modified Velz as per Wood Drury Middelton

BOD5in	150	mg/L	theta	1.035
R	1.25		T °C	12
k20	0.0055		gpm/sq.ft	0.15
As	31	sq.ft./cu.ft.	n	0.5
Depth	1.83	m		
	6.0	feet		

k20*As*D*(theta^(T-20)) = 0.777189
[Qi * (R+1)]^n = 0.5713048

exponent 1.360375092

BODout 20 mg/L percent removal = 86.7 %

flow	5500	m3/day			lbBOD/day per 1,000 cu.ft.
flow	1.453	mgd	=	1009.1 U.S. gpm	43.5
diameter	28.7	m			
	94.1	feet	area =	6956.3 sq.ft.	
			gpm/sq.ft.	0.15	actual = 0.33 gpm/sq.ft.

media volume V = 41754.8 cu.ft. 1182.4 m3

R = Qr/Q