How to use the given slope width and waste wet weight?

As we are developing a very simple model. Perhaps it is best to make ik 1 dimensional. Therefore express all flows per m2. To do this you can estimate the average height of the landfill by taking the total volume and dividing it by the surface area of the drainage system.

Given the simplicity of the model and the uncertainty in the parameters, this is by far the best option for a first attempt.

## SEvmin vs SCLmin

SCLmin defines the storage value where the leaching rate LC should become zero. SEvmin is the value where the evaporation becomes zero.

Imagine that the reservoir is a bucket with a hole in its side.  SCLmin is the level where the hole is. At levels above this hole you will have a flow where the flow rate is driven by the height above the hole. Below this level, no flow can occur.

Evaporation however can occur when there is still water present in the bucket. So SEvMin can be lower that SCLmin.

## How to code the ODE of landfill which contains time-dependent constants?

1: t is an input variable in dYdt function. As you can see in the landfill rates ODE, J, E are all functions of time t ( let's say g(.),f(.) ). It means when you define a similar function dSdt, you could get the J and E by calling function g and f. In python you can use numpy.vectorize to generate the required function.

You also need to carefully define the t\_eval in the solver to guarantee we could get J and E from related functions at those time steps.

2: Please note that the solver decides what t value should be used. What you do in calling the solver is define the start value and the end value.

This requires you to assume that the value can take on any real value between tstart and tend. Your rate function should be able to handle that.

3: Graphical user interface, text, application

Description automatically generated