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December 1, 2005

Steve Robischon, Technical Support Section
Adjudication Bureau
Department of Water Resources
P.O. Box 83720
Boise, Idaho 83720-0098

Re: Irrigation Diversion Rate Requirement, SRBA Claim 3-4002

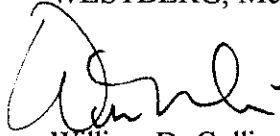
Dear Mr. Robischon:

In a letter dated August 5, 2005, to the Lucich Family LP, you asked for justification to support the claim that more than 0.02 cfs of water per acre was necessary for irrigation purposes on the Lucich property. We have now obtained a report from SPF Water Engineering supporting that claim. A copy of the report is enclosed. The report verifies a duty of water of 0.028 cfs per acre or 2 cfs for the total 71 irrigated acres.

In an earlier letter from you dated July 22, 2005, to my client, you asked for further documentation to support the priority date of June 1, 1915. As you know, in my letter to you of August 26 I requested a copy of the Homestead Entry file to support that claim. I have not received that information and have made a second request today. Usually it requires about two months to receive the documentation. Apparently my request for the information was misplaced. As soon as that information is received I will forward it on to you along with the other documentation I have been gathering.

Very truly yours,

WESTBERG, McCABE & COLLINS, CTD.



William D. Collins

WDC:mrs
enclosure

cc: Lucich Family Limited Partnership

IRRIGATION REQUIREMENT ANALYSIS

3-4002



Scott N. King, P.E.
SPF Water Engineering, LLC
November 2, 2005

INTRODUCTION

This report presents a Field Irrigation Requirement (FIR) analysis for a farm located about 4 miles north of Payette, ID, and identified by SRBA water right claim 3-4002. The claim identifies diversion from Snake River for irrigation of 71 acres in Section 2 of T9N R5W. Based on this analysis, the farm has average field irrigation requirements of 0.034 cfs per acre.

I visited the property on October 12, 2005, meeting with Drew Christensen. Mr. Christensen has lived on the property for the past several months. During this time and for the year prior, Mr. Christensen has been familiar with irrigation practice and crop rotation either by observing the operation or discussion with the lessee. Mr. Christensen will be operating the farm in future years.

ANALYSIS

FIELDS

Field boundaries are based on Mr. Christensen's identification, IDWR's digital claim-layer place of use shapefile, and 2004 NAIP imagery for Payette County (see Figure 1). Figure 1 also identifies soils and furrow direction and length. The fields are generally level and irrigated using corrugate and furrow flood methods. Concrete and soil laterals convey water pumped from the Snake River using a 10-hp Parma Pump to seven fields. Field furrow lengths range from 250 to 950 feet. Slope was estimated at 0.01 ft/ft based on topographic maps and this value is used for analysis of all fields. Based on Dreher and Tuthill, 1999, field irrigation requirements are estimated using the NRCS Furrow program together with soil characteristics, field conditions, and weather station records.

SOILS

Soil information is provided by the Natural Resource Conservation Service digital SSURGO database. The predominant soils are *Baldock Silt Loam* (Ba, MUKEY 81301) and *Bowman Loam* (Bo, MUKEY 81305). Soil analyses are shown in Figure 2 and Figure 3. These soils have a furrow intake family value of 0.50, which is considered moderate. Water infiltrates slowly into low intake family soils, and quickly when the intake family is high (heavy clay = 0.3; sand = 0.8). The soils are deep and have a good available water holding capacity (AWC) in the range of 0.16 to 0.21 inches of water per inch of soil in the upper layer.

CROPS

The rotation analyzed is based on crops grown during 2005. This rotation is expected to represent historic crop rotation patterns. Other crops and rotations may result in higher or lower irrigation requirements.

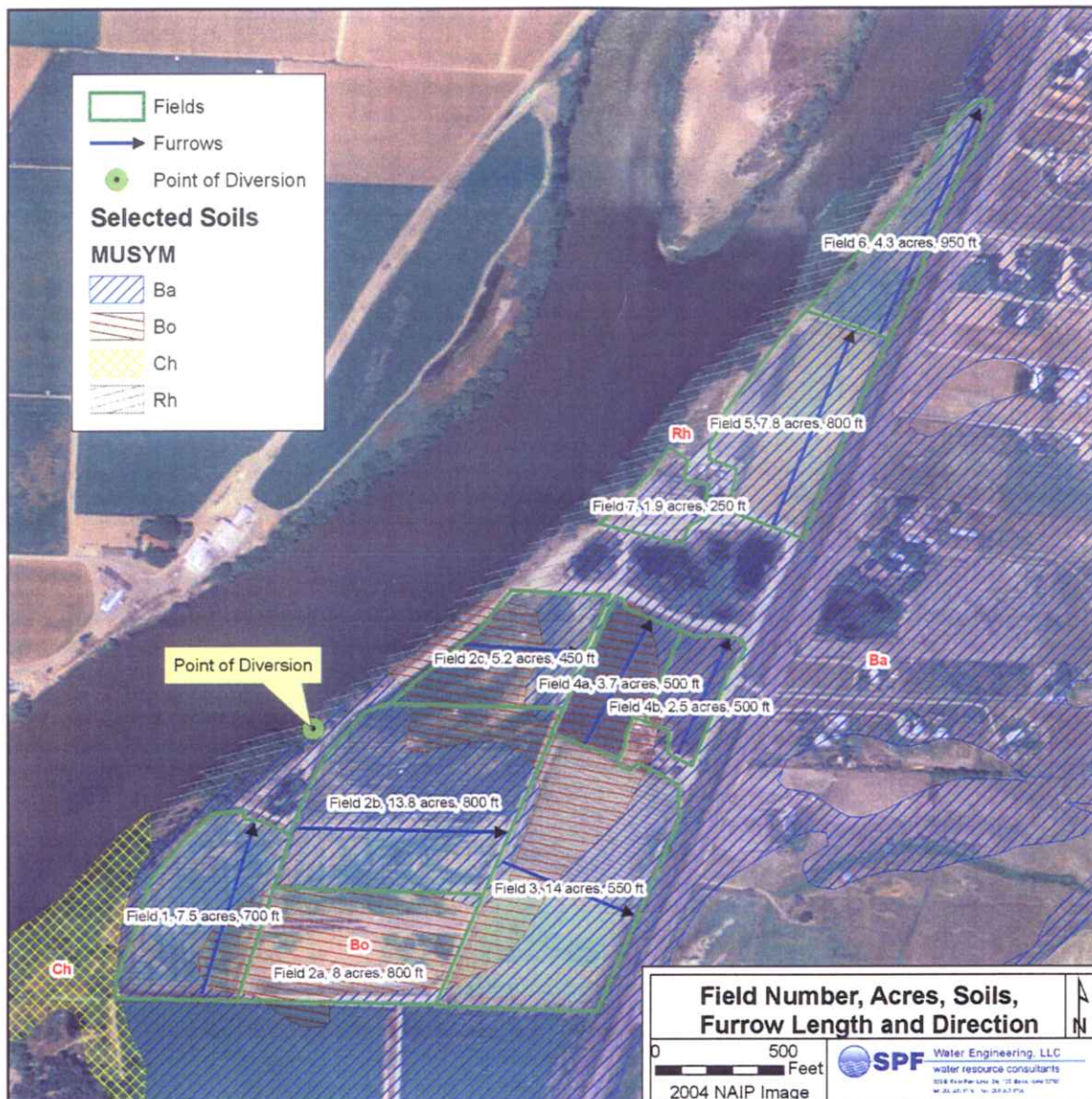


Figure 1. Place of use for 63-4026A.

SOIL CHARACTERISTICS				initials:		snk		date: October 11, 2005			
Soil Type = Baldock Silt Loam (Ba): MUKEY = 81301											
Source of Soils Data = SSURGO											
soil depth (inches)		AWC (in/in)		PH		organic (%)		soil depth (ft)	AWC (inches)	intake family	
lower	upper	lower	upper	lower	upper	lower	upper			flood	furrow
0	11	0.16	0.21	7.9	8.4	0	0	1	2.22	1.5	0.5
11	48	0.16	0.21					2	4.44		
48	60	0.09	0.15					3	6.66		
								4	8.88	alternate	
								5	10.32	method	
										1.5	0.5
Management Allowed Deficit (MAD)											
crop				root depth (ft)	stress point	MAD (inches)					
alfalfa (hay or seed)				5	0.5	5.16					
corn (field or silage)				4	0.5	4.44					
grain (winter or spring)				4	0.5	4.44					
pasture (or grass hay)				3	0.5	3.33					
other (enter below)											
dry beans				2	0.4	1.78					
Onions				1	0.35	0.78					
Sweet Corn				3	0.4	2.66					
Melons (same as alf)											

Figure 2. Baldock Silt Loam soil characteristics.

SOIL CHARACTERISTICS										initials:	snk	date:	October 11, 2005
Soil Type = Bowman Loam (Bo), MUKEY = 81305. Coarse-loamy over sandy													
Source of Soils Data = SSURGO													
soil depth (inches)		AWC (in/in)		PH		organic (%)		soil depth (ft)	AWC (inches)	intake family			
lower	upper	lower	upper	lower	upper	lower	upper			flood	furrow		
0	14	0.17	0.21	7.4	8.4	0	0	1	2.28	1.5	0.5		
14	32	0.14	0.18					2	4.26				
32	60	0.03	0.05					3	5.70				
								4	6.18				
								5	6.66				
										alternate method			
										1.5	0.5		

Management Allowed Deficit (MAD)			
crop	root	stress	MAD
	depth	point	(inches)
	(ft)		
alfalfa (hay or seed)	5	0.5	3.33
corn (field or silage)	4	0.5	3.09
grain (winter or spring)	4	0.5	3.09
pasture (or grass hay)	3	0.5	2.85
other (enter below)			
dry beans	2	0.4	1.70
Onions	1	0.35	0.80

Figure 3. Bowman Loam soil characteristics.

CLIMATE

The Payette weather station is used as the basis for crop evapotranspiration (ET) requirements for this farm. 80th percentile values of monthly ET for this station were obtained from Allen & Brockway, 1983, and are included in the Appendix.

IRRIGATION EFFICIENCY

Per IDWR guidelines (Dreher & Tuthill, 1999), the FURROW program written by the NRCS is used to estimate irrigation efficiency. In this analysis, input parameters include:

- Irrigation application depths ranging from 0.78 to 5.16 inches of water, equivalent to MAD in Figure 2 and Figure 3 for crops identified
- Corrugate irrigation for alfalfa, corn, and melons; furrows for beans and onions.
- Furrow length ranging from 250 to 950 ft
- Furrow spacing of 2 ft for beans and onions, 2.5 ft for alfalfa, corn, and melons
- Furrow slope = 0.01 ft/ft
- Soil intake family = 0.50 (dimensionless)
- Furrow inflow rate range from 3 to 10 gpm and application time is 12 or 24 hours. The most efficient combination of flow and application time is selected for analysis.

Inflow rate is adjusted for application times in 12 hour increments in order to determine the optimum irrigation efficiency. Fields 2 and 4 were split based on soil type boundaries.

FIELD IRRIGATION REQUIREMENT

Field Application Efficiency (FAE) values are the result of Furrow program runs. Table 1 provides Furrow program results for each field based on furrow spacing and length, soil type, crop, irrigation application depth, irrigation method, and most efficient inflow time / inflow rate combination.

Figure 4 presents the spreadsheet used to determine the irrigation requirements based on crop ET requirements, net irrigation application (equivalent to MAD values from the soil analysis spreadsheet, Figure 2 and 3), and FAE from Furrow runs (Table 1 and Figures 5 to 13). The total on-farm irrigation requirement is 2.4 cfs for 71 acres.

THEORETICAL PUMPING CAPACITY

Theoretical pumping capacity of the 10-hp Parma pump exceeds 3 cfs. The pump lifts water 15 feet from the Snake River to a distribution box where the pipe open-discharges. Pump efficiency is estimated at 70%, and total dynamic head (including friction losses) is approximately 20 ft.

$$Q = \frac{10 \text{ hp} \times 0.70 \times \frac{8.82 \text{ cfs} \cdot \text{ft}}{\text{hp}}}{20 \text{ ft}} = 3.1 \text{ cfs}$$

Table 1. Field characteristics, slope = 1%, intake family = 0.5.

Field ID	Size (acres)	Crop	Soil	Irrigation Application (inches)	Furrow Spacing (ft)	Furrow Length (ft)	Inflow Rate (gpm)	Irrigation method	Inflow Time (hours)	Irrigation Efficiency (%)
1	8	Alfalfa	Ba	5.16	2.5	700	5	Corrugate	24	78*
2a	8	Beans	Bo	1.7	2	800	5	Furrow	12	47
2b	14	Beans	Ba	1.78	2	800	5	Furrow	12	49
2c	5	Beans	Bo	1.7	2	550	3.5	Furrow	12	46
3	14	Beans	Bo	1.7	2	550	3.5	Furrow	12	46
4a	4	Beans	Bo	1.7	2	500	3	Furrow	12	49
4b	3	Beans	Ba	1.78	2	500	3	Furrow	12	51
5	8	Onions	Ba	0.78	2	800	5	Furrow	12	22
6	4	Corn	Ba	4.44	2	950	6	Corrugate	24	61
7	3	Melons	Ba	5.16	2.5	250	3.5	Corrugate	24	40

*Irrigation efficiency exceeding 70% is limited to 70% for FIR determination based on Dreher and Tuthill, 1999.

FIELD IRRIGATION REQUIREMENT															
initials:		snk		Claimant = 3-4002											
date:		10/27/05		Weather Station = Payette											
field/cro	acres	irrig. system	eff. (%)	Monthly ET (mm/day)								AVE IR season (mm/yr)	net		
				mar	apr	may	jun	jul	aug	sep	oct		irrig. app. (in)	ET ratio	irrig. freq. (days)
1/alf	8	cor	70					9					5.16	1.05	13.9
2a/beans	8	fur	47				8.29						1.70	1.12	4.7
2b/beans	14	fur	49				8.29						1.78	1.12	4.9
2c/beans	5	fur	46				8.29						1.78	1.12	4.9
3/beans	14	fur	46				8.29						1.78	1.12	4.9
4a/beans	4	fur	49				8.29						1.70	1.12	4.7
4b/beans	3	fur	51				8.29						1.78	1.12	4.9
5/onions	8	fur	22				7.05						0.78	1.14	2.5
6/f.corn	4	cor	61				8.23						4.44	1.06	12.9
7/melons	3	cor	40				7.15						5.16	1.05	17.5
Summary	71														
Peak Gross Irrigation Application (mm/day) =							20.44								
On-Farm Irrigation Requirement (cfs/acre) =							0.034								
Total On-Farm Irrigation Requirement (cfs) =							2.40								
Irrigation Diversion Volume (ft/yr) =							0.00								
Total Irrigation Diversion Volume (ac-ft/yr) =							0								

Figure 4. Field irrigation requirement spreadsheet.

```

FURROW.EXE
INTAKE FAMILY (IF) = 0.50
DESIGN APPLICATION (Fa) = 5.16 INCHES
FURROW SLOPE (S) = 0.010 FEET/FOOT
FURROW SPACING (W) = 2.50 FEET
FURROW LENGTH (L) = 700 FEET
INFLOW RATE (Q) = 5.0 GPM/FURROW
APPLICATION TIME (Ti) = 24 HOURS
=====
ADVANCE TIME (Tt) = 158.9 MINUTES; OR 2.5 HOURS
GROSS APPLICATION (FG) = 6.60 INCHES
NET APPLICATION (Fv) = 5.23 INCHES
RUNOFF (RO) = 1.47 INCHES
DEEP PERCOLATION (DP) = 0.37 INCHES
EFFICIENCY (E) = 78.19 %
TO CHANGE: PRESS (EXISTING)
  Design Application (1) = 5.16 in
  Furrow Slope (2) = 0.010 ft/ft
  Furrow Spacing (3) = 2.50 ft
  Furrow Length (4) = 700 ft
  Furrow Intake Family (5) = 0.50
  Inflow Rate (6) = 5.0 gpm/furrow
  Inflow Time (7) = 24 hours (ANALYSIS MODE)
TO PRINT: DATA/WITH HEADING PRESS (8/9)
NEW DESIGN PRESS (10), NEW ANALYSIS PRESS (11), QUIT PRESS (12)?

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Figure 5. Field 1

```

FURROW.EXE
INTAKE FAMILY (IF) = 0.50
DESIGN APPLICATION (Fa) = 1.70 INCHES
FURROW SLOPE (S) = 0.010 FEET/FOOT
FURROW SPACING (W) = 2.00 FEET
FURROW LENGTH (L) = 800 FEET
INFLOW RATE (Q) = 5.0 GPM/FURROW
APPLICATION TIME (Ti) = 12 HOURS
=====
ADVANCE TIME (Tt) = 228.8 MINUTES; OR 3.7 HOURS
GROSS APPLICATION (FG) = 3.61 INCHES
NET APPLICATION (Fv) = 2.86 INCHES
RUNOFF (RO) = 0.13 INCHES
DEEP PERCOLATION (DP) = 1.70 INCHES
EFFICIENCY (E) = 47.32 %
TO CHANGE: PRESS (EXISTING)
  Design Application (1) = 1.70 in
  Furrow Slope (2) = 0.010 ft/ft
  Furrow Spacing (3) = 2.00 ft
  Furrow Length (4) = 800 ft
  Furrow Intake Family (5) = 0.50
  Inflow Rate (6) = 5.0 gpm/furrow
  Inflow Time (7) = 12 hours (ANALYSIS MODE)
TO PRINT: DATA/WITH HEADING PRESS (8/9)
NEW DESIGN PRESS (10), NEW ANALYSIS PRESS (11), QUIT PRESS (12)?

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Figure 6. Field 2a

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FURROW.EXE
INTAKE FAMILY (IF) = 0.50
DESIGN APPLICATION (Fa) = 1.70 INCHES
FURROW SLOPE (S) = 0.010 FEET/FOOT
FURROW SPACING (W) = 2.00 FEET
FURROW LENGTH (L) = 800 FEET
INFLOW RATE (Q) = 5.0 GPM/FURROW
APPLICATION TIME (Ti) = 12 HOURS
=====
ADVANCE TIME (Tt) = 228.8 MINUTES; OR 3.7 HOURS
GROSS APPLICATION (FG) = 3.61 INCHES
NET APPLICATION (Fv) = 2.86 INCHES
RUNOFF (RO) = 0.13 INCHES
DEEP PERCOLATION (DP) = 1.70 INCHES
EFFICIENCY (E) = 47.32 %
TO CHANGE: PRESS (EXISTING)
  Design Application (1) = 1.70 in
  Furrow Slope (2) = 0.010 ft/ft
  Furrow Spacing (3) = 2.00 ft
  Furrow Length (4) = 800 ft
  Furrow Intake Family (5) = 0.50
  Inflow Rate (6) = 5.0 gpm/furrow
  Inflow Time (7) = 12 hours (ANALYSIS MODE)
TO PRINT: DATA/WITH HEADING PRESS (8/9)
NEW DESIGN PRESS (10), NEW ANALYSIS PRESS (11), QUIT PRESS (12)?

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Figure 7. Field 2b

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FURROW.EXE
INTAKE FAMILY (IF) = 0.50
DESIGN APPLICATION (Fa) = 1.70 INCHES
FURROW SLOPE (S) = 0.010 FEET/FOOT
FURROW SPACING (W) = 2.00 FEET
FURROW LENGTH (L) = 800 FEET
INFLOW RATE (Q) = 5.0 GPM/FURROW
APPLICATION TIME (Ti) = 12 HOURS
=====
ADVANCE TIME (Tt) = 146.5 MINUTES; OR 2.4 HOURS
GROSS APPLICATION (FG) = 3.67 INCHES
NET APPLICATION (Fv) = 3.61 INCHES
RUNOFF (RO) = 0.06 INCHES
DEEP PERCOLATION (DP) = 1.69 INCHES
EFFICIENCY (E) = 46.26 %
TO CHANGE: PRESS (EXISTING)
  Design Application (1) = 1.70 in
  Furrow Slope (2) = 0.010 ft/ft
  Furrow Spacing (3) = 2.00 ft
  Furrow Length (4) = 800 ft
  Furrow Intake Family (5) = 0.50
  Inflow Rate (6) = 5.0 gpm/furrow
  Inflow Time (7) = 12 hours (ANALYSIS MODE)
TO PRINT: DATA/WITH HEADING PRESS (8/9)
NEW DESIGN PRESS (10), NEW ANALYSIS PRESS (11), QUIT PRESS (12)?

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Figure 8. Fields 2c & 3

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FURROW.EXE
INTAKE FAMILY (IF) = 0.50
DESIGN APPLICATION (Fa) = 5.16 INCHES
FURROW SLOPE (S) = 0.010 FEET/FOOT
FURROW SPACING (W) = 2.50 FEET
FURROW LENGTH (L) = 250 FEET
INFLOW RATE (Q) = 3.5 GPM/FURROW
APPLICATION TIME (Ti) = 24 HOURS
=====
ADVANCE TIME (Tt) = 23.1 MINUTES; OR 0.4 HOURS
GROSS APPLICATION (FG) = 12.94 INCHES
NET APPLICATION (Fv) = 5.27 INCHES
RUNOFF (RO) = 7.63 INCHES
DEEP PERCOLATION (DP) = 0.15 INCHES
EFFICIENCY (E) = 39.69 %
TO CHANGE: PRESS (EXISTING)
  Design Application (1) = 5.16 in
  Furrow Slope (2) = 0.010 ft/ft
  Furrow Spacing (3) = 2.50 ft
  Furrow Length (4) = 250 ft
  Furrow Intake Family (5) = 0.50
  Inflow Rate (6) = 3.5 gpm/furrow
  Inflow Time (7) = 24 hours (ANALYSIS MODE)
TO PRINT: DATA/WITH HEADING PRESS (8/9)
NEW DESIGN PRESS (10), NEW ANALYSIS PRESS (11), QUIT PRESS (12)?

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Figure 9. Field 4a

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FURROW.EXE
INTAKE FAMILY (IF) = 0.50
DESIGN APPLICATION (Fa) = 1.70 INCHES
FURROW SLOPE (S) = 0.010 FEET/FOOT
FURROW SPACING (W) = 2.00 FEET
FURROW LENGTH (L) = 500 FEET
INFLOW RATE (Q) = 3.0 GPM/FURROW
APPLICATION TIME (Ti) = 12 HOURS
=====
ADVANCE TIME (Tt) = 149.8 MINUTES; OR 2.5 HOURS
GROSS APPLICATION (FG) = 3.46 INCHES
NET APPLICATION (Fv) = 2.94 INCHES
RUNOFF (RO) = 0.13 INCHES
DEEP PERCOLATION (DP) = 1.63 INCHES
EFFICIENCY (E) = 49.46 %
TO CHANGE: PRESS (EXISTING)
  Design Application (1) = 1.70 in
  Furrow Slope (2) = 0.010 ft/ft
  Furrow Spacing (3) = 2.00 ft
  Furrow Length (4) = 500 ft
  Furrow Intake Family (5) = 0.50
  Inflow Rate (6) = 3.0 gpm/furrow
  Inflow Time (7) = 12 hours (ANALYSIS MODE)
TO PRINT: DATA/WITH HEADING PRESS (8/9)
NEW DESIGN PRESS (10), NEW ANALYSIS PRESS (11), QUIT PRESS (12)?

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Figure 10. Field 4b

```

FURROW.EXE
INTAKE FAMILY (IF) = 0.50
DESIGN APPLICATION (Fa) = 1.70 INCHES
FURROW SLOPE (S) = 0.010 FEET/FOOT
FURROW SPACING (W) = 2.00 FEET
FURROW LENGTH (L) = 500 FEET
INFLOW RATE (Q) = 3.0 GPM/FURROW
APPLICATION TIME (Ti) = 12 HOURS
=====
ADVANCE TIME (Tt) = 149.8 MINUTES; OR 2.5 HOURS
GROSS APPLICATION (FG) = 3.46 INCHES
NET APPLICATION (Fv) = 2.94 INCHES
RUNOFF (RO) = 0.13 INCHES
DEEP PERCOLATION (DP) = 1.55 INCHES
EFFICIENCY (E) = 51.37 %
TO CHANGE: PRESS (EXISTING)
  Design Application (1) = 1.70 in
  Furrow Slope (2) = 0.010 ft/ft
  Furrow Spacing (3) = 2.00 ft
  Furrow Length (4) = 500 ft
  Furrow Intake Family (5) = 0.50
  Inflow Rate (6) = 3.0 gpm/furrow
  Inflow Time (7) = 12 hours (ANALYSIS MODE)
TO PRINT: DATA/WITH HEADING PRESS (8/9)
NEW DESIGN PRESS (10), NEW ANALYSIS PRESS (11), QUIT PRESS (12)?

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Figure 11. Field 5

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FURROW.EXE
INTAKE FAMILY (IF) = 0.50
DESIGN APPLICATION (Fa) = 0.70 INCHES
FURROW SLOPE (S) = 0.010 FEET/FOOT
FURROW SPACING (W) = 2.00 FEET
FURROW LENGTH (L) = 800 FEET
INFLOW RATE (Q) = 5.0 GPM/FURROW
APPLICATION TIME (Ti) = 12 HOURS
=====
ADVANCE TIME (Tt) = 228.8 MINUTES; OR 3.7 HOURS
GROSS APPLICATION (FG) = 3.61 INCHES
NET APPLICATION (Fv) = 2.86 INCHES
RUNOFF (RO) = 0.13 INCHES
DEEP PERCOLATION (DP) = 2.20 INCHES
EFFICIENCY (E) = 21.61 %
TO CHANGE: PRESS (EXISTING)
  Design Application (1) = 0.70 in
  Furrow Slope (2) = 0.010 ft/ft
  Furrow Spacing (3) = 2.00 ft
  Furrow Length (4) = 800 ft
  Furrow Intake Family (5) = 0.50
  Inflow Rate (6) = 5.0 gpm/furrow
  Inflow Time (7) = 12 hours (ANALYSIS MODE)
TO PRINT: DATA/WITH HEADING PRESS (8/9)
NEW DESIGN PRESS (10), NEW ANALYSIS PRESS (11), QUIT PRESS (12)?

```

Figure 12. Field 6

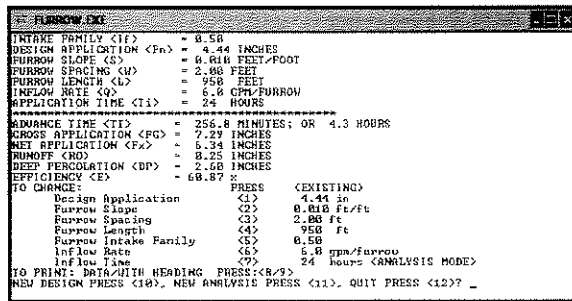


Figure 13. Field 7

RESULTS & CONCLUSIONS

The above analysis indicates an average field irrigation requirement of 0.034 cfs per acre, significantly exceeding the Idaho standard of 0.02 cfs per acre. The silt loam soils present on this farm appear to be fairly well suited for surface irrigation methods. System efficiency could be increased by operating shorter set times for shallow rooting crops such as beans and onions.

REFERENCES

Dreher and Tuthill, 1999. Report Regarding Evaluation of Irrigation Diversion Rates. Idaho Department of Water Resources, January 14, 1999.

Allen and Brockway, 1983. Estimating Consumptive Irrigation Requirements for Crops in Idaho. Idaho Water and Energy Resources Research Institute, Moscow, Idaho, August 1983.

APPENDIX A

EVAPOTRANSPIRATION FOR PAYETTE WEATHER STATION

80th Percentile Values of Monthly ET (mm/day)

Station: Payette

	ETR	ALFH	ALFS	BEANS	F CRN	SILGE	S CRN	PEAS	POTAT	SBEET	SGRAN	WGRAN	PAST	ORCHD	VEGES	ONION	HOPS
March	2.29		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	1.24	0.79	0.00	0.00	0.00	0.00
March	0.29		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.16	0.10	0.00	0.00	0.00	0.00
March	2.53	U	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	1.37	0.87	0.00	0.00	0.00	0.00
		S															
April	4.78	E	3.74	0.00	0.00	0.00	0.00	1.52	1.44	1.44	1.54	4.54	3.45	2.03	0.00	1.54	1.50
April	0.36		0.28	0.00	0.00	0.00	0.00	0.11	0.11	0.11	0.11	0.34	0.26	0.00	0.00	0.11	0.11
April	5.08	E	3.98	0.00	0.00	0.00	0.00	1.61	1.53	1.53	1.63	4.83	3.67	2.16	0.00	1.63	1.59
		T															
May	6.38	R	5.73	1.91	1.91	1.91	1.91	4.27	2.64	1.93	5.02	6.38	4.91	4.03	2.10	3.13	4.47
May	0.41		0.37	0.12	0.12	0.12	0.12	0.28	0.17	0.13	0.33	0.41	0.32	0.26	0.14	0.20	0.29
May	6.73		6.04	2.01	2.01	2.01	2.01	4.51	2.78	2.04	5.30	6.73	5.18	4.25	2.22	3.30	4.71
		F															
June	8.01	O	6.82	4.05	3.71	3.71	3.79	5.92	6.34	4.23	7.99	8.01	6.16	6.56	4.86	5.25	7.59
June	0.40	R	0.34	0.20	0.18	0.18	0.19	0.30	0.32	0.21	0.40	0.40	0.31	0.33	0.24	0.26	0.38
June	8.35		7.11	4.22	3.86	3.86	3.95	6.17	6.61	4.41	8.33	8.35	6.42	6.84	5.06	5.47	7.91
		A															
July	8.77	L	5.30	8.08	8.02	8.02	7.97	2.41	7.24	8.60	7.25	6.19	6.76	7.46	6.97	6.87	8.34
July	0.27	F	0.16	0.25	0.25	0.25	0.25	0.07	0.22	0.27	0.22	0.19	0.21	0.23	0.21	0.21	0.26
July	9.00		5.43	8.29	8.23	8.23	8.18	2.47	7.43	8.83	7.44	6.35	6.94	7.65	7.15	7.05	8.56
		A															
August	7.27	L	2.95	3.52	6.66	6.66	6.27	0.00	5.33	7.08	1.48	1.20	5.60	6.18	5.68	5.82	6.90
August	0.31	F	0.13	0.15	0.29	0.29	0.27	0.00	0.23	0.31	0.06	0.05	0.24	0.27	0.25	0.25	0.30
August	7.53		3.06	3.65	6.90	6.90	6.50	0.00	5.52	7.34	1.53	1.24	5.80	6.41	5.89	6.03	7.15
		H															
September	5.48	A	1.40	0.58	3.94	3.94	0.00	0.00	2.48	4.65	0.00	0.00	4.22	4.55	3.44	4.24	4.93
September	0.34		0.09	0.04	0.24	0.24	0.00	0.00	0.15	0.29	0.00	0.00	0.26	0.28	0.21	0.26	0.30
September	5.77	A	1.48	0.61	4.14	4.14	0.00	0.00	2.61	4.89	0.00	0.00	4.44	4.79	3.62	4.46	5.18
		Y															
October	3.21		0.33	0.00	0.86	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.47	2.04	0.00	0.00	0.00
October	0.25		0.03	0.00	0.07	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.19	0.16	0.00	0.00	0.00
October	3.42		0.36	0.00	0.92	0.00	0.00	0.00	0.00	2.13	0.00	0.00	2.63	2.17	0.00	0.00	0.00

ET and standard deviation data (AVE ET and STDD ET) taken from Appendix E (unpublished) of Brockway, C.E., and R.G. Allen, 1983, Estimating Consumptive Irrigation Requirements for Crops in Idaho, Idaho Water and Energy Resources Research Institute.

80th Percentile ET values (80PCT ET) calculated based on Walpole, R.E., and R.H. Meyers, 1985, third edition, PROBABILITY AND STATISTICS FOR ENGINEERS AND SCIENTISTS, New York: Macmillan Publishing Company, pp. 132-144 and 574.