Cumberland County Recovery Project

NC SWANA

October 27, 2026 at 2:00 pm

Amanda Lee, PE
Solid Waste Director
Cumberland County

CUMBERLAND COUNTY
NORTH CAROLINA

Background

- Cumberland County was running out of landfill capacity. Closure date is fall 2031.
- The site dates back to 1980 with approximately one-half of the footprint being unlined.
- A cost analysis was performed to look at multiple options to address the need for additional capacity. Long haul was chosen as the preferred option.

CUMBERLAND COUNTY
NORTH CAROLINA

Capacity Analysis

- MSW LF
  - **5 Years Remaining**
- C&D LF
  - **5 Years Remaining**
- Factors Affecting Life Remaining
  - Fayetteville Status
  - Storm Debris
  - Commercial Waste
  - Soil Cover
  - Placement Density





CUMBERLAND COUNTY
NORTH CAROLINA

Alternatives for Consideration

- Enhanced Recycling
- Waste to Energy
- Transfer and Long Haul
  - Truck
  - Rail
- Site New Landfill Facility
- Expand Ann Street Landfill
  - Adjacent Parcel
  - Over Existing Landfill





CUMBERLAND COUNTY
NORTH CAROLINA

Alternative Technologies Analysis

- Waste Reduction and Resource Recovery
  - Education and Outreach
  - Convenience Site Expansion
  - Small Impact on Disposal Demand
  - Long-term Disposal Option Still Needed by 2030
- Organics Diversion
  - Beneficial Use of Food and Yard Waste
  - < 20% Diversion
  - Long-term Disposal Option Still Needed by 2030
  - Cost Increase of over $30 to $60/HH





CUMBERLAND COUNTY
NORTH CAROLINA

Alternative Technologies Analysis

- Mixed Waste Processing
  - Up to 25% Diversion
  - Still Need Disposal
  - Cost Increase of over $85/HH per year
- Waste to Energy
  - Mass Burn, RDF
  - Regional Approach Needed
  - Cost Increase of $62-$69/HH per year
  - Difficult to Permit
  - Still Need Residue Disposal







CUMBERLAND COUNTY
NORTH CAROLINA

Long Haul Options Analysis

- County Transfer Station Required
  - Most Practicable Location at Ann Street
    - Existing Infrastructure
    - Proximity to City
- Assessed and Ranked 25 Locations
  - 1 Located w/in 30 Miles
  - Remainder 80 – 160 Miles Away
- Truck Haul
  - Self Haul Cost – $6 to $36/ton
  - Disposal Cost - $23-$30/ton for Long Term Contract
  - Increase of $25 to $50/HH per year
- Rail Haul
  - Increase of $70+/HH per year

CUMBERLAND COUNTY





Disposal Alternatives and Costs (2030)

	Long Haul	WTE (Mass Burn)	Milan Yard LF Expansion
Capital*	$4M, $1/ton	$50M, $12/ton	$25M, $8/ton
O&M	$10/ton	$65/ton	$32/ton
Transport & Disposal**	$54-84/ton	$18-25/ton	NA
$/Ton	$65-95/ton	$95-102/ton	$40/ton

* Per ton costs based on different amortization duration, 20 and 30 years

** Costs range based on distance to available regional landfill, WTE provides >80% reduction in mass to be disposed

CUMBERLAND COUNTY

Implementation

- RFP process for transfer, hauling and disposal
- Transfer station and new cell permitting
- Use of existing WQ monitoring network
- Air permitting
- Soil balance
- Resources to support a new operation
  - Personnel
  - Equipment
  - Fuel



CUMBERLAND COUNTY

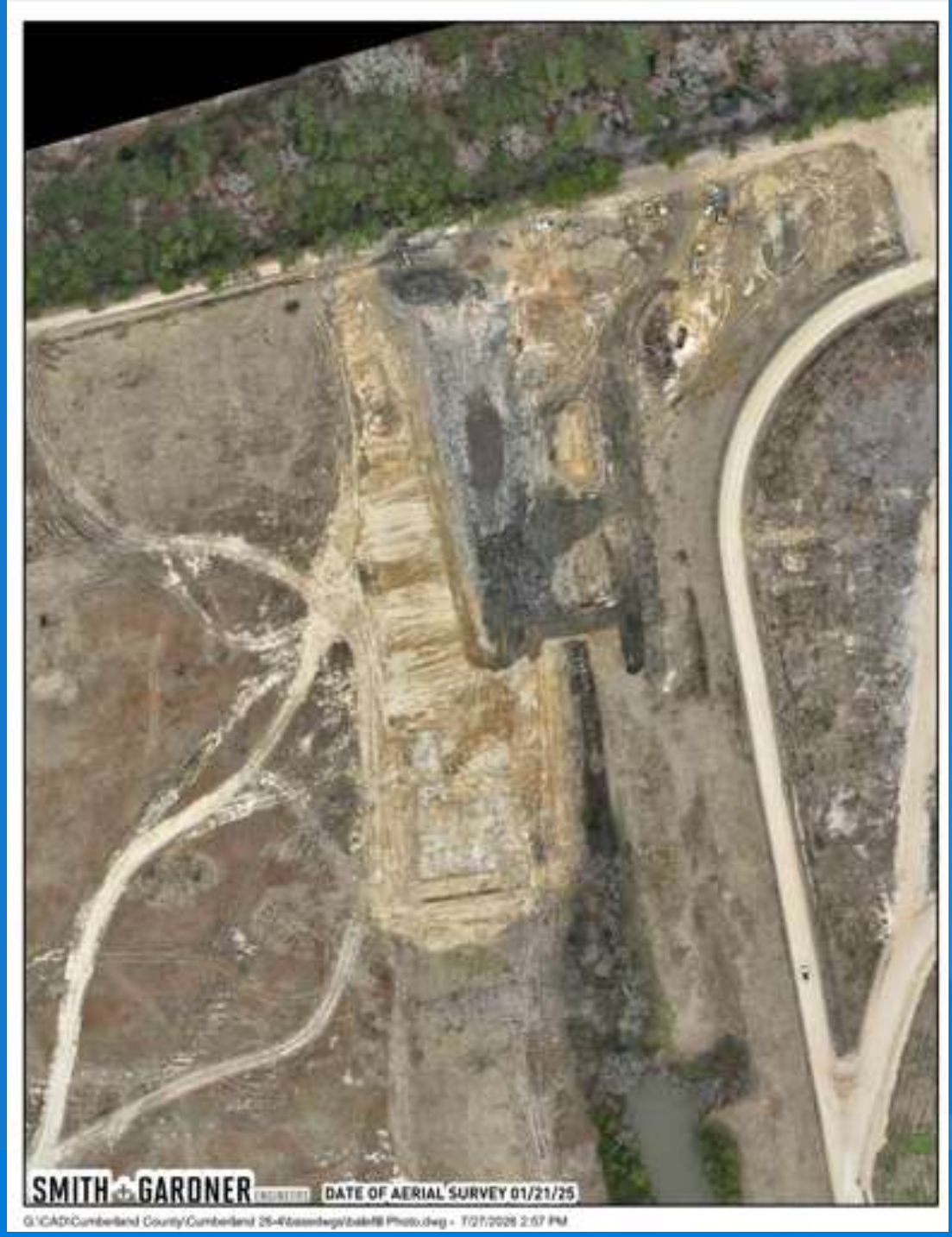
Implementation

- Asbestos Monitoring
- Stormwater and Leachate Management
  - Cut terraces into the slope
  - Minimize leachate and stormwater
  - Leachate surge with perched lenses
- Age of waste
  - No vector attraction or odors
  - Bale placement resulted in layers cake with compressed waste layers
  - Significant soil recovery between layers.



CUMBERLAND COUNTY
NORTH CAROLINA

January 21, 2025



CUMBERLAND COUNTY

February 24, 2026



CUMBERLAND COUNTY

July 9, 2026



CUMBERLAND COUNTY

Quick Facts

93,600 CY removed in 13 months

340 CY/day

175,700 CY remaining

for new excavation

Need to increase excavation rate by 40CY/day

Goal: Complete Cell construction by 2031

CUMBERLAND COUNTY
NORTH CAROLINA

Opportunities for Environmental Stewardship

- Lined landfill
- Community Engagement
- Modernized the landfill with current state rules.
- Constructed a transfer station of adequate size so we have capacity to manage entire county waste stream.

CUMBERLAND COUNTY
NORTH CAROLINA

Long Term Planning Considerations

- Opportunity to rehab sewerline with PWC for a southern expansion.
- Relocating a central sediment basin for future expansion to implement a piggyback cell.



CUMBERLAND COUNTY
NORTH CAROLINA

Long Term Planning Considerations

- Self-Develop Renewable Natural Gas (RNG)
  - Continue to separate MSW and C&D for gas quality
  - Plan to replace low quality gas with new gas.

CUMBERLAND COUNTY
NORTH CAROLINA