

Best Practice: Utilization of Alternate Daily Cover (ADC) at North Wake MSW Landfill

Jurisdiction: Wake County

Brief Description: Wake County Solid Waste Management Division utilizes two alternate daily cover (ADC) systems at the North Wake MSW Landfill. The first ADC is a tarpaulin (a thick canvas cover), which is placed over the garbage at the end of the work day. The next morning, the tarp is removed and new garbage is placed over the previous day's garbage. The second ADC is a product called Posi-Shell, which is a cement-like product that is sprayed over the garbage at the end of the day. The landfill operator later places additional garbage directly over the Posi-Shell. The Posi-Shell system can be used as cover for a period of approximately seven days before additional cover or garbage needs to be placed on the area.

Background/Findings/Goal: The Alternate Daily Cover program was implemented in order to reduce the amount of soil used in daily operations of the landfill. Soil used for daily cover consumes air space that could be used for garbage. Reduced use of soil cover results in increased revenues to the County through the sale of that air space for garbage. Reduced use of soil cover also increases the life of the landfill through increased air space. The North Wake MSW Landfill has a soil deficit, and use of ADCs reduces the amount of soil needed for daily operations, allowing it to be saved for later use. Savings result from the County not having to purchase soil from other sites and paying transportation costs to have the soil delivered to the facility.

Ordinance/Policy: N/A

Implementation Details: DENR Solid Waste Section requires a 90 day protocol for any use of ADC's on landfills in the state. The Solid Waste Section evaluates the product and if the results are favorable, determines the operating requirements and grants permission for the use of the ADC. Wake County has received approval for both the tarp and Posi-Shell as alternate daily covers. In the case of Posi-Shell, engineering calculations were made and cost estimates were determined. It was estimated that the product would save the County 208 cubic yards of soil daily, which is equivalent to \$770,000 per year in waste disposal revenue. This revenue is generated by the ability to "sell" the airspace for waste disposal. The savings realized from not having to purchase off-site soil is estimated at \$1.5 to \$2 million. Wake County Solid Waste entered into an agreement with its landfill operator for the implementation of the protocol.

Results: DENR Solid Waste evaluated the programs and approved the use of both the tarp and Posi-Shell as alternate daily cover. The engineering study for Posi-Shell is not yet complete, but we do know that soil use has been reduced

and we expect substantial financial benefits. The ADC tarp benefits have not been calculated.

Next Steps/Future Plans/Collateral Practices: None at this time.

Contact:

Jim Reynolds, Director

Wake County Environmental Services, Solid Waste Management Division

james.reynolds@co.wake.nc.us

(919) 856-5520