

FILE NUMBER _____
REVIEWER _____

CWS

DAIRIES: WATER USE WORKSHEET

REQUIRED DAIRY DATA

NUMBER OF MILKING CATTLE _____ 1800
 NUMBER OF NONMILKING CATTLE _____ 700
 IF LAGOON IS AEROBIC, ENTER ITS SURFACE AREA IN ACRES;
 IF ANAEROBIC, ENTER ZERO _____ 1.0
 EVAPOTRANSPIRATION FACTOR FOR AREA (AC-FT/AC-YR) _____ 4
 ENTER 1 FOR MANUAL COW WASHING, 2 FOR AUTOMATIC, OR 3 IF
 SPRINKLERS ARE USED TO FLUSH HOLDING PEN AND WASH COWS _____ 3
 NUMBER OF MILKINGS PER DAY _____ 2

CALCULATIONS

DIVERSION RATE FOR STOCKWATER (CFS):

MILKING CATTLE @35 GPD/HD _____ 1.17
 MILKING CATTLE (NUMBER OF CATTLE ROUNDED UP) * --- 1.17
 NONMILKING CATTLE @12 GPD/HD _____ 0.16
 NONMILKING CATTLE (NUMBER OF CATTLE ROUNDED UP) * --- 0.16
 TOTAL (BASED UPON ROUNDED NUMBERS) _____ 1.33

DIVERSION VOLUME (AFA):

STOCKWATER

MILKING CATTLE @35 GPD/HD _____ 70.6
 MILKING CATTLE (NUMBER OF CATTLE ROUNDED UP) * --- 71.0
 NONMILKING CATTLE @12 GPD/HD _____ 9.4
 NONMILKING CATTLE (NUMBER OF CATTLE ROUNDED UP) * --- 9.4
 TOTAL (BASED UPON ROUNDED NUMBERS) _____ **80.4**

COMMERCIAL

WASHING OF BULK TANK AND RELATED EQUIPMENT _____ 0.4
 PARLOR FLOOR AND MILKHOUSE FLOOR _____ 0.1
 CATTLE WASHING BASED UPON METHOD OF WASHING _____ 64.2
 TOTAL _____ **64.7**

TOTAL DIVERSION VOLUME _____ **145.1**

CONSUMPTIVE USE VOLUME (AFA):

STOCKWATER

MILKING _____ 10.4
 NONMILKING _____ 0.0
 TOTAL _____ 10.4

COMMERCIAL _____ 4.0

TOTAL CONSUMPTIVE USE _____ 14.4

* NUMBER OF CATTLE ROUNDED UP TO AGREE WITH EXISTING TABLES.

THEORETICAL FLOW ESTIMATION WORKSHEET

REQUIRED PUMP INFORMATION

	PUMP 1	PUMP 2	PUMP 3
PUMP HORSEPOWER (HP) _____	7.50	15.00	0.00
LIFT (FT) _____	200	200	0
DISCHARGE PRESSURE (PSI) _____	50	50	0
FRICTION LOSSES (FT) _____	5.0	10.0	0.0

CALCULATIONS

	0.15	0.28	0.00
THEORETICAL FLOW RATE (CFS) * _____			
DIVERSION VOLUME (AFA) ** _____	106.0	206.5	0.0

* PUMP EFFICIENCY WAS ASSUMED TO BE 70%.

* DIVERSION VOLUME IS THE ABSOLUTE MAXIMUM VOLUME BASED ON THE THEORETICAL FLOW RATE ASSUMING PUMP RUNS CONTINUOUSLY EVERY DAY OF THE YEAR.

Current Transfer of 0.70 CFS + 14.1
 AFA is only part of the needed
 water to be transferred

D.K.

High

(Actual somewhere
 between 82.9 and 145.1)