Water Services Trust Fund	**Sanitation Block**	
	Engineer :	*WM*
Design of Septic Tank	**Date :**	*April 2011*

INPUT DATA

Average water demand /capita/day ………………………….………..	150	
Percentage for sewage flow……………………………………..	75%	
Average sewage flow /capita/day, s_1…………………………………	113	
No. of people, P ………………………….…………..	800	
Sludge accumulation, s_2 ………………….…………………..	40	*l/capita/year*
Desludging period, T_1 ………….………………………………..	2	*years*
Length/ Breadth……………….………………………	2.5	
Depth of tank, D……………….………………………..	1.5	*m*
Retention time, T_2………………………………..	24	*hrs*

OUTPUT DATA

SEPTIC TANK

Sewage Flow, Q = …………………………………	90000	*l/day*
Capacity of tank, $c = Q/T_2$…………………………………	90000	*l*
Quantity of sludge deposited, $S = P \times s_2 \times T_1$…………………………..	64000	*l*
Total Capacity of the tank, $C = c + S$……………………………	154000	*l*
	154.00	*cu-m*
Crossectional area, $A = C/D$………………………………	102.67	*m2*
Breadth of tank, B = ………………………………………..	6.4	*m*
Length of tank, L = ……………………………………….	16	*m*
Overall depth (incl. Freeboard) = D + 0.3…………………………………	1.8	*m*

PERCOLATION TRENCHES

Percolating capacity of filter media ………………………..	1000	*l/cu-m/d*
Length of trench pipe ……………………………	10	*m*
Volume of filter media required = ………………………………	154	*m3*
Crossectional area of soakpit required =…..………..	15.4	*m2*
Diameter of percolation trench pipe = ……………………………	100.0	*mm*
Number of trench pipes required = ……………………………	5	*No.*

NUMBER OF SEPTIC TANKS REQUIRED FOR SANITATION BLOCK

Population served ………………………..	800	
No. of people per septic tank ……………………………	800	
No. of septic tanks required ……………………………	1.0	*No.*

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