Silt Saver (SS-100A) Frame Discharge Analysis

Orifice only flow calculations

Head (ft)		Opening Area (SF)	Equation Used		Flow Orifice	Total Flow (cfs)
0.5		2.1	O		7	7
1		3.9	O		19	19
1.5		7	O		41	41
2		8	O		54	54
2.5		9.2	O		70	70
3		9.2	O		77	77

Due to narrow slot, a transition will occur between weir and orifice conditions.
Orifice flow will provide a more conservative estimate of flow, therefore the lessor of the orifice and weir flows will be used for each stage calculation.

Weir Equation (W) = Q=3.3 P(h)^1.5
Orifice Equation (O) = Q=0.6A(2gh)^0.5
P= feet perimeter
h= head in feet
Q= capacity in CFS
A=Free open area of frame
g=32.2 feet per second per second