Re-use and Recycle

The Basis for Landfill Closure, Remediation and Redevelopment

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Highway 321 Landfill – Rags to “Riches”

- Site History
- Site Issues
- Remedial Strategies — Recycle and Re-use…
- Redevelopment — Re-use again
- Summary
Many parcels under different ownership

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)

Main landfill area originally a sand quarry

Other Uncontrolled Waste Areas

Many Studies Performed Between 1970’s & 1994

Par Tee Driving Range Operating on top of Hwy. 321 Landfill

Bray Park Ballfield Located On-site
Highway 321 Landfill Site

- HWY 321 LANDFILL
- BRAY PARK DUMP
- OLD CAYCE DUMP
Highway 321 Landfill Site Issues - 1994

- Two Covers on Hwy 321 Landfill – Both Failed
- Impacted Groundwater at Property Line
- Landfill Gas Migration Issues
  - Old defunct LFG collection system at site
- Site Placed on Superfund National Priority List
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 (meet MCLs)
  - Water Treated Through Aeration
    - *Iron and Manganese Issues*
  - Water Reused for Irrigation
    - *Key for long term stability of cap*

- **Landfill Gas Recovery**
  - Old System Modifications
  - Six New LFG Recovery Wells
  - Very Limited gas production
  - Adjacent Property Remediation
During Construction
Site Redevelopment

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

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

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

- **Bray Park Ballfields**

- **Lexington County Convenience Center**
Summary

- **Focus on Using Reused Materials**
  - Tire Chips used in Landfill Cover
  - Re-use of Groundwater

- **Focus from Beginning on Redevelopment**
  - Par Tee Driving Range Tee Box
  - Lexington County Convenience Center
  - University of SC Golf Practice Facility

- **Changed Site from Community Problem to Community Asset**
Thank You!

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