

LANDFILL COMMITTEE

September 2, 2021

6:00 P.M.

---

PRESENT: Daniel McInturff for Sonja Culler, Mark Blevins, Mark Tester, Nancy Brown, Gary Bailey and Layla Ward  
ABSENT: Sonja Culler, Kelly Collins and Jerry Proffitt  
CALL TO ORDER: Gary Bailey, Chairman  
ROLL CALL: Quorum Present

---

Motion was made by Layla Ward, seconded by Mark Blevins to accept Commissioner McInturff sitting in for Commissioner Culler at the meeting. By a voice roll call vote, motion carried.

APPROVAL OF MINUTES: Motion was made by Mark Blevins, seconded by Mark Tester to approve the minutes of the August 2021, meeting. By a voice roll call vote, motion carried.

APPROVAL OF AGENDA: Motion was made by Mark Blevins, seconded by Mark Tester to approve the as presented. By a voice roll call vote, motion carried.

PUBLIC COMMENTS: None

OLD BUSINESS: Benny Lyons reported he had the tow motor at the Landfill checked out and received and E-Mail from the company which stated the tow motor presently owned by the Landfill was not suitable for their present day needs. Gary Bailey stated he would send the E-Mail to the Commissioners and said the Landfill was asking for \$55,000 to purchase a new tow motor. Motion was made by Mark Blevins, seconded by Mark Tester to approve the purchase of a new tow motor in the amount of \$55,000. By a voice roll call of all ayes, motion carried.

Benny Lyons informed the committee that he had to fire the present crew working on the building since the last meeting. He said they had dug the holes incorrectly and the posts were warped. He stated the company the building was purchased from had told him they would bring in another crew and the building would be finished to their satisfaction.

Benny Lyons informed the committee the City seemed to be more willing to work with the County at the City Drop Off on Mill Street within the last month. Mark Tester stated he had seen City Policemen sitting in the back of the site on several occasions. After discussion, they decided to take no action for another month. Benny Lyons told the committee they had three (3) trucks down last week and the City helped them out.

NEW BUSINESS: Kim Raia, Environmental Consultant with CTAS, gave a presentation on Carter County Solid Waste Permitting/Long Range Planning. A copy of the program highlights attached to minutes.

A sales manager and salesman from Worldwide Equipment addressed the committee at this time to discuss a rotation program they had available for purchasing/leasing a truck to get the "lowest operating cost you can to operate a vehicle". When their presentation was over, there were questions asked by the committee that needed more clarification and Chairman Bailey invited them to attend the next Financial Management and Budget Committee.



DIRECTOR' REPORT: Director Lyons stated he had no report printout for this month. He stated they had a road tractor to blow an engine and was in bad need of a truck.

COMMISSIONER COMMENTS: Chairman Bailey informed the committee he had been given by the former Finance Director figures the Landfill Budget was in the good anywhere from \$320,000 to \$480,000. He said he did not understand why he was told that but was going to meet with the Finance Office next week in order to get the Landfill budget up to date.

On motion by Mark Blevins, seconded by Mark Tester and by voice roll call vote, the meeting was adjourned.

Submitted:

Suzi Wallace

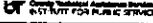
Approved for entry:

\_\_\_\_\_  
Gary Bailey, Chairman



## Carter County Solid Waste Permitting / Long Range Planning Discussion


Kris Rele  
Environmental Consultant  
University of Tennessee, GSP  
County Technical Assistance Service



1


### CARTER COUNTY SOLID WASTE INFRASTRUCTURE

- Residents Can Drop Off Household Waste At One Of Two Convenience Centers Or At The County-operated Transfer Station
- County Operates Demolition Landfill (~70-80 TPD) And Transfer Station (~140-160 TPD)
- Has Closed Class I Landfill
- Has Active Recycling Program
- Aging Infrastructure
- Upcoming Class III Landfill Expansion Or Closure Decisions



2


2019-20 Revenue (Amended)	2020-21 Revenue (Proposed)
<ul style="list-style-type: none"> <li>• \$1,195,000 (Transfer Station Collection)</li> <li>• \$82,000 Tipping Fees (Class III)</li> </ul>	<ul style="list-style-type: none"> <li>• \$1,171,000 (Transfer Station Collection)</li> <li>• \$70,000.00 Tipping Fees (Class III)</li> </ul>
<p><b>EXPENSE</b></p> <ul style="list-style-type: none"> <li>• \$1,572,855 -Total Landfill Operation and Maintenance</li> <li>• 1,831,326 (Total Expenditure/Appropriation)</li> </ul>	<p><b>EXPENSE</b></p> <ul style="list-style-type: none"> <li>• \$1,812,690- Total Landfill Operation and Maintenance</li> <li>• 2,164,704 (Total Expenditure/Appropriation)</li> </ul>



3

### 2020 Waste Disposal (Entire County)

TDEC REPORTED	CARTER COUNTY MANAGED
<ul style="list-style-type: none"> <li>• IRIS GLEN &gt;&gt; 3079</li> <li>• ECOSAFE &gt;&gt; 27,525</li> <li>• CARTER DEMOLITION LF &gt;&gt; 9287                             <ul style="list-style-type: none"> <li>• Up from 6250 in 2016</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• IRIS GLEN &gt;&gt; 0</li> <li>• ECOSAFE &gt;&gt; 27,684</li> <li>• CARTER DEMOLITION LF &gt;&gt; 8916</li> </ul>



4

### Class III Remaining Volume Study 2018

Fall 2017 Study Estimated +289,573 CY Of Fill Space Before Reaching Permit Limits


Accounts For Cut And Fill Volumes Needed To Reach The Permitted Base And Final Elevations, Along With And Periodic Cover  
Does Not Account For Operational Cover

Landfill Life? Depends On Compaction, Waste Composition, Operational Cover...

5

### Landfill Trends

- Solid Waste Management has undergone several major changes in the 30 years since the implementation of the Subtitle D regulations.
- Nationwide the trend has been for local governments of a certain size to "get out" of the landfill business.
- Tennessee had over 125 landfills in 1989, today only has ~35. Majority are owned or operated by private sector.
- The costs for compliance and long-term capital improvements make Class I Landfills expensive and often volatile investment for local governments.
- In some cases, Counties gain some autonomy over market with operation of Class II/IV or Demolition Landfills.
- There are 54 Demolition Landfills in Tennessee. Approximately 40 are publicly owned.



6



### Routine Landfill Costs- All Landfills

**Up-Front cost**

- Land Acquisition
- Permitting/Building construction/modification

**Operating and Replacement Costs**

- Normal costs
- Operation and maintenance
- Capital improvement costs
- Debt services
- Unexpected costs

**Mid-Term Costs**

- Site closure
- Building/equipment decommissioning
- Post closure care
- Retirement/Health Benefits for current employees

**Long-Term Monitoring Costs at Inactive Sites**

- Investigation, containment, and cleanup of known releases
- Closure and post-closure care at inactive sites

**Contingent Costs**

- Remediation costs (undiscovered and/or future releases)
- Liability costs (property damage, personal injury, natural resources damages)

**Environmental Costs**

- Environmental Compliance
- Downstream impacts

**Social Costs**

- Effects on property values
- Community opposition

Carter County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

7

### Estimating Landfill Costs

**Typical Costs for a 800 TPD Landfill**

**TYPICAL LANDFILL COSTS**

• Unit Costs Decrease as Tons Increase

Larger Landfills Can Make More Money/Job  
Smaller Landfills Are More Expensive to Operate

Carter County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

8

### How to Pay for Solid Waste Infrastructure

**Operations?**

**Capital Improvement?**

**Closure?**

**Post-Closure?**

**PAYMENT METHOD**

Carter County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

9

### How do Tennessee Counties Fund Solid Waste? Revenue Sources 2016

Revenue Source	Amount	Percentage	Amount	Percentage
40000-Local Taxes: Property Tax, Retail Use of Tax	\$96,337,426			
41000-Licenses and Permits: Cable Franchise, Beer Permits	\$150,567	0.20%	\$0	0.00%
42000-Fees: Forfeiture and Penalties	\$2,369	0.01%	\$0	0.00%
43000-Charges for Current Services: Commercial/Industrial Waste Collection, Transfer Station Collection, Convenience Or Collection, Tipping Fees, Surcharge (Hot Food, Solid Waste Disposal Fee, Waste Tax Disposal)	\$10,577,122		\$675,721	
44000-Other Local: Intergovernmental, Refunds, Sale of Equipment, Carry-Forwards/Grants, Investment Income	\$3,544,737	6.20%	\$69,352	11.12%
46000-State of Tennessee: Solid Waste Grants, Other Grants, Low Program, Public Revenue Sharing	\$3,508,519	3.05%	\$21,716	2.70%
47000-Federal Government: Business Related	\$5,012	0.01%	\$0	0.00%
48000-Other Governments and Citizens Groups: Contracted Services	\$180,799	0.31%	\$0	0.00%
49000-Other Sources (Joint/Intergovernmental/Grants/Other)	\$826,067	1.44%	\$0	0.00%
49000-Other Sources: Insurance Recovery	\$64,106	0.12%	\$6,431	0.85%
49000-Other Sources (non-revenue): Transfers In	\$74,253	0.13%	\$10,000	1.24%
<b>Total</b>	<b>\$103,632,468</b>	<b>100.00%</b>	<b>\$803,632</b>	<b>100.00%</b>

Carter County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

10

### CARTER COUNTY PROGRAM STRENGTHS

- Landfill Remaining Life is on the Horizon
  - The Timing is Right to Consider a System Change
- Negotiation Strength for Class I Hauling—
  - 2 Competing Landfills in Region
- Carter County may have Land Available for Permitting Demolition Expansion if this is a desired option
- Solid Program, Competent Staff, Good Relations with Regulators

Carter County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

11

### WEAKNESSES

- Uncertainty in Solid Waste Disposal Market
- Transportation Costs High in Rural Areas
- Capital Costs Hard to Secure with "Pay as you Go" Model
- Key Infrastructure in Need of Repair or Replacement

Carter County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

12





### OPPORTUNITIES

- Explore Private Sector Partnership Option—Run Transfer Station? Class III Landfill?
- Price Transfer Station Improvements or Rebuild
- Price Landfill Permitting and Design (Issue RFQ for Design/Build Company)
- Seek Partnerships with other local governments (RFP's for Waste Disposal, MOU's)
- Encourage Flow Control and Discuss Revenue Shortfall with Stakeholders

County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

13

### THREATS

- Regional Landfill Map—Where will landfills be sited in the future?
- Will Tipping Fees remain below “break even” point?
- Costs for Transportation/Aging Fleet
- Lack of Saving for Infrastructure Improvements

County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

14

#### Scenario Planning: What if County No Longer Had Class III Option. What would be the Cost to Haul to EcoSafe (2016 Costs)

	Tons	Type	Tons/Trip	Disposal	Total Disposal Cost	Hauling Cost/Trip		Cost to Center Co
<b>Class I Tons 2016</b>	5954.80	400	20.03	\$19.70	\$120,453	\$159.37	\$76,352	\$267,415
<b>Add Class II Tons 2016</b>	6248.94	312	20.03	\$19.70	\$123,124	\$159.37	\$49,723	\$172,947

County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

15

#### Scenario: Close Class III and Haul Waste (2016 Numbers)

<b>NEW EXPENSE</b>	
Hauling and Disposal Class III Waste to EcoSafe	\$172,947
Revenue Loss for Landfill Disposal	\$280,512
Closure Costs (~\$200,000/Acre*)	\$434,268
Post Closure Monitoring (~\$5000/Acre/Year)	\$11,000/Acre/Year
<b>NEW RECOVERY</b>	
Recovery Transfer Station (6249*42.50)	\$265,583
Landfill Operations Expenditure	=?

\*2012 Estimate TDEC

County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

16

TRANSFER STATION SUMMARY OF COSTS			Unit	Per Cost
Transportation and Disposal	ton	38.00	ton	\$27.00
Transfer Station Operational Cost	ton	15.00	ton	\$15.00
Transfer Station Construction Cost	ton	4.00	ton	\$2.00
<b>Total Cost for Transfer Station, Class I Waste</b>	<b>ton</b>	<b>57.00</b>		

Sample: Using 145 Tons/Day Estimate

**Scenario: Construct New Transfer Station, Pay for Construction Cost With Tipping Fee-- (Infrastructure Paid off in 20 yrs.)**

County Technical Assistance Service  
INSTITUTE FOR PUBLIC SERVICE

17



18



### Landfill Classifications

- Class I disposal facility - takes non-hazardous municipal solid wastes such as household wastes, approved special wastes, and commercial wastes
- Class II disposal facility - takes non-hazardous industrial wastes, commercial wastes and fill
- **Class III disposal facility - takes Class IV wastes plus landscaping, land clearing and farming wastes**
- Class IV disposal facility - takes construction/demolition wastes, shredded tires and waste with similar characteristics

19

### Scenario: Cost Estimates: Expand Class III

- Class III Landfill Construction: \$80,000/Acre (but contingencies on land availability/purchase)
- Permitting and Design: 80,000-\$150,000/Acre
- Time Frame: ~3 to 5 Years

• For Comparison, Class I Landfill Construction: \$300,000/Acre

20

### Permitting Steps—Part I

- A completed application (Solid Waste Part 1 Application, CN-1036) which includes the name, address and phone numbers of the owner(s); proposed activities to be conducted at the facility; a statement regarding whether the facility is subject to local approval (TCA § 68-211-701) and county approval if necessary
- A topographic map showing the facility, property boundaries to 1/2 mile past the boundaries, each waste processing or disposal unit, wells, springs, and other surface water bodies within 1/4 mile of the property boundaries
- A completed disclosure statement (Applicant Disclosure Statement, CN-1306) containing information concerning past performance in waste management fields of the applicant, officers, directors and/or partners of the applicant's business

21

### Permitting Steps — Part II

- A hydrogeologic assessment of the potential site
- Facility design plans and operations manual
- Financial assurance demonstrating the financial responsibility for closure and post-closure care
- Other specific requirements for Class I, II, III, and IV disposal facilities

• A new facility cannot begin construction without submitting Parts I and II and receiving an effective permit.

22

### Permit Part II Elements

<p><b>OPERATIONS</b></p> <ul style="list-style-type: none"> <li>• Facilities Operation Plan                     <ul style="list-style-type: none"> <li>• SWPPP</li> <li>• EQUIPMENT LIST</li> <li>• Housekeeping</li> </ul> </li> <li>• LP GAS and Monitoring Plan</li> <li>• Flood Evaluation</li> <li>• Endangered Species/Wetlands Determination</li> <li>• Ground Water Monitoring Plan</li> <li>• Detection Monitoring Plan</li> <li>• Recordkeeping and Reporting Plan</li> <li>• Stormwater Management Plan</li> </ul>	<p><b>CONSTRUCTION</b></p> <ul style="list-style-type: none"> <li>• Construction Quality Assurance Plan                     <ul style="list-style-type: none"> <li>• Registered TN Engineers must evaluate</li> <li>• Geotechnical Quality Control</li> <li>• RLS for Surveying</li> <li>• Stormwater Management Plan</li> </ul> </li> <li>• Construction Specification                     <ul style="list-style-type: none"> <li>• Clay Liner Requirements (Closure Profiles)</li> <li>• Vegetative Cover Soil</li> <li>• Geologic Buffer Requirements</li> <li>• Misc. Concrete Constructions</li> <li>• RSD Pav</li> <li>• Fencing</li> </ul> </li> </ul>
---	---

23

### Conclusion

- Solid Waste is a long game
- Long-term planning is needed
- Factors: Post closure/closure costs, population trends and growth patterns, regulatory framework, private and public sector players

Kim Rabe  
Environmental Consultant  
University of Tennessee  
County Technical Assistance Service  
kim.rabe@tennessee.edu

24

\* Coker Co \*  
Major modification

