

**UTILIZING A COMPUTER MODEL TO TRACK FILL RATE OF LANDFILL CELLS,
GROSS INCOME FROM LANDFILL OPERATIONS,
AND SCHEDULING OF FUTURE CELL DEVELOPMENT**

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ABSTRACT
Utilizing a Computer Model to Track Fill Rate of Landfill Cells, Gross Income from Landfill Operations, and Scheduling of Future Cell Development

by

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The value of airspace at any landfill cannot be over emphasized. With continued opposition to the development of new landfills and the pressure to provide disposal services at an economical cost, today's landfill manager needs tools that can provide up-to-date information regarding the capacity of present cells as well as the timing for new cells. One new tool in this effort is a computer model Engineering Solutions & Design, Inc. recently developed a computer model for Sandoval County, New Mexico, that assists in calculating this information. This computer model, utilizing the Microsoft's EXCEL program as a platform, provides an easy approach to tracking the rate of fill in landfill cells, gross income provided by the filling of the cells, and projections for when new cells need to be open and ready to receive solid waste. The program is designed to receive a number of inputs based on a variety of types of wastes the landfill receives. The model is designed to convert the input data into compacted cubic yards and contains a series of factors that are utilized to calculate the rate of filling of cells plus the gross income for the waste received. The model is designed for site-specific inputs and factors. These inputs and factors are adjusted as conditions at the site change.

In addition the model provides guidance on how to calibrate the model factors. The computer model calculates the amount of airspace utilized in a cell, amount of airspace remaining in the cell, the anticipated date the landfill will reach capacity, the date when a new landfill cell should be open and ready to receive waste, the gross income to date the landfill has generated, and the overall remaining capacity of the landfill. The computer model is easy to use with as little as two entry points for all data. The output is also simple and is typically in a form that is less than one page in length. This computer model provides a simple yet comprehensive approach to tracking the most valuable asset of a landfill - airspace.

Biography

Mr. Chappelle is the Senior Solid Waste Engineer for Engineering Solutions & Design, Inc. He has over 30 years of environmental engineering experience and has been involved with all aspects of solid waste engineering. Specifically, his experience includes preparation and implementation of solid waste plans, including feasibility studies, planning, permitting, design and construction of landfills, transfer stations, convenience centers, and recycling facilities, as well as financial analyses of solid waste systems. Mr. Chappelle received a Bachelor of Science degree Civil Engineering from the University of Kansas and a Masters of Business Administration from the University of New Mexico. He is a registered Professional Engineer in New Mexico, Arizona, Colorado, Kansas, and Nebraska. He has been a member of SWANA since 1989 and served as the New Mexico Chapter of SWANA president from 2005 through 2006.