COMPUTATION SHEET DIVISION OF ENGINEERING - BSFW PORTLAND, OREGON	DATE	PAGE 1 OF 2
	STATION	
DESCRIPTION Leavenworth NFH	JOB NUMBER	
Lagoon Size.	BY	CHECKED

The new raceways → Race way Cleaning 8X80 X 2.25 X 7.48 = 10,700 gal

Lower pond to ½ capacity in 10 min = 500 gpm

Lower two ponds at a time plus inflow from 5 ponds = (500X2) + (5X400) = 3000 gpm

Lagoon sized for 2 hrs @ 3000 gpm
50' X 125' bottom with 2:1 side slopes and 6" min depth

Clean 5 raceways at a time
Will have to be some explanation provided on

detention time @ 3000 GPM

$$\frac{62 \times 137 \times 6 \times 7.48}{3000} = 127 \text{ minutes}$$

The smaller Foster Lucas Ponds → Cleaning Foster Lucas Ponds. 15' X 70' X 3' = 23,000 gal

6" opening 3' head. 5 ponds at once.
850 gpm each - 300 inflow takes 20 Min to lower ½

13 Ponds 850 gpm from 5 + 300 gpm from 8 = 6650

Flow to Lagoon will be 6650 GPM for abt. one hour and 4000 for rest of cleaning cycle - abt 1 hr.

detention time for initial period. $\frac{62 \times 137 \times 6 \times 7.48}{6650} = 57$ min.

" " " rest of period. $\frac{62 \times 137 \times 6 \times 7.48}{4000} = 95$ Min

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Lagoon Detention time	BY	CHECKED

With all ponds in one bank lowered at one time.

Footer drain

① Cleaning one bank at a time

850 gpm X 13 pond = 11,050 g.p.m. for 20 min
-24
4000 gpm for rest of cleaning cycle

detention initial cleaning. $\frac{66 \times 141 \times 8 \times 7.48}{11,050}$ = 50 minute

rest of cleaning time $\frac{66 \times 141 \times 8 \times 7.48}{4000}$ = 139 minutes

They could cannot ½ of a bank of ponds at a time to get the clean down.

Footer drain

② Cleaning all 3 banks at one time

850 gpm X 37 = 31,450 This is beyond capacity of Drain lines

Max capacity of drain to Lagoon is 15,000 gpm

detention @ 15,000 gpm. $\frac{68 \times 143 \times 9 \times 7.48}{15,000}$ = 43 minutes

[signature]