STANDPIPE CALCULATIONS

(Using Orifice Equation)

Project Name: **ASPIRE TEMP POND FOR ESC**

Project #: **2600**

100-year WSEL =	65.5	ft
Bottom of Pond ELEV =	62	ft
Maximum discharge (Q_{max}) =	88.01	cfs
Diameter of Standpipe =	48	in

Top of Standpipe = 64.5 ft

Overflow Weir Capacity:

$Q = C*L*H^{1.5}$

C = 3.33

Q_{max} = 41.85 cfs

Orifice Equation: $Q = CA(2gH)^{1/2}$

C = 0.60 (sharp edged hole)

g = 32.2 ft/s^2

INV of Standpipe =	54	ft
Diameter of Discharge Pipe =	48	in

HOLE CALCULATIONS

ELEVATION AT CENTER OF HOLE	HOLE DIAMETER (in.)	HOLE AREA (sq. ft.)	# OF HOLES AT THIS LEVEL	H (ft)	Q PER HOLE (cfs)	TOTAL Q AT THIS LEVEL (cfs)	SPACE BETWEEN HOLES AT THIS LEVEL (in)	SPACE BETWEEN HOLES ON THIS LEVEL AND NEXT (in)
63.50	6	0.196	6	2.00	1.34	*8.02*	19.13	759.10
		0.000			0.00	*0.00*		

TOTAL Q WITHOUT CLOGGING = 8.02

TOTAL Q WITH 50% CLOGGING = ***4.01*** ***cfs***

Q AT VARIED WSEL FOR AHYMO

WSEL	TOTAL DISCHARGE (CFS)	CAPACITY OF DISCHARGE PIPE BY ORIFICE (CFS)	MOST LIMITING DISCHARGE
102.5	18.27	412.60	18.27
103	45.86	414.81	45.86

MIN #OF 48" STANDPIPES = 2