Re-use and Recycle

The Basis for Landfill Closure, Remediation and Redevelopment

Wastecon
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Presenter:
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Highway 321 Landfill — Rags to “Riches”

- Site History
- Site Issues
- Remedial Strategies — Recycle and Re-use…
- Redevelopment — Re-use again
Highway 321 Landfill History

- Many parcels under different ownership
- Main landfill area originally a sand quarry
- Three Main Waste Areas
  - Highway 321 Landfill (Lexington County - 1972 – 1988)
  - Bray Park Dump (City of Cayce - 1970 – 1972)
  - Old Cayce Dump (1940’s through 1960’s)
- Other Uncontrolled Waste Areas
- Par Tee Driving Range Operating on top of Hwy. 321 Landfill
- Bray Park Ball Park Located On-site
Two Covers on Hwy 321 Landfill – Both Failed

Impacted Groundwater at Property Line
  Many studies performed between 1970’s and 1994

Landfill Gas Migration Issues
  Old defunct LFG collection system at site
Highway 321 Landfill Site - 1994
Vision
Remedial Steps

- **Waste Consolidation**
  - Necessary to Maximize Future Redevelopment

- **Cap Construction**
  - Fill/GCL/Drainage Media/Geotextile/vegetative layer
  - Fill = Reused Waste “fines” from Local Sand Quarry
    - Assisted local business/lowered construction costs
  - Drainage Media = Tire Chips
    - Used all scrap tires in SC and part of Georgia at that time
    - Far less expensive/lighter than stone with similar transmissivity

- **Stormwater Management**

- **Construction of Tee-Box for Par Tee Driving Range**
  - Assisted local business/assured long term operation of site
Remedial Steps

- **Groundwater Remediation**
  - 18 Recovery Wells (9 currently shut down)
  - Water Treated Through Aeration
  - Water Reused for Irrigation
    - *Key for long term stability of cap*

- **Landfill Gas Recovery**
  - Six LFG Recovery Wells & Flare
  - No local end user/limited gas
  - Successful Remediation from adjacent properties
During Construction
Site Redevelopment

- **Par Tee Driving Range**
  - Presence of Construction Equipment Increased Business
  - Assists in Monitoring Groundwater Recovery/Treatment System

- **Palmetto Falls Mini-Golf Course**
  - Located on the Hwy 321 Landfill Cap

- **Univ. of SC Golf Practice Facility**
  - Development Agreement (Univ. and County)
  - Two Phases Developed – 9 Acres

- **Bray Park Ball Park**

- **Lexington County Convenience Center**
After Redevelopment

2012 Excellence in Site Re-use Award Winner
Thank You!

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