

# Madison County

## Solid Waste and Sanitation

### THE LANDFILL LINER SYSTEM

New Landfill designs use a double composite liner system. The liner system includes two separate collection systems for leachate—a primary collection system and a secondary system.

New York State environmental regulations require the liner system under the waste to have the following:

- A primary collection system that begins immediately under the waste. It has 24 inches of drainage material, such as sand. Within the drainage material is a system of leachate collection pipes.
- Next, is a synthetic liner, 60 mils thick. The seams of the synthetic liner must be joined and tested as specified in the state regulations.
- Under the synthetic liner is an 18 inch layer of low permeability material, generally a clay-like soil, followed by a 12 inch layer of drainage material for the secondary collection system. The drainage material would funnel any remaining leachate to the second set of collection pipes.
- The collection pipes are used to collect any leachate generated by the landfill. Leachate is then disposed of at a municipal sewage treatment plant.
- Under the 12 inches of drainage material is another synthetic liner. Like the first one, it also would be 60 mils thick. That layer also must be constructed and tested in accordance with the state's regulations.
- The lowest layer is a 24 inch layer of low permeability material. Generally, that would also be a clay-like soil.

Once designed, constructed and approved for use, the landfill cell will be used for daily waste disposal for a number of years. When filled the cell would be capped.

The final landfill cover or “cap” includes:

- A gas venting layer. Gas vents would be installed through that layer and the layers above it. Those vents also go down into the waste layer.
- Above the gas venting layer, is a layer of low permeability soil. As an alternative for this layer, the state law allows use of synthetic material, called geomembrane.
- Last is a protection barrier layer of soil and that is topped by topsoil to grow vegetation.