

RECEIVED

OCT 16 2009

DEPT. OF WATER RESOURCES
SOUTHERN REGION

October 13, 2009

Allan Merritt
Idaho Department of Water Resources
1341 Fillmore Street, Suite 200
Twin Falls, ID 83301-3380

Re: Nunes Brothers Dairy

Dear Mr. Merritt:

The Nunes Brothers Dairy is requesting that the water right permit 36-8552 be licensed by IDWR. The Nunes Brothers Dairy desires to transfer irrigation water from 36-2244 to stock and commercial water due to an increase in herd size at the facility. The volume of water that needs to be transferred cannot be determined because of the unknown volume limit for 36-8552.

The application for permit is 06/28/1990. The proof date for the permit is 11/24/1993. At the time of the proof date there were 500 milking cows and 200 dry cows on the facility. At the time of the proof and currently there are 5 homes and 0.5 acres of lawn serviced by 36-8552.

Please process the permit into a license so that we can begin the transfer process. Thank you.

Sincerely,


George Nunes
Partner

Enc: Water Requirements Worksheet

Livestock Confinement Operations

Water Requirements and Consumptive Use Worksheet

Copyright 1998 by Brockway Engineering, PLLC

The information, data, or computational procedures herein may not be duplicated without the express written consent of Brockway Engineering.

RECEIVED

OCT 16 2009

DEPT. OF WATER RESOURCES
SOUTHERN REGION

COMPLETE BLUE HIGHLIGHTED SECTIONS ONLY

Prepared for: Nunes Brothers Dairy
2933-A S 1500 E
Wendell, ID 83355

Revision: 9801
Run Date: 10/12/2009

Remarks: These are the conditions for Permit 36-8552 in 1993 as George Nunes remembers.

Herd Information - User Input

Number of milking cows 500
Number of dry cows 200
Number of other adult dry animals 0

Breed: Large

Calves at age:
1 month 21
2 months 21
3 months 21
4 months 21

Heifers at age:
5 - 18 months 22
15 - 18 months 22
18 - 24 months 22

Total Young Animals 150

ANIMAL INFORMATION

Use defaults or enter values if known

Average body weight 1400 lbs
Milk fat percentage 3.7 %
Average days dry 60
Annual milk yield per animal 21000 lbs/year
Percent dry matter in ration 90 %

Nearest weather station Jerome
Number of milkings/day 2

Check: Total herd size based on days dry 1217
HERD SIZE NOT CONSISTENT WITH DAYS DRY

Lagoon Information - User Input

Lagoon Number	Top width	Top length	SS (h:v)	Max depth	Average depth factor	% days with water	Top Area	Bottom Area	Average Area
1	400	400	3	7	0.5	100	160000	143641	151820.5
2							0	0	0
3									
4									
5									
6									
7									
8									
9									
10									
TOTAL ACRES							3.67	3.30	3.49

Facility Information - User Input

	Holding Pen 1	Holding Pen 2	
Holding pen active	1	0	(0 = not used or nonexistent)
Number of sprinklers in pen	40		
Average line pressure	40	40	psi
Sprinkler nozzle size - primary	11/64	0	inches
Sprinkler nozzle size - secondary	0	0	(enter 0 for single-nozzle sprinklers)
Daily operation time of sprinklers	12		minutes
Percent of days per year cows are washed	100		%

Number of free stalls	0	
Length of each free stall	0	feet
Width of each free stall	0	feet

Is the feeding area flushed to lagoon?	No
Is this housing area flushed to lagoon?	Yes

	Barn	Feeding	Housing
Flushing recycle rate	0%	0%	0%

Stockwater Component

Drinking Water Calculation for Lactating Cows

4% fat-corrected milk yield	20055 lbs/year
Daily average FCM yield	65.75 lbs/day
Daily average milk yield	68.85 lbs/day
Estimated DMI	47.74 lbs/day

METHOD 1: Kertz

Estimated total water intake (TWI)	282.3 lbs/day or 33.8 gal/day
As-fed feed daily intake	53.0 as-fed lb/day
Water content of feed	5.30 lb/day in feed
Drinking water intake	277.0 lb/day or 33.2 gal/day
Drinking water requirement for lactating cows	16606 gal/day 18.6 ac-ft/year

METHOD 2: Holter and Urban

Regression equation with DMI, milk production, and dry matter %

Drinking water intake	100.4 liters/day 26.5 gal/day
	13263 gal/day 14.9 ac-ft/year

Maximum drinking water requirement 18.6 ac-ft/year

Drinking Water Calculation for Dry Cows

Estimated DMI	26.6 lbs/day
Average drinking water intake	13 gal/day

Average drinking water requirement
**2600 gal/day
2.9 ac-ft/year**

Drinking Water Calculation for Replacement Herd (Calves and Heifers)

Age	GPD	Ac-Ft/year
1 mo	35	0.04
2 mo	41	0.05
3 mo	51	0.06
4 mo	68	0.08
5 mo	92	0.10
15-18 mo	143	0.16
18-24 mo	186	0.21
Drinking water requirement for replacement herd	617 gpd	0.69 ac-ft/year

TOTAL STOCKWATER COMPONENT 22.2 AC-FT/YEAR

Commercial Component

Milking Parlor Water Usage Calculation

Volume needed *per milking* in each parlor for:

Cleaning parlor floor	1500 gal	Cleaning pipeline	200 gal
Cleaning milkroom	100 gal	Cleaning equipment	100 gal
Cleaning bulk tank	100 gal	Cleaning cows	250 gal

Total milking parlor volume	4500 gal/day
Second milking parlor volume	0 gal/day
Recycled water	0 gal/day
	5.04 ac-ft/year

Holding Pen Water Usage Calculation

	Pen 1	Pen 2
Output of primary nozzle	5.4	#N/A gpm
Output of secondary nozzle	0	0 gpm
Holding pen flushing volume	3000	0 gal
Sprinkler volume	2592	0 gal/day
Total holding pen volume	5592	0 gal/day
Recycled water	0	0 gal/day

6.26 ac-ft/year

Other Flushing Water Calculation

Daily volume needed for:

Feeding area flushing	0 gal/day
Housing area flushing	2000 gal/day

Total other flushing volume	2000 gal/day
Recycled water	0
	2.24 ac-ft/year

TOTAL COMMERCIAL COMPONENT 7.3 AC-FT/YEAR

Consumptive Use Calculation

A. Lagoon Evaporation

Annual reference ET (Allen & Brockway , 1983)	4.51 feet	
Annual open water coeff (Kohler Nordenson Fox)	0.90	
Annual open water (lagoon) evaporation	4.06 feet	
Manual override: Input annual lagoon evap	feet	
Total lagoon water surface area at full	160000 sq. ft.	
Total lagoon bottom area	143641 sq. ft.	
Average surface area when water is present	151821 sq. ft. =	3.49 ac
Total lagoon evaporation	14.16 ac-ft/year	

B. Animal usage: milk, metabolism, and excretion loss

	Milking	Dry
Waste excretion volume per cow	1.3	1.3 ft ³ /day/1000lb
Water content	87.5	88.4 %
Total water volume in excrement	5956	2407 gal/day
Percent of excrement flushed to lagoons	60 % (based on areas which are flushed)	
Consumptive use (evap.) of water in excrement	40 %	
Consumptive use (evap.) volume	3345 gal/day	
Excrement c.u. attributable to drinking water	3282 gal/day	
Total milk production - assume 100% leaves site	34426 lbs/day or	4128 gal/day
Water content of milk	3591 gal/day	
Water content attributable to drinking water	3524 gal/day	
Water use for animal metabolism	7570 gal/day	
Metabolism water attributable to drinking water	7428 gal/day	
Consumptive use - replacement herd (100%)	617 gal/day	
Total animal consumptive use from drinking water	14850 gal/day or	16.6 ac-ft/year
Percent of drinking water intake	77.3 %	

C. Parlor/holding pen cleanup

Average sprinkler washing system evap loss	2 %	
Free stall total area	0 sq. ft. =	0.00 acres
Length of time free stall concrete is wet	1 hr/day	
Average evaporation from wet concrete	0.15 in./day	
Sprinkler system loss volume	0.06 ac-ft/year	
Free stall evaporation volume	0.00 ac-ft/year	
Total cleanup loss	0.06 ac-ft/year	

D. Land application site

Crop evapotranspiration	2.43 ac-ft/ac/year
Irrigation diversion volume	3.03 ac-ft/ac/year
System efficiency	80 %
Waste water volume to lagoons	12.8 ac-ft/year
Waste water volume available for land application	-1.4 ac-ft/year
Total crop consumptive use of waste water	0.0 ac-ft/year

Summary

Consumptive Use

Lagoon evaporation	14.16
Animal milk, excretion, & metabolism	16.6
Parlor and holding pen cleanup	0.06
Crop consumptive use on land application	0.0

Total consumptive use **30.9 ac-ft/year**

Percent of diversion volume consumed 86.3 %

Annual crop consumptive use - IDWR allowable 720 mm
2.4 afa

Equivalent irrigated acres **13.1 acres**

Drinking Water

Milking herd	18.6
Non-milking herd (dry cows)	2.9
Replacement herd (calves and heifers)	0.7

Total drinking water volume **22.2 ac-ft/year**

Diversion volume to acres conversion factor **2.74 ac-ft/ac**

Commercial

Milking parlor	5.04
Holding pen and cleanup	6.3
Other flushing water	2.24

Total commercial volume **13.5 ac-ft/year**

TOTAL DIVERSION VOLUME REQUIREMENT **35.8 AC-FT/YR**

OCT 16 2009

DEPT. OF WATER RESOURCES
SOUTHERN REGIONFILED/EFFECTIVE
2009 FEB 27 AM 9:28
SECRETARY OF STATE
STATE OF IDAHO**CERTIFICATE OF
ASSUMED BUSINESS NAME**Pursuant to Section 53-504, Idaho Code, the undersigned
submits for filing a certificate of Assumed Business Name.

Please type or print legibly.

NOTE: See instructions on reverse before filing.

1. The assumed business name which the undersigned use(s) in the transaction of
-
- business is:

NUNES BROTHERS DAIRY

2. The true name(s) and business address(es) of the entity or individual(s) doing
-
- business under the assumed business name:

Name	Complete Address
GEORGE NUNES	2933 B SOUTH 1500 EAST, WENDELL, ID 83355
JOHN NUNES	2933 B SOUTH 1500 EAST, WENDELL, ID 83355
JOSE NUNES	2931 B SOUTH 1500 EAST, WENDELL, ID 83355

3. The general type of business transacted under the assumed business name is:

- | | |
|--|--|
| ☐ Retail Trade | ☐ Transportation and Public Utilities |
| ☐ Wholesale Trade | ☐ Construction |
| ☐ Services | ☒ Agriculture |
| ☐ Manufacturing | ☐ Mining |
| ☐ Finance, Insurance, and Real Estate | |

Submit Certificate of
Assumed Business
Name and \$20.00 fee to:

Secretary of State
700 West Jefferson
Basement West
PO Box 83720
Boise ID 83720-0080
208 334-2301

4. The name and address to which future
-
- correspondence should be addressed:

NUNES BROTHERS DAIRY
2933 B SOUTH 1500 EAST
WENDELL, IDAHO 83355

5. Name and address for this acknowledgment
-
- copy is (if other than # 4 above):

WELLS FARGO BANK C/O LARRY YOCUM
3500 WEST ORCHARD COURT
VISALIA, CA 93277

Phone number (optional):

1-208-536-6519Signature: George Nunes
(signature required)Printed Name: GEORGE NUNESCapacity/Title: PARTNER

(see instruction # 8 on back of form)

Secretary of State use only

IDAHO SECRETARY OF STATE
02/27/2009 05:00
CK: 6688 CT: 158010 BH: 665477
1 20.00 = 20.00 ASSUM NAME # 2

D02931