revenue requirement was allocated to the appropriate service categories based on Leidos' extensive experience with solid waste cost of service studies and input from Agency staff.

- **Allocation to Customer Classes:** Leidos grouped the service categories based on the customer classes that will recover each category's costs. The two primary classes include the Caja del Rio Landfill and the Buckman Road Recycling & Transfer Station.

- **Determination of Billing Units:** Leidos identified the appropriate billing units for each customer class. For example, the projected tonnage figures for FY 2015 – FY 2018 were used to calculate the cost per ton at the Caja del Rio landfill.

- **Calculation of the Cost of Service:** Leidos distributed the costs for each customer class across the appropriate billing units to determine the cost of service for each customer class.

It is important to note that the assumptions underlying the cost of service analysis may change over time (i.e., from one year to the next). Thus, periodic updates to the analysis, whether conducted internally by Agency staff or by a consultant, are important to recognize changes in operations, obligations, inflation, growth, etc.

1.5 Development of the "Test Year"

1.5.1 Selection of the Test Year

The revenue requirement is defined as the amount of revenue required to recover all costs associated with O&M, debt service, and cash capital outlays. In developing the revenue requirement for solid waste services, Leidos used the Agency's FY 2015 projected budget as the basis for the "Test Year". The FY 2015 budget was compared to financials from FY 2011 - FY 2014. Through this comparison, and with input from Agency staff, Leidos made adjustments to ensure that the "Test Year" would reflect expenses that occur on a regular basis. Leidos would mention that these types of adjustments are customary when conducting a detailed cost of service and rate design study.

All adjustments to the FY 2015 budget necessary to develop the "Test Year" are detailed in Appendix A, Schedule 1. Key components of the "Test Year" evaluated by Leidos include the annualized cost of replacement vehicles and additional capital improvement projects, which are further detailed in Appendix A, Schedule 2.

The Agency revenue requirement is the net of revenue offsets, such as the sales of recyclable materials at the material recovery facility and transfer station. Total expenses for the Agency for the "Test Year" were $7,743,248 and revenue offsets totaled $1,531,129.[1] The resulting "Test Year" revenue requirement nets approximately $6,212,119.[2]

1.5.2 Development of the Revenue Requirement Forecast

In addition to developing the "Test Year" revenue requirement, Leidos forecasted the annual revenue requirement for FY 2015 – FY 2018. In order to develop this forecast, Leidos projected how costs would change over the years due to factors such as inflation. To be conservative, the revenue offsets were assumed to remain flat throughout the four-year forecast.

The assumptions used to develop the forecast include the annual increases shown in Table 1-1 on the following page.

[1] These include all revenues other than the tip fees at the landfill. For instance: recycling revenues, tip fees at BuRRT, sale of scrap metal, etc.

[2] This is the amount that needs to be recovered through the tip fee at the Caja del Rio Landfill.

Table 1-1
Inflation Factors

Inflation Factor	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Salaries	0.00%	3.00%	3.00%	3.00%
Benefits	0.00%	3.00%	3.00%	3.00%
Overtime	0.0%	0.0%	0.0%	0.0%
Fuel	0.00%	3.00%	3.00%	3.00%
Maintenance	0.00%	2.00%	2.00%	2.00%
Supplies	0.00%	2.00%	2.00%	2.00%
Capital Equipment	0.00%	3.00%	3.00%	3.00%
Professional Services	0.00%	2.00%	2.00%	2.00%
General	0.00%	2.00%	2.00%	2.00%

In addition to forecasting cost increases due to inflation, Leidos also included the costs associated with the following: vehicle and equipment replacement, cell development, permitting renewals, and other miscellaneous projects. Landfill capital outlays will cost approximately $1.4 million annually for FY 2015 – FY 2017; this cost is expected to increase by approximately $420,000 for FY 2018 due to an increase in cell development costs. Capital improvement projects at BuRRT are expected to cost approximately $448,000 annually for FY 2015 – FY 2018.

Approximately $1.3 million in cell development costs for Cell 5B were originally budgeted in FY 2014, however per the Agency, costs for this cell will actually be incurred in FY 2015. It is important to note that costs for this cell will need to be recovered over the next four years, which is the estimated life of the cell. In FY 2018, cell development costs for Cell 6B are estimated to begin and are projected to provide airspace for five years, thus those costs are amortized over five years.

Table 1-2 shows the cost of service for the four-year forecasted period. The detailed composition of the forecast is provided in Appendix A, Schedule 3.

Table 1-2
Revenue Requirement

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Revenue Requirement[1]	$ 6,212,119	$ 6,364,012	$ 6,519,992	$ 7,100,174

1. Please note that this is net of all revenue offsets.

1.6 Allocation of Costs to Service Categories

The Agency provides a variety of solid waste services to its customers. To determine the cost for each service, there is a need to allocate costs to service categories that represent the primary solid waste services provided. These categories were determined through a series of discussions with Agency staff and are shown below.

- Caja del Rio Landfill
  - Disposal
  - Cell Development
  - Composting
  - Administration
  - Operation & Maintenance
- Buckman Road Recycling & Transfer Station (BuRRT)
  - Transfer Station
  - Material Recovery Facility
  - HHW Collection
  - Green Waste Processing
  - White Goods
  - Tires
  - E-Waste
  - Administration
  - Operation & Maintenance

Identification of the total cost of each service category was a critical step in determining adequate rates that reflect the cost of providing service. These costs were isolated by service category in order to fully capture the total cost by matching the tonnage associated with each service with the actual costs for that service. It should be noted that costs identified as "administration" include expenses that directly support administrative functions (i.e., office supplies, postage, bank charges, dues, advertising, etc.), and additionally include legal contract expenses. Costs identified as "operation and maintenance" include other indirect expenses directly related to the operational functions at BuRRT and the landfill (i.e., water/electric, grounds maintenance, operating and safety supplies, etc.). Table 1-3 identifies the cost of providing each service for FY 2015 – FY 2018.

Table 1-3
Revenue Requirement, by Service Category

Service Category	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Caja del Rio Landfill				
Disposal	$ 1,503,841	$ 1,532,999	$ 1,562,966	$ 1,593,764
Cell Development	537,888	538,720	539,575	960,455
Composting	99,481	100,315	101,172	102,052
Administration	807,733	822,391	837,457	852,943

(continued on next page)

Service Category	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Operation & Maintenance	1,361,012	1,388,014	1,415,635	1,443,891
Subtotal	$ 4,309,955	$ 4,382,439	$ 4,456,805	$ 4,953,105
Buckman Road Recycling & Transfer Station (BuRRT)				
Transfer Station	$ 942,371	$ 962,148	$ 982,507	$ 1,003,465
Material Recovery Facility	535,516	549,595	564,074	578,966
HHW Collection	213,895	218,434	223,079	227,833
Green Waste Processing	312,826	319,569	326,511	333,656
Glass Recycling	147,907	149,854	151,857	153,917
White Goods	7,666	7,891	8,124	8,363
Tires	29,181	29,806	30,445	31,099
E-Waste	30,691	31,594	32,525	33,483
Administration	559,626	575,112	591,044	607,438
Operation & Maintenance	653,616	668,699	684,150	699,978
Subtotal	$ 3,433,293	$ 3,512,702	$ 3,594,316	$ 3,678,198
Revenue Requirement	**$ 7,743,248**	**$ 7,895,141**	**$ 8,051,121**	**$ 8,631,302**

The Agency generates revenue from various sources that are allocated to the services in Table 1-3. These revenue sources include tip fees at BuRRT, the sale of recyclables (i.e. glass, mulch, scrap metal), dirt sales, and revenues from other miscellaneous fees. Table 1-4 outlines the revenue offsets for each major service.

Table 1-4
Revenue Offsets[1]

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Caja del Rio Landfill				
Dirt Sales	$ 150,000	$ 150,000	$ 150,000	$ 150,000
Miscellaneous Fees (Uncovered Loads)	1,129	1,129	1,129	1,129
Subtotal	**$ 151,129**	**$ 151,129**	**$ 151,129**	**$ 151,129**
Buckman Road Recycling & Transfer Station (BuRRT)				
Transfer Station				
Transfer Station Tip Fees[3]	$ 615,860	$ 615,860	$ 615,860	$ 615,860
Miscellaneous Fees (Uncovered Loads)	5,056	5,056	5,056	5,056
Scrap Metal Material Sales	41,169	41,169	41,169	41,169

(continued on next page)

[3] Refer to Schedule 1 for an explanation of this revenue source.

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Material Recovery Facility				
Sale of Recyclables[4]	420,819	420,819	420,819	420,819
MRF Tip Fees (Outside Recycling)	1,600	1,600	1,600	1,600
Household Hazardous Waste	-	-	-	-
Green Waste Processing				
Green Waste Tip Fees	190,610	190,610	190,610	190,610
Mulch Sales	24,656	24,656	24,656	24,656
Glass Recycling				
Glass Tip Fees	31,967	31,967	31,967	31,967
Glass Material Sales	13,356	13,356	13,356	13,356
White Goods	-	-	-	-
Tires	31,640	31,640	31,640	31,640
E-Waste	3,267	3,267	3,267	3,267
Subtotal	**$ 1,380,000**	**$ 1,380,000**	**$ 1,380,000**	**$ 1,380,000**

1. To be conservative, all revenue offsets were held constant for all four years.

Table 1-5 illustrates the revenue requirement after the revenue offsets have been applied to the appropriate cost categories in Table 1-3.

Table 1-5
Net Revenue Requirement, by Service Category (Less Revenue Offsets)

Service Category	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Caja del Rio Landfill				
Disposal	$ 1,503,841	$ 1,532,999	$ 1,562,966	$ 1,593,764
Cell Development	537,888	538,720	539,575	960,455
Composting	99,481	100,315	101,172	102,052
Administration	656,604	671,262	686,328	701,814
Operation & Maintenance	1,361,012	1,388,014	1,415,635	1,443,891
Subtotal	$ 4,158,826	$ 4,231,310	$ 4,305,676	$ 4,801,976
Buckman Road Recycling & Transfer Station (BuRRT)				
Transfer Station	$ 280,286	$ 300,063	320,422	$ 341,380
Material Recovery Facility	113,097	127,176	141,655	156,547
HHW Collection	213,895	218,434	223,079	227,833
Green Waste Processing	97,560	104,303	111,245	118,390
Glass Recycling	102,584	104,531	106,534	108,594

(continued on next page)

[4] Refer to Schedule 1 for an explanation of this revenue source.

Service Category	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
White Goods	7,666	7,891	8,124	8,363
Tires	(2,459)	(1,834)	(1,195)	(541)
E-Waste	27,424	28,327	29,258	30,216
Administration	559,626	575,112	591,044	607,438
Operation & Maintenance	653,616	668,699	684,150	699,978
Subtotal	$ 2,053,293	$ 2,132,702	$ 2,214,316	$ 2,298,198
Revenue Requirement	**$ 6,212,119**	**$ 6,364,012**	**$ 6,519,992**	**$ 7,100,174**

1.7 Allocation to Customer Classes

After calculating the costs for each service category over the four-year forecast period, the service categories costs were then allocated by customer class. This assists in identifying the appropriate customers to be charged for each service provided.

The following table identifies how the service categories were grouped and the recovery basis for each service category.

Table 1-6
Service Category Allocations

Service Category	Recovery Basis
Caja del Rio Landfill	
Disposal	Allocated to Caja del Rio Landfill
Cell Development	Allocated to Caja del Rio Landfill
Composting	Allocated to Caja del Rio Landfill
Administration	Allocated to Caja del Rio Landfill
Operation & Maintenance	Allocated to Caja del Rio Landfill
Buckman Road Recycling & Transfer Station (BuRRT)	
Transfer Station	Allocated to Transfer Station
Material Recovery Facility	Allocated to Material Recovery Facility
HHW Collection	Allocated to Household Hazardous Waste Collection
Green Waste Processing	Allocated to Green Waste Processing
Glass Recycling	Allocated to Glass Recycling
White Goods	Allocated to White Goods Collection
Tires	Allocated to Tires Collection
E-Waste	Allocated to E-Waste Collection
Administration	Redistributed Based on Percent of Revenue Requirement
Operation & Maintenance	Redistributed Based on Vehicle Maintenance Allocations

1.8 Determination of Billing Units

In order to calculate the appropriate user fees, it was necessary to determine the proper number of annual billing units, which includes the tonnage from disposal and recycling. Leidos received billing unit data from Agency staff. These numbers were then used to determine the cost of service based user fees by dividing the revenue requirement by the appropriate billing units.

1.8.1 Caja del Rio Landfill

Based on historical data provided by Agency staff, Leidos estimates that in the "Test Year", the Agency Landfill will receive approximately 152,000 tons of solid waste for disposal. To be conservative, Leidos assumed no growth in the tonnage received at the landfill throughout the four-year forecast. Table 1-7 presents Leidos' tonnage forecast for FY 2015 through FY 2018.

Table 1-7
Projected Tonnage by Year

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Billing Units				
BuRRT[1]	16,353	16,353	16,353	16,353
Construction & Demolition	32,753	32,753	32,753	32,753
Commercial	48,606	48,606	48,606	48,606
Residential	50,165	50,165	50,165	50,165
Miscellaneous (Dead Animals, Sweeper, Immediate Burial)	2,785	2,785	2,785	2,785
WWTP & WTP Sludge	1,338	1,338	1,338	1,338
Total	152,000	152,000	152,000	152,000

1. Includes solid waste collected at the transfer station and contaminated recyclables from the MRF.

1.8.2 Buckman Road Recycling & Transfer Station

Based on historical data provided by Agency staff, Leidos estimated that in the "Test Year", the Agency will receive approximately 33,015 total tons of solid waste and recyclables at BuRRT. To be conservative, Leidos assumed no growth in the tonnage received at BuRRT throughout the four-year forecast. Table 1-8 presents Leidos' tonnage forecast for FY 2015 through FY 2018.

Table 1-8
Projected Tonnage by Year

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Billing Units				
Disposal Waste at Transfer Station	16,353	16,353	16,353	16,353
Recycling Tonnage at MRF[1]	6,809	6,809	6,809	6,809
Glass Recycling	2,285	2,285	2,285	2,285
Green Waste	7,375	7,375	7,375	7,375
E-Waste	135	135	135	135
HHW	58	58	58	58
Total	33,015	33,015	33,015	33,015

1. Includes recycling inside & outside Santa Fe County; excludes glass recycling.

BuRRT also collects tires and white goods at the facility. Table 1-9 presents Leidos' forecast for these materials for FY 2015 through FY 2018.

Table 1-9
Projected Units by Year

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Billing Units				
Tires	18,006	18,006	18,006	18,006
White Goods	625	625	625	625

1.9 Calculation of the Cost of Service

Based on the data discussed in this section, Leidos determined the cost of service for the various services provided at the Caja del Rio Landfill and BuRRT. As is typical during these types of cost of service studies, Leidos found differences between the rates charged to the various customer classes and the actual cost of providing the associated service.

1.9.1 Caja del Rio Landfill

Leidos determined the cost of service associated with the disposal tipping fee at the landfill, which is presented in Table 1-10. The revenue requirement includes the costs of disposal, cell development, and composting, in addition to the indirect costs associated with administration and operation and maintenance. A detailed examination of the cost of service for disposal in each year of the forecast is provided in Appendix A, Schedule 5.

Table 1-10
Disposal Cost of Service and Tipping Fee

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Annual Revenue Requirement				
Direct Allocation				
Disposal	$ 1,503,841	$ 1,532,999	$ 1,562,966	$ 1,593,764
Cell Development	537,888	538,720	539,575	960,455
Composting	99,481	100,315	101,172	102,052
Subtotal - Direct	$ 2,141,210	$ 2,172,034	$ 2,203,713	$ 2,656,271
Overhead/Indirect				
Administration	$ 807,733	$ 822,391	$ 837,457	$ 852,943
Operation & Maintenance	1,361,012	1,388,014	1,415,635	1,443,891
Subtotal-Indirect/OH	$ 2,168,745	$ 2,210,405	$ 2,253,092	$ 2,296,834
Subtotal Costs	**$ 4,309,955**	**$ 4,382,439**	**$ 4,456,805**	**$ 4,953,105**
Miscellaneous Revenues				
Dirt Sales	($150,000)	($150,000)	($150,000)	($150,000)
Uncovered Loads	(1,129)	(1,129)	(1,129)	(1,129)
Total	($151,129)	($151,129)	($151,129)	($151,129)
Total Costs	**$ 4,158,826**	**$ 4,231,310**	**$ 4,305,676**	**$ 4,801,976**
Billing Units (Annual Tonnage)				
BuRRT	16,353	16,353	16,353	16,353
Commercial & Demolition	32,753	32,753	32,753	32,753
Commercial Waste	48,606	48,606	48,606	48,606
Residential Waste	50,165	50,165	50,165	50,165
Miscellaneous[1]	2,785	2,785	2,785	2,785
WWTP & WTP Sludge	1,338	1,338	1,338	1,338
Total	152,000	152,000	152,000	152,000
Cost per Ton[2]	**$ 30.66**	**$ 31.19**	**$ 31.74**	**$ 35.40**

1. Miscellaneous tonnage includes dead animals, immediate burial, and sweeper.
2. Excludes tonnage from BuRRT as this is not charged a tip fee at the landfill.

Although the landfill is, on average, over-recovering $9.34 per ton, it is important to note that any over-recovery from the landfill has been used to support the cost of diversion programs at BuRRT. The overall over/under-recovery is detailed in Section 1.10.[5]

[5] It should be noted that operation of a "small to medium" landfill, such as the Caja del Rio Landfill, at a cost per ton in the low $30's for a cost of service is reasonable.

1.9.2 Buckman Road Recycling & Transfer Station

Leidos determined the cost of service associated with the transfer station and material recovery facility at BuRRT, in addition to calculating the cost of service for various miscellaneous programs.

1.9.2.1 Transfer Station

Table 1-11 lists the projected cost of service for the transfer station at BuRRT over the four-year forecast. The revenue requirement includes the direct cost of operating the transfer station, and a proportional share of the indirect costs (i.e., administration, operation and maintenance.). A detailed examination of the cost of service and the corresponding cost components for each year of the forecast is provided in Appendix A, Schedule 6.

Table 1-11
Transfer Station Cost of Service

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Annual Revenue Requirement				
Direct Allocation				
Transfer Station	$ 942,371	$ 962,148	$ 982,507	$ 1,003,465
Indirect Allocation				
Administration	217,032	223,301	229,756	236,405
Operation & Maintenance	191,695	196,118	200,650	205,292
Total Costs	**$ 1,351,097**	**$ 1,381,567**	**$ 1,412,914**	**$ 1,445,162**
Billing Units				
Annual Tonnage[1]	16,353	16,353	16,353	16,353
Cost per Ton	$ 82.62	$ 84.48	$ 86.40	$ 88.37

1. Includes solid waste tonnage from construction and demolition, commercial, and residential sources.

Currently, BuRRT charges $50.00 per ton of solid waste for all vehicles over 6,500 pounds (or those with trailers). The cost of service, at $82.62 per ton, is approximately $32.62 per ton higher than the current rate, for the largest vehicle accepted, at the facility. The transfer station is projected to under-recover its costs by approximately $689,000 in FY 2015 after subtracting tip fee revenues received for waste disposal at BuRRT.

1.9.2.2 Material Recovery Facility

Table 1-12 lists the projected cost of service for the material recovery facility at BuRRT over the four-year forecast. The revenue requirement includes the direct cost of operating the material recovery facility, and a proportional share of the indirect costs (i.e., administration, operation and maintenance.). A detailed examination of the cost of

service and the corresponding cost components for each year of the forecast is provided in Appendix A, Schedule 6.

Table 1-12
Material Recovery Facility Cost of Service

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Annual Revenue Requirement				
Direct Allocation				
Material Recovery Facility	$ 535,516	$ 549,595	$ 564,074	$ 578,966
Indirect Allocation				
Administration	161,439	165,902	170,495	175,221
Operation & Maintenance	348,138	356,172	364,402	372,833
Total Costs	$ 1,045,093	$ 1,071,669	$ 1,098,971	$ 1,127,019
Billing Units				
Annual Recycling Tonnage[1]	6,809	6,809	6,809	6,809
Cost per Ton	$ 153.50	$ 157.40	$ 161.41	$ 165.53

1. Excludes glass recycling

The MRF does not currently charge customers in Santa Fe County for conventional recycling, and assesses a $20.00 per ton fee for conventional recycling on customers outside of Santa Fe County. Compared to the cost of service rate, the MRF is projected to significantly under-recover costs by approximately $622,000 in FY 2015 after subtracting off revenues received from the sales of recyclables.

1.9.2.3 Miscellaneous Services at Buckman Road Recycling & Transfer Station (BuRRT)

The tables below list the projected cost of service for the disposal and/or recycling for the following services at the Buckman Road Recycling & Transfer Station: household hazardous waste (HHW), electronic waste (E-Waste), tire disposal, white goods, green waste processing, glass recycling. The revenue requirement includes the direct cost of providing these services, and a proportional share of the indirect costs (i.e., administration, operation and maintenance.). A detailed examination of the cost of service and the corresponding cost components for each year of the forecast is provided in Appendix A, Schedule 7.

Table 1-13 lists the cost of service for household hazardous waste. The Agency provides the HHW service at a rate of $50.00 per ton, or $0.50 per every 20 pounds of HHW. It is not uncommon across the industry for the cost of service for household hazardous waste to exceed the fee charged to the customer insofar that this service is designed to encourage proper disposal of this material.

Table 1-13
Household Hazardous Waste Cost of Service

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Annual Revenue Requirement				
Direct Allocation				
HHW	$ 213,895	$ 218,434	$ 223,079	$ 227,833
Indirect Allocation				
Administration	63,691	65,132	66,608	68,119
Operation & Maintenance	-	-	-	-
Total Costs	**$ 277,586**	**$ 283,566**	**$ 289,687**	**$ 295,951**
Billing Units				
Annual Pounds	116,360	116,360	116,360	116,360
Cost per Pound	**$ 2.39**	**$ 2.44**	**$ 2.49**	**$ 2.54**

Table 1-14 lists the cost of service for tire recycling over the four-year period. Please note that the cost of service is in line with current gate rate fees, which range between $2.00 and $6.00 per tire for this service.

Table 1-14
Tire Recycling Cost of Service

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Annual Revenue Requirement				
Direct Allocation				
Tire Recycling	$ 29,181	$ 29,806	$ 30,445	$ 31,099
Indirect Allocation				
Administration	9,189	9,387	9,590	9,798
Operation & Maintenance	-	-	-	-
Total Costs	**$ 38,369**	**$ 39,193**	**$ 40,036**	**$ 40,897**
Billing Units				
Annual Number of Tires	18,006	18,006	18,006	18,006
Cost per Tire	**$ 2.13**	**$ 2.18**	**$ 2.22**	**$ 2.27**

Table 1-15 indicates the cost of service for electronic waste (E-Waste) recycling. It is important to note that while E-Waste is currently charged a fee of $50.00 per ton ($0.50 per 20 pounds) to the customer, it will cost BuRRT approximately $298.04 per ton to properly recycle. Although the Agency will under-recover approximately $248.04 per ton in FY 2015, Leidos would recommend the Agency keep current rates in place in order to encourage the proper disposal of these hazardous materials.

Table 1-15
E-Waste Recycling Cost of Service

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Annual Revenue Requirement				
Direct Allocation				
Tire Recycling	$ 30,691	$ 31,594	$ 32,525	$ 33,483
Indirect Allocation				
Administration	9,664	9,950	10,246	10,550
Operation & Maintenance	-	-	-	-
Total Costs	**$ 40,355**	**$ 41,545**	**$ 42,770**	**$ 44,033**
Billing Units				
Annual Tons	135	135	135	135
Cost per Ton	**$ 298.04**	**$ 306.83**	**$ 315.88**	**$ 325.21**

Table 1-16 lists the cost of service for white goods recycling. The Agency is projected to under-recover approximately $5 to $10 per white good collected in FY 2015.

Table 1-16
White Good Recycling Cost of Service

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Annual Revenue Requirement				
Direct Allocation				
White Goods	$ 7,666	$ 7,891	$ 8,124	$ 8,363
Indirect Allocation				
Administration	2,414	2,485	2,559	2,635
Operation & Maintenance	-	-	-	-
Total Costs	**$ 10,080**	**$ 10,377**	**$ 10,683**	**$ 10,999**
Billing Units				
Annual Number of White Goods	625	625	625	625
Cost per White Good	**$ 16.13**	**$ 16.60**	**$ 17.09**	**$ 17.60**

Table 1-17 indicates the cost of service for green waste processing. The Agency is projected to under-recover approximately $246,000 after receipt of tip fees received for yard waste, and revenues from the sale of mulch in FY 2015.

Table 1-17
Green Waste Processing Cost of Service

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Annual Revenue Requirement				
Direct Allocation				
Green Waste	$ 312,826	$ 319,569	$ 326,511	$ 333,656
Indirect Allocation				
Administration	74,186	76,323	78,525	80,791
Operation & Maintenance	74,771	76,494	78,264	80,074
Total Costs	$ 461,782	$ 472,389	$ 483,299	$ 494,521
Billing Units				
Annual Tons	7,375	7,375	7,375	7,375
Cost per Ton	$ 62.61	$ 64.05	$ 65.53	$ 67.05

Table 1-18 lists the cost of service for glass recycling. It is projected the Agency will under-recover, after subtracting glass-related revenues received, approximately $160,000 in FY 2015 from the glass recycling operation.

Table 1-18
Glass Recycling Cost of Service

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Annual Revenue Requirement				
Direct Allocation				
Glass	$ 147,907	$ 149,854	$ 151,857	$ 153,917
Indirect Allocation				
Administration	22,013	22,630	23,265	23,919
Operation & Maintenance	39,012	39,912	40,835	41,779
Total Costs	$ 208,932	$ 212,396	$ 215,956	$ 219,615
Billing Units				
Annual Tons	2,285	2,285	2,285	2,285
Cost per Ton	$ 91.43	$ 92.94	$ 94.50	$ 96.10

1.10 Current Rate Recovery

This section of the report forecasts the projected revenue recovered using current rates for all Agency related services. The projected revenues for the Agency will lead to an overall under-recovery of costs if rates are left unadjusted, or if current operational practices remain unchanged. This is largely due to the under-recovery of costs with

regards to the material recovery facility, in addition to the operations associated with glass recycling and green waste processing at BuRRT.

Table 1-16 provides a summary of total expected revenues and over/under-recovery of costs at the Caja del Rio Landfill and BuRRT. To be conservative, the forecasted revenues were assumed to remain flat throughout the four-year forecast. It is important to note that while the landfill is expected to over-recover costs during FY 2015 – FY 2018, BuRRT is expected to under-recover costs over the same period. The net result is a cumulative under-recovery of approximately $3,828,812.

Table 1-16
Revenue Projections Based on Current Rates

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Caja del Rio Landfill				
Caja del Rio Landfill Revenues[1]	$ 5,743,000	$ 5,743,000	$ 5,743,000	$ 5,743,000
Revenue Requirement	4,309,955	4,382,439	4,456,805	4,953,105
Annual Over-Recovery	$ 1,433,045	$ 1,360,561	$ 1,286,195	$ 789,895
BuRRT				
BuRRT Revenues[2]	$ 1,380,000	$ 1,380,000	$ 1,380,000	$ 1,380,000
Revenue Requirement	3,433,293	3,512,702	3,594,316	3,678,198
Annual Under-Recovery	($2,053,293)	($2,132,702)	($2,214,316)	($2,298,198)
Total Revenue	$ 7,123,000	$ 7,123,000	$ 7,123,000	$ 7,123,000
Total Costs	$ 7,743,248	$ 7,895,141	$ 8,051,121	$ 8,631,302
Total Under-Recovery	($620,248)	($772,141)	($928,121)	($1,508,302)
Cumulative Under-Recovery	($620,248)	($1,392,389)	($2,320,510)	($3,828,812)

1. Includes revenues from City, County, and other miscellaneous revenues (i.e. rock sales, uncovered loads, etc.)
2. Includes tip fees from various materials, in addition to the revenues associated with the sale of recyclables

1.11 Recommendations

Based on Leidos' experience, and in particular, the project manager's extensive experience in the conduct of solid waste cost of service studies, we would propose the following recommendations:

1. **Maintain Rates at Caja del Rio Landfill :** At present, the Agency's tip fees at the landfill are sufficiently recovering costs. Leidos would recommend the Agency maintain current rates at the landfill for FY 2015 – FY 2018. If the Agency is eventually able to achieve an over-recovery on a system-wide basis, for both the landfill and BuRRT, Leidos would recommend the Agency consider issuing a rebate to the City and County, once volumes in excess of 175,000 tons

per year at the landfill are achieved. This is further discussed in Section 5: Evaluate Alternative Options (5.6).

2. **Maintain Rates at Buckman Road Recycling & Transfer Station:** Leidos would recommend the Agency maintain current rates at BuRRT for FY 2015 – FY 2018.

3. **Consider Entering into a Public-Private-Partnership (P3) for MRF, Glass Recycling, and Green Waste Processing:** Given that costs are not sufficiently recovered at BuRRT, Leidos would recommend the Agency consider options to contract out services for the MRF, glass recycling, and/or green waste processing by entering into a public-private-partnership (P3). For instance, if the Agency is able to enter into a P3 relationship for the MRF operation, and/or the direct-haul of recyclables to a larger MRF, significant cost savings will most likely be realized in excess of $200,000 to $400,000 per year. This recommendation is further discussed in Section 3: BuRRT Operations Review.

   If the Agency is unable to secure a public-private-partnership for the MRF, glass recycling, and/or green waste services, Leidos would recommend the Agency revisit the cost of service in 12 months; rates at the landfill may need to be increased to recover the costs.

Appendix A
SCHEDULES

The following schedules are included as part of Appendix A:

Schedule 1: Budget
Schedule 2: Capital Improvement Plan
Schedule 3: Four Year Forecast
Schedule 4: Revenue Requirement Summary
Schedule 5: Caja del Rio Landfill
Schedule 6: Buckman Road Recycling and Transfer Station
Schedule 7: Miscellaneous Services

Landfill Budget (52501)

	Object Account	Description	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Budget Proposed	FY 2014/2015 Budget Proposed	Adjustments	Test Year	Comment
1	500110	Salaries			$ 13,587					
2	500200	Exempt Full Time	107,616	6,597	-	110,427	112,736		112,736	
3	500350	Classified Full Time	789,427	711,237	730,403	810,211	896,459		896,459	
4	500800	Temporary Part Time				80,000	80,000		80,000	
5	501400	Overtime	13,737	11,123	26,662	25,000	25,000		25,000	
6	501510	Worked Holiday @ 1.5	5,880	7,881	7,093				-	
7	502000	Annual Leave	-	87,403	92,529				-	
8	502010	Personal Day		3,227	4,016				-	
9	502015	Miscellaneous Leave	-	9,836	7,046				-	
10	502050	Comp-time	-	10,017	8,701				-	
11	502100	Sick Leave	882	27,137	42,121				-	
12	502115	Union Business		279	784				-	
13	502200	Incentives	1,133	2,514	3,239	4,200	4,200		4,200	
14	503100	FICA	65,466	62,463	66,355	72,663	85,557		85,557	
15	503150	Retirement	166,742	154,653	153,708	175,036	208,126		208,126	
16	503200	Employee Health Ins	178,101	151,183	180,635	245,214	259,938		259,938	
17	503250	Retiree Health Care				18,413	20,268		20,268	
18	503250	Unemployment	14,688	15,205	16,304	3,839	3,839		3,839	
19	503300	Unemployment Insurance	-	-	3,515				-	
20	503350	Workers' Comp	20,000	19,965	19,986	21,895	26,852		26,852	
21	503400	City Share Dental Insurance	9,108	8,049	7,827	11,005	12,000		12,000	
22		COLA 2.1%				24,874	18,337		18,337	
23		MERIT 2%				24,188	26,563		26,563	
24		Retirement (PERA)							-	
25		Expansion Position				107,352	-		-	
26	510200	Legal Contract	28,678	25,331	29,025	35,300	35,300	(17,650)	17,650	A
27	510250	Compliance Contracts	1,277	2,346	2,300	2,300	3,243	(1,622)	1,621	A
28	510300	Professional Contracts	522,557	432,303	434,454	567,875	525,875		525,875	
29	510600	Reim Share of Sales		42,099	75,809	51,750	95,000		95,000	
30	513950	Gas	10,464	18,079	19,005	25,000	20,000	(15,684)	4,316	A
31	514000	Water	19,635	25,241	12,223	25,000	18,000	4,574	22,574	A
32	514050	Electric	80,939	62,549	80,763	80,000	80,000	(68,800)	11,200	A
33	514100	Communication	26,514	27,288	25,407	30,000	30,000	(5,710)	24,290	A
34	520100	Rep and Maint Build/Struct	14,759	13,369	9,927	15,000	30,000		30,000	
35	520200	Rep & Maint Frounds/Rd	16,534	7,367	7,916	10,000	10,000		10,000	
36	520300	Rep & Maint Furn/Fix/Equip	3,098	2,967	616	4,000	24,000		24,000	
37	520400	Rep & Maint Machin & Equipment	208,311	189,609	232,683	300,000	300,000		300,000	
38	520500	Rep & Maint Vehicles	5,646	12,040	4,570	11,000	10,000		10,000	
39	530100	Office Supplies	9,900	8,614	8,406	15,000	12,000		12,000	
40	530200	Operating Supplies	18,402	24,239	14,748	30,000	26,000		26,000	
41	530300	Safety Supplies	4,315	4,850	5,345	14,000	15,000		15,000	
42	530400	Food	405	337	519	1,000	1,000		1,000	
43	530500	Uniform, Clothing, Linen	10,149	8,761	10,518	13,000	13,000		13,000	
44	530600	Software	5,538	1,703	1,497	5,000	5,000		5,000	
45	530700	Books/Subscrpts/Periodicals	603	-	245	500	500		500	
46	530750	Book Acquisition	-	-	64				-	
47	530850	Auto Parts	8,607	11,944	8,986	12,000	10,000		10,000	
48	530900	Tires	4,946	7,129	-	8,000	20,000		20,000	
49	531000	Gasoline	21,162	20,159	21,213	30,000	20,000		20,000	
50	531050	Diesel	136,072	215,019	250,555	320,000	300,000	(39,000)	261,000	A
51	540010	Depreciation Expense	-	(25,206)	-				-	
52	545010	Bad Debt Expense	297,221	34	(34)				-	
53	555250	Gen Liab Dept Assessment	22,225	22,225	31,976	31,976	31,976		31,976	
54	555260	Benefits Dept. Assess	9,348	7,980	10,374	10,374	15,949		15,949	
55	555300	Gen Liability	-	53,415	37,088	65,000	65,000		65,000	
56	555400	Bond Expense	150	100	-	1,000	1,000		1,000	
57	560200	Out of State	276	-	580	2,000	2,000		2,000	

	Object Account	Description	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Budget Proposed	FY 2014/2015 Budget Proposed	Adjustments	Test Year	Comment
58	560250	In State	3,553	-	753	2,000	2,000		2,000	
59	560450	Local	72	-	-				-	
60	560500	Out of State	208	-	221	2,000	2,000		2,000	
61	560550	In State	317	43	138	2,000	2,000		2,000	
62	560700	Registration	3,010	769	1,653	3,000	3,000		3,000	
63	561000	Postage and Mail Service	360	942	481	2,000	2,000		2,000	
64	561200	Employee Training/Tuition	1,739	4,625	12,968	5,000	25,000		25,000	
65	561400	Gross Receipt Taxes	271,357	336,760	293,398	315,000	315,000		315,000	
66	561545	Recording Fees		4,560	-				-	
67	561750	Bank Charges & Fees	2,743	2,126	8,035	7,600	7,600		7,600	
68	561800	Print/Publish	851	6,456	2,314	8,000	8,000		8,000	
69	561850	Advertising	-	5,257	1,066	5,500	6,000		6,000	
70	561900	Dues	4,174	4,635	8,656	5,000	5,000		5,000	
71	562600	Equipment/Machinery Rental	5,876	2,024	4,231	5,000	5,000		5,000	
72	563100	Services of other City Depts	81,624	81,624	108,640	108,640	126,274	(42,091)	84,183	B
73	570500	Equipment & Machinery	30,309	-	-				-	
74	570800	Data Processing	5,638	5,115	-				-	
75	570850	Software	12,399	-	-				-	
76	570950	Vehicles < 1.5	4,850	-	-				-	
77	572400	Inventory Exempt	21,593	12,025	11,271				-	
		Subtotal	$ 3,311,183	$ 2,977,622	$ 3,175,114	$ 3,921,132	$ 4,008,592		$ 3,822,609	
78	590100	Debt Service Principal	$ 567,761	$ 584,334	$ 601,863	$ 402,078	$ -		-	
79	590200	Debt Service Interest	64,475	47,902	30,372	12,062	-		-	
		Subtotal	$ 632,236	$ 632,236	$ 632,236	$ 414,140	$ -		$ -	
80	**Intra-Fund Transfers Out**									
81	52502	Vehicle/Equipment Replacement				$ 500,000	$ 500,000	$ 38,999	$ 538,999	C
82	52503	Gas Collection System				150,000	125,000	(1,500)	123,500	C
83	52507	Cell Development				129,747	560,000	(135,000)	425,000	C
84	52509	Closure Post Closure				-	-		-	
85	52521	Landfill Permitting				290,000	200,000	(137,500)	62,500	C
86		Asphalt Overlay						250,000	250,000	C
		Subtotal	$ -	$ -	$ -	$ 1,069,747	$ 1,385,000		$ 1,399,999	
		Total Landfill Operations Budget	**$ 3,943,419**	**$ 3,609,857**	**$ 3,807,350**	**$ 5,405,019**	**$ 5,393,592**		**$ 5,222,608**	
	Recycling Budget (52504)									
87	500110	Salaries			$ 9,986				$ -	
88	500200	Exempt Full Time							-	
89	500350	Classified Full Time	643,583	592,282	571,042	725,192	769,537		769,537	
90	500400	Classified Part-Time	10,411	-	-				-	
91	500750	Temporary Full-Time	2,158	-	-	10,920	11,066		11,066	
92	500800	Temporary Part Time							-	
93	501400	Overtime	7,924	10,466	21,422	25,000	25,000		25,000	
94	501510	Worked Holiday @ 1.5	5,462	5,686	4,113				-	
95	502000	Annual Leave	-	55,081	58,810				-	
96	502010	Personal Day		1,581	2,854				-	
97	502015	Miscellaneous Leave	-	4,237	5,131				-	
98	502050	Comp-time	-	4,706	11,283				-	
99	502100	Sick Leave	457	16,711	41,631				-	
100	502115	Union Business							-	
101	502200	Incentives	1,121	3,160	919	4,200	4,200		4,200	
102	503100	FICA	49,265	50,968	52,297	58,547	61,950		61,950	
103	503150	Retirement	117,205	126,633	129,943	141,520	158,842		158,842	
104	503200	Employee Health Ins	109,189	118,055	130,884	206,881	200,329		200,329	
105	503250	Retiree Health Care				14,504	15,445		15,445	
106	503250	Unemployment	10,323	12,215	13,647				-	
107	503300	Unemployment Insurance							-	

	Object Account	Description	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Budget Proposed	FY 2014/2015 Budget Proposed	Adjustments	Test Year	Comment
108	503350	Workers' Comp	32,898	22,510	22,513	22,308	41,576		41,576	
109	503400	City Share Dental Insurance	4,519	4,647	4,842	7,522	10,181		10,181	
110		COLA 2.1%				20,243	14,836		14,836	
111		MERIT 2%				19,684	21,108		21,108	
112		Retirement (PERA)							-	
113		Expansion Position							-	
114	510200	Legal Contract						17,650	17,650	A
115	510250	Compliance Contracts						1,622	1,622	A
116	510300	Professional Contracts							-	
117	510600	Reim Share of Sales							-	
118	513950	Gas						15,689	15,689	A
119	514000	Water						2,368	2,368	A
120	514050	Electric						68,800	68,800	A
121	514100	Communication						5,771	5,771	A
122	520100	Rep and Maint Build/Struct	50,241	31,962	51,374	50,000	50,000		50,000	
123	520200	Rep & Maint Frounds/Rd	5,371	-	642	5,000	5,000		5,000	
124	520300	Rep & Maint Furn/Fix/Equip				3,000	3,000		3,000	
125	520400	Rep & Maint Machin & Equipment	87,261	122,154	172,459	175,000	175,000		175,000	
126	520500	Rep & Maint Vehicles	-	7,314	661	5,000	5,000		5,000	
127	530100	Office Supplies							-	
128	530200	Operating Supplies	39,599	29,646	35,416	40,000	40,000		40,000	
129	530300	Safety Supplies	7,644	16,116	14,292	25,000	25,000		25,000	
130	530400	Food	-	-	32				-	
131	530500	Uniform, Clothing, Linen	10,170	10,920	11,370	15,000	15,000		15,000	
132	530600	Software				1,500	1,500		1,500	
133	530700	Books/Subscrpts/Periodicals	119	894	54	500	500		500	
134	530750	Book Acquisition							-	
135	530850	Auto Parts	-	144	-	4,000	4,000		4,000	
136	530900	Tires	17,619	11,192	6,029	15,000	20,000		20,000	
137	531000	Gasoline	-	51	-		5,000		5,000	
138	531050	Diesel	93,631	72,270	53,599	100,000	100,000	39,000	139,000	D
139	540010	Depreciation Expense							-	
140	545010	Bad Debt Expense							-	
141	555250	Gen Liab Dept Assessment							-	
142	555260	Benefits Dept. Assess							-	
143	555300	Gen Liability							-	
144	555400	Bond Expense							-	
145	560200	Out of State				1,000	1,000		1,000	
146	560250	In State	695	442	879	2,000	2,000		2,000	
147	560450	Local							-	
148	560500	Out of State				1,000	1,000		1,000	
149	560550	In State	97	60	40	1,000	1,000		1,000	
150	560700	Registration	635	1,360	120	1,000	1,000		1,000	
151	561000	Postage and Mail Service							-	
152	561200	Employee Training/Tuition	838	5,400	4,003	5,000	5,000		5,000	
153	561400	Gross Receipt Taxes							-	
154	561545	Recording Fees							-	
155	561750	Bank Charges & Fees							-	
156	561800	Print/Publish	-	63	4,041	10,000	10,000		10,000	
157	561850	Advertising	7,733	117	2,334	10,000	10,000		10,000	
158	561900	Dues	-	400	640	500	500		500	
159	562550	Land/Building	64,108	65,055	56,882	60,000	60,000		60,000	
160	562600	Equipment/Machinery Rental	8,909	1,923	-	5,000	5,000		5,000	
161	563100	Services of other City Depts						42,091	42,091	B
162	570500	Equipment & Machinery	-	333,549	-				-	
163	570800	Data Processing							-	
164	570850	Software							-	
165	570950	Vehicles < 1.5							-	
166	572400	Inventory Exempt	11,724	831	954				-	
167	572960	WIP Design	123,839	49,903	7,039				-	

	Object Account	Description	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Budget Proposed	FY 2014/2015 Budget Proposed	Adjustments	Test Year	Comment
168	572970	WIP Construction		781,931	1,416				-	
		Total Recycling Budget	$ 1,524,751	$ 2,572,636	$ 1,505,593	$ 1,792,021	$ 1,879,570		$ 2,072,561	
	BuRRT CIP									
169		BuRRT Transfer Station Water Line Rehab/Mister						50,000	$ 50,000	C
170		BuRRT Permitting Renewal						50,000	50,000	C
171		Vehicle/Equipment Replacement						348,079	348,079	C
									$ 448,079	
		Total Recycling Operations Budget	$ 1,524,751	$ 2,572,636	$ 1,505,593	$ 1,792,021	$ 1,879,570		$ 2,520,640	
	REVENUES									
172	438615	Recycle-Miscellanous MRF Sales	$ (1,072,470)	$ (1,084,968)	$ (802,133)	$ (773,500)		$ (420,819)	$ (420,819)	E
173	438710	Transfer Station	(816,956)	(821,214)	(829,706)	(882,000)		(615,860)	(615,860)	F
174	438750	Landfill-City	(2,496,032)	(2,986,955)	(2,842,826)	(2,600,000)	(2,762,386)	2,762,386	-	G
175	438760	Landfill-County	(442,931)	(511,000)	(511,410)	(505,400)	(536,965)	536,965	-	G
176	438770	Landfill-Other	(2,005,656)	(2,135,147)	(2,445,984)	(2,300,000)	(2,443,649)	2,443,649	-	G
177	470400	Reimbursements/Refunds	(35,379)	(6,671)	(19,000)	-			-	
178	470510	Sales- Dirt (Caja)	(1,484)	(90,398)	(141,085)	(112,500)		(150,000)	(150,000)	D
179	470600	Sales of Capital Assets	-	(41,565)	-	-			-	
180	470900	Gain on Sale - Fixed Assets	-	30,066	-	-			-	
181	480020	Interest on Investments	(41,850)	(26,426)	(28,057)				-	
182	480022	Interest (Amort of Prem & Disc	15,525	2,804	2,652				-	
183		Caja Misc Sales - Uncovered Loads						(1,129)	(1,129)	H
184		BuRRT Misc Sales - Uncovered Loads						(5,056)	(5,056)	A
185		MRF Tip Fees (Outside Recycling)						(1,600)	(1,600)	A
186		Glass Tip Fees						(31,967)	(31,967)	A
187		Green Waste Tip Fees (Mulch)						(190,610)	(190,610)	A
188		Tires Tip Fees						(31,640)	(31,640)	A
189		E-Waste Tip Fees						(3,267)	(3,267)	A
190		Transfer Station Material Sales for Scrap Metal						(41,169)	(41,169)	A
191		Glass Material Sales						(13,356)	(13,356)	A
192		Mulch Sales						(24,656)	(24,656)	A
		Total Revenues	(6,897,234)	(7,671,475)	(7,617,551)	(7,173,400)	(5,743,000)		(1,531,129)	
		Revenue Requirement	$ (1,429,064)	$ (1,488,982)	$ (2,304,609)	$ 23,640	$ 1,530,162		$ 6,212,119	

Comment Legend

193	A	A portion of costs allocated to BuRRT budget from Caja del Rio budget per Agency.
194	B	Per Agency, internal fund transfer expense allocated 67% to Landfill and 33% to Transfer Station.
195	C	Per CIP and equipment replacement costs noted in Schedule 2.
196	D	Adjusted per Agency
197	E	Per Agency, the sale of recyclables should total approximately $500,000 less the sales of the following materials: scrap metal, glass material, and mulch.
198	F	Per Agency, the tip fees associated with putrescible waste/ C&D should total $880,000 less the tip fee revenues in lines 184-189.
199	G	To be determined based on the cost of service analysis and resulting proposed rates.
200	H	Uncovered load revenue per FY 2013 Material Tonnage report provided by Agency.

Average Year (FY 2015 - FY2017)		Total
Caja del Rio Landfill		
Vehicle Replacement	$	538,999
Landfill Gas		123,500
Cell Development - Cell 5B & 6B/Wedge Liner Installation		325,000
Cell Development - Site Development/Improvements		100,000
Asphalt Overlay - Wildlife Way 1.6 miles		250,000
Landfill Permitting		62,500
	$	1,399,999
Buckman Road Recycling & Transfer Station (BuRRT)		
Vehicle Replacement	$	348,079
BuRRT Transfer Station Water Line Rehab/Mister		50,000
BuRRT Permitting Renewal		50,000
	$	448,079

1. Detail on the following pages.

FY 2018		Total
Caja del Rio Landfill		
Vehicle Replacement	$	538,999
Landfill Gas		123,500
Cell Development - Cell 5B & 6B/Wedge Liner Installation		745,000
Cell Development - Site Development/Improvements		100,000
Asphalt Overlay - Wildlife Way 1.6 miles		250,000
Landfill Permitting		62,500
	$	1,819,999
Buckman Road Recycling & Transfer Station (BuRRT)		
Vehicle Replacement	$	348,079
BuRRT Transfer Station Water Line Rehab/Mister		50,000
BuRRT Permitting Renewal		50,000
	$	448,079

Santa Fe Solid Waste Management Agency
Vehicle Replacement Schedule

Capital Replacement Schedule per Agency

		Acquired Date	Asset Number and Description	Unit Number	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
	Caja del Rio Landfill								
1	Gas	04/14/2004	47 - 2004 Dodge Durango	1337		30,000			
2	Gas	9/20/2013	2014 Ford Escape	1351					
3	Gas	9/30/2013	2014 Ford Explorer	1352					
4	Diesel	07/11/2007	53909 - 1985 Street Broom T20	1346	36,400				
5	Diesel	03/11/2004	51637 - Compactor 836G	1327	1,040,000				
6	Diesel	12/20/2007	53 - Caterpillar Model 826H Compact	1344					
7	Diesel	04/11/1997	25875 - Caterpillar Bulldozer D8	1309					
8	Diesel	10/29/2013	2014 Komatsu Bulldozer D155AX	1356					
9	Gas	03/13/1997	25763 - 1997 Ford F250 Pickup (Disposal)	1301			34,729		
10	Gas	04/02/1997	25789 - 1997 Ford F250 (Lube)	1303			34,729		
11	Gas	08/10/2006	53322 - 1998 Dodge Truck Randy	1338				36,465	
12	Gas	05/17/2007	48 - 1998 Dodge Truck Chris	1340				36,465	
13	Gas	05/17/2007	51 - 2001 Chevrolet Silverado Truck	1341					
14	Gas	03/14/2011	54267 - 1993 Ford F350 Crew Cab 4x4	1350					
15	Gas	9/6/2013	2014 Chevrolet Crew Cab 4x4	1353					
16	Gas	9/6/2013	2014 Chevrolet Crew Cab 4x4 Flatbed	1354					
17	Diesel	8/3/2010	1990 Hyster Forklift	1349	47,840				
18	Diesel	01/20/1998	27 - 1992 Caterpillar -Motor Grader	1308					
19	Diesel	10/21/2003	29661 - 140 Vhp Motor Grader	1326					
20	Diesel	04/11/1997	25876 - Wheel Loader Caterpillar	1310					417,162
21	Diesel	10/3/2013	2004 International 4200 Flatbed	1358					
22	Diesel	02/26/2003	50651 - 623 Cat Scraper	1324				981,203	
23	Diesel	2/14/2005	623 Cat Scraper	1334					
24	Diesel	03/12/2003	2003 Ford F250 4x4	1322					
25	Diesel	9/20/2013	2014 Ford F-550 Regular Cab Utility Bed	1355					
26	Diesel	06/05/2001	28759 - 1987 Case Tractor	1315					
27	Diesel	04/11/1997	25807 - 1988 Ford MHV Portable H20 Truck	1304					
28	Diesel	05/13/2002	50148 - Water Wagon Model 613C 5,000-gal	1328					
29	Diesel	01/12/2009	29840 - Caterpillar 613 (Leachate) 5,000-gal	1345					
30	Diesel	9/25/2013	2003 Caterpillar Water Wagon 621G 8,000-gal	1357					
31	Diesel	9/25/2013	Tarpomatic	N/A					
					$ 1,124,240	$ 30,000	$ 69,458	$ 1,054,133	$ 417,162

Santa Fe Solid Waste Management Agency
Vehicle Replacement Schedule

		Acquired Date	Asset Number and Description	Unit Number	Capital Replacement Schedule per Agency FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
	BuRRT Transfer Station								
32	Diesel	12/01/2005	53365 - 1992 Lubrication Truck	1401					
33	Diesel	05/02/1997	25902 - 1992 Ford Water Truck	1402					
34	Diesel	03/12/2003	45 - 2003 Ford F250 4x4 (ext cab)	1404					
35	Gas	08/10/2006	53321 - 2000 Ford Explorer	1405	26,250				
36	Diesel	03/29/2002	41 - 2002 Ford Truck 4x4 Crew Cab	1406					
37	Diesel	12/01/2005	53353 - 1997 Freightliner	1411			171,990		
38	Diesel	12/01/2005	53350 - 1997 Freightliner	1412			171,990		
39	Diesel	12/01/2005	53352 - 1997 Freightliner	1413			171,990		
40	Diesel	12/01/2005	53361 - 1996 John Deer Excavator	1431		131,040			
41	Diesel	11/30/2003	29748 - 950GII Wheel Loader	1433		360,360			
42	Diesel	02/24/2006	52963 - Cat Skid Steer Loader	1434		49,140			
43	N/A	12/01/2005	53363 - 2003 Glass Pulverizer	1435	390,000				
44	Diesel	12/17/2003	29705 - 3680 Tri-Axle Beast Recycler	1436					
45	Diesel	10/07/2007	53914 - Mini Excavator 307 Cat	1437				144,472	
46	Propane	11/09/2007	54 - Toyota Forklift 5053T (Baler Room)	1438				65,012	
47	Gas	12/17/2008	53978 - 1997 Ford Utility	1440					
48	Diesel	06/15/2005	52795 - Eagle Tire Baler	1442					
49	N/A	06/15/2005	52796 - Eagle Tire Cutter Tuff Cut	1443					
50	Diesel	06/15/2005	52792 - Eagle Tire De-rimmer	1444					
51	Diesel	05/01/2009	29866 - 2009 International 7600	1450					
52	Diesel	5/20/2011	1994 Hyster Forklift (HHW Bldg)	1451					58,150
53	Diesel	02/01/2012	54475 - Volvo L35 Wheel Loader (MRF)	1452					
54	Diesel	06/22/2012	54518 - 2012 Volvo L110G Wheel Loader (TS)	1453					
55	Diesel	10/18/2013	2014 Freightliner	1454					
56	N/A	12/01/2005	53354 - 1997 Steco Trailer	0564					
57	N/A	12/01/2005	53355 - 1997 Steco Trailer	0566					
58	N/A	12/01/2005	53357 - 1997 Steco Trailer	0567					
59	N/A	10/18/2013	2014 End Dump Trailer (Rock)	1455					
					$ 416,250	$ 540,540	$ 515,970	$ 209,484	$ 58,150

Santa Fe Solid Waste Management Agency
Vehicle Replacement Schedule

		Acquired Date	Asset Number and Description	Unit Number	Capital Replacement - Average over 5 Years FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
	Caja del Rio Landfill								
1	Gas	04/14/2004	47 - 2004 Dodge Durango	1337	6,000	6,000	6,000	6,000	6,000
2	Gas	9/20/2013	2014 Ford Escape	1351	-	-	-	-	-
3	Gas	9/30/2013	2014 Ford Explorer	1352	-	-	-	-	-
4	Diesel	07/11/2007	53909 - 1985 Street Broom T20	1346	7,280	7,280	7,280	7,280	7,280
5	Diesel	03/11/2004	51637 - Compactor 836G	1327	208,000	208,000	208,000	208,000	208,000
6	Diesel	12/20/2007	53 - Caterpillar Model 826H Compact	1344	-	-	-	-	-
7	Diesel	04/11/1997	25875 - Caterpillar Bulldozer D8	1309	-	-	-	-	-
8	Diesel	10/29/2013	2014 Komatsu Bulldozer D155AX	1356	-	-	-	-	-
9	Gas	03/13/1997	25763 - 1997 Ford F250 Pickup (Disposal)	1301	6,946	6,946	6,946	6,946	6,946
10	Gas	04/02/1997	25789 - 1997 Ford F250 (Lube)	1303	6,946	6,946	6,946	6,946	6,946
11	Gas	08/10/2006	53322 - 1998 Dodge Truck Randy	1338	7,293	7,293	7,293	7,293	7,293
12	Gas	05/17/2007	48 - 1998 Dodge Truck Chris	1340	7,293	7,293	7,293	7,293	7,293
13	Gas	05/17/2007	51 - 2001 Chevrolet Silverado Truck	1341	-	-	-	-	-
14	Gas	03/14/2011	54267 - 1993 Ford F350 Crew Cab 4x4	1350	-	-	-	-	-
15	Gas	9/6/2013	2014 Chevrolet Crew Cab 4x4	1353	-	-	-	-	-
16	Gas	9/6/2013	2014 Chevrolet Crew Cab 4x4 Flatbed	1354	-	-	-	-	-
17	Diesel	8/3/2010	1990 Hyster Forklift	1349	9,568	9,568	9,568	9,568	9,568
18	Diesel	01/20/1998	27 - 1992 Caterpillar -Motor Grader	1308	-	-	-	-	-
19	Diesel	10/21/2003	29661 - 140 Vhp Motor Grader	1326	-	-	-	-	-
20	Diesel	04/11/1997	25876 - Wheel Loader Caterpillar	1310	83,432	83,432	83,432	83,432	83,432
21	Diesel	10/3/2013	2004 International 4200 Flatbed	1358	-	-	-	-	-
22	Diesel	02/26/2003	50651 - 623 Cat Scraper	1324	196,241	196,241	196,241	196,241	196,241
23	Diesel	2/14/2005	623 Cat Scraper	1334	-	-	-	-	-
24	Diesel	03/12/2003	2003 Ford F250 4x4	1322	-	-	-	-	-
25	Diesel	9/20/2013	2014 Ford F-550 Regular Cab Utility Bed	1355	-	-	-	-	-
26	Diesel	06/05/2001	28759 - 1987 Case Tractor	1315	-	-	-	-	-
27	Diesel	04/11/1997	25807 - 1988 Ford MHV Portable H20 Truck	1304	-	-	-	-	-
28	Diesel	05/13/2002	50148 - Water Wagon Model 613C 5,000-gal	1328	-	-	-	-	-
29	Diesel	01/12/2009	29840 - Caterpillar 613 (Leachate) 5,000-gal	1345	-	-	-	-	-
30	Diesel	9/25/2013	2003 Caterpillar Water Wagon 621G 8,000-gal	1357	-	-	-	-	-
31	Diesel	9/25/2013	Tarpomatic	N/A	-	-	-	-	-
					538,999	538,999	538,999	538,999	538,999

Santa Fe Solid Waste Management Agency
Vehicle Replacement Schedule

Schedule 2
8/25/2014

		Acquired Date	Asset Number and Description	Unit Number	Capital Replacement - Average over 5 Years FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
	BuRRT Transfer Station								
32	Diesel	12/01/2005	53365 - 1992 Lubrication Truck	1401	-	-	-	-	-
33	Diesel	05/02/1997	25902 - 1992 Ford Water Truck	1402	-	-	-	-	-
34	Diesel	03/12/2003	45 - 2003 Ford F250 4x4 (ext cab)	1404	-	-	-	-	-
35	Gas	08/10/2006	53321 - 2000 Ford Explorer	1405	5,250	5,250	5,250	5,250	5,250
36	Diesel	03/29/2002	41 - 2002 Ford Truck 4x4 Crew Cab	1406	-	-	-	-	-
37	Diesel	12/01/2005	53353 - 1997 Freightliner	1411	34,398	34,398	34,398	34,398	34,398
38	Diesel	12/01/2005	53350 - 1997 Freightliner	1412	34,398	34,398	34,398	34,398	34,398
39	Diesel	12/01/2005	53352 - 1997 Freightliner	1413	34,398	34,398	34,398	34,398	34,398
40	Diesel	12/01/2005	53361 - 1996 John Deer Excavator	1431	26,208	26,208	26,208	26,208	26,208
41	Diesel	11/30/2003	29748 - 950GII Wheel Loader	1433	72,072	72,072	72,072	72,072	72,072
42	Diesel	02/24/2006	52963 - Cat Skid Steer Loader	1434	9,828	9,828	9,828	9,828	9,828
43	N/A	12/01/2005	53363 - 2003 Glass Pulverizer	1435	78,000	78,000	78,000	78,000	78,000
44	Diesel	12/17/2003	29705 - 3680 Tri-Axle Beast Recycler	1436	-	-	-	-	-
45	Diesel	10/07/2007	53914 - Mini Excavator 307 Cat	1437	28,894	28,894	28,894	28,894	28,894
46	Propane	11/09/2007	54 - Toyota Forklift 5053T (Baler Room)	1438	13,002	13,002	13,002	13,002	13,002
47	Gas	12/17/2008	53978 - 1997 Ford Utility	1440	-	-	-	-	-
48	Diesel	06/15/2005	52795 - Eagle Tire Baler	1442	-	-	-	-	-
49	N/A	06/15/2005	52796 - Eagle Tire Cutter Tuff Cut	1443	-	-	-	-	-
50	Diesel	06/15/2005	52792 - Eagle Tire De-rimmer	1444	-	-	-	-	-
51	Diesel	05/01/2009	29866 - 2009 International 7600	1450	-	-	-	-	-
52	Diesel	5/20/2011	1994 Hyster Forklift (HHW Bldg)	1451	11,630	11,630	11,630	11,630	11,630
53	Diesel	02/01/2012	54475 - Volvo L35 Wheel Loader (MRF)	1452	-	-	-	-	-
54	Diesel	06/22/2012	54518 - 2012 Volvo L110G Wheel Loader (TS)	1453	-	-	-	-	-
55	Diesel	10/18/2013	2014 Freightliner	1454	-	-	-	-	-
56	N/A	12/01/2005	53354 - 1997 Steco Trailer	0564	-	-	-	-	-
57	N/A	12/01/2005	53355 - 1997 Steco Trailer	0566	-	-	-	-	-
58	N/A	12/01/2005	53357 - 1997 Steco Trailer	0567	-	-	-	-	-
59	N/A	10/18/2013	2014 End Dump Trailer (Rock)	1455	-	-	-	-	-
					348,079	348,079	348,079	348,079	348,079

	CIP Per Agency			
	FY 2015	FY 2016	FY 2017	FY 2018
Caja del Rio				
Landfill Gas	$ 118,000	$ 122,000	$ 125,000	$ 129,000
Cell Development - Cell 5B & 6B/Wedge Liner Installation[1]	1,300,000			2,100,000
Cell Development - Site Development/Improvements	100,000	100,000	100,000	100,000
Asphalt Overlay - Wildlife Way 1.6 miles	1,000,000			
Landfill Permitting	250,000			
	$ 2,768,000	$ 222,000	$ 225,000	$ 2,329,000
BuRRT				
BuRRT Transfer Station Water Line Rehab/Mister	$ 200,000			
BuRRT Permitting Renewal	200,000			
	$ 400,000	$ -	$ -	$ -
Total Caja del Rio & BuRRT	**$ 3,168,000**	**$ 222,000**	**$ 225,000**	**$ 2,329,000**

1. Please note that the approximately $1.3 million cost for Cell 5B will be recovered over 4 years (FY 2015 - FY 2018).
The approximately $2.1 million cost for cell 6B will be amortized over 5 years, with costs initially recovered in FY 2018.

	CIP - Average over Five Years			
	FY 2015	FY 2016	FY 2017	FY 2018
Caja del Rio				
Landfill Gas	$ 123,500	$ 123,500	$ 123,500	$ 123,500
Cell Development - Cell 5B & 6B/Wedge Liner Installation[1]	325,000	325,000	325,000	745,000
Cell Development - Site Development/Improvements	100,000	100,000	100,000	100,000
Asphalt Overlay - Wildlife Way 1.6 miles	250,000	250,000	250,000	250,000
Landfill Permitting	62,500	62,500	62,500	62,500
	$ 861,000	$ 861,000	$ 861,000	$ 1,281,000
BuRRT				
BuRRT Transfer Station Water Line Rehab/Mister	$ 50,000	$ 50,000	$ 50,000	$ 50,000
BuRRT Permitting Renewal	50,000	50,000	50,000	50,000
	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Total Caja del Rio & BuRRT	**$ 961,000**	**$ 961,000**	**$ 961,000**	**$ 1,381,000**

1. Please note that the approximately $1.3 million cost for Cell 5B will be recovered over 4 years (FY 2015 - FY 2018).
The approximately $2.1 million cost for cell 6B will be amortized over 5 years, with costs initially recovered in FY 2018.

Landfill Budget (52501)

	Object Account	Description	Year 1- 2015	Year 2- 2016	Year 3- 2017	Year 4- 2018
1	500110	Salaries	$ -	$ -	$ -	$ -
2	500200	Exempt Full Time	112,736	116,118	119,602	123,190
3	500350	Classified Full Time	896,459	923,353	951,053	979,585
4	500800	Temporary Part Time	80,000	82,400	84,872	87,418
5	501400	Overtime	25,000	25,000	25,000	25,000
6	501510	Worked Holiday @ 1.5	-	-	-	-
7	502000	Annual Leave	-	-	-	-
8	502010	Personal Day	-	-	-	-
9	502015	Miscellaneous Leave	-	-	-	-
10	502050	Comp-time	-	-	-	-
11	502100	Sick Leave	-	-	-	-
12	502115	Union Business	-	-	-	-
13	502200	Incentives	4,200	4,326	4,456	4,589
14	503100	FICA	85,557	88,124	90,767	93,490
15	503150	Retirement	208,126	214,370	220,801	227,425
16	503200	Employee Health Ins	259,938	267,736	275,768	284,041
17	503250	Retiree Health Care	20,268	20,876	21,502	22,147
18	503250	Unemployment	3,839	3,954	4,073	4,195
19	503300	Unemployment Insurance	-	-	-	-
20	503350	Workers' Comp	26,852	27,658	28,487	29,342
21	503400	City Share Dental Insurance	12,000	12,360	12,731	13,113
22		COLA 2.1%	18,337	18,887	19,454	20,037
23		MERIT 2%	26,563	27,360	28,181	29,026
24		Retirement (PERA)	-	-	-	-
25		Expansion Position	-	-	-	-
26	510200	Legal Contract	17,650	18,003	18,363	18,730
27	510250	Compliance Contracts	1,621	1,653	1,686	1,720
28	510300	Professional Contracts	525,875	536,393	547,120	558,063
29	510600	Reim Share of Sales	95,000	96,900	98,838	100,815
30	513950	Gas	4,316	4,402	4,490	4,580
31	514000	Water	22,574	23,026	23,486	23,956
32	514050	Electric	11,200	11,424	11,652	11,886
33	514100	Communication	24,290	24,776	25,272	25,777
34	520100	Rep and Maint Build/Struct	30,000	30,600	31,212	31,836
35	520200	Rep & Maint Frounds/Rd	10,000	10,200	10,404	10,612
36	520300	Rep & Maint Furn/Fix/Equip	24,000	24,480	24,970	25,469
37	520400	Rep & Maint Machin & Equipment	300,000	306,000	312,120	318,362
38	520500	Rep & Maint Vehicles	10,000	10,200	10,404	10,612
39	530100	Office Supplies	12,000	12,240	12,485	12,734
40	530200	Operating Supplies	26,000	26,520	27,050	27,591
41	530300	Safety Supplies	15,000	15,300	15,606	15,918
42	530400	Food	1,000	1,020	1,040	1,061
43	530500	Uniform, Clothing, Linen	13,000	13,260	13,525	13,796
44	530600	Software	5,000	5,100	5,202	5,306
45	530700	Books/Subscrpts/Periodicals	500	510	520	531
46	530750	Book Acquisition	-	-	-	-
47	530850	Auto Parts	10,000	10,200	10,404	10,612
48	530900	Tires	20,000	20,400	20,808	21,224
49	531000	Gasoline	20,000	20,600	21,218	21,855
50	531050	Diesel	261,000	268,830	276,895	285,202
51	540010	Depreciation Expense	-	-	-	-
52	545010	Bad Debt Expense	-	-	-	-
53	555250	Gen Liab Dept Assessment	31,976	32,616	33,268	33,933
54	555260	Benefits Dept. Assess	15,949	16,268	16,593	16,925

	Object Account	Description	Year 1- 2015	Year 2- 2016	Year 3- 2017	Year 4- 2018
55	555300	Gen Liability	65,000	66,300	67,626	68,979
56	555400	Bond Expense	1,000	1,020	1,040	1,061
57	560200	Out of State	2,000	2,040	2,081	2,122
58	560250	In State	2,000	2,040	2,081	2,122
59	560450	Local	-	-	-	-
60	560500	Out of State	2,000	2,040	2,081	2,122
61	560550	In State	2,000	2,040	2,081	2,122
62	560700	Registration	3,000	3,060	3,121	3,184
63	561000	Postage and Mail Service	2,000	2,040	2,081	2,122
64	561200	Employee Training/Tuition	25,000	25,500	26,010	26,530
65	561400	Gross Receipt Taxes	315,000	321,300	327,726	334,281
66	561545	Recording Fees	-	-	-	-
67	561750	Bank Charges & Fees	7,600	7,752	7,907	8,065
68	561800	Print/Publish	8,000	8,160	8,323	8,490
69	561850	Advertising	6,000	6,120	6,242	6,367
70	561900	Dues	5,000	5,100	5,202	5,306
71	562600	Equipment/Machinery Rental	5,000	5,150	5,305	5,464
72	563100	Services of other City Depts	84,183	85,866	87,584	89,335
73	570500	Equipment & Machinery	-	-	-	-
74	570800	Data Processing	-	-	-	-
75	570850	Software	-	-	-	-
76	570950	Vehicles < 1.5	-	-	-	-
77	572400	Inventory Exempt	-	-	-	-
		Subtotal	$ 3,822,609	$ 3,918,970	$ 4,017,870	$ 4,119,380
78	590100	Debt Service Principal	$ -	$ -	$ -	$ -
79	590200	Debt Service Interest	-	-	-	-
		Subtotal	$ -	$ -	$ -	$ -
80	**Intra-Fund Transfers Out**					
81	52502	Vehicle/Equipment Replacement	$ 538,999	$ 538,999	$ 538,999	$ 538,999
82	52503	Gas Collection System	123,500	123,500	123,500	123,500
83	52507	Cell Development	425,000	425,000	425,000	845,000
84	52509	Closure Post Closure				
85	52521	Landfill Permitting	62,500	62,500	62,500	62,500
		Asphalt Overlay	250,000	250,000	250,000	250,000
		Subtotal	$ 1,399,999	$ 1,399,999	$ 1,399,999	$ 1,819,999
		Total Landfill Operations Budget	**$ 5,222,608**	**$ 5,318,969**	**$ 5,417,869**	**$ 5,939,378**
Recycling Budget (52504)						
86	500110	Salaries	$ -	$ -	$ -	$ -
87	500200	Exempt Full Time	-	-	-	-
88	500350	Classified Full Time	769,537	792,623	816,402	840,894
89	500400	Classified Part-Time	-	-	-	-
90	500750	Temporary Full-Time	11,066	11,398	11,740	12,092
91	500800	Temporary Part Time	-	-	-	-
92	501400	Overtime	25,000	25,000	25,000	25,000
93	501510	Worked Holiday @ 1.5	-	-	-	-
94	502000	Annual Leave	-	-	-	-
95	502010	Personal Day	-	-	-	-
96	502015	Miscellaneous Leave	-	-	-	-
97	502050	Comp-time	-	-	-	-
98	502100	Sick Leave	-	-	-	-
99	502115	Union Business	-	-	-	-

	Object Account	Description	Year 1- 2015	Year 2- 2016	Year 3- 2017	Year 4- 2018
100	502200	Incentives	4,200	4,326	4,456	4,589
101	503100	FICA	61,950	63,809	65,723	67,694
102	503150	Retirement	158,842	163,607	168,515	173,571
103	503200	Employee Health Ins	200,329	206,339	212,529	218,905
104	503250	Retiree Health Care	15,445	15,908	16,386	16,877
105	503250	Unemployment	-	-	-	-
106	503300	Unemployment Insurance	-	-	-	-
107	503350	Workers' Comp	41,576	42,823	44,108	45,431
108	503400	City Share Dental Insurance	10,181	10,486	10,801	11,125
109		COLA 2.1%	14,836	15,281	15,740	16,212
110		MERIT 2%	21,108	21,741	22,393	23,065
111		Retirement (PERA)	-	-	-	-
112		Expansion Position	-	-	-	-
113	510200	Legal Contract	17,650	18,003	18,363	18,730
114	510250	Compliance Contracts	1,622	1,654	1,688	1,721
115	510300	Professional Contracts	-	-	-	-
116	510600	Reim Share of Sales	-	-	-	-
117	513950	Gas	15,689	16,003	16,323	16,649
118	514000	Water	2,368	2,415	2,464	2,513
119	514050	Electric	68,800	70,176	71,580	73,011
120	514100	Communication	5,771	5,887	6,004	6,125
121	520100	Rep and Maint Build/Struct	50,000	51,000	52,020	53,060
122	520200	Rep & Maint Frounds/Rd	5,000	5,100	5,202	5,306
123	520300	Rep & Maint Furn/Fix/Equip	3,000	3,060	3,121	3,184
124	520400	Rep & Maint Machin & Equipment	175,000	178,500	182,070	185,711
125	520500	Rep & Maint Vehicles	5,000	5,100	5,202	5,306
126	530100	Office Supplies	-	-	-	-
127	530200	Operating Supplies	40,000	40,800	41,616	42,448
128	530300	Safety Supplies	25,000	25,500	26,010	26,530
129	530400	Food	-	-	-	-
130	530500	Uniform, Clothing, Linen	15,000	15,300	15,606	15,918
131	530600	Software	1,500	1,530	1,561	1,592
132	530700	Books/Subscrpts/Periodicals	500	510	520	531
133	530750	Book Acquisition	-	-	-	-
134	530850	Auto Parts	4,000	4,080	4,162	4,245
135	530900	Tires	20,000	20,400	20,808	21,224
136	531000	Gasoline	5,000	5,150	5,305	5,464
137	531050	Diesel	139,000	143,170	147,465	151,889
138	540010	Depreciation Expense	-	-	-	-
139	545010	Bad Debt Expense	-	-	-	-
140	555250	Gen Liab Dept Assessment	-	-	-	-
141	555260	Benefits Dept. Assess	-	-	-	-
142	555300	Gen Liability	-	-	-	-
143	555400	Bond Expense	-	-	-	-
144	560200	Out of State	1,000	1,020	1,040	1,061
145	560250	In State	2,000	2,040	2,081	2,122
146	560450	Local	-	-	-	-
147	560500	Out of State	1,000	1,020	1,040	1,061
148	560550	In State	1,000	1,020	1,040	1,061
149	560700	Registration	1,000	1,020	1,040	1,061
150	561000	Postage and Mail Service	-	-	-	-
151	561200	Employee Training/Tuition	5,000	5,100	5,202	5,306
152	561400	Gross Receipt Taxes	-	-	-	-
153	561545	Recording Fees	-	-	-	-
154	561750	Bank Charges & Fees	-	-	-	-
155	561800	Print/Publish	10,000	10,200	10,404	10,612

	Object Account	Description	Year 1- 2015	Year 2- 2016	Year 3- 2017	Year 4- 2018
156	561850	Advertising	10,000	10,200	10,404	10,612
157	561900	Dues	500	510	520	531
158	562550	Land/Building	60,000	61,200	62,424	63,672
159	562600	Equipment/Machinery Rental	5,000	5,150	5,305	5,464
160	563100	Services of other City Depts	42,091	42,933	43,792	44,668
161	570500	Equipment & Machinery	-	-	-	-
162	570800	Data Processing	-	-	-	-
163	570850	Software	-	-	-	-
164	570950	Vehicles < 1.5	-	-	-	-
165	572400	Inventory Exempt	-	-	-	-
166	572960	WIP Design	-	-	-	-
167	572970	WIP Construction	-	-	-	-
		Total Recycling Budget	$ 2,072,561	$ 2,128,093	$ 2,185,173	$ 2,243,845
BuRRT CIP						
168		BuRRT Transfer Station Water Line Rehab/Mister	$ 50,000	$ 50,000	$ 50,000	$ 50,000
169		BuRRT Permitting Renewal	50,000	50,000	50,000	50,000
170		Vehicle/Equipment Replacement	348,079	348,079	348,079	348,079
			$ 448,079	$ 448,079	$ 448,079	$ 448,079
		Total Recycling Operations Budget	**$ 2,520,640**	**$ 2,576,172**	**$ 2,633,252**	**$ 2,691,924**
			$ 7,743,248	$ 7,895,141	$ 8,051,121	$ 8,631,302
REVENUES						
171	438615	Recycle-Miscellanous MRF Sales	$ (420,819)	$ (420,819)	$ (420,819)	$ (420,819)
172	438710	Transfer Station	(615,860)	(615,860)	(615,860)	(615,860)
173	438750	Landfill-City	-	-	-	-
174	438760	Landfill-County	-	-	-	-
175	438770	Landfill-Other	-	-	-	-
176	470400	Reimbursements/Refunds	-	-	-	-
177	470510	Sales- Dirt (Caja)	(150,000)	(150,000)	(150,000)	(150,000)
178	470600	Sales of Capital Assets	-	-	-	-
179	470900	Gain on Sale - Fixed Assets	-	-	-	-
			-	-	-	-
180	480020	Interest on Investments	-	-	-	-
181	480022	Interest (Amort of Prem & Disc	-	-	-	-
182	0	Caja Misc Sales - Uncovered Loads	(1,129)	(1,129)	(1,129)	(1,129)
183	0	BuRRT Misc Sales - Uncovered Loads	(5,056)	(5,056)	(5,056)	(5,056)
184	0	MRF Tip Fees (Outside Recycling)	(1,600)	(1,600)	(1,600)	(1,600)
185	0	Glass Tip Fees	(31,967)	(31,967)	(31,967)	(31,967)
186	0	Green Waste Tip Fees (Mulch)	(190,610)	(190,610)	(190,610)	(190,610)
187	0	Tires Tip Fees	(31,640)	(31,640)	(31,640)	(31,640)
188	0	E-Waste Tip Fees	(3,267)	(3,267)	(3,267)	(3,267)
189	0	Transfer Station Material Sales for Scrap Metal	(41,169)	(41,169)	(41,169)	(41,169)
190	0	Glass Material Sales	(13,356)	(13,356)	(13,356)	(13,356)
191	0	Mulch Sales	(24,656)	(24,656)	(24,656)	(24,656)
			-	-	-	-
			-	-	-	-
		Total Revenues	**$ (1,531,129)**	**$ (1,531,129)**	**$ (1,531,129)**	**$ (1,531,129)**
		Total Budget	**$ 6,212,119**	**$ 6,364,012**	**$ 6,519,992**	**$ 7,100,174**

Santa Fe Solid Waste Management Agency
Revenue Requirement Summary

Schedule 4
8/25/2014

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Caja del Rio Landfill				
Disposal	$ 1,503,841	$ 1,532,999	$ 1,562,966	$ 1,593,764
Cell Development	537,888	538,720	539,575	960,455
Composting	99,481	100,315	101,172	102,052
Administration	656,604	671,262	686,328	701,814
Operation & Maintenance	1,361,012	1,388,014	1,415,635	1,443,891
	$ 4,158,826	$ 4,231,310	$ 4,305,676	$ 4,801,976
Buckman Road Recycling and Transfer Station (BuRRT)				
Transfer Station	$ 280,286	$ 300,063	$ 320,422	$ 341,380
Material Recovery facility	113,097	127,176	141,655	156,547
HHW Collection	213,895	218,434	223,079	227,833
Green waste processing	97,560	104,303	111,245	118,390
Glass recycling	102,584	104,531	106,534	108,594
White goods	7,666	7,891	8,124	8,363
Tires	(2,459)	(1,834)	(1,195)	(541)
E-waste	27,424	28,327	29,258	30,216
Administration	559,626	575,112	591,044	607,438
Operation & Maintenance	653,616	668,699	684,150	699,978
	$ 2,053,293	$ 2,132,702	$ 2,214,316	$ 2,298,198
Total	**$ 6,212,119**	**$ 6,364,012**	**$ 6,519,992**	**$ 7,100,174**

Santa Fe Solid Waste Management Agency
Caja del Rio Landfill

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Caja del Rio Landfill				
Disposal Cost Allocation				
Disposal	$ 1,503,841	$ 1,532,999	$ 1,562,966	$ 1,593,764
Cell Development	537,888	538,720	539,575	960,455
Composting	99,481	100,315	101,172	102,052
Administration	807,733	822,391	837,457	852,943
Operation & Maintenance	1,361,012	1,388,014	1,415,635	1,443,891
	$ 4,309,955	$ 4,382,439	$ 4,456,805	$ 4,953,105
Caja del Rio Miscellaneous Revenues				
Dirt Sales	($150,000)	($150,000)	($150,000)	($150,000)
Uncovered Loads	(1,129)	(1,129)	(1,129)	(1,129)
	($151,129)	($151,129)	($151,129)	($151,129)
Total	**$ 4,158,826**	**$ 4,231,310**	**$ 4,305,676**	**$ 4,801,976**
Caja del Rio Landfill Tonnage				
BuRRT	16,353	16,353	16,353	16,353
C&D	32,753	32,753	32,753	32,753
Commercial	48,606	48,606	48,606	48,606
Residential	50,165	50,165	50,165	50,165
Misc (Dead Animals, IB, Sweeper)	2,785	2,785	2,785	2,785
WWTP & WTP Sludge	1,338	1,338	1,338	1,338
Total	152,000	152,000	152,000	152,000
Cost per Ton (Excluding BuRRT Tonnage)	**$ 30.66**	**$ 31.19**	**$ 31.74**	**$ 35.40**
Cost per Ton (Including BuRRT Tonnage)	**$ 27.36**	**$ 27.84**	**$ 28.33**	**$ 31.59**

Santa Fe Solid Waste Management Agency
Buckman Road Recycling and Transfer Station

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
Buckman Road Recycling and Transfer Station (BuRRT)				
Transfer Station Disposal Cost Allocation				
Direct Transfer Station Cost	$ 942,371	$ 962,148	$ 982,507	$ 1,003,465
Administration	217,032	223,301	229,756	236,405
Operation & Maintenance	191,695	196,118	200,650	205,292
Total	**$ 1,351,097**	**$ 1,381,567**	**$ 1,412,914**	**$ 1,445,162**
Revenue Offsets	($662,085)	($662,085)	($662,085)	($662,085)
Under-Recovery[1]	**$ 689,012**	**$ 719,482**	**$ 750,829**	**$ 783,077**
Tonnage Accepted at Transfer Station				
Total Tonnage (Includes C&D, Commercial, Residential)	16,353	16,353	16,353	16,353
Cost per Ton[2]	**$ 82.62**	**$ 84.48**	**$ 86.40**	**$ 88.37**
Material Recovery Facility (MRF) Disposal Cost Allocation				
Direct MRF Cost	$535,516	$549,595	$564,074	$578,966
Administration	161,439	165,902	170,495	$175,221
Operation & Maintenance	348,138	356,172	364,402	$372,833
Total	**$1,045,093**	**$1,071,669**	**$1,098,971**	**$1,127,019**
Revenue Offsets	($422,419)	($422,419)	($422,419)	($422,419)
Under-Recovery[3]	**$ 622,674**	**$ 649,250**	**$ 676,552**	**$ 704,600**
Recycling Tonnage (Includes Recycling Inside & Outside City)[4]	6,809	6,809	6,809	6,809
Cost per Ton[5]	**$ 153.50**	**$ 157.40**	**$ 161.41**	**$ 165.53**

1. Shortfall after tip fees and sale of scrap metal.
2. Cost per ton based on total indirect and direct costs for transfer station, and does not include the subtraction of revenue offsets.
3. Shortfall after tip fees, sale of recyclables, and miscellaneous revenues.
4. Excludes glass recycling.
5. Cost per ton based on total indirect and direct costs for MRF, and does not include the subtraction of revenue offsets.

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
HHW Collection Cost of Service				
Direct Cost	$ 213,895	$ 218,434	$ 223,079	$ 227,833
Indirect Cost				
Administration	63,691	65,132	66,608	68,119
Operation & Maintenance	-	-	-	-
Subtotal	$ 277,586	$ 283,566	$ 289,687	$ 295,951
Revenue Offsets	$ -	$ -	$ -	$ -
HHW Pounds	116,360	116,360	116,360	116,360
Cost per Pound	**$ 2.39**	**$ 2.44**	**$ 2.49**	**$ 2.54**
Tires Cost of Service				
Direct Cost	$ 29,181	$ 29,806	$ 30,445	$ 31,099
Indirect Cost				
Administration	9,189	9,387	9,590	9,798
Operation & Maintenance	-	-	-	-
Subtotal	$ 38,369	$ 39,193	$ 40,036	$ 40,897
Revenue Offsets	(31,640)	(31,640)	(31,640)	(31,640)
Under-Recovery[1]	**$6,729**	**$7,553**	**$8,396**	**$9,257**
Total Number of Tires	18,006	18,006	18,006	18,006
Cost per Tire	**$2.13**	**$2.18**	**$2.22**	**$2.27**

1. Shortfall after tire fees.

E-Waste Cost of Service				
Direct Cost	$ 30,691	$ 31,594	$ 32,525	$ 33,483
Indirect Cost				
Administration	9,664	9,950	10,246	10,550
Operation & Maintenance	-	-	-	-
Subtotal	$ 40,355	$ 41,545	$ 42,770	$ 44,033
Revenue Offsets	(3,267)	(3,267)	(3,267)	(3,267)
Under-Recovery[1]	$ 37,088	$ 38,278	$ 39,503	$ 40,766
E-Waste Tonnage	135	135	135	135
Cost per Ton[2]	**$ 298.04**	**$ 306.83**	**$ 315.88**	**$ 325.21**

1. Shortfall after tip fees.
2. Cost per ton based on total indirect and direct costs for e-waste, and does not include the subtraction of revenue offsets.

	Year 1 FY 2015	Year 2 FY 2016	Year 3 FY 2017	Year 4 FY 2018
White Goods Cost of Service				
Direct Cost	$ 7,666	$ 7,891	$ 8,124	$ 8,363
Indirect Cost				
Administration	2,414	2,485	2,559	2,635
Operation & Maintenance	-	-	-	-
Subtotal	**$ 10,080**	**$ 10,377**	**$ 10,683**	**$ 10,999**
Revenue Offsets[1]	$0	$0	$0	$0
Annual Number of White Goods Collected	625	625	625	625
Cost per Collection	**$ 16.13**	**$ 16.60**	**$ 17.09**	**$ 17.60**

1. Scrap metal tip fees and revenues from sales are included in the transfer station revenue offsets.

Green Waste Processing Cost of Service				
Direct Cost	$ 312,826	$ 319,569	$ 326,511	$ 333,656
Indirect Cost				
Administration	74,186	76,323	78,525	80,791
Operation & Maintenance	74,771	76,496	78,264	80,074
Subtotal	**$ 461,782**	**$ 472,389**	**$ 483,299**	**$ 494,521**
Revenue Offsets	(215,266)	(215,266)	(215,266)	(215,266)
Under-Recovery[1]	**$ 246,516**	**$ 257,123**	**$ 268,033**	**$ 279,255**
Green Waste Tonnage	7,375	7,375	7,375	7,375
Cost per Ton[2]	**$ 62.61**	**$ 64.05**	**$ 65.53**	**$ 67.05**

1. Shortfall after tip fees and sales of mulch.
2. Cost per ton based on total indirect and direct costs for green waste, and does not include the subtraction of revenue offsets.

Glass Recycling Cost of Service				
Direct Cost	$ 147,907	$ 149,854	$ 151,857	$ 153,917
Indirect Cost				
Administration	22,013	22,630	23,265	23,919
Operation & Maintenance	39,012	39,912	40,835	41,779
Subtotal	**$ 208,932**	**$ 212,396**	**$ 215,956**	**$ 219,615**
Revenue Offsets	(45,323)	(45,323)	(45,323)	(45,323)
Under-Recovery[1]	**$ 163,609**	**$ 167,073**	**$ 170,633**	**$ 174,292**
Glass Tonnage	2,285	2,285	2,285	2,285
Cost per Ton[2]	**$ 91.43**	**$ 92.94**	**$ 94.50**	**$ 96.10**

1. Shortfall after tip fees and sales of recyclables.
2. Cost per ton based on total indirect and direct costs for glass recycling, and does not include the subtraction of revenue offsets.

Section 2
OPERATIONAL ASSESSMENT OF THE CAJA DEL RIO LANDFILL

2.1 Facility Overview

The Caja del Rio Landfill (Landfill) is a solid waste disposal facility located northwest of the City of Santa Fe, New Mexico, operated by the Santa Fe Solid Waste Management Agency (Agency). The principal feature of the facility is the permitted solid waste disposal area (or landfill), which serves as the primary disposal site for waste materials generated in Santa Fe County. The facility is open to the public from 7:00 am to 5:00 pm, Monday through Saturday, and closed certain holidays.

The site is approximately 640 acres in size. The principal features and activities conducted at the Landfill are:

- Scale Facility
- Administration Building
- Fleet Maintenance
- Landfill Operations
- Compost Area
- Landfill Gas Flare
- Rock Blasting and Crushing
- Environmental Protection

The principal purpose of the Landfill is to provide secure solid waste disposal services for materials that are collected by the waste management operations of the City of Santa Fe (City), Santa Fe County (County), and private solid waste collection companies in the Santa Fe area.

2.1.1 Scale Facility

The scale facility consists of inbound and outbound scales and a scale house that is staffed by scalemasters who are responsible for weighing loads, assessing charges, and using the scale management system to track tonnages and charges. The scale facility controls access to the Landfill, and provides important accounting services.

The scalemasters assess charges based on the fee schedule adopted by the Agency's governing board.

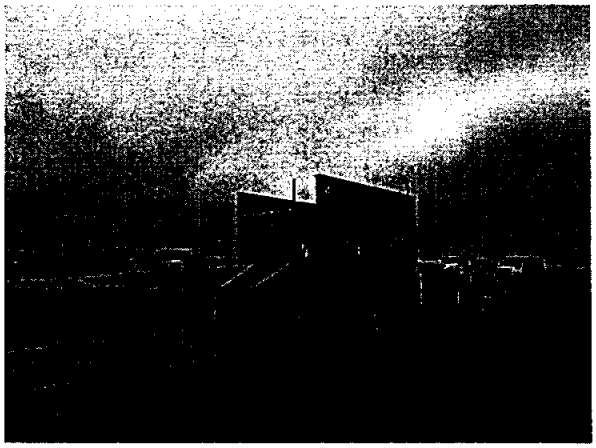


Figure 2-1. Landfill Scale House

2.1.2 Administration Building

The administration building houses the principal offices for the Agency including administration, accounting and Landfill management offices.

2.1.3 Fleet Maintenance Building

The Fleet Maintenance Building provides facilities for fleet maintenance and Landfill operations activities. The building is outfitted with office space, locker and shower facilities, and a break room for operations staff. The building also houses storage and work areas for fleet maintenance including two drive-through maintenance bays large enough to support maintenance activities on heavy equipment and over-the-road waste transfer equipment. On-site storage tanks support fueling activities.

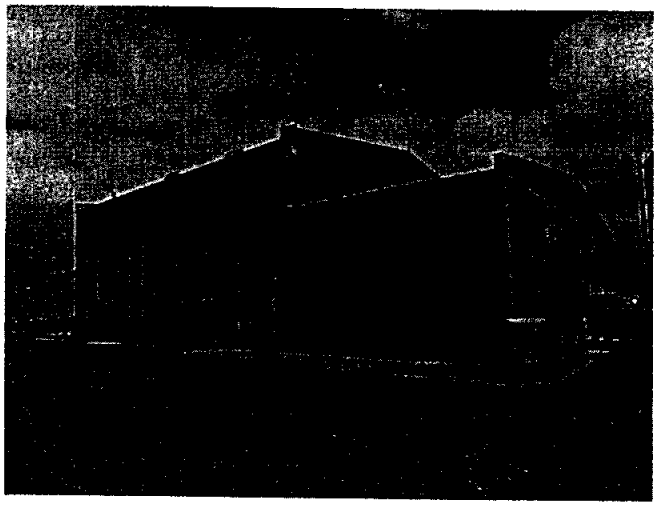


Figure 2-2. Fleet Maintenance Building

Figure 2-3. On-Site Fuel Storage

2.1.4 Landfill Operations

Landfill operations are a cornerstone service provided by the Agency. The currently permitted area, Cells 1 through 6, encompasses an area of approximately 87 acres. The Agency employs certified landfill operators to manage the incoming waste and assure it is properly placed and compacted in the disposal cells.

Most of the waste delivered to the Landfill is hauled by large solid waste collection vehicles or Agency transfer vehicles. Smaller vehicles that must be hand-unloaded are directed to the Buckman Road Recycing and Transfer Station (BuRRT). Limiting deliveries to the Landfill to large commercial vehicles assures safer operations on the work face.

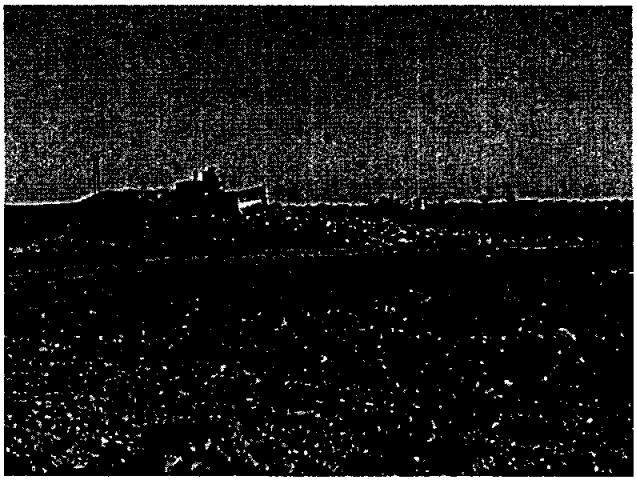


Figure 2-4. Landfill Compactor Operating on Work Face

Figure 2-5. Garbage Truck Delivering to Landfill Work Face

2.1.5 Compost Area

The compost area is an approximately 11 acre area on the Landfill site that is permitted to accept green waste and other similar organic materials for composting. The compost area provides a large flat area that can support material placement, turning, and storage activities. The compost area is adjacent to a water source supplied by treated wastewater effluent. The Agency is currently only minimally operating the compost area. Potential composting options will be considered in Section 5.

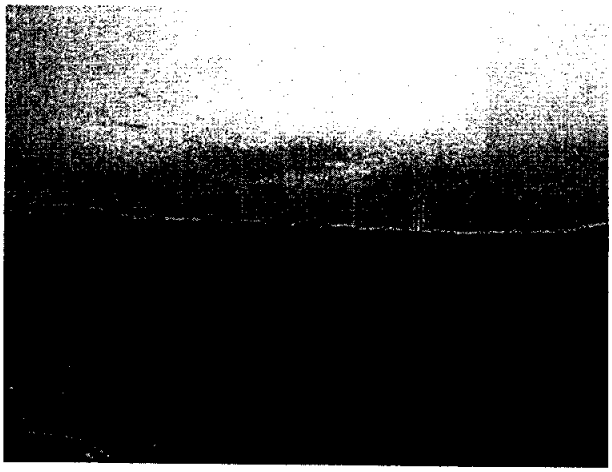


Figure 2-6. Compost Area.

2.1.6 Landfill Gas Flare

As solid waste decays, it breaks down to create methane, carbon dioxide, and trace organic gasses. The Landfill has in place a sophisticated system to ensure landfill gas does not adversely impact the environment around the Landfill. Fifteen (15) landfill gas extraction wells are installed into the waste, and the collected gas is delivered to the enclosed fare, where harmful gasses are combusted.

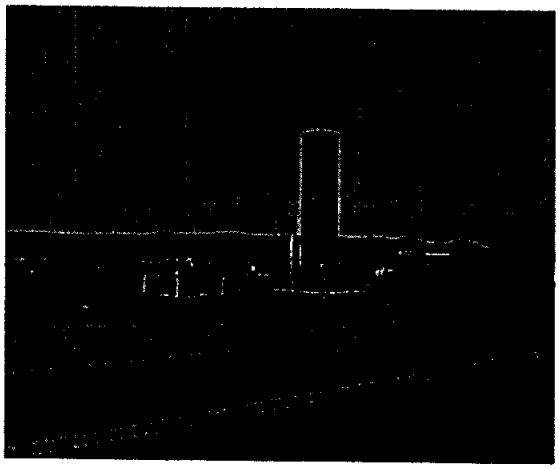


Figure 2-7. Landfill Gas Flare

2.1.7 Rock Blasting and Crushing

Much of the Landfill site is located on top of a basalt layer. This geologic formation is typically not encountered at landfill sites. This means the Agency has to undertake the unique activity of blasting the basalt so that disposal cells can be constructed. While the basalt blasting adds to the Landfill's construction cost, it allows valuable airspace to be gained. The blasted basalt is hauled to a processing area by a contract operator who is responsible for the processing and sale of the rock. The processor pays the

Agency a revenue share for the rock that it sells. If approved, the new permit renewal shows no basalt blasting will be needed for the next 70 years.

Figure 2-8. Drill Rig Preparing Bore Hole for Blasting in Front of Blasted Rock

2.1.8 Environmental Protection

The entire Landfill site and the individual disposal cells are all designed, constructed, and operated with the intent of protecting the environment. Important environmental protection features at the Landfill include:

- Landfill cell construction – liners and leachate collection
- Environmental monitoring
- Stormwater management
- Landfill gas control and monitoring

Landfill Cell Construction – Liners and Leachate Collection

The landfill disposal area is constructed in discrete engineered units called cells (or disposal cells). Any water that filters through solid waste is called leachate. As the leachate percolates through the placed solid waste, it may pick up contaminants, so it must be kept from entering the ground water. Each cell is constructed with a liner system that includes a 60 mil high density polyethylene (HDPE) which is placed over low-permeability, geosynthetic clay (GCL) liner, and the two liners serve as a barrier to leachate flow. Just on top of the liners is a leachate collection system. Without the leachate collection system, the lined cells would fill up like bathtubs full of the accumulated leachate. The leachate collection system consists of a drainage layer and pipes that convey the leachate to sumps so that it may pumped out from under the cells and managed properly.

The Agency pumps the leachate sumps out at least monthly to assure no more than one foot of leachate accumulates on the liner. Leachate is primarily applied within the disposal cells to provide dust control.

Environmental Monitoring

The depth to the water table below the landfill is more than 300 feet. The Agency annually conducts chemical analyses on the groundwater to assure that the disposal operations have no impact on it. Three wells for monitoring groundwater quality under the site have been installed, and no contaminants have been detected under the site.[1]

Stormwater Management

The Landfill is constructed in a manner so that any rainwater that falls outside of the disposal cells is directed away from the cells. The Landfill has a stormwater management system to safely manage any rainwater that falls on the site.

Landfill Gas Control and Monitoring

The site has a Title V Operating Permit that prescribes how landfill gas is managed on the site. Landfill gas is collected from wells drilled into the waste and directed to an enclosed flare where methane and other trace organic materials are combusted.

Ten locations around the site have been established for monitoring for methane that could migrate from the Landfill. The Agency reports that no migrating methane has been detected at the property boundary or in onsite buildings.[2]

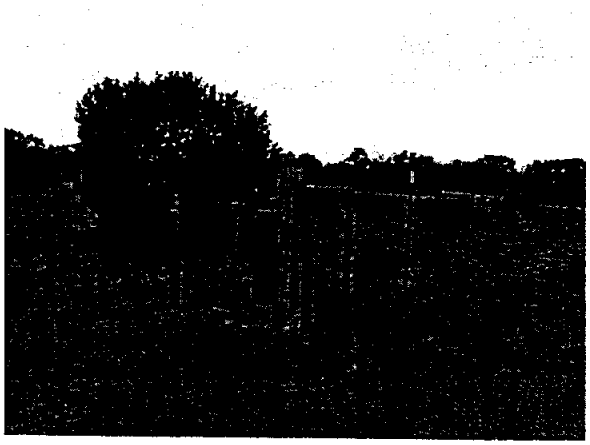


Figure 2-9. Groundwater Monitoring Well

2.2 Operations Review

2.2.1 Material Types and Quantity Managed

In FY 2013, 27,592 inbound transactions (loads) were recorded at the Landfill totaling 148,145 tons. The types of materials managed and number of transactions are shown in Table 2-1.

[1] Source: Agency website
[2] Source: Agency website

Table 2-1
Material Received at the Landfill, Fiscal Year 2013

	Tons	Transactions
BuRRT Transfer Waste	16,353	1,013
C&D	32,753	8,817
Residential Solid Waste	48,606	9,189
Commercial Solid Waste	46,273	7,844
Other Waste	4,160	729
Total	148,145	27,592

Source: Agency Landfill Transaction Data

Table 2-2 shows that in FY 2013, the Landfill received approximately 100 deliveries on most weekdays (Monday through Friday). On Saturday the Landfill only received about one-quarter of the traffic compared to weekdays. While the daily count of deliveries was fairly consistent during the week, the most tonnage per day was received on Mondays.

Table 2-2
Average Daily Deliveries to Landfill, FY 2013

	Tons per Day	Loads per Day
Monday	608	107
Tuesday	522	100
Wednesday	507	97
Thursday	537	104
Friday	531	100
Saturday	146	24

Source: Agency Landfill Transaction Data

Table 2-3 shows all customers that individually delivered more than 4 percent of the incoming tonnage to the Landfill in FY 2013. Five customers (note that the City is indicated twice on the table), plus tonnage received from the Buckman Road Recycling and Transfer Station (BuRRT), represent 78 percent of incoming tonnage to the Landfill.

Table 2-3
Top Customers Delivering Waste to Landfill

Customer	Tons	Transactions	Tons	Transaction
BURRT Transfer	16,353	1,011	11.0%	3.7%
City of Santa Fe Solid Waste Division	48,824	6,416	33.0%	23.3%
City of Santa Fe Third Party	9,602	2,984	6.5%	10.8%
Santa Fe County Public Works	11,384	1,759	7.7%	6.4%
MCT Waste, LLC	6,537	1,267	4.4%	4.6%
Santa Fe Waste Service	6,449	1,582	4.4%	5.7%
Waste Management of New Mexico	16,523	3,204	11.2%	11.6%
Total	148,145	27,592	78.1%	66.0%

Source: Agency Landfill Transaction Data

2.2.2 Staffing

The staffing assigned to the Landfill is shown in Table 2-4. It should be noted that administrative personnel whose offices are located at the Landfill are indicated on the list below.

Table 2-4
Landfill Staffing

Position	Current Operation	General Description
Accounts Coordinator	1	Agency accounting
Admin. Assistant/ HR Officer	1	Administration
Equip. Maintenance Supervisor	1	Equipment maintenance at Landfill and BuRRT
Equipment Mechanic I	1	Equipment maintenance at Landfill and BuRRT
Equipment Mechanic II	1	Equipment maintenance at Landfill and BuRRT
Equipment Mechanic III	1	Equipment maintenance at Landfill and BuRRT
Executive Director	1	Overall Agency management
Health, Safety and Training Administrator		Safety
Heavy Equipment Operator I	3	Primarily landfill operations
Heavy Equipment Operator II	1	Primarily landfill operations
Heavy Equipment Operator III	1	Primarily landfill operations
Landfill Manager	1	Overall management of Landfill and associated activities
Landfill Superintendent	1	Supervision of landfill activities
Maintenance Coordinator	1	Site maintenance activities at Landfill and BuRRT
Maintenance Worker	1	Site maintenance activities at Landfill and BuRRT
Scale Supervisor	1	Supervision of Landfill and BuRRT scale operations

Position	Current Operation	General Description
Scalemaster	2	Manage and account for incoming and outgoing loads using the scale management system
Temporary - Scalemaster	1	Sale operations at Landfill and BuRRT
Temporary Laborer- Caja	4	Site maintenance activities at Landfill and BuRRT

Source: The Agency

Principal personnel responsible for performing waste disposal operations activities are those designated Landfill Superintendent, Heavy Equipment Operator I, Heavy Equipment Operator II, and Heavy Equipment Operator III. The Landfill Manager generally performs in a technical and oversite role.

The Maintenance Coordinator, Maintenance Worker, and Temporary Laborers are responsible for performing site maintenance activities, including litter pick-up at the Landfill and BuRRT.

The Equipment Maintenance Supervisor and three Equipment Mechanics (as designated) are responsible for maintaining equipment at both the Landfill and BuRRT.

Similar to their function at BuRRT, the Scalemasters manage traffic access to the facility and perform important accounting duties.

Generally, it appears that the Agency maintains a relatively lean staff for operating the Landfill and those duties are performed in a competent manner.

2.2.3 Equipment

The equipment assigned to the Landfill is listed in Table 2-4. The principal equipment used in landfill operations are:

- Dozer – used to spread waste at the disposal cells so that it may optimally compacted by the compactor, also used to manage soil stockpiles.
- Compactor – compact waste to achieve optimum densities for waste placed in the disposal cells, also used to spread waste on the work face.
- Scraper/Pan – self-loading and unloading dirt-hauling machine used for moving soil around the site and placing daily and intermediate cover.
- Grader – road maintenance equipment used to smooth and construct dirt roadways and to smooth landfill cover.
- Water Wagon – self-propelled water tanker used for dust suppression, cell development, and composting.
- Tarpomatic – machine for deploying a tarp as alternate daily cover on the compacted waste. The use of alternate daily cover helps reduce the quantity of soil used for daily cover which saves airspace and reduces costs associated with hauling soil on the site.

Table 2-5
Landfill Equipment

04/14/2004	47 - 2004 Dodge Durango	Agency Vehicle	
9/20/2013	2014 Ford Escape	Agency Vehicle	
9/30/2013	2014 Ford Explorer	Agency Vehicle	
07/11/2007	53909 - 1985 Street Broom T20	Broom	
03/11/2004	51637 - Compactor 836G	Compactor	Front Line
12/20/2007	53 - Caterpillar Model 826H Compact	Compactor	Back-Up
04/11/1997	25875 - Caterpillar Bulldozer D8	Dozer	Back-Up
10/29/2013	2014 Komatsu Bulldozer D155AX	Dozer	Front Line
03/13/1997	25763 - 1997 Ford F250 Pickup (Disposal)	Field Pickup	
04/02/1997	25789 - 1997 Ford F250 (Lube)	Field Pickup	
08/10/2006	53322 - 1998 Dodge Truck Randy	Field Pickup	
05/17/2007	48 - 1998 Dodge Truck Chris	Field Pickup	
05/17/2007	51 - 2001 Chevrolet Silverado Truck	Field Pickup	
03/14/2011	54267 - 1993 Ford F350 Crew Cab 4x4	Field Pickup	
9/6/2013	2014 Chevrolet Crew Cab 4x4	Field Pickup	
9/6/2013	2014 Chevrolet Crew Cab 4x4 Flatbed	Field Pickup	
8/3/2010	1990 Hyster Forklift	Forklift	
01/20/1998	27 - 1992 Caterpillar -Motor Grader	Grader	Back-Up
10/21/2003	29661 - 140 Vhp Motor Grader	Grader	Front Line
04/11/1997	25876 - Wheel Loader Caterpillar	Loader	
10/3/2013	2004 International 4200 Flatbed	Lube Truck	
02/26/2003	50651 - 623 Cat Scraper	Scraper/Pan	Back-Up
2/14/2005	623 Cat Scraper	Scraper/Pan	Front Line
03/12/2003	2003 Ford F250 4x4	Service Truck	
9/20/2013	2014 Ford F-550 Regular Cab Utility Bed	Service Truck	
06/05/2001	28759 - 1987 Case Tractor	Tractor	
04/11/1997	25807 - 1988 Ford MHV Portable H20 Truck	Water Truck	
05/13/2002	50148 - Water Wagon Model 613C 5,000-gal	Water Wagon	Back-Up
01/12/2009	29840 - Caterpillar 613 (Leachate) 5,000-gal	Water Wagon	
9/25/2013	2003 Caterpillar Water Wagon 621G 8,000-gal	Water Wagon	Front Line
9/25/2013	Tarpomatic	Misc.	

Source: The Agency

At the time of the initial site visit, the Agency did not maintain detailed repair and maintenance cost records by individual piece of equipment. At the time this report was prepared, the Agency has purchased RTA Fleet Management Software and is initiating the use of this automated system. Having maintenance data by piece of equipment will allow Agency staff to monitor the useful life of equipment based on wear and repair costs.

The Agency has one front-line and one backup for each key piece of equipment. This appears prudent because most Landfill equipment is specialized (e.g., large dozers or compactors) and equipment vendors usually do not have replacements readily available, so the Landfill must have backup equipment on hand in case of unanticipated equipment downtime.

To place soil on the work face the Agency makes use of scraper pans. These pieces of equipment are efficient in excavating and placing soil, because one operator can self-load and self-spread soil on the work face. Leidos is aware of landfills that have transitioned from using scraper pans to using excavators to load off-road dump trucks to transport soil. The benefits of this approach are: 1) The excavator and dump truck are more versatile pieces of equipment that are able to perform multiple services compared to the scraper pan and 2) These two pieces of equipment generally have lower owning, operating, and repair costs compared to scraper pans. Alternatively, the excavator-dump truck combination may require more labor effort for moving and placing soil, which could be a detriment in light of the Agency's lean approach to staffing. Leidos recommends that the Agency further evaluate the replacement of the scraper pans with excavators and dump trucks when it prepares to replace one of the scraper pans. Agncy looking at

2.2.4 Airspace Utilization

Table 2-6 shows the average landfill airspace utilization factor (AUF) presented as the pounds (lbs) of solid waste placed in the disposal cells per cubic yard (CY) of airspace consumed. The AUF is a measure of how effectively the solid waste is compacted as it is placed in the disposal cells.

Table 2-6
Landfill Tonnage and Airspace Consumed through FY 2013

Year	Tons Received [1]	Airspace Used (CY) [2]	AUF (lbs/CY)
FY 1997 to 2007	1,795,988	2,911,923	1,234
FY 2008	205,375	315,732	1,301
FY 2009	178,215	271,822	1,311
FY 2010	154,768	296,194	1,045
FY 2011	146,929	259,148	1,134
FY 2012	155,816	251,052	1,241
FY 2013	148,145	260,886	1,136
Total		4,566,757	
Average			1,220

1. Agency Report - Volume and Site Life Calcs
2. Agency GASB Remaining Airspace Capacity June 2013

The amount of tonnage and the quantity of moisture (or rainfall) that a landfill receives have a direct impact on the AUF that it can achieve. The average AUF of 1,220 lbs/CY is in the range of other similar landfills that Leidos has worked with, and considering the arid environment of the Santa Fe area, achieving this AUF reflects positively on Landfill operations.

2.2.5 Landfill Cell Development

Waste is currently being placed into Cell 4B, with cell development and construction areas being conducted on Cells 5B and 6B. Cell 5B will have a surface area of approximately 10 acres with a disposal capacity of 4 years. Estimated cost of building the new cell is $3.6 million with $1.6 million of this for the blasting and removal of basalt.[3]

2.2.6 Traffic

Approximately 100 trucks per day (25 per day on the weekend) deliver material to the Landfill. At the Landfill, permanent paved roads are constructed leading to the disposal cells and the basalt crushing operation. Temporary dirt roads are constructed leading onto the disposal cells. During several visits to the Landfill, including trips made in City collection vehicles, it appeared that the roads were well maintained. Dust control is maintained by operation of water wagons to spray down the dirt roads.

[3] Source: Agency website

During Leidos' visits, the water wagons were observed in service effectively suppressing dust on the roads.

2.2.7 Litter

Windblown litter is very often associated with landfill operations. It is a continuing challenge to contain and collect litter at landfill sites. At the Landfill, windblown litter is controlled by temporary and permanent fencing. Permanent and temporary Agency employees are assigned to pick up litter at the Landfill and BuRRT, and on roadways approaching both facilities. At Leidos' first site visit to the Landfill, which occurred during a particularly windy Spring day, litter was observed blowing on the Landfill and accumulated at the litter fences. On subsequent visits, only de minimus amounts of litter were observed at the facility, meaning that the Agency has an effective litter control program.

2.2.8 Waste Placement in the Landfill Cells

Waste is delivered by collection vehicles or Agency tractor trailers and dumped at the work face. Agency personnel monitor work face operations and effectively direct traffic to the appropriate area. The large dozers are used to spread waste and the compactors are used to compact the waste. As demonstrated by the AUF, compaction is efficiently maintained. The work face was observed to be appropriately compact. During multiple visits to the Landfill, it appeared that the work face was efficiently moved around the disposal cell to effectively build the cell while safely managing traffic. The Agency uses tarps as alternative daily cover. Tarp use can positively affect AUF and is a good management tool. The soil available for cover at the Landfill is particularly fine, and the Agency staff appeared to diligently apply water as dust control. Acceptance of waste water treatment plant (WWTP) sludge may not be compatible with the use of tarps as ADC.

2.3 Blasting Contract

The Agency contracts with Delhur Industries, Inc. (Delhur) to operate a commercial aggregate quarry and to support cell development at the Landfill. In 2006, the Agency entered into the original agreement, which was subsequently amended, most recently in June 2013. In May 2014, the Agency entered into a new eight-year agreement with Delhur with similar terms and conditions. The agreement makes Delhur responsible for blasting, excavating, and removing basalt rock, and preparing the rough subgrade for cell development.

Additionally, Delhur is contractually required to produce and offer aggregate for sale to local markets. Delhur is required to use its best efforts to sell the basalt rock from Cells 5B and 6B and all previously excavated rock on site, and it is required to pay the

Agency $1.50 per ton for the rock it sells,[4] and the Agency is required to pay a portion of this as royalty payments to the Bureau of Land Management.

From October 2013 to February 2014, a total of 25 successful blast events occurred at the Landfill. The blasting and excavation of 279,000 cubic yards of basalt rock is complete.[5]

In FY 2013, Delhur sold 94,051 tons of aggregate materials according to Landfill scale records, as shown in Table 2-7. In 2014, Delhur secured a four-year supply agreement with Associated Asphalt for 110,000 tons per year.

Table 2-7
Sales of Basalt Rock, FY 2013

Material	Tons	Loads
2x4 Rip Rap	94.21	6
Aggregate Base	59,806.96	2900
Boulder	9.1	2
Crushed Rock	5,957.56	298
Crusher Fines	10,815.56	539
Engineered Fill	6,848.07	370
24 inch Rip Rap	10,519.05	481
Total	94,050.51	4,596

Source: Agency Landfill Scale Data

The Agency has indicated that additional basalt could be sold if such material was utilized more by the City and County in roadway projects. Leidos recommends that the Agency continue to pursue additional markets with its member local governments to support this activity.

2.4 Options for the Landfill

The scope of work directs Leidos to evaluate the feasibility of long hauling solid waste to an alternative landfill and closing the current site. In this Section, Leidos offers an analysis of issues associated with an alternative facility, including:

- Issues related to long hauling waste to an alternative facility
- Issues related to closing the current facility
- Planned future activities at the current facility

[4] Santa Fe Solid Waste Management Agency Amendment No. 2, Agreement between Owner and Contractor, Development and Operation of a Commercial Aggregate Quarry and Cell Construction at the Santa Fe Solid Waste Management Agency Caja del Rio Landfill, Dated May 4, 2006, as amended.
[5] Agency website

2.4.1 Issues Related to Long Hauling Waste

No current alternative landfill has been identified. The closest commercial landfills exist in the Albuquerque area, approximately 75 miles away from the Santa Fe Area. To transport waste to an alternative facility, Leidos estimates that the Agency would need to add 15 tractor trailers plus 20 trailers and hire an additional 17 people to meet the transportation requirement associated with moving this much waste to an alternative facility. The initial capital outlay would be more than $2.9 million, just for tractors and trailers. Assuming that the cost of new equipment was financed over seven years, the additional financing and operating cost would add approximately $3 million or $20 per ton more to Agency's annual budget.

Additionally, the Agency's lease with the City for BuRRT does not allow commercial loads of solid waste to be managed through the transfer station. So, the Agency could be faced with constructing a new transfer station, which could cost $5 million to $10 million, adding more than $600,000 annually to the Agency budget in debt service payments, or at least another $4 per ton.

2.4.2 Issues Related to Closing the Current Landfill

The Agency has taken a conservative approach and has closure/post closure care reserve necessary to close the current Landfill, assuming that the facility is filled to its final design elevations. If the Landfill is shut-down early, then solid waste regulations require that the final cover installation and other closure activities would need to be undertaken. In such a case, the closure design would need to be reevaluated, and it is possible that additional cost beyond the current closure reserve would be incurred to re-grade the waste that has been placed in the disposal cells for proper closure. Such cost would need to be covered by the future revenues of the Agency, as would any post-closure costs of environmental monitoring, site maintenance, operation and maintenance of the landfill gas system, and other similar costs.

2.4.3 Planned Future Activities At the Landfill

The Landfill was originally permitted in 1995, and its 20 year New Mexico solid waste permit is in the process of being renewed. The Agency is pursuing the re-permitting to allow lateral and vertical expansion that is expected to increase the site life by 70 to 90 years.[6] The planned horizontal expansion will be into an area without a basalt layer underneath, so, cost of new cell development may be less than the cost incurred for the existing portions of the Landfill where blasting was necessary. The vertical expansion will allow placing additional waste over the existing permitted areas. Placing more waste on top of exiting cells reduces costs by eliminating the cost of constructing new cells.

[6] Source: The Agency

2.4.4 Conclusion

It appears that closing the Landfill and shipping waste off site would add unreasonable costs to the current operation. Additionally, the Agency is undertaking a number of steps in re-permitting the Landfill that should allow it to cost effectively add capacity in the future. Considering the issues associated with shipping waste to an off-site facility, Leidos does not recommend considering this option.

2.5 Findings and Recommendations

1. **The Agency operates certain high cost pieces of equipment.**

   The Agency operates scraper pans. In preparing its future equipment replacement needs, Leidos recommends that it evaluate replacing the scraper pans with dump trucks and excavators.

2. **The Agency did not track equipment costs on a unit basis.**

   Leidos acknowledges that the Agency has purchased and is implementing the Use of RTA Fleet Management software. Leidos recommends that the Agency continue to implement and use this system to track fuel, operating, and repair costs for equipment on a unit basis.

3. **There does not appear to be a compelling reason to consider closing the Landfill.**

   Leidos recommends the Agency continue to operate the existing Landfill as the most cost effective option compared to an offsite landfill.

4. **The basalt operation produces rock that may be suitable for use by local governments in road building operations.**

   Leidos recommends the Agency continue to work with local governments to encourage the use of the basalt products produced at the Landfill to increase revenues that could off-set tipping fees. Delhur has secured a 4 year supply agreement with Associated Asphalt for 110,000 tons per year.

(This page intentionally left blank)

Section 3
OPERATIONAL ASSESSMENT OF BUCKMAN ROAD RECYCLING AND TRANSFER STATION

3.1 Facility Overview

The Buckman Road Recycling and Transfer Station (BuRRT) is a multi-function facility operated by the Santa Fe Solid Waste Management Agency (Agency) that provides an array of solid waste and recycling services to citizens and businesses in the Santa Fe area. BuRRT is open to the public from 8:00 am to 4:45 pm seven days per week, and is closed certain holidays. BuRRT, which opened in 1997, was constructed and initially operated by the City of Santa Fe (City). In 2006, the Agency initiated its lease of BuRRT from the City and began operating the facility. In 2007, the Agency completed construction of the Materials Recycling Facility (MRF) for processing mixed recyclables.

The site is approximately 12 acres in size. The principal features and activities conducted at BuRRT are:

- Citizen Recycling Drop-off
- Scale Facility
- Household Hazardous Waste (HHW) Collection Facility
- Administrative Building
- Transfer Station Building
- Small Vehicle Unloading Operations
- Tipping Floor Operations
- Transfer Operations
- Green Waste Processing
- Glass Crushing
- MRF

The principal purposes of BuRRT are to provide a convenient and safe location for residents and small business operators operating smaller vehicles (e.g., personal vehicles, pick-up trucks, and trailers) to deliver waste for disposal. BuRRT also receives and processes loads of recyclable materials that are collected by the waste management operations of the City of Santa Fe (City), Santa Fe County (County), and private solid waste collection companies in the Santa Fe area.

3.1.1 Citizen Recycling Drop-off

The Citizens Recycling Drop-off Area is located outside of the Scale Facility at the entrance to BuRRT. The drop-off consists of a number of roll-off type containers with lids that provide a convenient location for residents and small businesses that do not have recycling collection service to drop materials off without having to enter BuRRT.

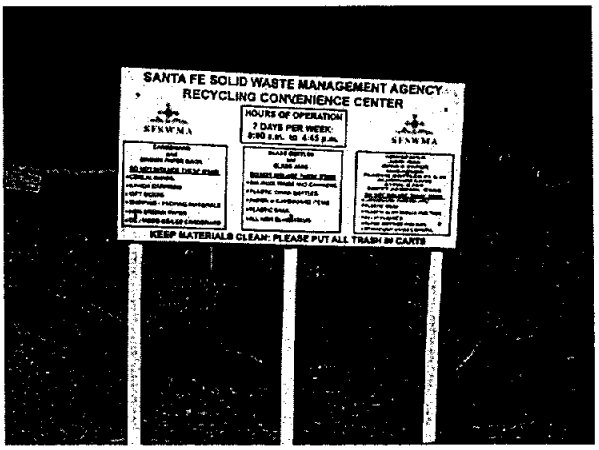


Figure 3-1. Instructional Sign at BuRRT Citizen Recycling Drop-off

3.1.2 Scale Facility

The scale facility consists of inbound and outbound scales and a scale house that is staffed by scalemasters who are responsible for weighing loads, assessing charges, and using the scale management system to track tonnages and charges. The scale facility controls access to BuRRT, and provides important accounting services.

The scalemasters assess charges based on the fee schedule adopted by the Agency's governing board.

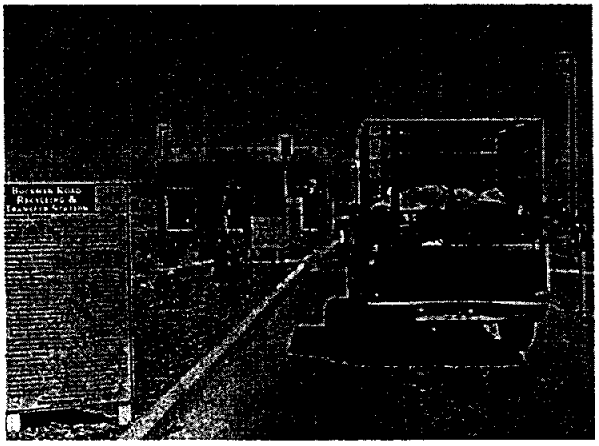


Figure 3-2. Scale Facility

3.1.3 Household Hazardous Waste Collection Facility

The HHW Facility provides a safe location for residents to deliver chemical wastes where it is consolidated and shipped to off-site locations for proper recycling or disposal. The types of materials collected at the facility include antifreeze, batteries, cleaners, bug killers, fluorescent lights, motor oil, and paints. The facility has a reuse area where good reusable materials are made available for residents to take and use properly for their own benefit. The facility is open to the public on Fridays and Saturdays throughout the year.

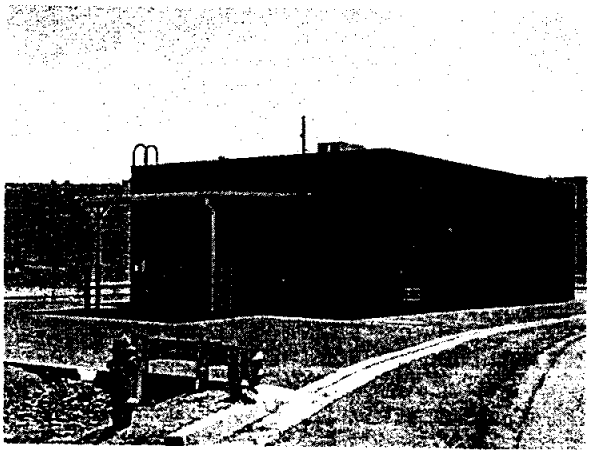


Figure 3-3. HHW Facility

3.1.4 Administration Building

The administration building is adjacent to the Transfer Station building and contains offices, locker rooms, meeting rooms, and other areas necessary to support active solid waste management operations.

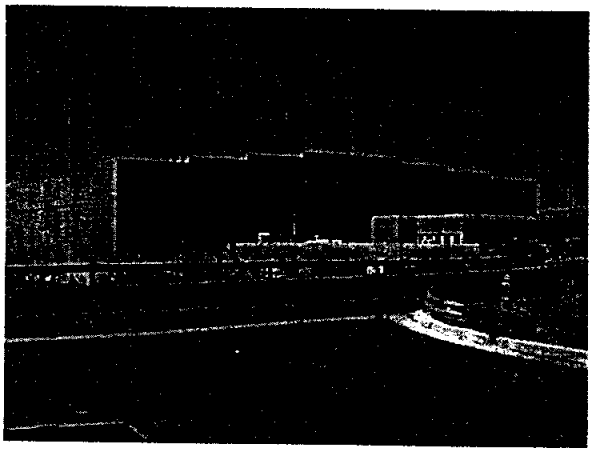


Figure 3-4. Transfer Station Building with Administration Building

3.1.5 Transfer Station Building

The transfer station building is the main structure at BuRRT. The approximately 44,000 square foot building houses the small vehicle drop-off, the main tipping floor for receiving waste and recyclables, the MRF equipment, and transfer operations.

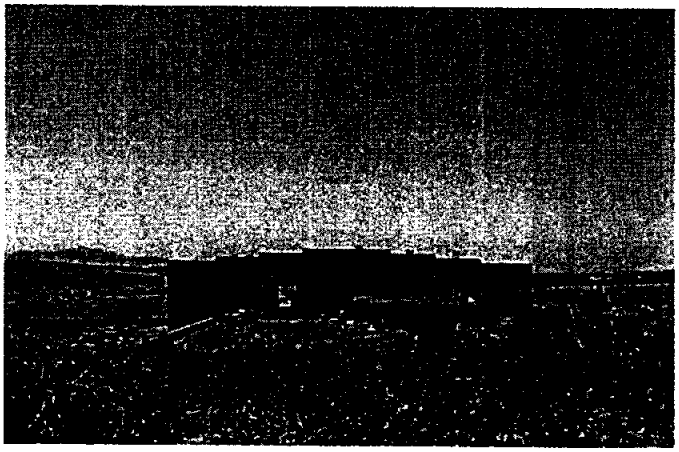


Figure 3-5. Transfer Station Building

3.1.6 Small Vehicle Unloading

In the transfer station building, personal vehicles, pickup trucks, and trailers are kept segregated from the truck traffic on the main tipping floor. The customers that use the small vehicle area includes residential customers in personal vehicles and small "handy man" contractors who hand-unload their trucks or trailers. The small vehicle unloading area is elevated approximately 2.5 feet above the main tipping floor. This segregated area provides a convenient area where time-consuming hand unloading can be accomplished safely away from heavy truck traffic.

It is the policy of the Agency to direct small vehicles to the transfer station, and not to allow them to deliver to the landfill. This policy assures that smaller vehicles can use the safe arrangement at the transfer station, and not interfere with truck and heavy equipment operations at the landfill.

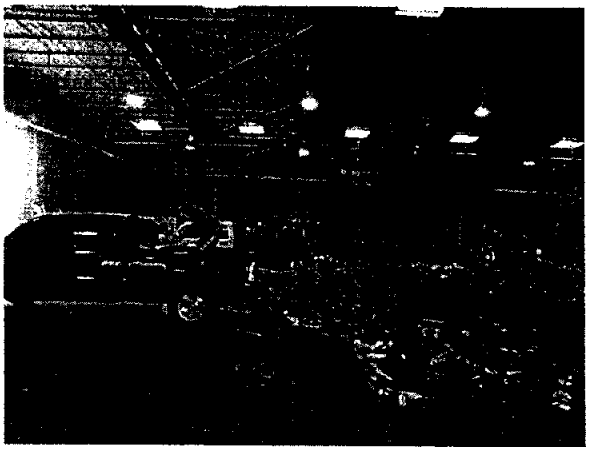


Figure 3-6. Small Vehicle Unloading

3.1.7 Tipping Floor Operations

The tipping floor is an expansive area available to receive loads of waste or recyclables. Waste is placed on the main tipping floor by facility customers using the small vehicle unloading area. Waste may also be delivered to the tipping floor by a limited number of City of Santa Fe's small garbage collection vehicles.

Recyclable materials are delivered by various collection trucks to the tipping floor. Loads of recyclables are dumped on the floor, and pushed into discrete piles where they are stored before being processed at the MRF. Corrugated cardboard (and other similar recyclable materials) that are received in discrete loads may be maintained in separate piles so that individual material types may be separately processed at the MRF.

Equipment used on the tipping floor includes front-end loaders and skid steers to move materials around the floor and excavators to pack out the transfer trailers.

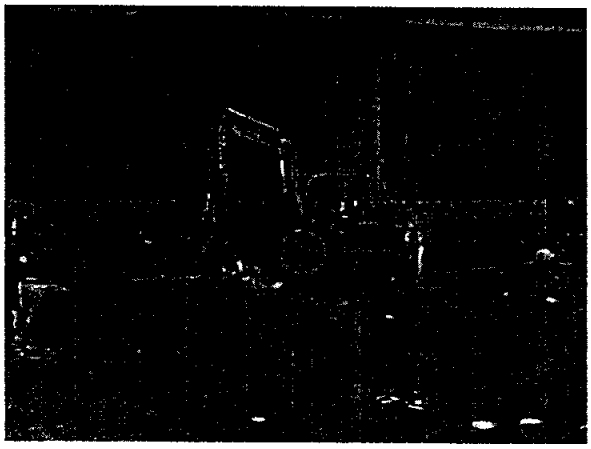


Figure 3-7. Excavator Used to Pack Transfer Trailers

3.1.8 Transfer Operations

Waste is removed from the tipping floor by front-end loaders pushing it through load-out hoppers where it falls into top–load trailers located in a tunnel below the tipping floor. Small excavators are used to pack and distribute waste in the transfer trailers. The tipping floor was originally constructed with two hoppers for loading trailers. When the MRF was constructed, it took up part of the tipping floor, and a temporary cover and push wall was constructed over one of the hoppers. The tipping floor now only has one load-out hopper, but the second hopper could be placed back into service with a minimal amount of effort.

Once waste is placed in the open-top trailers, the trailers are hauled to the landfill for disposal. The hauling operation is conducted by Agency employees.

In FY 2013, Agency records indicate that 1,013 loads totaling 16,353 tons were transferred from BuRRT to the landfill for disposal.

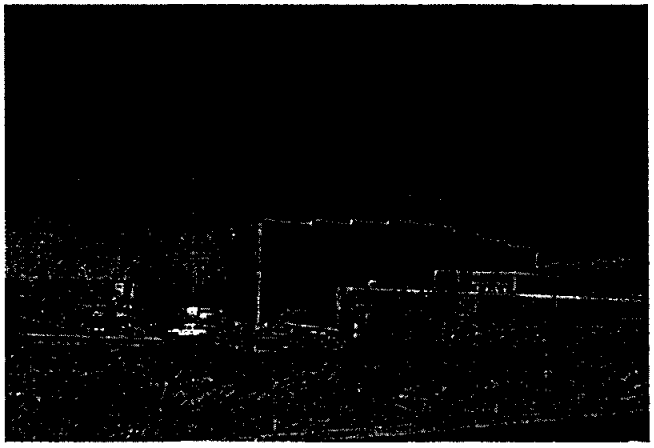


Figure 3-8. Transfer Station (Note Tractor-Trailer Entering Lower-Level Tunnel)

3.1.9 Green Waste Processing

Green waste processing is conducted outside of the transfer station building in a designated area on BuRRT property. Clean loads of green waste are directed to the processing area where the material is stockpiled. The green waste is periodically ground into mulch by the Agency using a Bandit Industries Beast Recycler horizontal grinder. The mulch product produced by the Agency is given away to residents, supplied to the City for use in its composting operation, and sold on an ad hoc basis to larger users.

Processing green waste has proven to be problematic for the Agency. It has experienced high operating costs for grinding green waste, primarily because the horizontal grinder is nearing the end of its useful life and is expensive to maintain. Also, the Agency has not established consistent markets for the mulch product it produces. This matter will be discussed further in Section 5 of the report.

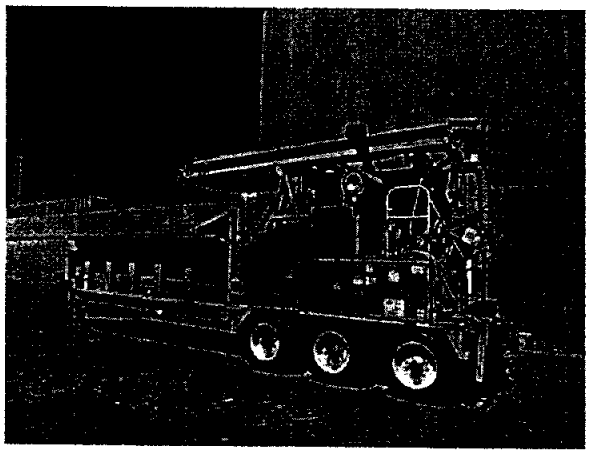


Figure3-9. Beast Horizontal Grinder

3.1.10 Glass Crushing

Glass beverage and food containers are separately collected as part of the City's residential collection program and the County's drop-off program. Glass is delivered to a designated area on BuRRT site where it is stockpiled for processing. The glass is processed through a glass pulverizer to yield two separate materials, a fine sand-type material which has been sold for manufacturing uses (to the company Growstone, Inc.), and a coarser cullet which can be used for manufacturing purposes and also is stored at BuRRT for use at the landfill as the drainage layer for new cell construction.

Processing glass has proven to be problematic for the Agency. Glass is highly abrasive and causes significant wear on the glass pulverizer. The Agency has experienced high operating costs for grinding glass, and this condition is compounded because the glass pulverizer is reaching the end of its useful life. This matter will be discussed further in Section 5 of the report.

Figure 3-10. Glass Crushing Operation

3.1.11 MRF

The MRF is a sophisticated combination of equipment designed to separate recyclable materials into individual commodities. The MRF uses both mechanical and manual means to separate materials. The principal equipment was procured from CP Manufacturing in 2006 and operations were initiated in 2007.

The equipment appears to be relatively robust and satisfactorily serves the purpose for which it was designed. This study did not include a mechanical inspection of the MRF. The MRF was initially sized to serve the Santa Fe area. It is relatively small compared to many newer super MRFs that serve larger regions.

Recyclable materials are delivered to the MRF in a commingled stream where containers (e.g., cans and plastic bottles) are combined with paper (e.g., newspaper, junk mail, cardboard) for collection. These materials all need to be separated so that individual commodities can be shipped out and marketed for recycling at off-site mills. The MRF was designed to sequentially process paper and containers, so it is operated to first process paper with containers shunted to a storage area. Then the sorting line is reversed and containers are processed through the system.

Glass is delivered to BuRRT separately from commingled recyclables, and glass is not processed through the MRF.

Figure 3-11. Manual Sorting of Recyclable Materials

The principal processing equipment and processes at the MRF are:

1. Pit conveyor – where recyclables are initially fed into the MRF
2. Metering drum – assures a constant amount of recyclables are fed into the system
3. Single-deck old corrugated cardboard (OCC) screen – separates cardboard from the commingled stream
4. CP paper disk screen – separates the containers from the paper stream. The containers are shunted to a storage area for later processing, and the paper continues on the line for further sorting.

5. Enclosed and elevated picking station – where employees stand as material moves along a conveyor belt. Employees manually sort out individual commodities and drop them into chutes where the commodities fall into storage bunkers below the elevated picking station.
    a. On the "first pass" of materials, paper is directed to the picking station and containers are directed to a storage area.
    b. Once all of the paper has been processed, the direction of the conveyor is reversed, and containers are fed onto the conveyor and sorted by the employees.
6. Magnetic separator – mechanically separates steel beverage and food cans.
7. Eddy-current separator – mechanically separates aluminum cans.
8. Storage bunkers – As described in steps 5, 6 and 7, different materials are directed into storage bunkers below the elevated picking station. The MRF has five storage bunkers. There is no cost-effective opportunity to expand or add to the storage bunkers because of the size constraints of the Transfer Station Building.
9. In floor conveyor - Once a storage bunker is full, materials are pushed onto an in-floor conveyor and materials are subsequently directed to the baler. Materials can be directed onto the conveyor from multiple points, which provides a high degree of flexibility for plant operations.
10. Baler – The baler is housed in a building adjacent to the transfer station building. In the baler, materials are compacted and wrapped with wire in preparation for shipment.

Nine personnel are assigned to operate the MRF, with the following responsibilities:

1 – Small bobcat/small loader operator

1 – Baler room

2 – Presort

5 – Sort line

Personnel generally rotate through assignments at the MRF. All personnel are full-time Agency employees. The MRF is operated five days per week, net of start-up, shut down, two-fifteen minute breaks and lunch breaks. Agency management reports that the MRF typically runs 5.5 hours per day.

3.2 Operations Review

3.2.1 Material Types and Quantity Managed

In FY 2013, 76,000 in-bound transactions (loads) were recorded at BuRRT, totaling 35,197.66 tons. In FY 2014, 81,291 transactions totaling 36,252.87 tons were

recorded. The types of materials managed and number of transactions are shown in Table 3-1 and Table 3-2.

Table 3-1
Materials Managed at BuRRT, Fiscal Year 2013

Material Type	Tons	Transactions
Commercial Solid Waste	1,103.39	1,826
Residential Solid Waste	12,135.57	38,562
Construction & Demolition Debris	4,599.72	6,938
Green Waste	6,714.92	19,351
Recyclables	9,699.08	6,373
Household Hazardous Waste	44.44	748
E-Waste	30.47	448
Other (e.g., Tires, Litter, etc.)	870.07	1,754
Total	35,197.66	76,000

Source: Agency Scale Data

Table 3-2
Materials Managed at BuRRT, Fiscal Year 2014

Material Type	Tons	Transactions
Commercial Solid Waste	1,121.61	2,046
Residential Solid Waste	12,755.33	39,769
Construction & Demolition Debris	5,170.55	7,397
Green Waste	7,408.34	20,764
Recyclables	9,093.74	7,244
Household Hazardous Waste	43.17	1,055
E-Waste	62.07	833
Other (e.g., Tires, Litter, etc.)	598.06	2,183
Total	36,252.87	81,291

Source: Agency Scale Data

Considering only recyclable materials received at BuRRT, material received from curbside and drop-off recycling activities are shown in Table 3-3 and 3-4 for FY 2013 and 2014, respectively.

Table 3-3
Tons of Recyclables Managed by Source, FY 2013

Source	Recyclables from In County	Recyclables from Out of County	Glass	Total	Percent Glass
City of Santa Fe	4,006.92	0.00	1,317.25	5,324.17	25%
Santa Fe County	830.82	0.00	462.18	1,293.00	36%
Other[1, 2]	1,207.15	1,695.07	179.69	3,081.91	6%
Total	6,044.89	1,695.07	1,959.12	9,699.08	20%

Source Agency Scale Data
1. Other In-County includes private haulers, self-hauled material, and drop-off
2. Other Out-of-County includes deliveries from other jurisdictions (e.g., Los Alamos)

Table 3-4
Tons of Recyclables Managed by Source, FY 2014

Source	Recyclables from In County	Recyclables from Out of County	Glass	Total	Percent Glass
City of Santa Fe	3,928.58	0.00	1,493.94	5,422.52	28%
Santa Fe County	841.30	0.00	455.62	1,296.92	35%
Other[1, 2]	1,932.70	105.96	335.64	2,374.30	14%
Total	6,702.58	105.96	2,285.20	9,093.74	25%

Source Agency Scale Data
1. Other from In-County includes private haulers, self-hauled material, and drop-off
2. Other from Out-of-County includes deliveries from other jurisdictions

In FY 2014, glass represented more than 20 percent of the total recyclables received at BuRRT. For City delivered material, glass represents 28 percent of recyclable materials delivered, and for the County it represents 35 percent of the material delivered. Glass is a significant recyclable material accepted at BuRRT, which is consistent with the prior year. Issues associated with continued glass management will be discussed in Section 5.

Table 3-5 shows the quantities of recyclable materials shipped from BuRRT in FY 2013, and Table 3-6 shows the quantities of materials shipped in FY 2014.

Table 3-5
Recyclable Materials Shipped from BuRRT, FY 2013

Material	Tons	Bales	Loads	Revenue	Revenue per Ton
MRF Operations					
Comingled	467.54	742	21	$6,412.89	$13.72
Curbside Recycling	89.21	139	4	$1,338.15	$15.00
High Density Polyethylene-Colored (HDPE-C)	45.97	103	2	$22,530.80	$490.12
High Density Polyethylene-Natural (HDPE-N)	67.85	158	2	$39,923.05	$588.40
Cardboard (OCC)	2,076.19	3,777	80	$228,049.11	$109.84
Newspaper (ONP)	2,785.20	4,322.5	118	$243,926.81	$87.58
Telephone Books (OTD)	64.12	122	3	$3,845.30	$59.97
Polyethylene Terephthalate (PET)	124.39	358	4	$52,305.44	$420.50
Office Paper – SOP	82.01	146	4	$13,215.59	$161.15
Tin Cans (TIN)	107.34	180	5	$16,619.90	$154.83
Aluminum Cans (UBC)	49.90	179	2	$73,303.60	$1,469.01
Subtotal, MRF Operations	5,959.72	10,226.5	245	$701,470.64	$117.70
Non- MRF Recycling					
Non-Ferrous Metal	6.15	N/A	4	$6,150.00	$1,000.00
Scrap Metal (Ferrous)	149.63	N/A	47	$28,217.75	$188.58
HHW	16.80	N/A	3	$0.00	$0.00
E-Waste	47.28	59	2	$0.00	$0.00
Subtotal, Non-MRF Recycling	219.86	59	56	$34,367.75	$156.32
Total	6,179.58	10,285.5	301	$735,838.39	119.08

Source: Agency BuRRT Materials Sales Data

Table 3-6
Recyclable Materials Shipped from BuRRT, FY 2014

	Tons	Bales	Loads	Revenue	Rev/Ton
MRF Operations					
High Density Polyethylene (HDPE) (Mixed)	21.09	62.0	1	$10,967	$520.00
High Density Polyethylene -Colored HDPE -C	22.34	54.0	1	$8,936	$400.00
High Density Polyethylene - Natural HDPE-N	42.96	115.0	2	$29,866	$695.21
Loose Comingled Containers	513.21	0.0	39	$10,850	$21.14
Loose Cardboard (OCC)	125.48	0.0	15	$15,863	$126.42
Cardboard, baled (OCC)	1,602.26	3,155.5	73	$209,625	$130.83
Newspaper (ONP)	2,050.48	3,302.0	96	$156,883	$76.51
Polyethylene Terephthalate (PET)	72.22	241.0	4	$24,475	$338.90
Tin Cans (Tin)	89.85	154.0	4	$15,522	$172.76
Aluminum Cans (UBC)	18.69	61.0	1	$24,484	$1,310.00
Subtotal, MRF Operations	4,558.58	7,144.5	236	$507,472	$111.32
Non-MRF Recycling					
Non-Ferrous	3.50	0.0	3	$3,500	$1,000.00
SM	199.67	0.0	65	$37,669	$188.65
E Waste	73.33	135.0	6	$440	$5.99
Mercury	3.58	17.0	2	$0	$0.00
HHW Out	11.80	0.0	2	$0	$0.00
Subtotal, Non-MRF Recycling	291.88	152.00	78.00	41,608.30	$142.55
Grand Total	4,850.46	7,296.50	314.00	549,079.82	$113.20

Source: Agency BuRRT Materials Sales Data

Table 3-7
Comparison of Recyclables Received to Commodities Shipped

	FY 2013	FY 2014
Tons Recyclables Received[1]	7,739.96	6,808.54
Tons Recyclables Sold[2]	5,959.72	4,558.58
Tons Residue/Unrecovered	1,780.24	2,249.96
Percent Residue/Unrecovered	23%	33%

1. From Agency Scale Data, does not include glass
2. From Agency BuRRT Material Sales Data

Table 3-7 compares the quantity of recyclables reported as received at BuRRT for processing in the MRF operation to the quantity of recyclables reported as shipped from the facility. In FY 2013, it appears that 23 percent of received recyclables were not shipped as recycled commodities. In FY 2014, 33 percent of received recyclables were not shipped out as commodities. This value appears to be anomalously high compared to prior year recycling activities. Upon further investigation, the Agency reported a large amount of material in storage at the end of the fiscal year. A large quantity of material in storage can skew the apparent effectiveness of MRF operations. The MRF does appear to have a high residue/reject rate for a MRF that does not process glass. Typical residue rates for commingled recyclables should be in the 10 to 20[1] percent residue range. Some single-stream facilities that process glass report higher residue rates.

The high percentage of non-recycled materials has several very important implications to Agency operations:

1. The Agency could be losing revenue because solid waste that should be paying a tipping is being delivered in the recycling stream at no (or minimal) charge. Leidos recommend the Agency inspect incoming loads and reject those that contain a significant portion of garbage. Agency staff reports that certain recyclable collection vehicles malfunction allowing glass to commingle with recycling, then the entire load is contaminated and must be managed as garbage. In this case, Leidos recommends that such loads be assessed disposal charges. The Agency reports that it has implemented this change.
2. Residents and businesses delivering recyclables may not understand which materials are acceptable and which are not. The Agency, along with the City and County should assure that consistent messages concerning what is recyclable, along with the importance of producing a clean recycling stream are delivered to customers.
3. The MRF operators may not be diligent in separating materials appropriately, or the MRF equipment may not be operating properly. Facility operations should be inspected to assure activities are occurring properly. In addition, the amount of residues or rejects should be periodically inspected to determine is excessive amounts of recyclables are being managed as waste by the MRF operation.

3.3 Staffing

The staff assigned to BuRRT is shown in Table 3-8. Personnel fill a variety of roles in support of BuRRT activities, and in some cases, personnel may work in different capacities depending on daily needs at the facility.

[1] Based on Leidos interviews with private MRF operators.

Table 3-8
BuRRT Staffing

Position	Current Operation	General Description
BuRRT Site Manager	1	Overall facility management
BuRRT Superintendent	1	BuRRT operations management
BuRRT MRF Technician	6	Principally MRF operations and some site support (5 staff), Principally glass crusher operation (1 staff)
BuRRT MRF Technician II	3	Primarily MRF operations and some other site support
BuRRT Spotter	1	Green waste processing
BuRRT Transfer Operator	4	Primarily green waste processing (1 staff), primarily transfer operations (3 staff), and other site activities (all)
BuRRT Transfer Specialist	1	Primarily green waste processing and other site activities
Educ. & Outreach Coordinator	1	Education, outreach, and recycling support
HHW Handler	1	Collect and process HHW and E-waste
Scalemaster II	1	Manage and account for incoming and outgoing loads using the scale management system
Scalemaster	2	Manage and account for incoming and outgoing loads using the scale management system

3.4 Equipment

Approximately 28 pieces of equipment are assigned to perform duties at BuRRT. Table 3-9 lists the principal equipment operated at BuRRT.

- Road tractors and walking floor trailers are used to transport materials from BuRRT to the Caja del Rio Landfill.
- Loaders and skid steers are used to move recyclables and solid waste on the tipping floor, during MRF operations, and in other support roles.
- Tire processing equipment is used to process tires into smaller pieces or into bales for shipment for off-site disposal or recycling.
- Wood grinding equipment is used to process green waste into mulch.
- Glass crushing equipment processes glass containers into glass cullet or fines, which can be reused.
- Other equipment, as listed, supports overall BuRRT activities.

Table 3-9
BuRRT Assigned Equipment

Asset Number and Description	Acquired Date	General
53365 - 1992 Lubrication Truck	12/1/2005	Lube Truck
25902 - 1992 Ford Water Truck	05/02/1997	Water Truck
45 - 2003 Ford F250 4x4 (extended cab)	03/12/2003	Field Pickup
53321 - 2000 Ford Explorer	08/10/2006	Agency Vehicle
41 - 2002 Ford Truck 4x4 Crew Cab	03/29/2002	Field Pickup
53353 - 1997 Freightliner	12/01/2005	Road Tractor, Waste Transfer
53350 - 1997 Freightliner	12/01/2005	Road Tractor, Waste Transfer
53352 - 1997 Freightliner	12/01/2005	Road Tractor, Waste Transfer
53361 - 1996 John Deer Excavator	12/01/2005	Excavator
29748 - 950GII Wheel Loader	11/30/2003	Loader
52963 - Cat Skid Steer Loader	02/24/2006	Skid Steer
53363 - 2003 Glass Pulverizer	12/01/2005	Glass Crusher
29705 - 3680 Tri-Axle Beast Recycler	12/17/2003	Wood Grinder
53914 - Mini Excavator 307 Cat	10/07/2007	Excavator
54 - Toyota Forklift 5053T (Baler Room)	11/09/2007	Forklift
53978 - 1997 Ford Utility	12/17/2008	Service Truck
52795 - Eagle Tire Baler	06/15/2005	Tire Processing
52796 - Eagle Tire Cutter Tuff Cut	06/15/2005	Tire Processing
52792 - Eagle Tire De-rimmer	06/15/2005	Tire Processing
29866 - 2009 International 7600	05/01/2009	Roll-Off Truck
1994 Hyster Forklift (HHW Bldg)	5/20/2011	Forklift
54475 - Volvo L35 Wheel Loader (MRF)	02/01/2012	Loader
54518 - 2012 Volvo L110G Wheel Loader (TS)	06/22/2012	Loader
2014 Freightliner	10/18/2013	Road Tractor, Waste Transfer
53354 - 1997 Steco Trailer	12/01/2005	Walking Floor, Waste Transfer
53355 - 1997 Steco Trailer	12/01/2005	Walking Floor, Waste Transfer
53357 - 1997 Steco Trailer	12/01/2005	Walking Floor, Waste Transfer
2014 End Dump Trailer (Rock)	10/18/2013	End Dump, Glass Hauling

Some of the BuRRT equipment is nearing the end of its useful life, and it appears that staff spends a significant amount of effort keeping this equipment operating. The Agency will need to consider replacing and upgrading certain equipment (e.g., the glass pulverizer) and in some cases alternatives to replacement should be considered (e.g., in the case of the Beast horizontal grinder, outsourcing the service provided by this equipment should be considered). Outsourcing and/or upgrading this equipment will be discussed in Section 5.

At the time of the initial inspection, the Agency did not maintain detailed repair and maintenance cost records by individual pieces of equipment. Since that time, the Agency has acquired and is implementing the RTA Fleet Management Software. Having maintenance data by piece of equipment will allow Agency staff to monitor the useful life of equipment based on wear and repair costs.

3.5 MRF

As described in Section 3.2.11, the Agency uses the MRF to process the incoming stream of commingled recyclables into discrete commodities for subsequent sale. The MRF has performed satisfactorily for many years, but the facility faces several challenges as a going concern.

The MRF was designed to fit into the existing Transfer Station Building. Compared to newer, regional MRFs, the facility is relatively small, and its design limits the types and quantity of material it can manage. While the MRF makes use of screens to sort paper and cardboard and automated sorters for ferrous and aluminum containers, it is dependent upon manual sorting for many commodities. Larger regional facilities often make use of more technology including additional screens and optical sorters to improve the speed and quality of their sorting processes, allowing more material to be processed at a lower unit cost.

This section analyzes the following issues related to the MRF:

- Effect of various flow rates of materials through the MRF
- Ability of the MRF to attract additional tonnages
- Ability to process additional material types through the MRF
- Hauling materials for off-site processing versus operating the MRF
- Other MRF outsourcing considerations including processing paper on-site and shipping containers for off-site processing, or contracting the operation of the MRF

3.5.1 Effect of Various Flow Rates through the MRF

It is expected that as more materials are put through the MRF, lower operating cost per ton would be expected. The MRF cost information presented in Section 1 – Cost of Service was used as the basis for this analysis. In Table 3-10, it is assumed that the costs for processing 6,500 tons per year would be similar to those for processing 6,809 tons per year as modeled in the Cost of Service section. If additional tonnage is put through the MRF, it is expected that some of the Cost of Service elements of Direct MRF Cost and Operation & Maintenance would increase while others would remain constant; and Administration costs would remain the same, as well. Table 3-11 shows the effect of higher quantities on MRF costs.

Table 3-10
MRF Cost for 6,500 Tons per Year Managed

	Total Cost[1]	Cost per Ton[1]	Total Cost	Cost per Ton
Recycling Tonnage	6,809	6,809	6,500	6,500
Cost				
Direct MRF Cost	$535,516	$78.65	$535,516	$82.39
Administration	$161,439	$23.71	$161,439	$24.84
Operation & Maintenance	$348,138	$51.13	$348,138	$53.56
Total	$1,045,093	$153.49	$1,045,093	$160.78
Revenue Offset	($422,419)		($403,249)	
Under Recovery	$622,674		$641,844	

Source: From Cost of Service - Section 1

As shown in Table 3-10, if costs remain the same and tonnage processed by the MRF drops slightly, the total costs remain the same, the cost per ton increases, but revenue declines because fewer recyclable commodities are produced for sale. In this case, the under recovery (or net cost) for MRF operations to the Agency would be $641,844.

In FY 2013, the MRF operations received 7,740 tons of incoming recyclables, so for this example we assume that this quantity of recyclables could be processed at a similar cost to those shown in the Cost of Service analysis. To account for the additional cost associated with an increase to 10,000 tons per year, in Table 3-11 the Direct MRF Costs and Operations Costs are increased by 29 percent (the percentage increase from 7,740 tons received in FY 2013 to the assumed 10,000 tons per year being modeled). Administrative overhead costs are expected to remain the same.

Table 3-11
MRF Cost for 10,000 Tons per Year Managed

	Total Cost	Cost per Ton
Recycling Tonnage	10,000	10,000
Cost		
Direct MRF Cost (Increase 29%)	$691,885	$69.19
Administration (No Increase)	$161,439	$16.14
Operation & Maintenance (increase 29%)	$449,793	$44.98
Total	$1,303,117	$130.31
Revenue Off Set (increased 29%)	($544,921)	
Under Recovery	$758,196	

Table 3-11 shows that as tonnage processed increases, the per ton cost of processing goes down. As more materials are processed on the MRF, revenues are not expected to increase as fast as costs. In this scenario, the overall under recovery (or cost) associated with MRF operations increases as more tons are managed.

If tonnage through the MRF drops below 6,500 tons, the cost is expected to be more than $160 per ton. If the Agency could increase tonnage through the MRF to 10,000

tons per year, the costs for MRF operations would be expected to be in the $130 per ton range. The overall economic performance of the MRF could be improved if the recovery rate at the MRF is improved and more recyclables are recovered per ton of incoming material.

Managing different quantities of materials through the MRF presents management challenges to the Agency. To some degree, it may be possible to modify staffing the MRF, but generally a majority of the personnel and operating costs will likely continue to be incurred by the Agency regardless of the tonnage processed. For example, it is not likely that the Agency will be able to operate the MRF for one-half of the time and incur only one-half of the cost. A minimum number of people are still needed to operate the loading, sorting, and baling operations of the MRF. Operating costs such as electricity and fuel are likely to be somewhat variable with amount of material processed, but personnel costs would need to be drastically reduced if operations were cutback to realize any significant savings from operating the MRF on a part-time basis. In general, as fewer tons are processed by the MRF operations, the per unit operating costs increase.

3.5.2 Ability of the MRF to Attract Additional Tonnage

The Agency has limited opportunity to attract additional material to the facility. First, the Agency already receives the recyclables collected by the biggest customers in the region – Santa Fe County and the City of Santa Fe. Second, as a unit of local government, the Agency cannot readily compete with regional MRFs that have teams of sales professionals that actively market and solicit additional tonnages for their facilities. Third, as a public entity, the Agency must make all of its business activities public, which can put it at a strategic disadvantage to private firms which may be able to make "special deals" to attract customers to their facilities.

Additional materials may be delivered to the MRF as more citizens and businesses in the Santa Fe area recycle. Leidos makes certain recommendations for changes to the City's residential recycling collection program and its commercial cardboard collection program. The changes to the residential recycling program are expected to increase the quantity of residential mixed recycling by up to 1,600 tons annually. Changes to commercial cardboard collection program could approximately 3,700 tons annually.[2] It is expected that the Agency's recycling program could manage the expected increase in tonnage.

3.5.3 Ability to Process Additional Material Types through the MRF

The MRF is constrained by the size of the building in which it is located. The facility currently has five bunkers into which commodities can be sorted. Adding additional materials to the incoming material stream requires that additional storage bunkers be added to the facility and additional capacity be added to the sorting line. The existing

[2] Leidos estimates that an additional 624 to 6,240 tons of additional cardboard could be collected by the City. The mid-point of Leidos' analysis is 3,744 tons annually.

structure cannot easily accommodate additional storage bunkers or additional sorting capacity. Agency staff reports that they have received cost estimates at over $1 million to modify the MRF to add processing capacity. Because of constraints and prohibitive costs, adding new materials to the recycling mix handled by the MRF is not recommended at this time.

3.5.4 Hauling Materials for Off-Site Processing versus Operating the MRF

Private facilities do exist within a feasible range for shipping materials for off-site processing. The potential costs and revenues associates with off-site processing of recyclables will depend on a number of important factors:

1. The price charged by the processing facility
2. The revenue share offered by the processing facility
3. The transportation cost for shipping recyclables to the processing facility. Transportation costs can be influenced by a number of factors including the distance to the processing facility, fuel costs, and the tonnage payload that can be loaded onto a trailer.
4. The commodity makeup of the Agency's recyclables shipped to the processing facility. Often a facility bases its revenue share on the average market value of the commodities that make up the recycling stream. For instance, aluminum and plastics while very light both have high commodity values, so a recycling stream with many of these materials could have a high average market value. Conversely, non-processible garbage included in the recycling stream costs a lot of money to dispose, so large quantities of residue and rejects drive down the average market value. As shown in tables 3-5 and 3-6, the Agency has sold its recyclable commodities for an average price of $111.32 to $117.70 over the past two years. It is important to note that these prices do not include the cost that should be associated with any garbage included in the recycling stream. Additionally, the prices paid for recyclable materials like all commodities vary over time as the demand for commodities and the available supply of source materials vary.

   Because of the variety of factors affecting the economic viability of shipping recyclables to an off-site facility for processing Leidos prepared a sensitivity analysis that looks at multiple factors. Friedman Recycling has contracted with the City of Albuquerque for processing recyclables (Friedman Contract) and constructed a MRF in the city. The Friedman Contract offers the city a range of tipping fees (charges) or rebates (payments) depending on the average market value of the recyclables received from the city. Key elements of the Friedman Contract are:

5. A per ton tipping fee up to $7 per ton is charged or a rebate payment of up to $10 per ton is provided depending on the average market value of the recycling stream.
6. A revenue share is provided based on 70 percent of the average market value minus $85, when the average market value is over $85 per ton.

7. For our analysis, a range of transportation prices ranging from $17 per ton to $30 per ton is considered and the assumed number of tons is 7,000 per year.

Friedman Recycling provided an estimate that transportation could be provided from BuRRT to its Albuquerque MRF for $230 per load. In FY 2014, the Agency shipped 29 loads of "loose commingle" to the Friedman MRF for processing. The loads ranged in size from 9.95 to 16.59 tons, with an average of 13.12 tons per load. This equates to a transportation cost of $13.56 to $23.12 per ton with an average of $17.54 per ton.

In Tables 3-12 and 3-13, a range of average market values and a range of transportation costs are considered. So that we can compare the results of this analysis with the Cost of Service study, the quantity of tonnage of 6,809 is used in this analysis. Table 3-12 presents the per ton revenue or cost for processing when the average market value of the recycling stream ranges from $80 to $110 per ton. Table 3-13 shows the combined processing and shipping revenue (or cost) per ton for the range of average market values when the shipping price ranges from $12 to $25 per ton, and Table 3-14 shows the total revenue (or cost) for each average market value and transportation cost combination.

Table 3-12
Potential per Ton Rebate or Fee for Off Site Recycling Depending on Average Market Value, at 6,809 Tons per Year

Average Market Value per Ton	$80	$90	$95	$100	$110
Tip Fee or Rebate per Ton for Processing	($7.00)	($4.00)	$0.00	$5.00	$10.00
Revenue Share per Ton	$0.00	$3.50	$7.00	$10.50	$17.50
Per Ton Tip fee plus Revenue Share for Processing	($7.00)	($0.50)	$7.00	$15.50	$27.50

Source: Based on Friedman Contract

Table 3-13
Per ton Revenue (Cost) for Processing and Transportation, at 6,809 Tons per Year

Average Market Value per Ton	$80	$90	$95	$100	$110
Transportation Cost = $12/ton	($19.00)	($12.50)	($5.00)	$3.50	$15.50
Transportation Cost = $15/ton	($22.00)	($15.50)	($8.00)	$0.50	$12.50
Transportation Cost = $17/ton	($24.00)	($17.50)	($10.00)	($1.50)	$10.50
Transportation Cost = $20/ton	($27.00)	($20.50)	($13.00)	($4.50)	$7.50
Transportation Cost = $25/ton	($32.00)	($25.50)	($18.00)	($9.50)	$2.50

Source: Based on estimate provided.

Table 3-14
Revenue (Cost) for Processing and Transportation, at 6,809 Tons per Year

Average Market Value per Ton	$80	$90	$95	$100	$110
Transportation Cost = $12/ton	($129,371)	($85,113)	($34,045)	$23,832	$105,540
Transportation Cost = $15/ton	($149,798)	($105,540)	($54,472)	$3,405	$85,113
Transportation Cost = $17/ton	($163,416)	($119,158)	($68,090)	($10,214)	$71,495
Transportation Cost = $20/ton	($183,843)	($139,585)	($88,517)	($30,641)	$51,068
Transportation Cost = $25/ton	($217,888)	($173,630)	($122,562)	($64,686)	$17,023

1. Example calculation, ($129,371) = ($19.00) per ton from Table 3-13 times 6,809 tons

Tables 3-13 and 3-14 show the extent to which the average commodity value and transportation costs will affect the economic analysis of shipping recyclables for off-site processing. When the lowest average market value of $80 per ton is combined with the highest transportation cost of $25 per ton, the Agency could expect to see a per ton cost of $32 and a total annual cost of $217,888 when 6,809 tons per year are managed. When the highest average market value of $110 per ton and lowest transportation cost of $12 per ton is modeled, the Agency would realize positive net revenue of $15.50 per ton or $105,540 assuming 6,809 tons per year.

It appears that, adequate floor space exists for managing solid waste and recyclables on the BuRRT tipping floor. Assuming that 6,809 tons per year would be managed and the average trailer of mixed recyclables will weigh approximately 13 tons, Table 3-15 shows that slightly more than two additional trailers will need to be loaded every day at the transfer station. Assuming that the processing facility provides the trailers, and that they are managed in a dump-and hook operation, this level of effort could be accommodated by current tipping floor staff, particularly if the temporary cover over the second load-out hopper on the tipping floor is removed.

Table 3-15
Additional Trailers per Day for Recycling

Tons per Year	6,809
Tons per Trailer Load	13
Work Days per Year	250
Additional Trailers per Day	2.10

To effectively compare the range of revenue (or costs) shown in Table 3-14 to those presented in the Cost of Service study, it will be necessary to add back in the Administrative overhead allocation and a portion of the Operations and Maintenance costs. If operations are outsourced, the Direct MRF Cost and one-half of the associated Repair & Maintenance costs are expected to be eliminated (while the percentage of Operations and Maintenance costs that can be eliminated are not precisely known at this time, Leidos has conservatively estimated the remaining costs at one-half the total Operations and Maintenance costs for this analysis). Costs associated with managing the solid waste system and the recycling program – or the Administration overhead allocation – will continue to be incurred. In Table 3-16, 100

percent of Administrative overhead and 50 percent of Operations and Maintenance costs are added to the revenue and costs shown in Table 3-14 to provide the total cost the Agency would expect to incur when shipping recyclables off-site for processing.

Table 3-16
Total Processing, Transportation, and Overhead Costs, at 6,809 Tons per Year, plus 100 percent of Overhead Allocation[1] and 50 Percent of Operations and Maintenance Costs[2]

Average Market Value per Ton	$80	$90	$95	$100	$110
Transportation Cost = $12/ton	($464,879)[3]	($420,621)	($369,553)	($311,677)	($229,969)
Transportation Cost = $15/ton	($485,306)	($441,048)	($389,980)	($332,104)	($250,396)
Transportation Cost = $17/ton	($498,924)	($454,666)	($403,598)	($345,722)	($264,014)
Transportation Cost = $20/ton	($519,351)	($475,093)	($424,025)	($366,149)	($284,441)
Transportation Cost = $25/ton	($553,396)	($509,138)	($458,070)	($400,194)	($318,486)

1. Overhead Allocation is $161,439 for FY 2014 (Cost of Service)
2. Operations and Maintenance Allocation is $348,138 for FY 2014 (Cost of Service), so 50 percent is $174,069
3. Example Calculation: ($464,879) equals($129,371) from Table 3-14 plus ($161,439)[1] plus ($174,069)[2]

Table 3-10 shows that MRF operations under-recovers $622,674 per year. This cost includes Direct MRF Costs, Operations & Maintenance, and Administration overhead, and accounts for the revenue received from sale of recyclables produced by the MRF. Table 3-16 shows that the Agency could expect to spend as little as $229,969 per year and up to $553,396 per year if it shipped materials to an off-site facility for processing. Comparing these costs shows that the Agency could save between $69,278 and $392,705 annually by sending its materials to an off-site facility for processing managing current tonnages.

Leidos also performed the same analysis as shown in Tables 3-12 to 3-16 considering 10,000 tons per year. In this case, slightly more than three trailers (3.08) would need to be loaded from the tipping floor. This number should be able to be loaded by existing transfer station staff. Table 3-17 shows the total annual cost that could be incurred by the Agency in managing 10,000 tons per year.

Table 3-17
Total Processing, Transportation, and Overhead Costs, at 10,000 Tons per Year, plus 100 percent of Overhead Allocation[1] and 50 Percent of Operations and Maintenance Costs[2]

Average Market Value per Ton	$80	$90	$95	$100	$110
Transportation Cost = $12/ton	($525,508)	($460,508)	($385,508)	($300,508)	($180,508)
Transportation Cost = $15/ton	($555,508)	($490,508)	($415,508)	($330,508)	($210,508)
Transportation Cost = $17/ton	($575,508)	($510,508)	($435,508)	($350,508)	($230,508)
Transportation Cost = $20/ton	($605,508)	($540,508)	($465,508)	($380,508)	($260,508)
Transportation Cost = $25/ton		($590,508)	($515,508)	($430,508)	($310,508)

1. Overhead Allocation is $161,439 for FY 2014 (Cost of Service)
2. Operations and Maintenance Allocation is $348,138 for FY 2014 (Cost of Service), so 50 percent is $174,069

Table 3-11 shows that processing 10,000 tons through the MRF would cost $758,196. Comparing this cost with the values in Table 3-17, it appears that the Agency would save between $129,688 and $604,688 per year by hauling recyclables to an off-site facility for processing if 10,000 tons per year were managed. This example shows that even with increased annual tonnage, the off-site process offers positive cost benefit compared to the MRF operation.

3.5.5 Other MRF Outsourcing Considerations

In addition to the long-haul analysis for outsourcing of recyclables processing, two additional scenarios were considered: 1) Processing only fiber at the MRF and shipping containers off-site for processing, and 2) Contracting for MRF operations.

Process Fiber On-Site and Ship Containers Off-Site for Processing

In this scenario, the Agency would operate the MRF to process paper and be responsible for marketing the paper products. The containers would be separately shipped for off-site processing. By maintaining the paper processing, the Agency would keep the revenue associated with paper processing. The challenge with this scenario is that the Agency would continue to incur operating costs with processing paper. Also, because the remaining container stream would be very light, high per ton transportation and higher processing costs would likely be incurred. In table 3-18 the potential cost of processing paper only and shipping containers for off-site processing is modeled.

Assumptions:

- Tons managed = 6,809, based on FY 2014 data
- Paper recovered and paper revenue FY 2014 = 3,778.22 tons and $382,371 (from Table 3-5)
- Remaining material = 3,080.78
- Tons other recyclables shipped FY2014 = 780.36 (from Table 3-5)

- Since the MRF is setup to process paper on the first pass and containers on the second pass, it is assumed that operating costs will be 50 percent of Direct MRF Costs. In the example of completely closing down the MRF, Leidos assumed that one-half of the allocated Operations and Maintenance could be reduced. Since entirely closing the MRF results in a 50 percent reduction in the allocated costs, the allocated Operations and Maintenance costs for operating part-time are assumed to be 75 percent. In the analysis, 100 percent of Administration overhead continues to be incurred for this operation.
- Because the unprocessed material equaled 33 percent of incoming tonnage in FY 2014, the amount of material shipped for off-site processing will be modeled between 800 and 3,000 tons.
- Once the paper fraction is removed from the recycling stream, the remaining containers are expected to be very light. The Agency may operate the MRF to remove aluminum and ferrous containers, but this activity will further lighten the load and possibly reduce the value of the resulting recycling stream.
- The processing fees for the Freidman Contract are modeled, but it is unknown whether a firm will be willing to provide such a price for the subject recycling stream.
- The resultant recycle stream is expected to be very light. Payloads between four tons per load and 8 tons per load (approximately $30 per ton to $60 per ton based on data earlier in the Section) are modeled.

Table 3-18 shows the assumed MRF operating cost less the revenue offset of the paper sales.

Table 3-18
MRF Operating Cost for Processing Paper Only

Direct MRF Cost (50%)	$267,758
Administration (100%)	$161,439
Operation & Maintenance (75%)	$261,104
Total	$690,301
Paper Sales, Revenue Off-Set	($382,371)
Under Recovery	$307,929

Table 3-19 shows the assumed processing fees or rebate depending on the average market value of the material shipped. As discussed above, the incoming recycling stream may contain up to 33 percent unrecyclable materials. If this is truly the case, the loads shipped would weigh more, have high contamination rates, and low market value. Therefore, a range of weights and market rates are modeled.

Table 3-19
Potential per Ton Rebate or Fee for Off Site Recycling of Containers Only Depending on Average Market Value

Recycling Tonnage	3,000	2,500	2,000	1,500	1,000
Average Market Value per Ton	$80	$90	$95	$100	$110
Tip Fee or Rebate per Ton	($7.00)	($4.00)	$0.00	$5.00	$10.00
Revenue Share per Ton	$0.00	$3.50	$7.00	$10.50	$17.50
Tip fee plus Revenue Share	($7.00)	($0.50)	$7.00	$15.50	$27.50

Source: Based on Friedman Contract

Table 3-20
Cost per Ton for Processing and Transportation of Containers Only at Various Average Market Value Rates

Average Market Value per Ton	$80	$90	$95	$100	$110
Transportation Cost = $30/ton	($37.00)	($30.50)	($23.00)	($14.50)	($2.50)
Transportation Cost = $40/ton	($47.00)	($40.50)	($33.00)	($24.50)	($12.50)
Transportation Cost = $50/ton	($57.00)	($50.50)	($43.00)	($34.50)	($22.50)
Transportation Cost = $60/ton	($67.00)	($60.50)	($53.00)	($44.50)	($32.50)

Source: Based on Transportation Estimate Provided

Table 3-21
Total Containers Only Processing and Transportation Costs at Various Average Market Value and Various Tons per Year

Recycling Tonnage	3,000	2,500	2,000	1,500	1,000
Average Market Value per Ton	$80	$90	$95	$100	$110
Transportation Cost = $12/ton	($111,000)[1]	($76,250)	($46,000)	($21,750)	($2,500)
Transportation Cost = $15/ton	($141,000)	($101,250)	($66,000)	($36,750)	($12,500)
Transportation Cost = $17/ton	($171,000)	($126,250)	($86,000)	($51,750)	($22,500)
Transportation Cost = $20/ton	($201,000)	($151,250)	($106,000)	($66,750)	($32,500)

1. Example Calculation: ($111.000) equals ($37.00) per ton from Table 3-20 times 3,000 tons (in column heading)

To estimate the total cost of operating the MRF to process paper and ship the containers off-site for processing the results of Table 3-18 (for paper) and Table 3-21 (for containers) are combined. Table 3-18 shows that the cost to operate the MRF to process paper only is $220,895 per year, while Table 3-21 shows the cost to ship containers for off-site processing could range from $2,500 to $201,000 per year[3], so

[3] Note that the very wide range of costs are reflective of uncertainty in the material quantity (from 1,000 to 3,000 tons per year) or quality (poor quality material may require payments to the processor while high quality material may result in rebates paid to the Agency).

the total cost for this approach ranges from $310,429 to $508,929 as modeled. It should be noted that a number of assumptions were made in this analysis, and the final cost for this approach will depend on the actual cost to operate the MRF to process paper only, the percent contamination and average market value of the container stream, and assuring that an off-site recycling facility will accept a container-only recycling stream that would be produced by the Agency.

Contracting for MRF Operations

It could be possible for the Agency to hire a firm to come in and operate the existing MRF under contract. While this option is feasible, it presents a number of challenges:

- It may not be economically viable for a private firm to operate the MRF because of the limited quantity of recycles processed.
- With a private operator, a large number of issues would need to be identified and memorialized in a contract. Issues include responsibility for repairs and maintenance, how will major repairs be paid for, who will be responsible for managing materials on the tipping floor, etc.
- Having a private MRF operator performing work in close proximity to tipping floor operations conducted by Agency personnel will require coordination issues to be identified, including how will conflicts between the two operations be managed.
- Security issues, personnel concerns for the use of the office and locker facilities, need to be determined.
- Will contractors be allowed to operate when Agency personnel are not on site? If so, how will the site be secured to assure unauthorized waste is not delivered? In addition, what if property damage is found and the responsible party is not identified?

Because of the number of challenges associated with a private operator and the Agency operating in close proximity at BuRRT, Leidos does not recommend this option.

3.5.6 Comparison of MRF Options

Table 3-22 presents the options considered in this Section. It appears that off-site processing of all recyclable materials offers the lowest cost option to the Agency and the lowest risk. Additionally, with a properly structured request for proposal (RFP) the Agency may be able to gain better control of its costs while expanding the range of materials accepted in the recycling program.

Table 3-22
Comparison of Options

	Tons	Net Cost[1]	Cost per Ton
Current MRF Operating Cost	6,809	$622,674	$91.45
Current MRF, Manage Less Tonnage	6,500	$641,844	$98.75
Current MRF, Manage More Tons	10,000	$758,196	$75.82
Process Paper On-Site and Process Containers Off-Site, Low Cost	6,809	$310,429	$45.59
Process Paper On-Site and Process Containers Off-Site, High Cost	6,809	$508,929	$74.74
Off-site Processing, Low Cost	6,809	$229,969	$33.77
Off-site Processing, High Cost	6,809	$553,396	$81.27

1. "Net Cost" means the cost of the Agency to operate the MRF minus revenue received.

3.6 Joint Planning Agreement between City and County

The Agency operates BuRRT and leases the facility from the City. The initial lease agreement (Lease) was entered into on September 22, 2005 and contains the following provisions:

1. The facility will be used for the following purposes: transfer station, MRF, green waste processing, scrap tire processing, and scrap metal collection. The facility is not allowed to transfer solid waste from commercial vehicles.
2. Operating hours are limited to 8:00 am to 6:00 pm, daily.
3. Lease term is for 10 years unless terminated sooner (with 365 days' notice) and can be extended for 10 more years.
4. The Agency pays the City annual rent of $24,000 plus quarterly payments of 2 percent of gross revenue, excluding processing fee paid by the City.
5. The Agency is responsible for litter cleanup on certain roads leading to BuRRT.
6. The Agency is responsible for utilities and repair and maintenance of BuRRT, and any facility alterations must be approved by the City.
7. The Lease includes a number of additional operating and legal requirements.

In December 2005, the Lease was amended to address and clarify certain issues including repairs and maintenance. Additionally, this amendment allowed BuRRT to be used for the emergency transfer of solid waste if the Caja del Rio Landfill is unable to accept waste.

In December 2010, the Lease was further amended changing the description of the property being leased.

3.7 Findings and Recommendations

1. **Certain key equipment is nearing the end of its useful life and options for replacement or outsourcing should be investigated.**

   Rolling Stock – The transfer trailers and road-tractors operated by the Agency are nearing 20 years old. One of the aluminum transfer trailers has steel plate welded on the side to repair damage. The Agency should look to replace and upgrade its transfer fleet.

   Beast Horizontal Grinder – This piece of equipment has proven problematic to maintain in operation because of age and wear. The Agency should consider outsourcing this function as described in Section 5.

   Glass Pulverizer – This piece of equipment is near the end of its useful life and should be replaced or its function outsourced as described in Section 5.

2. **A high percentage of recyclable materials received for MRF processing are not shipped out as recyclable commodities. To address this issue Leidos recommends that:**

   The Agency should look to inspect incoming loads and reject those that contain a significant portion of garbage. If loads contain a significant amount of solid waste they should be charged the solid waste tipping fee.

   The Agency, along with the City and County, should assure that consistent messages concerning what is recyclable, along with the importance of producing a clean recycling stream, are delivered to customers.

   MRF operations should be inspected to assure all equipment and separation activities are occurring properly. Also, the amount of residues or rejects should be periodically inspected to determine if an excessive amount of recyclables are being managed as waste by the MRF operation.

   The Agency should conduct a recycling composition study to determine the percentage of each type of recycling commodity along with the percentage of recycling in the incoming recycle stream. A recycling stream composition study will help determine if on-going activities are separating recyclables appropriately. In addition, if the Agency out-sources its recycling processing, a recycling composition study will allow it to document the average market value of its recyclables.

3. **The Agency incurs high operating costs and achieves a relatively low recycling rate at BuRRT. BuRRT has limited space to allow for additional storage bunkers at the MRF, so the Agency cannot cost-effectively add additional materials to the recycling stream.**

   Leidos recommends that the Agency solicit proposals for the off-site transportation and recycling of its recyclables. Based on proposals received, the Agency can

assess the economic viability of off-site processing using the actual prices offered by potential processors.

4. **Glass is a large percentage of incoming recyclables. The Agency will need to continue glass recycling operations into the future.**

   Glass is further addressed in Section 5.

Section 4
OPERATIONAL ASSESSMENT OTHER AGENCY OPERATIONS

4.1 Organization and Staffing

A number of organization and staffing issues were addressed in Section 2 for the Caja Del Rio Landfill (Landfill) and Section 3 for the Buckman Road Recycling and Transfer Station (BuRRT), individually. This Section presents a general review of staffing for the Santa Fe Solid Waste Management Agency (Agency). Table 4-1 presents a list of personnel and responsibilities for BuRRT and Table 4-2 presents a list of personnel for the Landfill.

Table 4-1
BuRRT Staffing

Position	Current Operation	General Description
BuRRT Site Manager	1	Overall facility management
BuRRT Superintendent	1	BuRRT operations management
BuRRT MRF Technician	6	Principally MRF operations and some site support (5 staff), Principally glass crusher operation (1 staff)
BuRRT MRF Technician II	3	Primarily MRF operations and some other site support
BuRRT Spotter	1	Green waste processing
BuRRT Transfer Operator	4	Primarily green waste processing (1 staff), primarily transfer operations (3 staff), and other site activities (all)
BuRRT Transfer Specialist	1	Primarily green waste processing and other site activities
Educ. & Outreach Coordinator	1	Education, outreach, and recycling support
HHW Handler	1	Collect and process HHW and E-waste
Scalemaster II	1	Manage and account for incoming and outgoing loads using the scale management system
Scalemaster	2	Manage and account for incoming and outgoing loads using the scale management system

Source: The Agency

Table 4-2
Landfill Staffing

Position	Current Operation	General Description
Accounts Coordinator	1	Agency accounting
Admin. Assistant/ HR Officer	1	Administration
Equip. Maintenance Supervisor	1	Equipment maintenance at Landfill and BuRRT
Equipment Mechanic I	1	Equipment maintenance at Landfill and BuRRT
Equipment Mechanic II	1	Equipment maintenance at Landfill and BuRRT
Equipment Mechanic III	1	Equipment maintenance at Landfill and BuRRT
Executive Director	1	Overall Agency management
Health, Safety and Training Administrator		Safety
Heavy Equipment Operator I	3	Primarily landfill operations
Heavy Equipment Operator II	1	Primarily landfill operations
Heavy Equipment Operator III	1	Primarily landfill operations
Landfill Manager	1	Overall management of Landfill and associated activities
Landfill Superintendent	1	Supervision of Landfill activities
Maintenance Coordinator	1	Site maintenance activities at Landfill and BuRRT
Maintenance Worker	1	Site maintenance activities at Landfill and BuRRT
Scale Supervisor	1	Supervision of Landfill and BuRRT scale operations
Scalemaster	2	Manage and account for incoming and outgoing loads using the scale management system
Temporary - Scalemaster	1	Scale operations at Landfill and BuRRT
Temporary Laborer- Caja	4	Site maintenance activities at Landfill and BuRRT

Source: The Agency

In reviewing site activities, it appears that the Agency maintains a relatively lean operation.

General Agency management activities are conducted by the executive director who is supported by one administrative assistant who also serves as the human resources coordinator and one accounts coordinator. While certain accounting services are provided by the City of Santa Fe (City), it seems reasonable that Agency staff is needed to support required activities.

Both the BuRRT and Landfill have personnel designated as Manager and Superintendent. Considering the technical, operational, and compliance activities necessary to maintain a solid waste management facility, having individual managers supported by superintendents (or working supervisors) is a reasonable division of labor.

The Agency has a number of site personnel designated to operating the BuRRT and Landfill. Under current conditions, the staffing appears appropriate, but if the Agency

should undertake recommendations addressed in other Sections for the recycling operation and green waste processing, the necessary staffing for these activities should be evaluated.

4.2 Education and Outreach

In the Santa Fe Area, Santa Fe County (County), the City, and the Agency each serve a different role in providing solid waste management to residents and businesses. The City and County provide collection services and deliver material to the Agency for final processing or disposal. Additionally, the County is investigating contracting for collection service in certain portions of the unincorporated County, so private haulers will take on a more important role in waste management if this option proves viable.

Each local government – City, County, and Agency – interacts differently with its constituents. The City and County provide direct collection services to their customers, while the Agency's customers are the City, County, private haulers, and BuRRT users. Currently, all of the entities do not appear to be effectively communicating one solid waste management message to area citizens and businesses.

The planning and messaging for solid waste management and recycling could be improved with better communication between the local governments. It would be appropriate for the Agency to lead this effort because it is responsible for the final disposal or recycling activities. The Agency's Solid Waste Advisory Committee (SWAC) has representation from the City and County along with the New Mexico Environment Department and large waste generators in the area. The SWAC can serve as an important partner for promoting a consistent message across the various local governments and private waste companies.

Upon completion of the solid waste management assessment being documented in this report, Leidos recommends directing the appropriate recommendation through the SWAC to develop a consistent message to the residents and businesses in the Santa Fe region.

4.3 Findings and Recommendations

1. **Agency staffing is currently adequate.** Leidos recommends that the Agency evaluate its staffing as it implements the recommendations in this report (e.g., if the MRF operations are contracted, the Agency will need to reduce staff) .

2. **Current communication on solid waste management issues is inconsistent in the region.** Leidos recommends that the Agency lead in the development of solid waste and recycling messaging for all participants and that the SWAC serve as a partner for promoting a consistent solid waste and recycling message in the region.

(This page intentionally left blank)

Section 5
EVALUATE ALTERNATIVE OPTIONS

In this Section, Leidos evaluates a number of important Santa Fe Solid Waste Management Agency (Agency) programs. These programs are evaluated to determine if changes could improve the function of the Agency. The programs being considered are:

- Mulching of green waste
- Composting
- Food waste composting
- Glass
- Reuse
- Evaluate out-of-county waste

5.1 Mulching of Green Waste

In FY 2014, the Agency received 7,408 tons of green waste. Currently, it uses a Beast horizontal grinder (Beast) to process the green waste into mulch, which it then sells or gives away. Based on analysis Leidos performed for the Cost of Service study in Section 1, the Agency assigned three personnel primarily to manage green waste (among some other duties). One spotter to manage the green waste area, one BuRRT[1] Transfer Operator to operate the front-end loader to manage the piles of green waste and piles of mulch when the Beast was operating, and one BuRRT Transfer Specialist to operate the Beast. The cost of processing green waste is shown in Table 5-1.

Table 5-1
Green Waste Processing Cost

Cost	Amount
Direct Cost	$312,826
Operation & Maintenance (O&M)	$74,771
Subtotal Direct and O&M Cost	$387,597
Administration	$74,186
Total Cost	$461,782

Source: Cost of Service Study

[1] "BuRRT" is the Buckman Road Recycling and Transfer Station

Considering only the direct cost and operations and maintenance cost, green waste processing cost $387,597 or $52.32 per ton (for 7,408 tons).

In many solid waste operations that Leidos has worked with, the organization chooses to outsource the grinding of green waste. Outsourcing is conducted for many reasons including:

- The operation does not need to invest capital in an expensive grinder. A new grinder may cost approximately $550,000, or more.
- A contract grinder is responsible for repairs and maintenance, which can cost in excess of $50,000 per year. Also, a contract grinder will have the resources necessary to maintain spare parts and to conduct specialized repairs and maintenance necessary to maintain continuous operation.
- A contract grinder typically has more than one machine, so in the event of equipment downtime, a replacement can be brought in without interrupting normal operations.

Of course, a contract grinder must be paid for the service it provides. Also, a contract grinder will require that a certain amount of green waste be accumulated on site, so that processing charges cover its mobilization costs. Leidos contacted contract grinders that indicated approximately 1,500 to 2,000 tons of green waste would need to be accumulated for grinding to be provided at the most economical cost. In other areas of the country, Leidos has worked with contract grinders that provide such service in the range of $10 to $20 per ton. Prices generally are determined by: 1) The distance equipment must travel, 2) The type of material processed, and 3) The quantity of material processed.

Assuming one-third of the Direct and O&M Costs shown in Table 5-1 are attributable to direct grinding operations[2], the Agency spent about $129,199 to process 7,408 tons. For example, if a contract grinder can provide grinding service to the Agency at $12 per ton, the Agency would pay $88,896 to process the same amount of material, a savings of more than $40,000, annually.

Based on the potential savings associated with contract grinding of green waste, Leidos recommends the Agency solicit proposals for this service, particularly before it invests in a new grinder.

5.2 Composting

The Agency has a permitted compost area at the Caja del Rio Landfill (Landfill) that it is currently minimally operating. The compost area offers a number of important benefits to a potential compost operator including a nearby water source, limited access to the facility, controlled access across certified scales, and a limited number of neighbors who could be impacted by compost operations.

[2] One-third of O&M costs are used because green waste management includes acceptance or materials, grinding mulch and managing mulch produced. One-third of O&M costs is considered conservative for this analysis.

The skill sets for personnel operating a compost facility are generally different from those of personnel operating landfills. Making compost is often described as much art as it is science, meaning operators must understand the compost process, continually monitor the operation, and make continual adjustments in the compost process (e.g., turn piles, add water, add bulking agents).

It is Leidos' experience that many compost operations fail not because of incoming material streams, but because of the inability of the composter to find end-users for its product. End-markets for compost include farmers, other horticultural users, and the Department of Transportation. To effectively market compost to end-users, composters must be willing and able to spend the time to research and out-reach to potential end users. The Agency does not employ salespeople, and so it has limited ability to reach out to end-users. A private operator would have the ability and resources to reach out to end-users and would have a higher probability of success.

Unless the Agency is willing to commit personnel resources to closely monitoring and managing a compost operation and to market the produced product, Leidos does not recommend that it undertake operating a compost program itself. However, the Agency could choose to partner with another entity to undertake the composting operation. The advantage of partnering with a private firm or non-profit entity include:

- The Agency has a permitted composting location with suitable area and water source.
- Locating a composting operation at the Landfill puts the operation on the Agency's "side of the scale house." This means the Agency could work to set alternative tipping fees for incoming feedstock that could be less than landfill tipping fees to encourage diversion, but set at a rate that allow it to recover some revenue, if appropriate (e.g., the current green waste rate is less than the solid waste rate).
- A private operator would have composting skills that Agency personnel do not possess. Also, a private operator could dedicate time and resources to activities that are not part of the Agency's core mission.

The Agency could create a request for proposal (RFP) that would: 1) Describe the resources available to the composter, 2) Describe insurance requirements and clarify responsibilities, 3) Require proposers to describe their approach and identify end markets, 4) Describe economic terms such as expected feed stock payment or revenue share, and 5) Define other important criteria as necessary.

5.3 Food Waste Composting

A natural extension of the Agency's approach to composting would be the inclusion of food waste in the composting process. The Environmental Protection Agency (EPA) estimates that food waste represents 21.1 percent of waste discarded annually in the United States.[3] If 10 percent of the food waste disposed in the Landfill were diverted

[3] EPA. Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2012

to composting, the Agency could compost approximately 3,000 tons of food waste per year (148,145 tons disposed times 21.1 percent food waste times 10 percent equals 3,216 tons). The precise amount of food waste that could be diverted from the landfill will depend on the actual composting operation conducted.

Since the Agency does not perform collection, it can best support a food waste composting operation through a partnership approach similar to that described in Section 5.2. To accommodate food waste processing, the Agency may need to modify its permit. Currently, the Agency is renewing its Landfill permit with the New Mexico Environmental Department. Leidos recommends that the Agency pursue incorporating food waste composting into its permit renewal process.

5.4 Glass

As described in Section 3 – Operational Assessment of BuRRT, glass is a significant incoming material to BuRRT. Residents and businesses in the area have come to depend on glass being a recyclable commodity. Currently, there is limited opportunity for actual recycling of glass to take place. The Agency has developed markets for certain amounts of the ground material to be used in consumer products. In many areas, glass recycling is hampered because glass is very heavy and has high transportation costs. The nearest glass beneficator (a company that processes glass in preparation for processing into new glass containers, fiberglass or other products) is generally considered to be outside of the feasible transportation distance from BuRRT.

The Agency has developed a strong glass market with Growstone, Inc. (Growstone), a company that makes advanced substrates for commercial and retail hydroponics. Growstone has been able to take much of the glass product produced at BuRRT. The glass product produced at BuRRT can also be used as a component of the drainage layer in new landfill cell development. Additionally, glass is often used as either roadway material or cover at landfills. It is likely that the Agency will be compelled to continue to provide glass processing as a service to its customers. Processing glass is a cost to the operation, and the Agency cannot practically expect to generate positive net revenue from the processing and sale of glass.

The current glass pulverizer operated by the Agency is nearing the end of its useful life, and the machine appears undersized for the quantity of glass managed by the Agency. Leidos recommends that the Agency continue to attempt to identify and cultivate markets for glass products. Glass beneficiators generally prefer to receive glass product that has not been processed into cullet or small pieces (i.e., they prefer larger pieces of glass that can be separated by their processing equipment). Unless it is able to obtain an agreement for glass processing with a glass beneficiator, Leidos recommends that the Agency procure and put into service a larger replacement glass pulverizer.

5.5 Reuse

Some solid waste management programs have chosen to set up reuse areas where materials may be "swapped" rather than disposed. It is Leidos' experience that this

activity works best where there is a high degree of supervision and management and a limited amount of traffic. For example, at a remote solid waste citizen convenience center an attendant may have enough time to interact with a resident delivering an item that is still useable. In this case, the attendant can supervise the acceptance of the material and assure it is safely placed into storage. Then, when another resident arriving at the center wants to take the item, the attendant can see that it is safely transferred to the receiving resident. Often the resident must sign a release form acknowledging that the solid waste department is not responsible for the reused item.

At busier facilities, or facilities that have limited direct supervision of the reuse area, the free "swap area" can become a dumping ground for unscrupulous individuals looking to avoid tipping fees or individuals that do not understand the proper use of the area. In such cases, the sponsoring agency may end up with solid waste or hazardous waste being dropped off. Alternatively, individuals may pick up a broken item that they do not know how to fix, and they become responsible for disposing of the item.

Leidos does not recommend that the Agency establish a "reuse" program. Rather we recommend that the Agency partner with charitable organizations, such as Goodwill or the St. Vincent DePaul Society located in the Santa Fe area. The Agency could prepare a list of such agencies for residents or businesses to refer to. The Agency could then direct residents interested in recycling usable items to one of these organization that operate supervised drop-off programs.

5.6 Evaluate Out of County Waste

The acceptance of out-of-county waste has been presented to the Joint Powers Board in 1999, 2003, 2008, and most recently on August 15, 2013. Because the cost structure of a landfill is characterized by high fixed costs (e.g., cell development costs, expensive equipment, and personnel) and low variable costs (e.g., incremental fuel costs, operations and maintenance costs, and incremental personnel costs), some landfills desire to accept tonnage from outside their local markets. The benefit to this approach is that it can raise revenues by incurring limited increased costs. The downside to accepting out-of-county tonnage is that the revenue benefit occurs because most fixed costs have been covered by existing customers, so existing customers may believe that they are "paying too much" if the out-of-county waste is offered a reduced tipping fee.

5.6.1 Markets

Identified markets for potential out-of-county waste for the Landfill includes:[4]

- The North Central Solid Waste Agency (NCSWA) – members are Rio Arriba County, City of Espanola, San Juan Pueblo, and Santa Clara Pueblo. The NCSWA generates approximately 30,000 tons per year.

[4] Tonnage quantities and prices indicated in this section come from Solid Waste Management Agency Joint Powers Board, August 15, 2013 meeting minutes.

- Los Alamos County generates approximately 20,000 tons per year.
- San Miguel County generates approximately 6,400 tons per year. The City of Las Vegas generates approximately 1,200 tons per year

5.6.2 Pricing

When considering pricing comparison with competing facilities, both the prices offered by competing facilities and the transportation costs incurred by the waste generators must be considered.

Los Alamos County indicates that its full cost of transportation and disposal is approximately $45 per ton. The landfill tipping fees it pays at the Los Lunas (Waste Management) Landfill is $15.96 per ton, and the price it pays at Rio Rancho (Waste Management) Landfill is $25.11 per ton. NCSWMA indicates that it piggybacks off Los Alamos County's contracts, and pays a higher transportation fee because of the further distance.

Private landfill have a distinct advantage over public landfills in attracting tonnage in that a public landfill generally has to post its rates or otherwise make them public, but a private landfill can negotiate deals and does not need to make its pricing public.

The distance from Los Alamos to the subject landfills is shown in Table 5-2. The estimated cost to transport solid waste from Los Alamos to the Landfill is $10 to $15 per ton based on the prices Los Alamos pays.

Table 5-2
Distance from Los Alamos to Landfills

Landfill	Distance	Tipping Fee per Ton	Estimated Shipping Cost per Ton
Caja del Rio	44	N/A	$10 to 15
Rio Rancho	85	$25.11	$20 to 25
Los Lunas	125	$15.96	$25 to 30

Source: Estimated from August 15, 2013 Joint Powers Board meeting minutes

Based on the information shown in Table 5-2, the Agency would have to offer a price of $30 to $35 to be reasonably competitive with private landfills in the area. Of course, the ability of the Agency to attract this tonnage would depend on how aggressively the competing private landfill would price its services to retain the subject waste and the transportation pricing that could actually be obtained. Leidos conservatively estimates that the Agency would need to offer pricing at $30 per ton or below to compete for the subject tonnage. Leidos does not recommend that the Agency accept out-of-county waste at a lower tipping fee.

5.6.3 Incremental Revenues

Assuming that the Agency could charge a price of $30 per ton for 50,000 tons per year of additional waste, it could realize additional income of $1.5 million per year. This

tonnage equates to approximately 200 tons per day. Currently the Landfill receives between 500 and 600 tons per day, so this increased tonnage would be expected to have a marked impact on current operations. Increasing the rate of incoming tonnage by approximately one-third means that the currently permitted landfill cell life, which is expected to be exhausted by 2022, could be used up by 2019. In this case, capital construction costs would be incurred sooner.

5.6.4 Incremental Tonnages

As described above, the Agency is not likely to attract out-of-county waste on a long-term basis, but at certain times, out-of-county customers contact the Agency with a request to deliver waste to the Landfill. Often these requests come from other area governments faced with operational issues related to high wind days, bad weather days, equipment down time, or similar problems. If the Agency was to charge current tip fees to such out-of-county customers, it could secure limited additional revenues without impacting current operations.

5.7 Findings and Recommendations

1. **Contract grinding of green waste could cost less than continued operation of the Agency's grinder.**

   Contracting green waste grinding could cost less than the current operation, and by contracting the Agency will not spend $500,000 or more on a new grinder. Leidos recommends that the Agency solicit a competitive proposal for the grinding of green waste either through the development of a bid or request for proposals (RFP).

2. **The designated compost area at the Landfill offers an opportunity for a partnership for composting.**

   It is not likely that the Agency can successfully develop a composting program on its own, but by partnering with a firm competent in the production and marketing of compost, the Agency can facilitate development of composting in the region. Additionally, having the composting operation within its facility allows the Agency to exert some control over pricing and revenue considerations. Leidos recommends that the Agency investigate a partnership for composting on its site, through the development of an RFP and a competitive procurement.

3. **Customers in the Santa Fe area will continue to deliver glass for recycling, but glass has limited value and will likely continue to be costly to manage by the Agency.**

   The Agency should continue to research markets for recycling glass. In the absence of established markets, the Agency should evaluate a replacement glass pulverizer and continue to produce glass product for its own use at the landfill.

4. **Limited incremental tonnage could provide additional revenues to the Agency.**

   By allowing out-of-county waste to be delivered to the landfill on a limited basis by other local governments, the Agency could realize some increased revenues. Leidos recommends that the Agency allow such deliveries on an ad hoc basis in response to operational conditions faced by out-of-county customers, and that such customers be required to pay the posted tipping fees.

Section 6
SUMMARY OF KEY RECOMMENDATIONS

Listed below is a summary of our key recommendations, summarized by section. Where applicable, we have provided a conservative estimate of the potential "Annual Cost Savings" and/or "One Time Cost Savings". For more information on a particular recommendation, refer back to the appropriate section.

Section 1: Cost of Service and Funding Options	
Recommendation	**Benefit/Purpose**
Maintain Rates at the Caja del Rio Landfill.	Rates are sufficiently recovering costs and will ensure the financial integrity of the Landfill.
Maintain Rates at the Buckman Road Recycling & Transfer Station (BuRRT) for now.	If the Agency does not pursue the recommendations detailed in Section 3: Operational Assessment of BuRRT, rates will need to be revisited at the Landfill in 12 months and potentially increased.
Consider Entering into a Public-Private-Partnership (P3) for MRF, green waste processing, and potentially glass processing.	Savings are shown in Section 3: Operational Assessment of BuRRT.

Section 2: Operational Assessment of the Caja del Rio Landfill			
Recommendation	**Benefit**	**Priority Level**	**Implementation Time Frame**
Consider replacing scraper pans with dump trucks and excavators.	Better prepares for future equipment replacement needs.	Medium	In next 12 months
Utilize the recently implemented RTA Fleet Management software.	Allows the Agency to track fuel, operating, and repair costs for equipment on a unit basis.	High	Now
Continue to operate the existing Landfill.	Operating the existing Landfill is the most cost effective option compared to an offsite landfill.	High	Status Quo
Encourage the sale of basalt products produced at the Landfill.	Increases Landfill revenues that could off-set tipping fees.	Medium	In next 12 months
Potential Cost Savings: The consultant has not provided a cost savings with these recommendations, to be conservative. However, decreased costs and/or increased revenues will result from implementing these recommendations, along with increased operational efficiencies.			

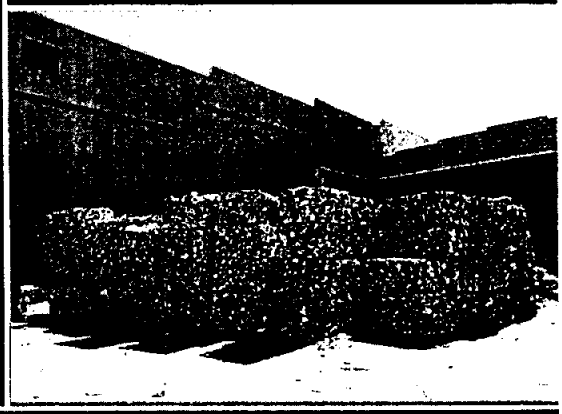
Section 3: Operational Assessment of Buckman Road Recycling & Transfer Station			
Recommendation	Benefit	Priority Level	Implementation Time Frame
Replace or outsource certain key equipment (i.e., rolling stock, beast horizontal grinder, glass pulverizer).	Reduces capital and maintenance costs.	High	Now–1 year
Address contamination rate at MRF: -Inspect incoming recyclable loads and reject those with a significant portion of garbage -Develop consistent recycling messaging -Inspect MRF operations -Conduct a recycling composition study	Increases value of recyclable commodities.	High	Now–1 year
Solicit P3 proposals for the off-site transportation and recycling of its recyclables.	Annual Cost Savings: $70,000 - $390,000[1] Conservatively: $200,000	High	In next 12 months
Explore P3 proposals for glass recycling operations in the future.[2]	May reduce costs.	Medium	In next 12 months
Potential Cost Savings Annual: $200,000			

Section 4: Operational Assessment of Other Agency Operations			
Recommendation	Benefit	Priority Level	Implementation Time Frame
Evaluate staffing as the Agency implements recommendations in this report.	This will ensure adequate staffing within the Agency.	Medium	Ongoing
Agency should lead in the development of solid waste and recycling messaging for all participants.	Increases consistent communication on solid waste management issues.	High	Immediately, and then ongoing

[1] A large range is provided due to various scenarios developed concerning value of recyclables and fuel costs. It is conservatively estimated that $200,000 per year could be saved.
[2] In all likelihood the Agency will need to continue to provide this service with Agency personnel.

Section 5: Evaluate Alternative Options			
Recommendation	Benefit	Priority Level	Implementation Time Frame
Contract grinding of green waste.	One Time Cost Savings: $500,000 Annual Cost Savings: $10,000 - $40,000	High	Now–1 year
Consider partnering for composting.	Facilitates development of composting in the region, and would allow the Agency to exert some control over pricing and revenue considerations.	Low	In next 12-18 months
Continue to research markets for recycling glass.	Increases reuse and revenues.	Medium	Now–1 year
Allow limited amounts of out-of-county waste to be delivered to the Landfill.	Increased revenues.	High	Now–1 year
	Potential Cost Savings:		
	One Time: $500,000		
	Annual: $10,000 to $40,000		

Overall Potential Cost Savings	
One Time:	$500,000
Annual:	$210,000 to $240,000



SANTA FE SOLID WASTE MANAGEMENT AGENCY
CITY OF SANTA FE AND SANTA FE COUNTY

Solid Waste Assessment & Management Study
Systemwide Section

DRAFT | September 2014

NewGen Strategies & Solutions

leidos

Exhibit "3"

Solid Waste Assessment & Management Study

Santa Fe Solid Waste Management Agency
City of Santa Fe and Santa Fe County

Table of Contents
List of Figures

SANTA FE SYSTEMWIDE ISSUES **1**
Introduction 1
Education and Outreach Programs 1
Flow Control 2
Advantages of Flow Control 3
Disadvantages of Flow Control 4
Leidos' Recommendation 5
Consolidation Opportunities 5
Recycling Goals 7
Out-of-County Waste 8
BuRRT Reverting Back to City Control 9
Reasons For City Control 9
Reasons Against City Control 9

List of Figures

Figure 1. Consolidated Solid Waste Organization Chart 7

SANTA FE SYSTEMWIDE ISSUES

Introduction

As part of this study, Leidos was requested to address a number of issues that are interrelated across the three governmental entities within Santa Fe County that provide solid waste services. Based on our experience in dealing with solid waste utilities, we were asked to assess those issues that directly impact from a system perspective the effectiveness of these three solid waste utilities in serving their citizens in a cost effective and efficient manner, while meeting the goals that are set forth by the various governmental entities with regard to types of services offered, recycling goals, etc.

Based on the scope of services as developed at the beginning of this project, we have addressed in this section the following systemwide issues:

- Education and Outreach Programs
- Flow Control
- Consolidation Opportunities
- Recycling Goals
- Out-of-County Waste
- BuRRT Reverting Back to City Control

Education and Outreach Programs

At present, all three governmental entities are involved in education and outreach. While it is admirable to have all three "preaching the message" with regard to how to properly dispose of refuse, household hazardous waste, e-waste, and how to properly recycle, we have found inconsistencies in the "messaging" that is being provided. While fundamentally the messages are consistent, we have found for instance that the City, County, and Agency will sometimes have minor differences stated in brochures or signage with regard to the materials that are accepted for recycling. This can lead to frustrated citizens that either quit recycling or recycle improperly, leading to higher contamination rates at the MRF, and a potentially lower price for baled materials. This can also lead to a lower diversion rate if people stop recycling because they are confused.

Listed below are some recommendations with regard to education and outreach for the City, County, and Agency.

Education and Outreach Funding. Leidos has found that communities that have successful recycling programs are typically willing to spend the necessary funds to educate their citizens. We oftentimes see that these communities spend on average $2 to $4 per citizen, per year. With approximately 145,000 citizens residing in Santa Fe County that would imply the three governmental entities should spend $290,000 to $580,000 per year on education.

Consistent Messaging and Signage. It is essential that the same materials are collected at the Citizen Convenience Centers (CCCs) in the unincorporated portions of the County as well as by the City, and at BuRRT. This will ensure that consistent messaging and signage is used at City, County and Agency facilities to avoid confusion as to "what facilities" take "what materials". If all facilities take all the same materials, this will reduce the confusion with regard to the messaging.[1]

Monthly Meetings and an Education/Outreach Manager. In discussions with the various governmental entities we found that there are not regularly scheduled meetings between the entities to discuss education and outreach issues. We would recommend that each entity have a person (and a back-up/alternate) that would attend a monthly meeting to address consistency in messaging, signage and how to increase recycling in a consistent manner. We would also recommend that at some point within the next 12 months someone be placed in charge to ensure that consistent messaging is occurring throughout the City, County and Agency. Our recommendation would be that this person be located in the Agency since they have a person that is primarily dedicated to this task. In addition, since the Agency is ultimately responsible for the disposal or proper diversion of all materials deposited at Agency operated facilities it allows them the best opportunity to monitor the success of the "messaging" as materials are brought in by City and County collection vehicles (both with regard to waste and recyclables). Leidos would recommend that some budget monies be set aside to retain an advertising/public outreach firm (similar to the City water and wastewater utility) to assist in consistency of the messaging.

Flow Control

One of the issues that Leidos was asked to address during the course of this Study was the issue of flow control and whether it should be considered as a potential tool to increase tonnage at the Caja del Rio Landfill. Leidos has extensive experience in helping communities that desire to implement a flow control mechanism do so in a legal manner. We are also aware of some of the pitfalls of implementing such a mechanism. Listed below is a brief summary on the topic of Flow Control and Leidos' ultimate recommendation concerning the use of such a mechanism.

Flow control is a controversial mechanism that has been battled in the court system since the mid 1990's. A recent example is a ruling in 2007, when the United States Supreme

[1] The one exception to this recommendation is that it is acknowledged that presently not all the CCCs collect the same materials for diversion due to the remoteness of some of the CCCs and/or the fact that the facilities are very small and take very little waste, so to be cost effective some of the facilities do not take green waste or oil & antifreeze (County Section – Table 2-3).

Court validated a flow control law favoring a public entity in the United Haulers Association v. Oneida-Herkimer Solid Waste Management Authority case. The Supreme Court decided that local "government's important responsibilities" include protecting the "health, safety and welfare of its citizens" and that "waste disposal is both typically and traditionally a local government function." (*United Haulers Ass'n, Inc. v. Oneida–Herkimer Solid Waste Mgmt. Auth.*, 127 S. Ct 1786, 1795 -96 (2007)).[2]

Flow control ordinances are a tool to assist local governments, such as the Santa Fe Solid Waste Management Agency (Agency) with waste management. *Flow control refers to state or local laws that direct where waste materials must be disposed or processed.* It should be noted that the South Central Solid Waste Authority just recently successfully implemented flow control for Dona Ana County, New Mexico. Listed below is a brief summary of the advantages and disadvantages of flow control as they apply to the flow of waste within Santa Fe County.

Advantages of Flow Control

Flow control provides numerous advantages to local governments in the management of waste. This section discusses the advantages of flow control and how they relate to the Agency.[3]

- **Allows better planning to ensure sufficient disposal capacity** – With a flow control ordinance, the Agency could proactively plan to accept residential and commercial waste that is currently disposed outside of the County. A flow control ordinance would allow the Agency to ensure long term landfill capacity for waste generated in the City of Santa Fe and in the unincorporated areas of the County and thus allow for proper long-term planning because the waste stream would be guaranteed.
- **Reduces costs and the environmental impacts of hauling solid waste long distances** – With a local disposal facility, there would be no need to transport the waste longer distances, which would therefore decrease costs and environmental impacts. This would positively impact air quality in Santa Fe County due to decreased emissions.
- **Provides convenient access to disposal** – The location of the Caja del Rio Landfill provides convenient access for disposal of waste by businesses and haulers operating in the City of Santa Fe area.
- **Ensures investment in landfill is recovered, keeping rates lower for all customers** – Ongoing capital improvements for a landfill are typical within the industry, and therefore knowing the amount of waste that is going to be landfilled is critical to planning in a cost effective manner. If the Agency were to make capital upgrades in anticipation of accepting additional material, but for some reason the waste were to be hauled to a landfill other than the Caja del Rio Landfill, the Agency would have to increase rates to residents and current landfill customers to recover the investment.

[2] Source: http://www.supremecourtsus.gov/opinions/06pdf/05-1345.pdf

[3] We will refer to the Agency since they operate the Caja del Rio Landfill. Ultimately the City, and perhaps the County, would need to support the use of such a mechanism via passage of an ordinance or resolution.

With flow control, the Agency would have the assurance that the additional waste will be disposed at the Caja del Rio Landfill, and can evenly spread these costs to all of the disposal customers.

- **Helps increase recycling** – Flow control can also help increase recycling rates since the City, County and Agency would be able to direct where waste would go. The Agency currently does not have any control concerning where materials go for disposal or recycling processing. Flow control would help the City to develop programs and/or partner with the private sector to increase the diversion of key components of the commercial waste stream (e.g. construction and demolition (C&D) materials, green waste, food waste). Specifically increasing the quantity of commercial waste being recycled will be important since the feasibility of commercial recycling systems become more viable when there is a greater quantity of material being processed.

Disadvantages of Flow Control

Generally, there are some potential disadvantages to flow control. As with all circumstances, it is important to see if and to what extent the general disadvantages apply to Santa Fe County's situation. The general disadvantages to flow control and a brief discussion on the relevance to the Agency are listed below.

- **Potential for legal challenges** – Historically, private solid waste companies have filed legal challenges opposing flow control regulations as interfering with interstate commerce. The U. S. Supreme Court decision in the United Haulers Association case in 2007 and subsequent case law has affirmed local government's ability to implement flow control ordinances. However, even in light of the Supreme Court decision, the Agency may still face constitutional and contractual legal challenges if the Agency chooses to enact a flow control ordinance.
- **Reduces choices for haulers** – If implemented, flow control would require waste generated within the City to be disposed at Caja del Rio Landfill. Haulers would no longer be able to haul waste to Albuquerque.
- **May require increased enforcement** – As with other regulations, flow control may require additional enforcement on the behalf of the Agency. The Agency may require increased enforcement to ensure solid waste material generated within the City is disposed at the Agency's landfill.
- **Clarification of the area covered by the flow control ordinance** – Because of the unique nature of the City, County, and Agency the issue would become does a flow control ordinance refer only to waste and recyclables collected within the City of Santa Fe, or does it also apply to materials collected in the northern part of the County, outside of the City. If a flow control ordinance were implemented for the entire County, it is very likely that the ordinance may be challenged because haulers within the southern portion of the County would have to haul their waste to the Caja del Rio Landfill when other more convenient options are available to them outside of the County.

Leidos' Recommendation

Pass a City Ordinance Requiring all construction and demolition waste to be landfilled at Caja del Rio Landfill. Leidos would recommend that the Agency **not** pursue a flow control ordinance, but rather we would recommend the City pass an ordinance requiring only construction and demolition (C&D) projects undertaken within the City be required to dispose of their waste at the Caja del Rio Landfill (for both governmental buildings – schools, city, county buildings; as well as for all private development). Leidos would emphasize that the vast majority of small private haulers are already bringing their waste to the Landfill, it is only some of the major haulers that are taking some of their C&D waste to landfills in the Albuquerque area. Finally, if the City moves forward with this recommendation, extensive outreach to the C&D haulers is required, and it is essential that all City related ordinances/permits issued regarding solid waste, building permits, land use, etc. are consistent with the flow control ordinance and specifically require all C&D waste be disposed of at the Caja del Rio Landfill.

Consolidation Opportunities

All three of the governmental entities are established to provide unique services to their respective customer base.

- **City** – solid waste services are structured to be provided to the citizens of the City of Santa Fe.
- **County** – solid waste services are structured to be provided to the citizens residing in both the rural and "urban" areas of the County, that are not within the city limits of Santa Fe.
- **Santa Fe Solid Waste Management Agency** – is focused on serving as a "consolidation point" for all refuse and recyclables from the City and County and then properly disposing of and/or recycling in the most cost effective manner.

While all three of these governmental entities provide different services, they do have some common overlapping "support" services. Some of these services include, but are not limited to: fleet services, customer service, human resources, budget/finance and certain managerial functions.

The question that has been posed by numerous individuals during the course of this Study is: "Does it make sense to consolidate the three solid waste services into one utility?"

In a consolidated municipal solid waste authority, such as the one shown in Figure 1, the economies of scale are best achieved when consolidating "common services" into one service function.

For instance, it makes sense to have all collection vehicles (both City and County vehicles) operated out of one "collection" function. This would allow to a certain extent the standardization of equipment (to the extent possible), which would potentially reduce the need for as many "back-up" vehicles, but more importantly would allow the service function to share staff between both City and County collections services which will allow for great economies of scale when planning for sick time, vacation time, etc.

In such a scenario, it would be recommended that there be one manager for each of the three (3) service functions: Collection, Facilities, and Support Services. Therefore, there would be one manager to oversee the Citizen Convenience Centers, BuRRT and the Caja del Rio Landfill. This would eliminate some of the issues that are currently dealt with when residents from the County want to bring refuse to BuRRT for disposal but are not able to use their punch ticket. In a consolidated system, this would not be an issue.[4]

Two of the areas where potentially there would be the greatest savings would be in consolidating administrative services (customer service, budgeting, human resources, etc.) as well as fleet services. By consolidating these services there would be significant opportunity to consolidate certain overlapping staff. In addition, the ability to reduce the amount of fleet services inventory maintained for vehicle repair would potentially be material.

[4] The County and Agency are currently establishing a program to allow County punch tickets to be used at the BuRRT location.

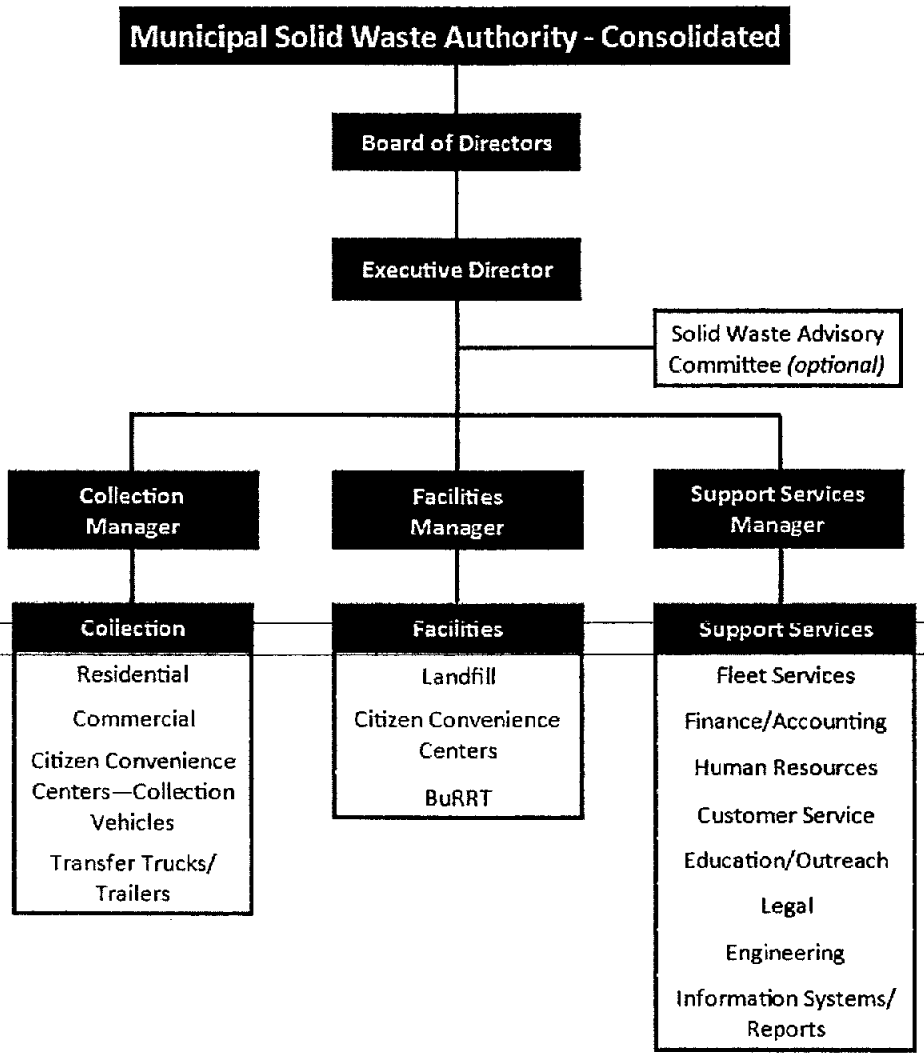


Figure 1. Consolidated Solid Waste Organization Chart

While the opportunity for cost saving is real, the political reality associated with such an issue is not insignificant. In such a consolidation it would be necessary to transfer assets, personnel, etc. to one consolidated utility. To undertake such a transition would be a major commitment that both the City and County must be willing to undertake. In Leidos opinion, we are not sure the commitment is there for such an undertaking.

Recycling Goals

One of the primary issues that has been brought up throughout the course of this Study by staff and citizens within the City and County is how to increase the overall diversion rate. As discussed within the City Sections (2.5.1 and 5.6) and County Section (3.5.2) of this Study, the overall recycling rate within the County is low by standards set within the

State of New Mexico and what is being achieved at a national level within the United States.

In February 2014, the U.S. EPA released its annual report, "Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2012". The report states that in 2012, Americans generated approximately 251 million tons of trash, of which 65 million tons were recycled and 21 million tons were composted, equating to a 34.5% recovery rate.

So why is the City and County of Santa Fe stuck at 8 to 9%? Part of the reason is that Santa Fe County is somewhat removed from close proximity to the markets that demand these recycled materials. Transportation costs are one of the biggest costs and "limiting factors" when it comes to moving recyclable materials to markets where they are desired. That is why it is critical, as mentioned in the City Section of the report that the City focus on diverting materials in the most cost effective manner. That includes the implementation of automated cart collection for residential recycling and the expansion of the commercial cardboard recycling program. If those two items alone are implemented it is estimated that the City's recycling rate will increase from 8.5 – 9.0% to 16.0 to 20.0% (see Table 2-14 and Table 3-13 in the City Section). Coupled with the County moving to a franchised collection system in the "urbanized" areas of the County, which includes recycling, the overall recycling rate within the County will increase as well.

Based on our experience, with the implementation of automated recycling in the City and an expanded commercial recycling program; coupled with the County's franchising of collection within the urban areas of the County, an overall rate of 16 to 20% within the next 2 to 3 years is attainable in our opinion.

After those programs are implemented, a deeper examination of the opportunities with regard to food waste diversion from the "core areas" within the City of Santa Fe should be considered, but only after these other programs are effectively implemented. With food waste diversion added at a later date, it may be possible to reach 25 to 30% in a cost effective manner by 2020.

Out-of-County Waste

The evaluation of out-of-county waste being brought into the Caja del Rio Landfill for disposal is discussed in detail in Section 5 of the Agency Report (Section 5.6). While bringing out-of-county waste into the Landfill would be managed by the Agency, it is important that the City and County recognize that from a systemwide standpoint it does have financial ramifications for them. For instance, increased tonnage brought in from outside of Santa Fe County would cause the landfill cells to be filled quicker, but with the correct pricing and contractual terms this can be a profitable venture that would allow the City and County to potentially generate a revenue stream that offsets future landfilling tipping fee rate increases, or potentially result in a lowering of tipping fees, or finally a "rebate" structure once certain tonnage levels are achieved at the Landfill (a recommendation made in the Agency Report, Section 1, Cost of Service and Funding Options).

BuRRT Reverting Back to City Control

During the course of this Study there have been discussions by individuals within the City, as well as within the Agency that questioned whether the control and operation of BuRRT should revert back to the City. Listed below are some of the "reasons for" and "reasons against" the City operating and controlling BuRRT.

Reasons For City Control

- **City is the Largest User of BuRRT** – it makes sense that since the City provides the greatest amount of recyclables and waste to BuRRT that it be operated by the City.
- **BuRRT is Owned by the City and Leased to the Agency** – by the City taking over operation, they would no longer need to coordinate a lease with the Agency. There would be no debate over who is responsible for capital improvements, etc.
- **Encourage the City to Divert More Materials** – with the City operating BuRRT, there would be potentially a greater incentive for the City to divert more recyclables to BuRRT so the fixed costs of operating the MRF could be lowered, as well as less tipping fees paid to the Agency for landfill disposal.
- **Agency Could Lower its Tipping Fee at the Landfill** – with the Agency not required to cover the cost of operating BuRRT, the Agency could lower its tipping fee at the Landfill.

Reasons Against City Control

- **City Would have to Raise Solid Waste User Fees** – if the City were to take over operation of BuRRT, the City would need to raise its residential and commercial solid waste user fees to recover the costs of operating BuRRT, that are not currently covered by the user fees charged at BuRRT.
- **City may Need to Reimburse the Agency for Capital Improvements made by the Agency at BuRRT** – the Agency has invested significant funds in the MRF equipment and may require the City to reimburse the Agency for these costs. It is estimated that these costs may be $1 million to $2 million.[5]
- **A Transfer of Staff and Equipment from the Agency to the City Would Need to Occur** – this would require the transfer of staff and equipment from the Agency to the City and adjusting the City budget to reflect these additional capital and operating costs.
- **No Financial Benefit Would Likely Occur from a Change in Operational Control** – if this transfer of operational control from the Agency to the City were to occur, upon completion of this exercise, it is Leidos' opinion that very little would change from an operational standpoint or from a cost savings perspective.

[5] This is an approximate estimate, and further analysis would be necessary to finalize this number, however it is estimated to be in the range of the capital outlay by the Agency over the course of its operating BuRRT and the material recovery facility located at BuRRT.

(This page intentionally left blank)

Caja Del Rio Landfill Operation and Permitting

Presented by:
Randall Kippenbrock, PE
Santa Fe Solid Waste Management Agency

SFSWMA

Landfill - 2012

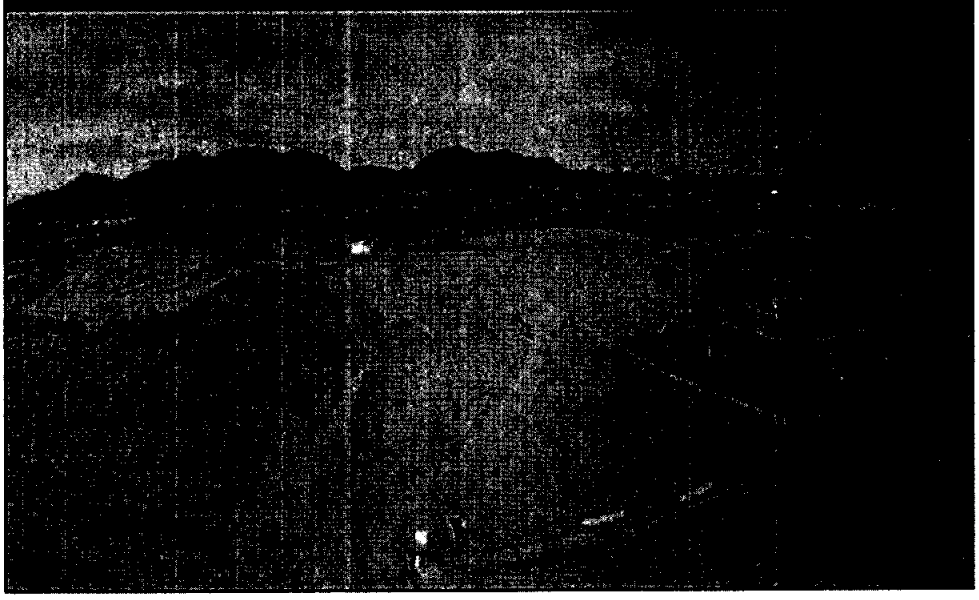
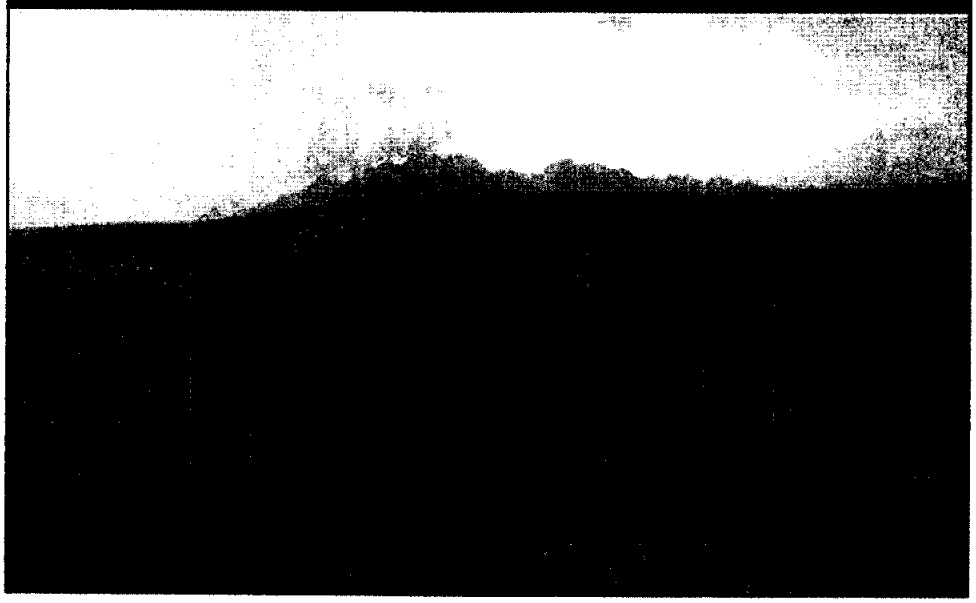
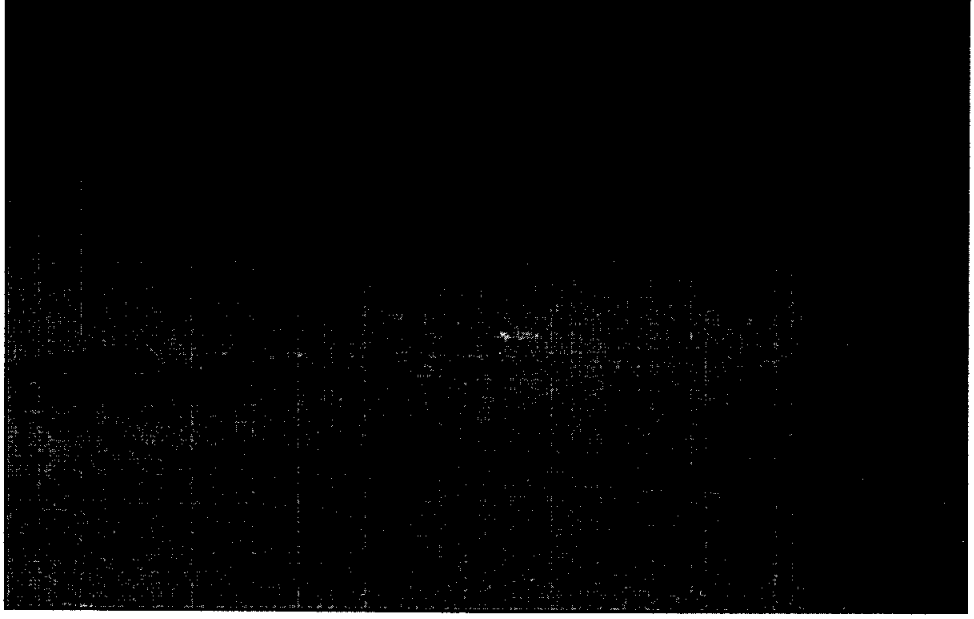


Exhibit "4"

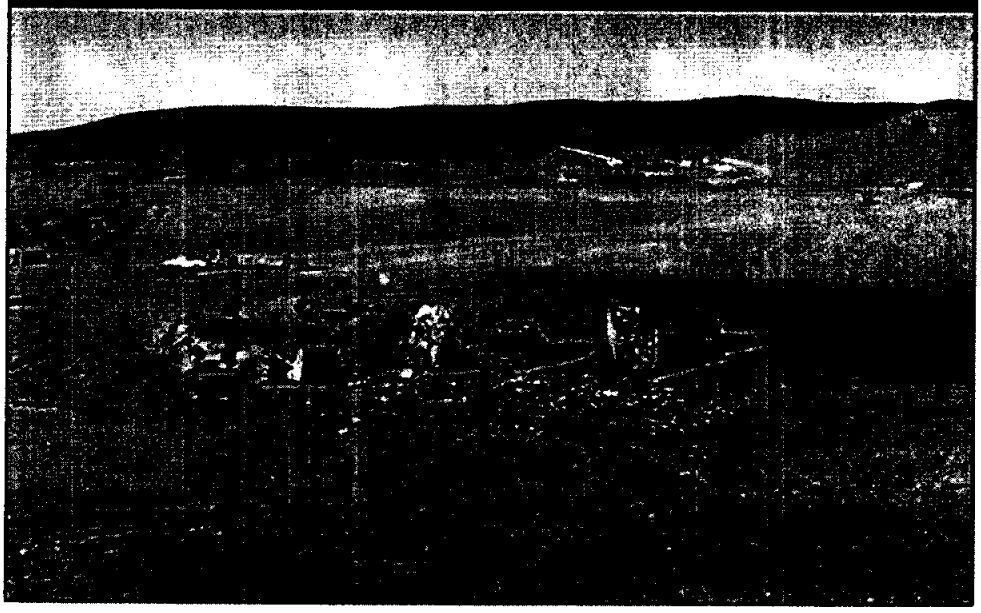
Landfill - Today



Active Area – Cell 4B



Typical Working Face

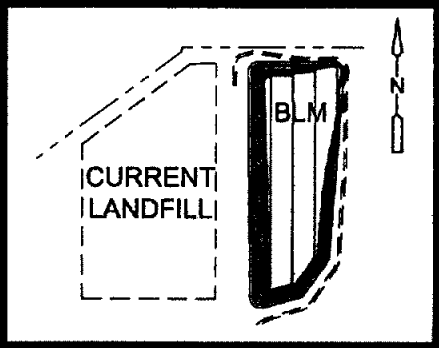


Compactor on Working Face

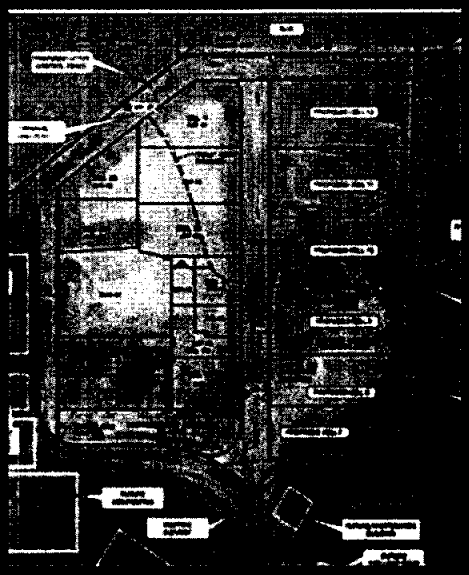
Landfill Equipment

Caja del Rio Landfill Lined Area

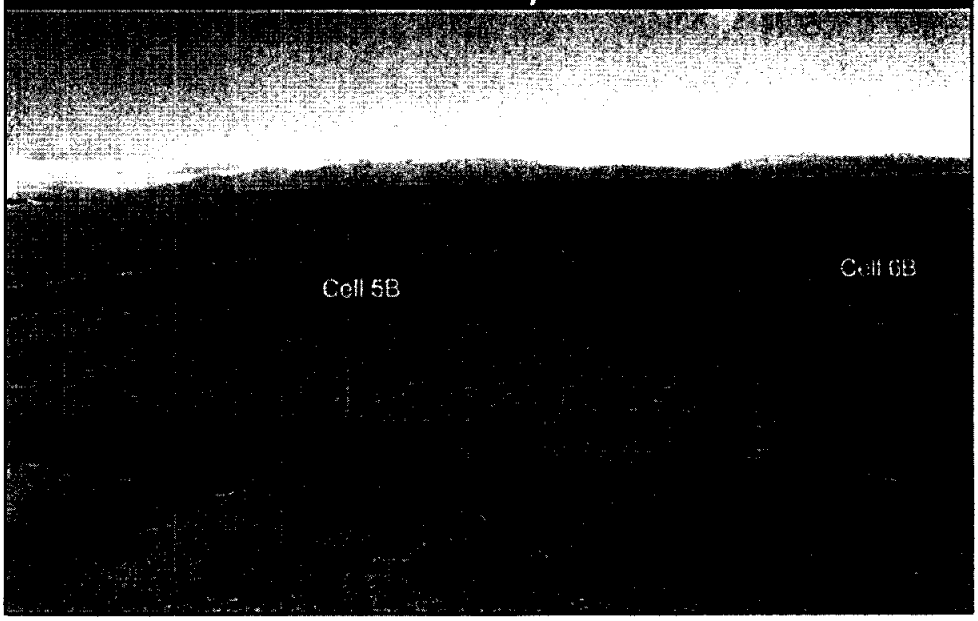
- The area of the lined Current Landfill (Cells 1 – 6) is 87 acres
- BLM area would be 54 acres of lined area
- 62% increase in landfill area



Landfill Areas



Cell 5B/6B



Landfill Liner

- **Subgrade**—compacted native soil and/or basalt.
- **HDPE Liner**—High-density polyethylene, 60 mm (2 inches) thick
- **Drainage** Layer – 2-ft thick basalt or glass cullet

Drainage Material from Basalt Crushing Area

Reasons to Construct New Cells Before Vertical Expansion

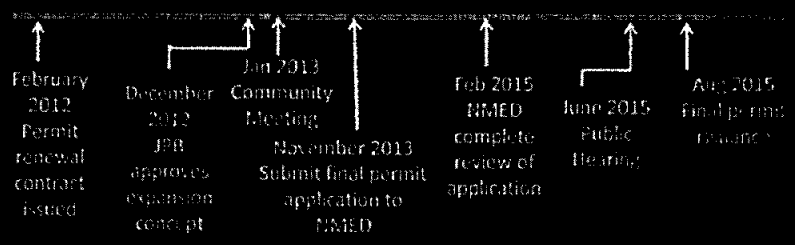
- Cell construction provides additional capacity sooner than vertical expansion.
  - Vertical expansion is not allowed until permit modification approval (August 2015 – best case scenario).
  - Uncertain if and what the vertical and lateral expansion will be in the permit final order.
  - Construction of Cell 5B will provide needed additional capacity in early 2015.
- The permit application includes the fill sequence of building out first, then vertical expansion

Reasons to Construct Cells Before Vertical Expansion (cont'd)

- Vertical expansion of existing Cells 1-4 only provides short term capacity (<4 years).
- Vertical expansion would create a temporary and long sideslope (140 ft tall) along Cell 4B.
- Requires more soil to cover.

Permit Renewal/Modification

Under the New Mexico Solid Waste Rules (NMAC 20.9.2 though 20.9.10), municipal landfills are granted permits for 20 years. Caja del Rio Permit was first issued in 1995 and the renewal application has been submitted. Modifications to the landfill are included in the application.

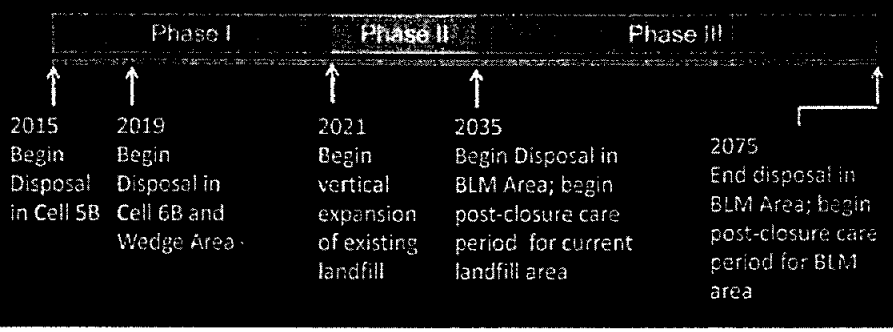


Overall Landfill Phasing

Phase I – Construct Cells 5B, 6B and Wedge area in in existing landfill area

Phase II – Vertical expansion of existing landfill area (three 10 to 20-ft lifts)

Phase III – Construct BLM Landfill



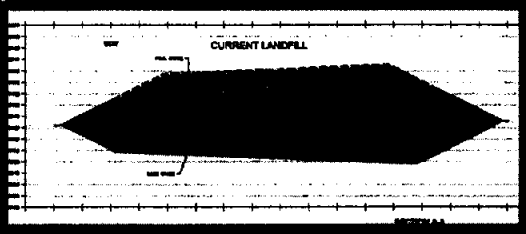
Why Expand the Landfill?

- The life of the Caja del Rio Landfill under the current permit is 10 -15 years (depending on disposal rate)
- The expansion would extend the useful life of the landfill 47 to 60 years from 2014
- Siting and developing a new landfill would not be necessary for 30 to 40 years
- Placing more waste over the same acreage decreases the cost of landfill operations
- Regionally, the land area necessary for waste management is minimized

Vertical Expansion: Current Landfill Area

- 40 foot increase over current height
- Landfill life estimates:

Disposal Rate (tons/yr)	Landfill Life (yrs)
150,000	[illegible]
175,000	24
200,000	22



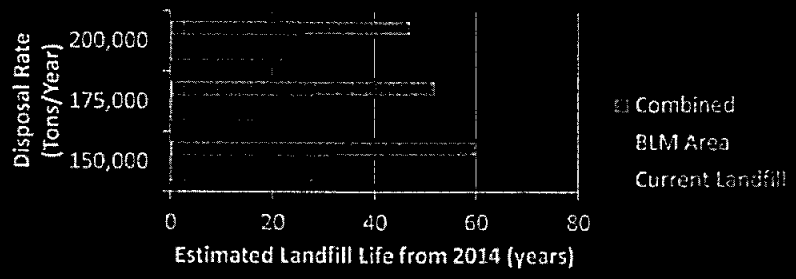
Vertical Expansion: BLM Area

- Height: 60 foot above active landfill 2014 height
- Depth: 20 feet below Current Landfill depth
- Landfill life estimates:

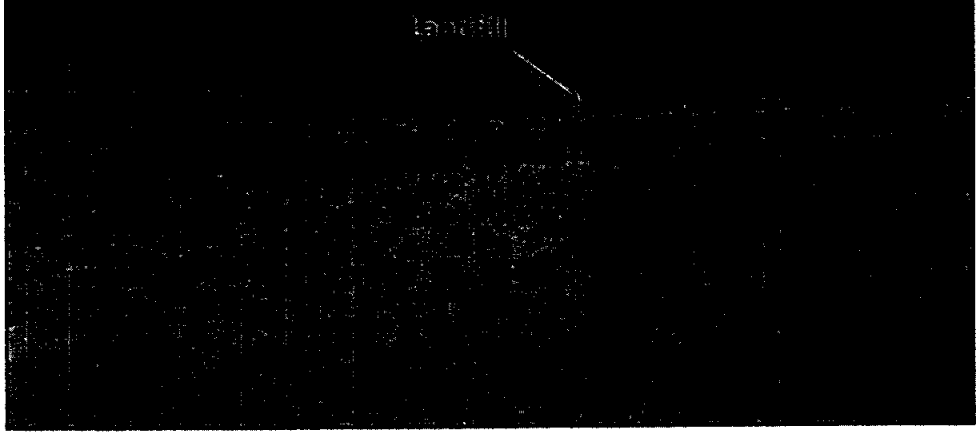
Disposal Rate (tons/yr)	Landfill Life (yrs)
150,000	32
175,000	28
200,000	[illegible]

Landfill Life Estimates

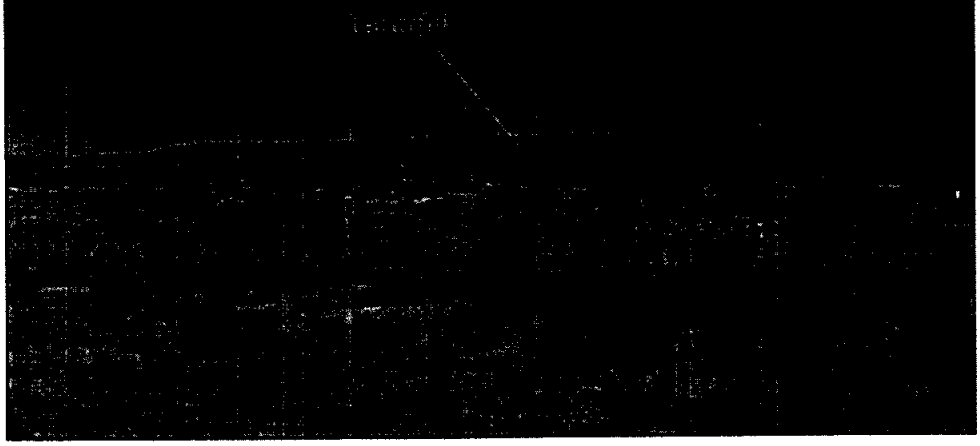
Disposal Rate (tons/year)	Current Landfill Area (years)	BLM Area (years)	Combined (years)
150,000	28	32	60
175,000	24	28	52
200,000	22	25	47



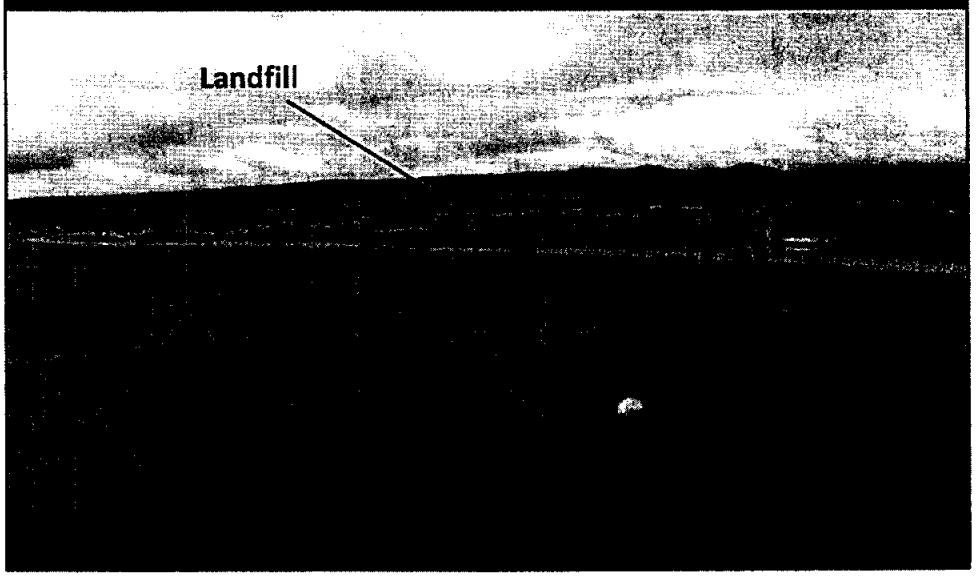
Final Cap From State Archeology Building



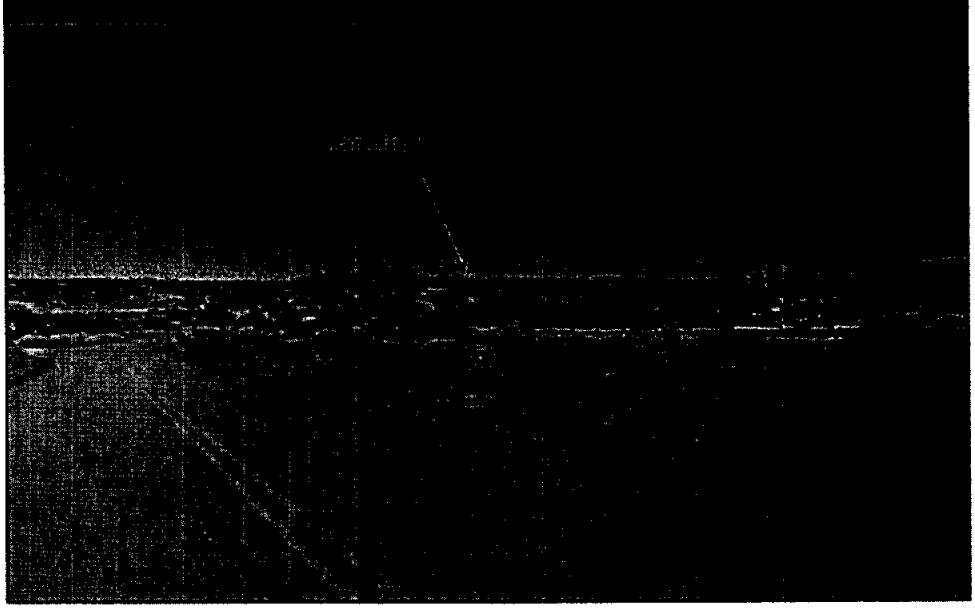
Final Cap From Caja Del Rio Rd (Near CR 62)



Final Cap From Tee Box #3 On Marty Sanchez Golf Course

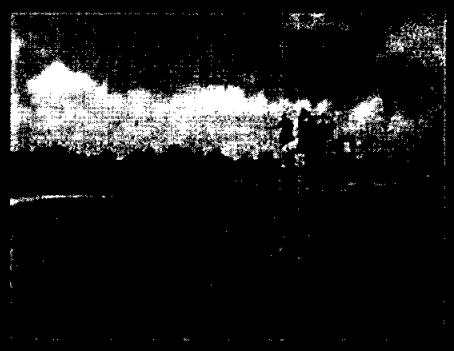


Final Cap From Las Campanas



Landfill Cap

- Cap— three-foot thick compacted soil with very low conductivity, or permeability.
- Vegetative Layer – 6 inch thick seeded or "vegetative" layer to promote native plant growth.

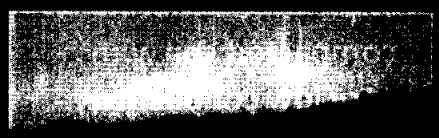


Closure and Post-Closure Care

- 30-years of post-closure care
- Defines responsibility:
  - Maintain the final cover
    - Erosion
    - Vegetation
  - Monitoring
    - Groundwater
    - Landfill gas
- Financial Assurance - funds held in reserve to close the landfill and for post-closure care

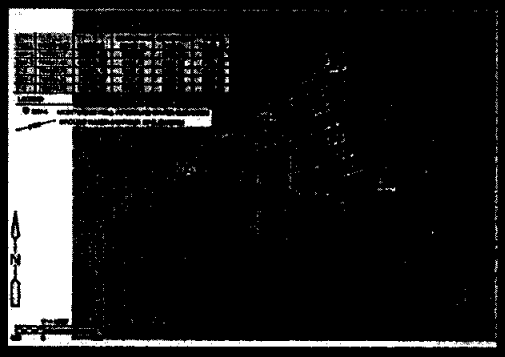
Environmental Monitoring

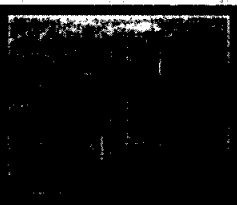
- Groundwater
  - Monitoring
- Air
  - Landfill gas
  - Methane gas
- Leachate



Groundwater Monitoring

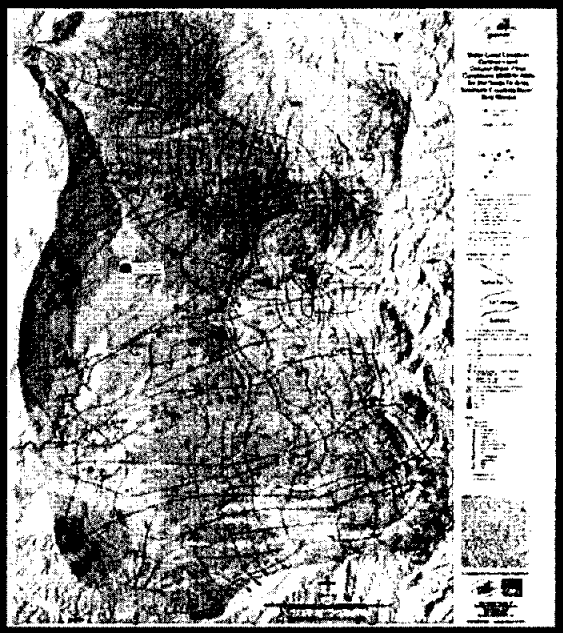
- Currently 3 wells for monitoring water quality
- Groundwater beneath landfill is non-potable
- Depth to water: 300+ ft
- Flow to the north – northeast at about 0.1 ft/year
- No contaminants from landfill have been detected in down gradient wells
- Additional well(s) for lateral expansion





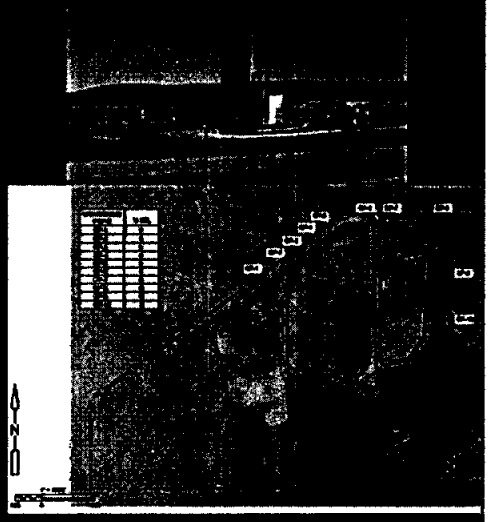
Regional Groundwater System

- Buckman Well Field is about 3.75 miles from the Caja del Rio Landfill
- Groundwater flow velocity is about 0.1 ft/year
- Groundwater from Caja del Rio Landfill to Buckman Wells – 198,000 years



Air Monitoring

- Landfill gas monitoring
  - As described in the Title V Operating Permit
  - Monthly sampling of landfill gas wells on the landfill
  - In-line monitoring of gas that is burned in the flare
  - Fugitive dust based on number of trucks and tons of waste
  - Revision for lateral expansion
- Methane gas monitoring
  - 10 locations around northern perimeter
  - Methane gas has not been detected at property boundary or onsite buildings



Leachate Management

- Leachate collection system above liner in landfill cells
- Pumped monthly to maintain level of leachate at < 1 foot
- Primarily used for dust control in lined area (comprises ~10% of dust control water used at the landfill)
- Sampled and analyzed annually
- Lateral expansion will have leachate collection system
  - Expect to manage with same conditions

Leachate is formed by decomposition of the waste and infiltrating rain water reacting with the waste

FOR IMMEDIATE RELEASE:

TIRE AMNESTY DAYS AT BuRRT A SUCCESS!

Santa Fe, NM – September 9, 2014 - On September 6 & 7, the Santa Fe Solid Waste Management Agency (Agency) kicked off our Amnesty Day Schedule for the 2014/2015 Calendar year. The Buckman Road Recycling and Transfer Station (BuRRT) hosted a Tire Amnesty Day for city and county residents allowing them to bring tires at **no charge** for both days of the weekend.

During this event, BuRRT accepted 175 tires, of which the fees on 157 of them were waived. The remainder came from residents bringing in more than eight (8) tires, which we accepted at our normal fees. The tires we collected came from 36 customers which represented 7% of the customers we serviced over the weekend.

Tires represent an issue within the community for several reasons, the primary one being that they are an 'attractive' breeding ground for mosquitoes, particularly those that carry the West Nile Virus. Just as important is the fact that tires can be extremely flammable. If a pile of tires were to catch fire, it is very intense and cannot be put out with water, but has to burn out on its own or be buried by sand or dirt. These fires burn much hotter and can spread to other vulnerable areas and cause more damage, especially in our dry climate.

In order to help reduce the potential impact of tires in the Santa Fe community, the Agency will be conducting Tire Amnesty Days on the first weekend of each month going forward. Similar to this past weekend, the first eight (8) passenger tires brought into the facility will have their fees waived. Any additional tires will be accepted at current rates.

During the Tire Amnesty Days, all other materials brought to BuRRT will be subject to our current tip fees. In keeping with City of Santa Fe Ordinance, all loads coming to BuRRT must be secured and covered in a manner to prevent any material from blowing out or falling from a vehicle. A secured load is a load secured to a vehicle using rope, netting, straps, chains or some other means. A covered load is a load covered with a tarp that is securely fastened to a vehicle. The surcharge for transporting an unsecured or uncovered load is $15.

For additional Amnesty Day event information, please check out www.SantaFeRecycling.org.

For more information contact:
Adam Schlachter
Santa Fe Solid Waste Management Agency
aschlachter@sfswma.org
http://www.santaferecycling.org
(505) 820-0208, ext. 420

###

Exhibit "5"