



IRRIGATION REQUIREMENT ANALYSIS

63-4026A

Craig Marcus

RECEIVED

AUG 04 2005

WATER RESOURCES
WESTERN REGION



Scott N. King, P.E.
SPF Water Engineering, LLC
July 27, 2005

INTRODUCTION

This report presents a determination of Field Irrigation Requirements (FIR) for a one-acre parcel in Boise, and identified by SRBA water right claim 63-4026A. This claim identifies diversion from Lake Elmore for irrigation of 1 acre in Section 24 of T4N R1E. Based on this analysis, this farm has field irrigation requirements of 0.05 cfs per acre.

ANALYSIS

FIELDS

One field is identified based interpretation of IDWR's place of use layout (see Attachment 1) and imagery from Ada County Assessor's web site (photo date unknown, see Figure 1). The field is not leveled and is irrigated using wild flooding methods. The supply lateral runs from the southeast corner of the property, westerly along the southern property boundary about 2/3 the way across the field, then turns north and splits, with one segment terminating on the west property boundary, and the other terminating near the north boundary. The lateral can be dammed forcing water out for flood irrigation. As suggested by Dreher and Tuthill, 1999, wild flood irrigation is usually inefficient and difficult to analyze. Therefore, as standard practice, the field irrigation requirement analysis is to be performed using the NRCS Furrow program with corrugate irrigation practices along with reasonable assumptions on slope, corrugate length, etc. In this case, corrugate length of 200 feet is used and is representative of actual conditions. Slope was estimated at 0.005 based on topographic maps.



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

Idaho Department of Water Resources

**T04N, R01E,
S24**

**Claim No: 63-04026A
Prepared By: Kimberly Brown
Date: August 31, 2004**

-  Point of Diversion
-  Place of Use
-  Section Lines
-  1/4 1/4



1987 NAPP



0 0.1 0.2 0.3 0.4 Miles



Idaho Department of Water Resources

**T04N, R01E,
S24**

Claim No: 63-04026A
Prepared By: Kimberly Brown
Date: August 31, 2004



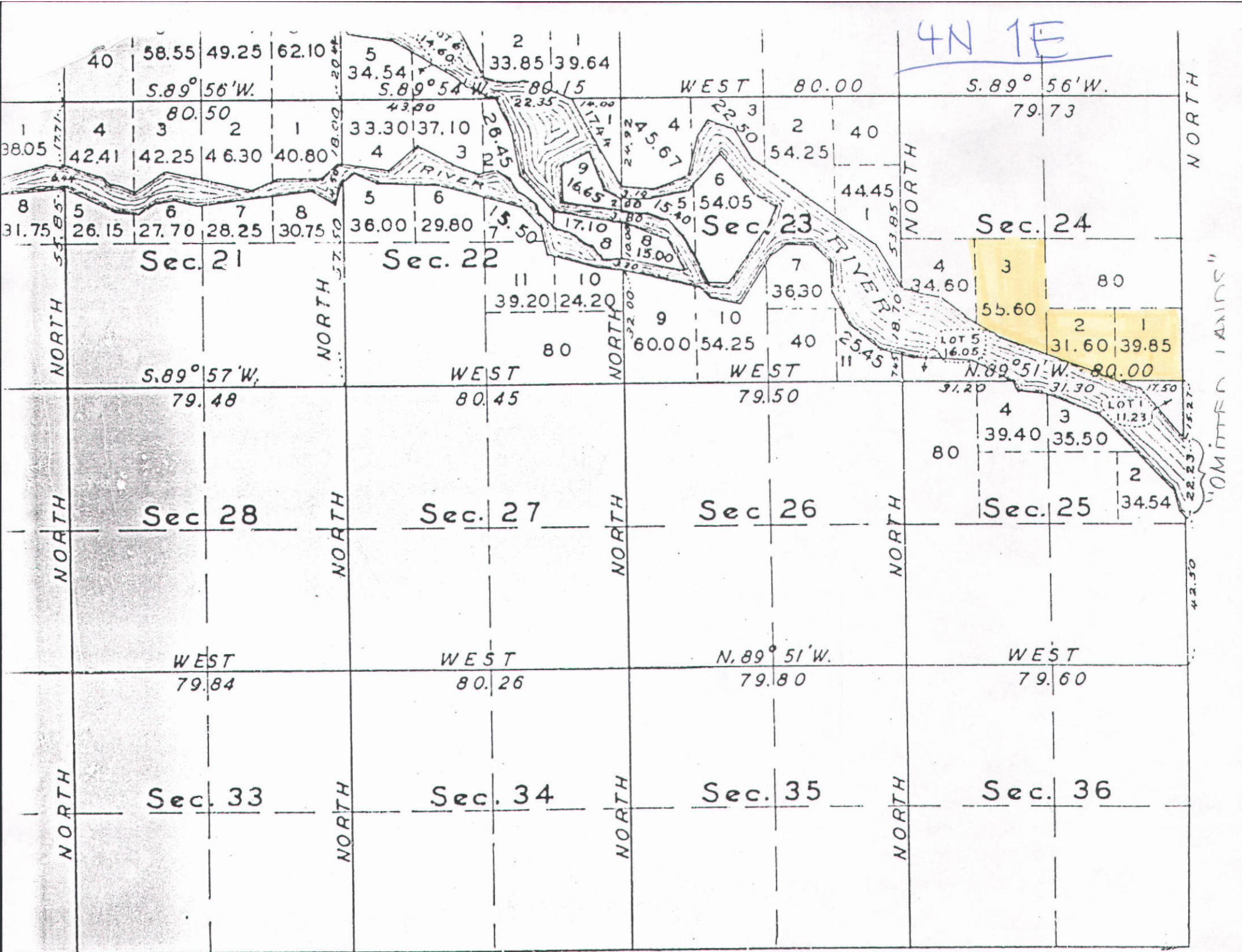
-  Point of Diversion
-  Place of Use
-  Section Lines
-  1/4 1/4

Acres Irrigated = 1.0



1987 NAPP

0 0.1 0.2 0.3 0.4 Miles



DEUTER E. LIVRE --- 1689 geschrieben

24	17
25	30

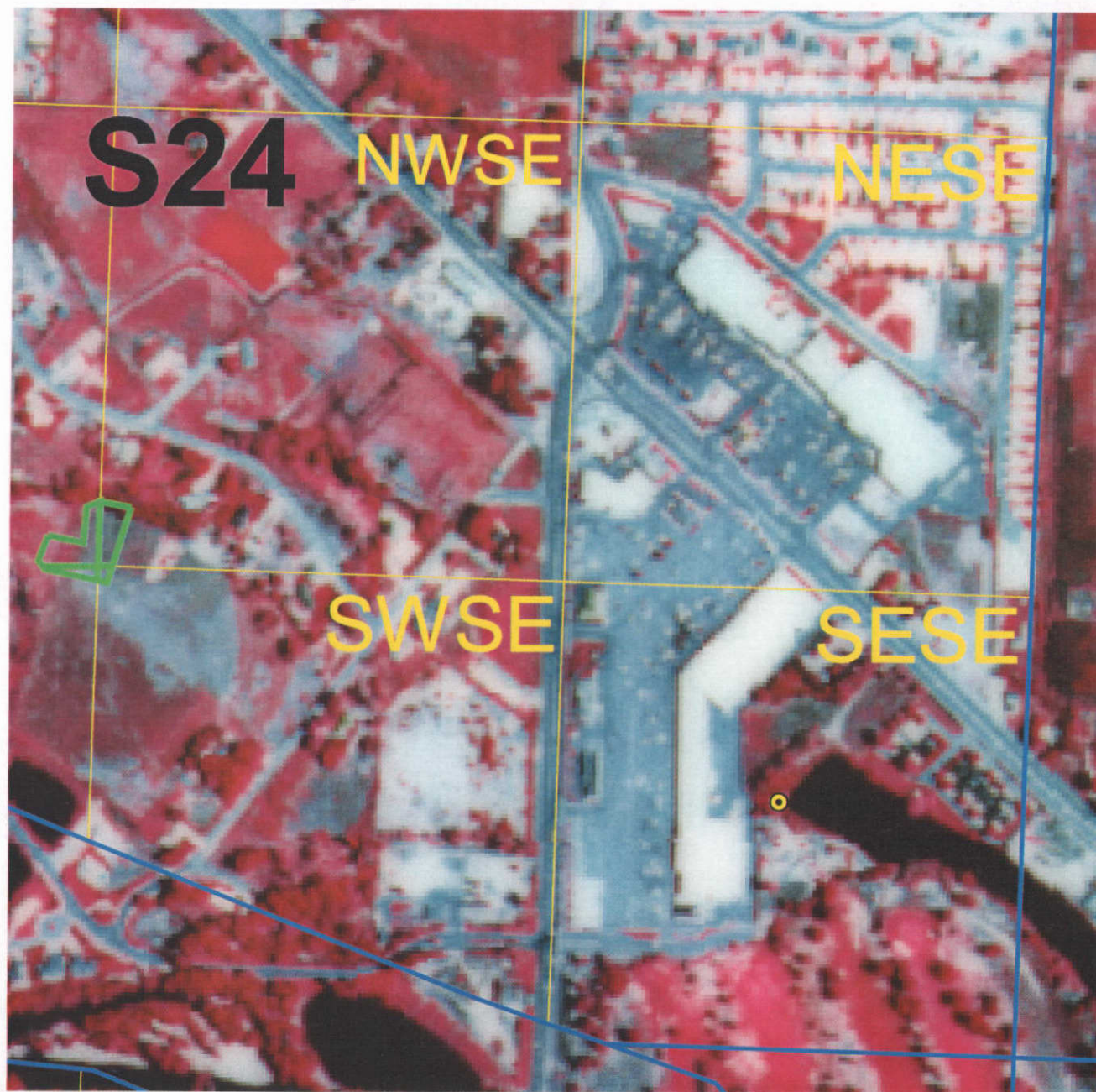
- 63 4026

FHA 422-3
(REV. 8-60)

Idaho Department of Water Resources

**T04N, R01E,
S24**

Claim No: 63-04026A
Prepared By: Kimberly Brown
Date: August 31, 2004



-  Point of Diversion
-  Place of Use
-  Section Lines
-  1/4 1/4



1987 NAPP

0 0.1 0.2 0.3 0.4 Miles

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO,
IN AND FOR THE COUNTY OF TWIN FALLS

IN RE THE GENERAL ADJUDICATION
OF RIGHTS TO THE USE OF WATER FROM
THE SNAKE RIVER BASIN WATER SYSTEM.

CIVIL CASE NUMBER: 39576

Ident. Number: A63-04026A
Date Received: 5/24/1989
Receipt No: COD 7035
Received By: GA

NOTICE OF CLAIM TO A WATER RIGHT
ACQUIRED UNDER STATE LAW

1. Name: CRAIG MARCUS 208-853-3812
Address: 7711 APACHE WAY
BOISE, ID 83703
AND/OR
Name: LYNNE MARCUS 208-853-3812
Address: 7711 APACHE WAY
BOISE, ID 83703

2. Date of Priority: MAR 01, 1936

3. Source: LAKE ELMORE Trib. to: BOISE RIVER

4. Point of Diversion:

Township	Range	Section	1/4 of	1/4 of	1/4	Lot	County
04N	01E	24	SE	SE			ADA

5. Description of diverting works:
HEADGATE AT LAKE ELMORE, DITCH TO PLACE OF USE

6. Water is used for the following purposes:

Purpose	From	To	C.F.S.	(or)	A.F.A.
IRRIGATION	03/15	11/15	0.080		

7. Total Quantity Appropriated is:
0.080 C.F.S. (and/or) A.F.A.

8. Total consumptive use is 3.9 Acre Feet Per Annum.

9. Non-irrigation uses:
STOCK DRINK FROM DITCHES DURING IRRIGATION SEASON

A63-04026A

Page 1

Date: 05/24/89

MICROFILMED
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10. Place of Use:

Township	Range	Section	1/4	of	1/4	Lot	Use	Acres
04N	01E	24	NE		SW		IRR	0.5
			SE		SW		IRR	0.1
			NW		SE		IRR	0.3
			SW		SE		IRR	0.2
Section Acres								1.1
Total Acres								1.1

11. Place of use in counties: ADA

12. Do you own the property listed above as place of use? YES

13. Other Water Rights Used:
NONE

14. Remarks:
THIS IS RIVER BOTTOM LAND AND USES AN EXCESS AMOUNT OF WATER.

15. Basis of Claim: STATUTORY CLAIM

16. Signature(s)

(a.) By signing below, I/We acknowledge that I/We have received, read and understand the form entitled "How you will receive notice in the Snake River Basin Adjudication." (b.) I/We do _____ do not X wish to receive and pay a small annual fee for monthly copies of the docket sheet.

Number of attachments: -/-

For Individuals:

I/We do solemnly swear or affirm that the statements contained in the foregoing document are true and correct.

Signature of Claimant(s): Craig Matson Date: May 24, 1989

Date: _____

State of Idaho)
County of Ada) SS.

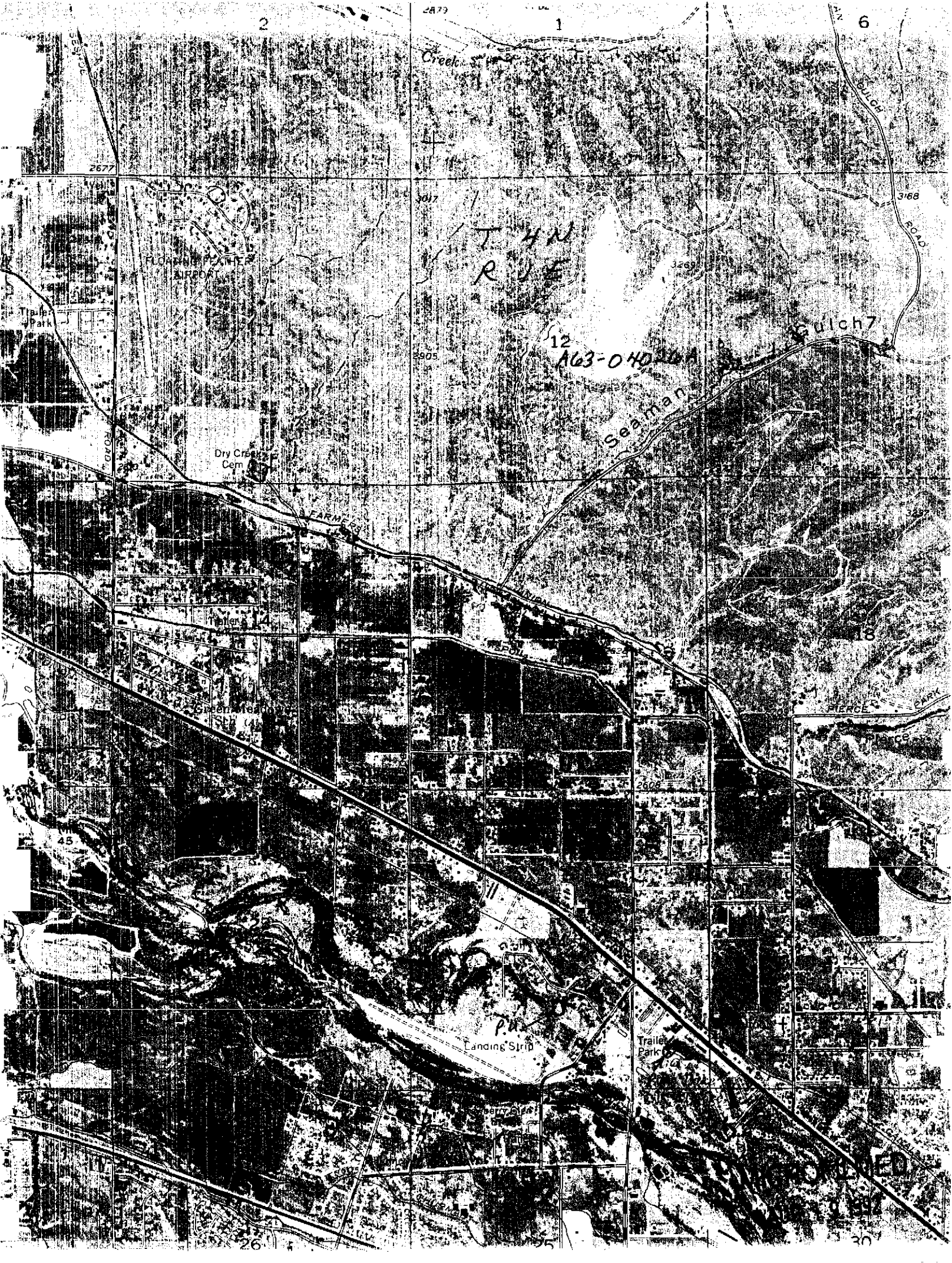
Subscribed and sworn (or affirmed) before me this 24th day
of May 19 89 Carter Fritschle
Notary Public

Seal

Residing at _____

My Commission Expires _____

Carter Fritschle, Notary Public
Residing at Eagle, Idaho
My Commission Expires March 21, 1994



Creek

3077

3905

T H N
R V E

12
AG3-04020A

Seaman

Dry Creek
Cem

FARM

Greenfield

Pierce Park

Trailer
Park

P.H.
Landing Strip

30

IDAHO DEPARTMENT OF WATER RESOURCES
PRELIMINARY RECOMMENDATION OF WATER RIGHTS ACQUIRED UNDER STATE LAW

RIGHT NUMBER: 63-4026A

NAME AND ADDRESS: LYNNE MARCUS
7711 APACHE WAY
BOISE ID 83714

CRAIG MARCUS
7711 APACHE WAY
BOISE ID 83714

SOURCE: LAKE ELMORE

TRIBUTARY: BOISE RIVER

QUANTITY: 0.050 CFS

PRIORITY DATE: 03/01/1936

POINT OF DIVERSION:

T04N R01E S24 SESE Lot 1 Within ADA County

PURPOSE AND
PERIOD OF USE:

PURPOSE OF USE

PERIOD OF USE

QUANTITY

IRRIGATION

03/01 11/15

0.050 CFS

PLACE OF USE:

IRRIGATION Within ADA County

T04N R01E S24 Lot 3 NESW 0.5

T04N R01E S24 Lot 3 SESW 0.1

T04N R01E S24 NWSE 0.3

T04N R01E S24 Lot 2 SWSE 0.1

1 ACRES TOTAL

OTHER PROVISIONS NECESSARY FOR DEFINITION OR ADMINISTRATION OF THIS WATER RIGHT:

This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.

EXPLANATORY MATERIAL: BASIS OF CLAIM - Beneficial Use

PROPERTY IS ALSO KNOWN AS A PORTION OF LOT 1, BLK 5, RIVERSIDE VILLAGE NORTH #2.

MEMORANDUM

**RE: Snake River Basin Adjudication Water Right Nos. A63-4026A
Notice of Error Reply**

July 7, 20005

Craig Marcus called in response to the Notice of Error packet he recently received in the mail. Mr. Marcus disagrees with my recommendation of 0.03 cfs for his 1.0-acre of irrigation (I recommended the maximum 0.03 cfs/acre [vs. the standard 0.02 cfs/acre] because the irrigated acres totaled less than 5 acres). Mr. Marcus informed me that he had Scott King, of SPF Water Engineering, come out to his property and physically show him how much water 0.03 cfs would give him and he believes that it is not a sufficient amount. According to Mr. Marcus, Scott King figured that Mr. Marcus has actually been using 0.12 cfs to irrigate his 1.0-acre of pasture.

I informed Mr. Marcus that Scott King would need to do a Hubble Analysis in order for the department to consider his request of a diversion rate of 0.05 cfs.

August 4, 2005

I received an Irrigation Requirement Analysis from Scott King, SPF Water Engineering, LLC. Therefore, I will have one of our contractors review Mr. King's analysis.

October 7, 2005

IDWR contractor, Marci Pape, P.E., completed her analysis and review of Scott King's Irrigation Requirement Analysis and recommended 0.05 cfs for the 1.0-acre place of use. Therefore, I changed the previously recommended diversion rate of 0.03 cfs to 0.05 cfs.

Kimberly Brown
Senior Water Resource Agent
Western Region

RECEIVED

OCT 07 2005

WATER RESOURCES
WESTERN REGION

Memorandum

To: Kimberly Brown
From: Marci Pape, P.E.
Date: 10/6/05
Re: Irrigation Diversion Rate Analysis and Review – Water Right 63-04026A

I have completed my review of Scott King's irrigation diversion rate analysis for the water right listed above. Below is a summary of the information on which I based my analysis, any assumptions that were made, and the results of my review and analysis.

CALCULATIONS

The Department of Water Resources recommended a place of use of 1.0 acre for this water right. For my analysis I used the 1 ac. shapefile that you provided, approximately the same area that was analyzed by Scott King, with one exception. Scott's report indicates a uniformly rectangular field, while the IDWR shapefile has a section removed from that rectangle. My understanding is that Mr. Marcus has another right covering the "cut-out" portion of the property.

The only crop mentioned in Scott's report was pasture. Having no other crop history for the property, I used pasture for my analysis, as well. The irrigation method for this field is wild flooding, according to Scott's report. No other information was provided as to historical irrigation methods for this field, so I analyzed the field using corrugations with a 2-foot spacing. The Department generally considers wild flooding to be an unacceptable irrigation practice due to the lack of control on the water and the very low field application efficiencies. The standard method of analysis adopted by IDWR is based on using existing slopes, appropriate intake family and design application, and corrugations with reasonable corrugation spacing (2 ft. for pasture).

The slope and furrow length used by Scott King were verified using ArcView and digital topographic maps. Scott used a field slope of 0.5 percent and a furrow length of 200 ft. Using a flow direction of southerly to northerly, my calculations produced a field slope of 0.6-0.7 percent and an average furrow length of 224 ft for the longer portion of the shapefile. Based on Scott's analysis of the entire rectangular property as one field and the fact that Mr. Marcus also owns the "cut-out" section, I assumed that the property is irrigated as one field and chose to use 200 ft. furrow lengths. Since my slopes were consistent with Scott's, I used his slope values for my analysis, as well.

There are two significant soil types, Chance Fine Sandy Loam and Moulton Fine Sandy Loam, on the property. Another soil type covers a portion of the property, but that portion is less than 10 percent of the total area, so that soil was not considered in my analysis. Both Chance and Moulton soils were analyzed, with Chance resulting in a lower intake family, management allowed deficit (MAD), and efficiency. For that reason, Chance soil data was used to perform the final field irrigation requirement (FIR) calculation. Scott also used Chance soil data to calculate the FIR.

The weather station nearest to this site is Boise WSO AP. The 80th percentile monthly ET values from that weather station were used for both Scott King's and my analysis.

RESULTS

A field application efficiency of 24 percent was calculated, which is consistent with Scott's efficiency calculation. Scott calculated a MAD of 2.1 inches, which is equivalent to the design application or net irrigation application. When he calculated the field irrigation requirement, however, he input a value of 1.8 inches for the net irrigation application. This resulted in a diversion rate of 0.051 cfs per acre, slightly lower than my value of **0.050 cfs per acre**, but the difference is insignificant for a field of this small size. After analyzing all the data, my recommendation for this claim is **0.05 cfs for the 1.0 acre place of use**.

FIELD IRRIGATION REQUIREMENT

initials: MF Claimant = Marcus

date: 10/04/05 Weather Station = Boise WSO AP

crop	acres	irrig. system	irrig. eff. (%)	Monthly ET (mm/day)					net irrig. app. (in)		ET ratio	irrig. freq. (days)	Gross Irrigation Application (peak period ET/eff. in mm/day)					season (mm/yr)			
				mar	apr	may	jun	jul	aug	sep			oct	AVE IR season (mm/yr)	mar	apr	may		jun	jul	aug
past	1	cor	24	0.96	3.53	4.84	6.19	6.59	5.43	4.33	2.81		7.3	4.44	16.33	22.39	28.63	30.48	25.11	20.03	13.00

Summary 1

4.44 16.33 22.39 28.63 30.48 25.11 20.03 13.00

Peak Gross Irrigation Application (mm/day) = 30.48
 On-Farm Irrigation Requirement (cfs/acre) = 0.050
 Total On-Farm Irrigation Requirement (cfs) = 0.05
 Irrigation Diversion Volume (ft/yr) = 0.00
 Total Irrigation Diversion Volume (ac-ft/yr) = 0

IRRIGATION DIVERSION RATE ANALYSIS

CLAIM NO(S): 63-04026A
 FIELD ID NO:
 TOTAL ACRES: 1.0 AC
 FIELD SLOPE: 0.5 %
 FURROW LENGTH: 200 FT

ANALYSIS COMPLETED BY: MARCI PAPE
 DATE OF ANALYSIS: 10/6/05
 Qmax PER FURROW: Qmin PER FURROW:
 For corrugates: 10.0 gpm For both: 3.0 gpm
 For furrows: 20.0 gpm

SOIL TYPE	ACRES	% OF TOTAL AC	INTAKE FAMILY	CROP = pasture		CROP =		CROP =		CROP =		CROP =	
				MAD	EFFICIENCY	MAD	EFFICIENCY	MAD	EFFICIENCY	MAD	EFFICIENCY	MAD	EFFICIENCY
Chance	0.7	72	0.55	2.1	24%								
Moulton	0.2	23	0.7	2.27	26%								
111()	0.1	5			***		***		***		***		***

TOTAL AC 1.0 TOTAL % 100 CFS/AC FOR EACH CROP: 0.05

TOTAL CFS FOR FIELD :

FIELD ID NO:
 TOTAL ACRES: AC
 FIELD SLOPE: %
 FURROW LENGTH: FT

DATE OF ANALYSIS:
 Qmax PER FURROW: Qmin PER FURROW:
 For corrugates: #VALUE! gpm For both: 3.0 gpm
 For furrows: #VALUE! gpm

SOIL TYPE	ACRES	% OF TOTAL AC	INTAKE FAMILY	CROP =		CROP =		CROP =		CROP =		CROP =	
				MAD	EFFICIENCY	MAD	EFFICIENCY	MAD	EFFICIENCY	MAD	EFFICIENCY	MAD	EFFICIENCY

TOTAL AC 0.0 TOTAL % 0 CFS/AC FOR EACH CROP:

TOTAL CFS FOR FIELD :

FURROW

Auto

INTAKE FAMILY <If> = 0.55
 DESIGN APPLICATION <Fn> = 2.10 INCHES
 FURROW SLOPE <S> = 0.005 FEET/FOOT
 FURROW SPACING <W> = 2.00 FEET
 FURROW LENGTH <L> = 200 FEET
 INFLOW RATE <Q> = 3.0 GPM/FURROW
 APPLICATION TIME <Ti> = 12 HOURS

ADVANCE TIME <Tt> = 26.1 MINUTES; OR 0.4 HOURS
 GROSS APPLICATION <FG> = 8.66 INCHES
 NET APPLICATION <F_N> = 4.41 INCHES
 RUNOFF <RO> = 4.18 INCHES
 DEEP PERCOLATION <DP> = 2.38 INCHES
 EFFICIENCY <E> = 24.24 %

TO CHANGE: PRESS (EXISTING)

Design Application	<1>	2.10 in
Furrow Slope	<2>	0.005 ft/ft
Furrow Spacing	<3>	2.00 ft
Furrow Length	<4>	200 ft
Furrow Intake Family	<5>	0.55
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>? _

FURROW

Auto

INTAKE FAMILY <If> = 0.70
 DESIGN APPLICATION <Fn> = 2.27 INCHES
 FURROW SLOPE <S> = 0.005 FEET/FOOT
 FURROW SPACING <W> = 2.00 FEET
 FURROW LENGTH <L> = 200 FEET
 INFLOW RATE <Q> = 3.0 GPM/FURROW
 APPLICATION TIME <Ti> = 12 HOURS

ADVANCE TIME <Tt> = 31.6 MINUTES; OR 0.5 HOURS
 GROSS APPLICATION <FG> = 8.66 INCHES
 NET APPLICATION <F_N> = 5.42 INCHES
 RUNOFF <RO> = 3.12 INCHES
 DEEP PERCOLATION <DP> = 3.28 INCHES
 EFFICIENCY <E> = 26.21 %

TO CHANGE: PRESS (EXISTING)

Design Application	<1>	2.27 in
Furrow Slope	<2>	0.005 ft/ft
Furrow Spacing	<3>	2.00 ft
Furrow Length	<4>	200 ft
Furrow Intake Family	<5>	0.70
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>? _

SOIL CHARACTERISTICS

initials: mp

date: 10/3/05

Soil Type = Chance fine sandy loam

Source of Soils Data = NRCS website

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	8	0.13	0.15	6.6	7.8	1	2	1	1.64	2	0.55
8	29	0.11	0.15					2	3.20		
29	60	0.03	0.07					3	4.20		
								4	4.80	alternate	
								5	5.40	method	
										2	0.55

Management Allowed Deficit (MAD)

crop	root depth (ft)	stress point	MAD (inches)
alfalfa (hay or seed)	5	0.5	2.70
corn (field or silage)	4	0.5	2.40
grain (winter or spring)	4	0.5	2.40
pasture (or grass hay)	3	0.5	2.10
other (enter below)			

Brief Map Unit Description

Ada County Area, Idaho

[Only those map units that have entries for the selected non-technical description categories are included in this report]

Map Unit: 25 - Chance fine sandy loam

Description Category: Soi

Symbol: 25

Map Unit Name: Chance fine sandy loam

Composition:

Named soil: 95 percent Chance fine sandy loam

Contrasting inclusions: 5 percent Bram silt loam and Moulton fine sandy loam

Setting:

Position on Landscape: old river channels and depressions in flood plains

Elevation: 2400 to 2600 feet

Average Precipitation: 11 inches

Average Annual Temperature: 51 degrees

Frost Free Season: 150 days

Typical Profile:

0-1 inches - dark gray, partially decomposed grasses and sedges

2-8 inches - gray fine sandy loam

6-16 inches - gray fine sandy loam

17-29 inches - gray fine sandy loam

30-60 inches+ - gray and variegated loamy fine sand and very gravelly fine sand

Soil Properties:

Root Zone Depth: 60 inches or more

Drainage: very poorly drained

Permeability: moderately rapid

Available Water: 5.0-7.5 inches for the profile

Seasonal water table depth: 0-10 inches

Runoff: ponded or very slow

Hazard of Erosion: slight

Capability: 5w

Chemical Soil Properties

Ada County Area, Idaho

[Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>Pct</i>	<i>mmhos/cm</i>	
25: Chance	0-8	8.0-20	—	6.6-7.8	0	0	0.0	0
	8-29	6.0-15	---	6.6-7.8	0	0	0.0	0
	29-60	1.0-5.0	—	6.6-7.8	0	0	0.0	0

Physical Soil Properties

Ada County Area, Idaho

[Entries under "Erosion Factors—T" apply to the entire profile. Entries under "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
25: Chance	0-8	--	--	10-20	1.60-1.70	14.11-42.34	0.13-0.15	0.0-2.9	1.0-2.0	.28	.28	3	8	0
	8-29	--	--	10-18	1.60-1.70	14.11-42.34	0.11-0.15	0.0-2.9	0.0-0.5	.28	.32			
	29-60	--	--	0-5	1.70-2.00	42.34-141.14	0.03-0.07	0.0-2.9	0.0-0.5	.10	.10			

Engineering Properties

Ada County Area, Idaho

[Absence of an entry indicates that the data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
25: Chance	0-8	Fine sandy loam	SC-SM	A-4	0	0	100	100	70-85	40-50	22-35	6-13
	8-29	Fine sandy loam, Sandy loam	SC-SM	A-2, A-4	0	0-5	80-100	80-100	60-85	30-50	20-30	6-12
	29-60	Sand and gravel	GM, GP-GM, SM, SP-SM	A-1, A-2, A-3	0	0-20	25-90	25-90	15-75	5-25	0-19	NP-2

SOIL CHARACTERISTICS

initials: mp

date: 10/3/05

Soil Type = Moulton fine sandy loam

Source of Soils Data = NRCS website

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	6	0.13	0.15	6.6	7.8	2	4	1	1.62	3 0.7
6	33	0.11	0.15					2	3.18	
33	60	0.04	0.08					3	4.53	
								4	5.25	alternate
								5	5.97	method
										3 0.7

Management Allowed Deficit (MAD)

crop	root depth (ft)	stress point	MAD (inches)
alfalfa (hay or seed)	5	0.5	2.98
corn (field or silage)	4	0.5	2.63
grain (winter or spring)	4	0.5	2.63
pasture (or grass hay)	3	0.5	2.27
other (enter below)			

Brief Map Unit Description

Ada County Area, Idaho

[Only those map units that have entries for the selected non-technical description categories are included in this report]

Map Unit: 111 - Moulton fine sandy loam

Description Category: Soi

Symbol: 111

Map Unit Name: Moulton fine sandy loam

Composition:

Named soil: 85 percent Moulton fine sandy loam

Contrasting inclusions: 15 percent Baldock loam, Bissell loam, Bram silt loam, Chance fine sandy loam, Falk fine sandy loam, Goose Creek

loam, Notus soils, and Tindahay fine sandy loam

Setting:

Position on Landscape: low alluvial terraces

Elevation: 2500 to 2900 feet

Average Precipitation: 11 inches

Average Annual Temperature: 51 degrees

Frost Free Season: 150 days

Typical Profile:

0-12 inches - grayish brown fine sandy loam

13-24 inches - light brownish gray fine sandy loam

25-33 inches - light brownish gray fine sandy loam

33-60 inches+ - grayish brown very gravelly loam sand

Soil Properties:

Root Zone Depth: 60 inches or more

Drainage: poorly drained

Permeability: moderately rapid

Available Water: 5.0-7.5 inches for the profile

Seasonal water table depth: none

Runoff: ponded to slow

Hazard of Erosion: slight

Capability: 3w, irrigated

Chemical Soil Properties

Ada County Area, Idaho

[Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>Pct</i>	<i>mmhos/cm</i>	
111: Moulton	0-6	10-25	---	6.6-7.8	0	0	0.0	0
	6-33	5.0-15	---	6.6-7.8	0	0	0.0	0
	33-60	5.0-10	---	6.6-7.8	0	0	0.0	0

Physical Soil Properties

Ada County Area, Idaho

[Entries under "Erosion Factors--T" apply to the entire profile. Entries under "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
111: Moulton	0-6	--	--	10-20	1.50-1.70	14.11-42.34	0.13-0.15	0.0-2.9	2.0-4.0	.24	.24	3	3	86
	6-33	--	--	10-20	1.50-1.70	14.11-42.34	0.11-0.15	0.0-2.9	1.0-2.0	.32	.32			
	33-60	--	--	5-10	1.40-1.60	42.34-141.14	0.04-0.08	0.0-2.9	0.5-1.0	.05	.17			

Engineering Properties

Ada County Area, Idaho

[Absence of an entry indicates that the data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
111: Moulton	0-6	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	90-100	90-100	65-85	35-55	25-39	6-13
	6-33	Fine sandy loam, Sandy loam	CL-ML, SC-SM	A-4	0	0	90-100	90-100	75-90	40-60	22-35	6-13
	33-60	Very gravelly loamy sand, Very gravelly sand	GM	A-1	0	0	30-60	30-50	15-35	0-15	17-24	2-6

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

Station: Boise WSO AP

		ETR	ALFH	ALFS	BEANS	F CRN	SILGE	S CRN	PEAS	POTAT	SBEET	SGRAN	WGRAN	PAST	ORCHD	VEGES	ONION	HOPS
March	AVE ET	2.17		1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	1.24	0.86	0.00	0.00	0.00	0.00
March	STDD ET	0.31		0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.18	0.12	0.00	0.00	0.00	0.00
March	80PCT ET	2.43	U	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	1.39	0.96	0.00	0.00	0.00	0.00
			S															
April	AVE ET	4.29	E	3.67	0.00	0.00	0.00	0.00	1.38	1.29	1.29	1.39	4.12	3.29	1.84	0.00	1.39	1.34
April	STDD ET	0.38		0.32	0.00	0.00	0.00	0.00	0.12	0.11	0.11	0.12	0.36	0.29	0.16	0.00	0.12	0.12
April	80PCT ET	4.61		3.94	0.00	0.00	0.00	0.00	1.48	1.38	1.38	1.49	4.42	3.53	1.97	0.00	1.49	1.44
			E															
May	AVE ET	5.91	T	5.29	1.77	1.77	1.77	1.77	4.13	2.18	1.79	4.77	5.91	4.55	3.81	1.80	2.94	4.14
May	STDD ET	0.46	R	0.41	0.14	0.14	0.14	0.14	0.32	0.17	0.14	0.37	0.46	0.35	0.30	0.14	0.23	0.32
May	80PCT ET	6.30		5.64	1.89	1.89	1.89	1.89	4.40	2.32	1.91	5.08	6.30	4.84	4.06	1.92	3.13	4.41
June	AVE ET	7.65	F	6.32	3.87	3.54	3.54	3.54	5.43	5.81	4.18	7.64	7.65	5.89	6.31	4.00	5.05	7.26
June	STDD ET	0.47	O	0.39	0.24	0.22	0.22	0.22	0.34	0.36	0.26	0.47	0.47	0.36	0.39	0.25	0.31	0.45
June	80PCT ET	8.05	R	6.65	4.07	3.73	3.73	3.73	5.72	6.11	4.40	8.04	8.05	6.19	6.64	4.21	5.31	7.64
July	AVE ET	8.29		4.53	7.63	7.58	7.58	7.48	2.09	6.90	8.16	6.52	5.23	6.38	7.04	6.38	6.51	7.87
July	STDD ET	0.32	A	0.18	0.30	0.30	0.30	0.29	0.08	0.27	0.32	0.25	0.20	0.25	0.28	0.25	0.25	0.31
July	80PCT ET	8.56	L	4.68	7.88	7.83	7.83	7.72	2.16	7.13	8.43	6.73	5.40	6.59	7.28	6.59	6.72	8.13
			F															
August	AVE ET	6.72	A	2.53	3.25	6.15	6.15	5.83	0.00	5.03	6.52	1.27	1.05	5.17	5.71	5.34	5.37	6.37
August	STDD ET	0.40	L	0.15	0.19	0.36	0.36	0.34	0.00	0.30	0.39	0.07	0.06	0.31	0.34	0.32	0.32	0.38
August	80PCT ET	7.06	F	2.66	3.41	6.45	6.45	6.12	0.00	5.28	6.85	1.33	1.10	5.43	6.00	5.61	5.64	6.69
			A															
September	AVE ET	5.24		1.18	0.56	3.77	3.77	0.00	0.00	2.64	4.42	0.00	0.00	4.04	4.32	3.58	4.05	4.72
September	STDD ET	0.44		0.10	0.05	0.32	0.32	0.00	0.00	0.22	0.37	0.00	0.00	0.34	0.36	0.30	0.34	0.40
September	80PCT ET	5.61	H	1.26	0.60	4.04	4.04	0.00	0.00	2.83	4.73	0.00	0.00	4.33	4.62	3.83	4.34	5.06
			A															
October	AVE ET	3.38	Y	0.25	0.00	0.91	0.00	0.00	0.00	0.00	2.07	0.00	0.00	2.60	2.09	0.00	0.00	0.00
October	STDD ET	0.32		0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.25	0.20	0.00	0.00	0.00
October	80PCT ET	3.65		0.27	0.00	0.99	0.00	0.00	0.00	0.00	2.24	0.00	0.00	2.81	2.26	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.



SPF Water Engineering, LLC
water resource consultants

RECEIVED

AUG 04 2005

JUL 29 2005

WATER RESOURCES
WESTERN REGION

July 27, 2005

Craig Marcus
737 N 7th
Boise ID 83702

Subject: Hubble Analysis

Dear Mr. Marcus,

Enclosed with this letter is an analysis of Field Irrigation Requirements (FIR) for your one-acre parcel receiving water from Lake Elmore, Ada County. The analysis documents a FIR of 0.05 cfs, and can be used to support a higher diversion rate than currently recommended for your claim to water right number 63-4026A. Flow measurements performed in June 2005 document that the ditch conveying water to your property was flowing at approximately 0.12 cfs. This rate exceeds the FIR of 0.05 cfs, and demonstrates that the lateral is capable of supplying the required amount.

This analysis does not investigate conveyance losses, or leakage, along the lateral from Lake Elmore to your property. If conveyance losses are anticipated to be significant, you may consider having such losses determined. SPF is available for such analysis if you require.

My understanding is that you plan to submit this analysis to IDWR yourself. If you prefer, we can submit this report along with a completed Notice of Error on your behalf.

If you have any further questions regarding this work, or if we can be of further assistance, please let me know.

Sincerely,

Scott N. King, P.E.
Senior Project Engineer

File: 452.0010

RECEIVED

AUG 04 2005

WATER RESOURCES
WESTERN REGION

8/4/05 Kim

This is the report we
discussed me getting
from Scott regarding
63-4026A. Sorry I
missed you & hope you're
having a good summer.
If you need for me to do
any thing more I'd appreciate
it if you would call me at
3423563 (office) or 853-3812
(my home). Scott calculates
& documents a RIR of
0.05 cfs.

RECEIVED Thanks Again

AUG 04 2005

WATER RESOURCES
WESTERN REGION

Craig Mancus

IRRIGATION REQUIREMENT ANALYSIS

63-4026A

Craig Marcus

RECEIVED

AUG 04 2005

WATER RESOURCES
WESTERN REGION



Scott N. King, P.E.
SPF Water Engineering, LLC
July 27, 2005

INTRODUCTION

This report presents a determination of Field Irrigation Requirements (FIR) for a one-acre parcel in Boise, and identified by SRBA water right claim 63-4026A. This claim identifies diversion from Lake Elmore for irrigation of 1 acre in Section 24 of T4N R1E. Based on this analysis, this farm has field irrigation requirements of 0.05 cfs per acre.

ANALYSIS

FIELDS

One field is identified based interpretation of IDWR's place of use layout (see Attachment 1) and imagery from Ada County Assessor's web site (photo date unknown, see Figure 1). The field is not leveled and is irrigated using wild flooding methods. The supply lateral runs from the southeast corner of the property, westerly along the southern property boundary about 2/3 the way across the field, then turns north and splits, with one segment terminating on the west property boundary, and the other terminating near the north boundary. The lateral can be dammed forcing water out for flood irrigation. As suggested by Dreher and Tuthill, 1999, wild flood irrigation is usually inefficient and difficult to analyze. Therefore, as standard practice, the field irrigation requirement analysis is to be performed using the NRCS Furrow program with corrugate irrigation practices along with reasonable assumptions on slope, corrugate length, etc. In this case, corrugate length of 200 feet is used and is representative of actual conditions. Slope was estimated at 0.005 based on topographic maps.

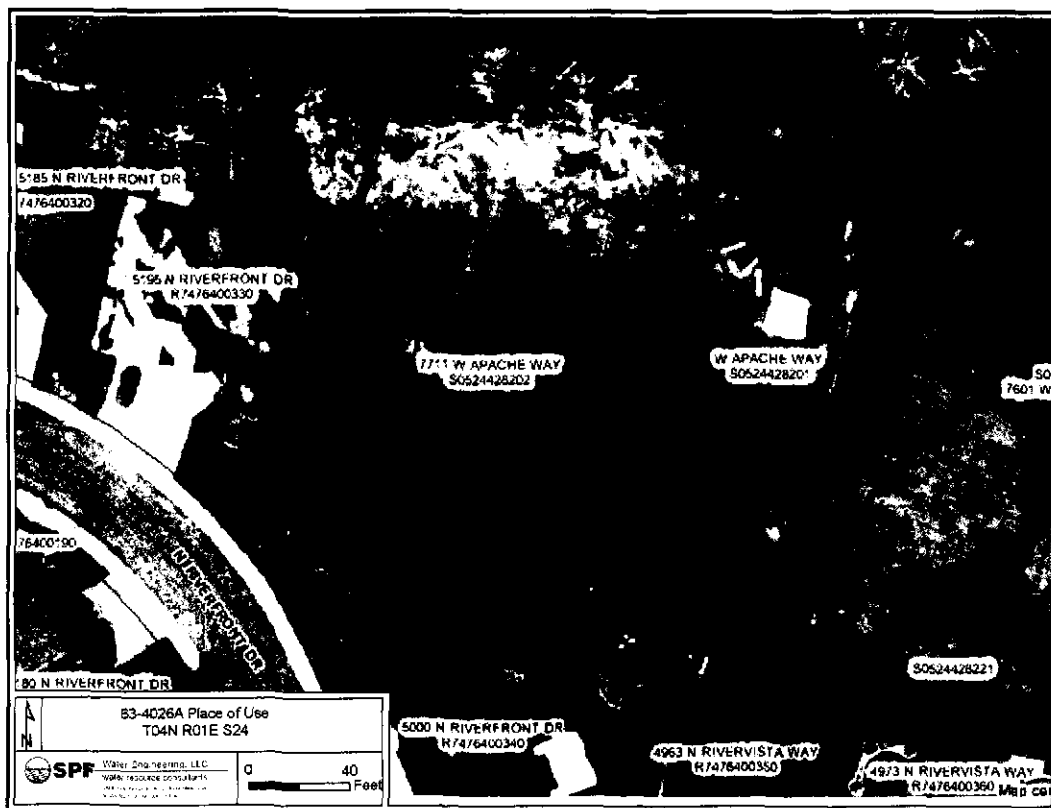


Figure 1. Place of use for 63-4026A.

SOILS

Soil information is provided by the Natural Resource Conservation Service digital SSURGO database. The predominant soil is *Chance Fine Sandy Loam* (MUKEY 81011). An analysis of Chance Fine Sandy Loam is shown in Figure 2. This soil has a furrow intake family value of 0.55, 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 soil is deep and has a fair water holding capacity (AWC) in the range of 0.11 to 0.15 inches of water per inch of soil.

SOIL CHARACTERISTICS				initials: SNK		date: July 25, 2005					
Soil Type = Chance				0-8" = Fine Sandy Loam; 8-29" = FSL, Silt; 29-60" = SG							
Source of Soils Data =				SSURGO, Ada County							
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	8	0.13	0.15	6.6	7.8	0	0	1	1.64	2	0.55
8	60	0.11	0.15					2	3.20		
29	60	0.03	0.07					3	4.20		
								4	4.80	alternate	
								5	5.40	method	
										2	0.56
Management Allowed Deficit (MAD)											
crop		root depth (ft)		stress point		MAD (inches)					
alfalfa (hay or seed)		5		0.5		2.70					
corn (field or silage)		4		0.5		2.40					
grain (winter or spring)		4		0.5		2.40					
pasture (or grass hay)		3		0.5		2.10					
other (enter below)											
turf		1		0.5		0.82					
orchard		5		0.5		2.70					

Figure 2. Chance Fine Sandy Loam soil characteristics.

CROPS

Pasture grass is the primary crop identified. Other crops may result in higher or lower irrigation requirements.

CLIMATE

The Boise WSO AP weather station was 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 depth of 2.1 inches of water, equivalent to MAD in Figure 2 for pasture
- corrugate irrigation type
- furrow length = 200 ft
- furrow spacing = 2 ft
- furrow slope = 0.005 ft/ft
- soil intake family = 0.55 (dimensionless)
- furrow inflow rate ranged from 3 to 10 gpm, with 3 gpm rates resulting in the most efficient results
- application time (hours) ranged from 12 to 24 hours, with 12 hour sets providing the most efficient results

Inflow rate is adjusted for application times in 12 hour increments in order to determine the optimum efficiency. In this case, the optimum efficiency of 24% occurs with 3 gpm inflow rate and 12 hour application time. Efficiency decreases with increasing flow and/or application time. Per the guidelines, 3 gpm is the minimum flow and 12 hour inflow time is the minimum unless actual practice is less. Actual practice in this case is 24 hour inflow time. Figure 3 provides Furrow program results for the conditions analyzed.

```
D:\Data\WUBBLE-1\FURROW.EXE
INTAKE FAMILY <If>      = 0.55
DESIGN APPLICATION <Fn> = 2.10 INCHES
FURROW SLOPE <S>       = 0.005 FEET/FOOT
FURROW SPACING <W>     = 2.00 FEET
FURROW LENGTH <L>      = 200 FEET
INFLOW RATE <Q>        = 3.0 GPM/FURROW
APPLICATION TIME <Ti>   = 12 HOURS
*****
ADVANCE TIME <Tt>      = 26.1 MINUTES; OR 0.4 HOURS
GROSS APPLICATION <FG> = 8.66 INCHES
NET APPLICATION <Fx>   = 4.41 INCHES
RUNOFF <Ro>           = 4.18 INCHES
DEEP PERCOLATION <DP> = 2.38 INCHES
EFFICIENCY <E>        = 24.24 %
TO CHANGE:
    Design Application    <1>    2.10 in
    Furrow Slope          <2>    0.005 ft/ft
    Furrow Spacing        <3>    2.00 ft
    Furrow Length         <4>    200 ft
    Furrow Intake Family  <5>    0.55
    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>? _
```

Figure 3. Furrow program results.

FIELD IRRIGATION REQUIREMENT

Field Application Efficiency (FAE) values are the result of Furrow program runs. The highest FAE value of 24% results with 12 hour application time and 3 gpm furrow inflow rate.

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 FAE from Furrow runs (Figure 3). The total on-farm irrigation requirement is 0.051 cfs for the one-acre irrigated pasture.

FIELD IRRIGATION REQUIREMENT															
initials:	SNK	Claimant = CRAIG MARCUS / 63-4026A													
date:	07/25/05	Weather Station = Boise													
crop	acres	irrig. system	eff. (%)	Monthly ET (mm/day)								AVE IR season (mm/yr)	net irrig. app. (in)	ET ratio	irrig. freq. (days)
				mar	apr	may	jun	jul	aug	sep	oct				
pasture	1	fur	24	0.96	3.53	4.84	6.19	6.59	5.43	4.33	2.81	887	1.80	1.12	6.2
Summary															
1															
Peak Gross Irrigation Application (mm/day) *							30.75								
On-Farm Irrigation Requirement (cfs/acre) *							0.051								
Total On-Farm Irrigation Requirement (cfs) *							0.05								
Irrigation Diversion Volume (ft/yr) *							12.13								
Total Irrigation Diversion Volume (ac-ft/yr) *							12.125								

Figure 4. Field irrigation requirement spreadsheet for pasture grass.

RESULTS & CONCLUSIONS

The above analysis indicates an average field irrigation requirement of 0.051 cfs per acre, significantly exceeding the standard of 0.02 cfs per acre. The high irrigation requirement is the result of inefficient irrigation practices combined with fine silt loam soil with moderate water holding capacity. System efficiency could be increased by leveling the land and creating appropriate corrugates to more quickly move water across the field, and then decreasing the inflow time for each corrugate to 8 hours or less. These measures would increase field application efficiency, but would most likely be uneconomical given the limited size of this property.

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 SUPPORTING DOCUMENTS

Marcus
63-4026A

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

Station: Boise WSO AP

		ETR	ALFH	ALFS	BEANS	F CRN	SILGE	S CRN	PEAS	POTAT	SBEET	SGRAN	WGRAN	PAST	ORCHD	VEGES	ONION	HOPS
March	AVE ET	2.17		1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	1.24	0.86	0.00	0.00	0.00	0.00
March	STDD ET	0.31		0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.18	0.12	0.00	0.00	0.00	0.00
March	80PCT ET	2.43	U	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	1.39	0.96	0.00	0.00	0.00	0.00
			S															
April	AVE ET	4.29	E	3.67	0.00	0.00	0.00	0.00	1.38	1.29	1.29	1.39	4.12	3.29	1.84	0.00	1.39	1.34
April	STDD ET	0.38		0.32	0.00	0.00	0.00	0.00	0.12	0.11	0.11	0.12	0.36	0.29	0.16	0.00	0.12	0.12
April	80PCT ET	4.61		3.94	0.00	0.00	0.00	0.00	1.48	1.38	1.38	1.49	4.42	3.53	1.97	0.00	1.49	1.44
			E															
May	AVE ET	5.91	T	5.29	1.77	1.77	1.77	1.77	4.13	2.18	1.79	4.77	5.91	4.55	3.81	1.80	2.94	4.14
May	STDD ET	0.46	R	0.41	0.14	0.14	0.14	0.14	0.32	0.17	0.14	0.37	0.46	0.35	0.30	0.14	0.23	0.32
May	80PCT ET	6.30		5.64	1.89	1.89	1.89	1.89	4.40	2.32	1.91	5.08	6.30	4.84	4.06	1.92	3.13	4.41
June	AVE ET	7.65	F	6.32	3.87	3.54	3.54	3.54	5.43	5.81	4.18	7.64	7.65	5.89	6.31	4.00	5.05	7.26
June	STDD ET	0.47	O	0.39	0.24	0.22	0.22	0.22	0.34	0.36	0.26	0.47	0.47	0.36	0.39	0.25	0.31	0.45
June	80PCT ET	8.05	R	6.65	4.07	3.73	3.73	3.73	5.72	6.11	4.40	8.04	8.05	6.19	6.64	4.21	5.31	7.64
July	AVE ET	8.29		4.53	7.63	7.58	7.58	7.48	2.09	6.90	8.16	6.52	5.23	6.38	7.04	6.38	6.51	7.87
July	STDD ET	0.32	A	0.18	0.30	0.30	0.30	0.29	0.08	0.27	0.32	0.25	0.20	0.25	0.28	0.25	0.25	0.31
July	80PCT ET	8.56	L	4.68	7.88	7.83	7.83	7.72	2.16	7.13	8.43	6.73	5.40	6.59	7.28	6.59	6.72	8.13
			F															
August	AVE ET	6.72	A	2.53	3.25	6.15	6.15	5.83	0.00	5.03	6.52	1.27	1.05	5.17	5.71	5.34	5.37	6.37
August	STDD ET	0.40	L	0.15	0.19	0.36	0.36	0.34	0.00	0.30	0.39	0.07	0.06	0.31	0.34	0.32	0.32	0.38
August	80PCT ET	7.06	F	2.66	3.41	6.45	6.45	6.12	0.00	5.28	6.85	1.33	1.10	5.43	6.00	5.61	5.64	6.69
			A															
September	AVE ET	5.24		1.18	0.56	3.77	3.77	0.00	0.00	2.64	4.42	0.00	0.00	4.04	4.32	3.58	4.05	4.72
September	STDD ET	0.44		0.10	0.05	0.32	0.32	0.00	0.00	0.22	0.37	0.00	0.00	0.34	0.36	0.30	0.34	0.40
September	80PCT ET	5.61	H	1.26	0.60	4.04	4.04	0.00	0.00	2.83	4.73	0.00	0.00	4.33	4.62	3.83	4.34	5.06
			A															
October	AVE ET	3.38	Y	0.25	0.00	0.91	0.00	0.00	0.00	0.00	2.07	0.00	0.00	2.60	2.09	0.00	0.00	0.00
October	STDD ET	0.32		0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.25	0.20	0.00	0.00	0.00
October	80PCT ET	3.65		0.27	0.00	0.99	0.00	0.00	0.00	0.00	2.24	0.00	0.00	2.81	2.26	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.

Layer.dbf

Craig Marcus Hubble 7/23/05
63-4026A

STSSAID	MUSYM	MUNAME	MUKEY	SEQNUM	LAYERNUM	LAYDEPL	LAYDEPH	TEXTURE	KFACT	TFACT	AWCL	AWCH	PHL	PHH	PERML	PERMH
666	25	CHANCE FINE SANDY LOAM	81011	01	1	0	8	FSL	0.28	3	0.13	0.15	6.60	7.80	1.99	5.99
666	25	CHANCE FINE SANDY LOAM	81011	01	2	8	29	FSL,SL	0.28	3	0.11	0.15	6.60	7.80	1.99	5.99
666	25	CHANCE FINE SANDY LOAM	81011	01	3	29	60	SG	0.10	3	0.03	0.07	6.60	7.80	5.99	19.99
666	111	MOULTON FINE SANDY LOAM	80908	01	1	0	6	FSL	0.24	3	0.13	0.15	6.60	7.80	1.99	5.99
666	111	MOULTON FINE SANDY LOAM	80908	01	2	6	33	FSL,SL	0.32	3	0.11	0.15	6.60	7.80	1.99	5.99
666	111	MOULTON FINE SANDY LOAM	80908	01	3	33	60	GRV-LS,GRV-S	0.05	3	0.04	0.08	6.60	7.80	5.99	19.99

ATTACHMENT A
PRELIMINARY RECOMMENDATION FOR 63-4026A

05/31/2005

IDAHO DEPARTMENT OF WATER RESOURCES
PRELIMINARY RECOMMENDATION OF WATER RIGHTS ACQUIRED UNDER STATE LAW

RIGHT NUMBER: 63-4026A

NAME AND ADDRESS: LYNNE MARCUS
7711 APACHE WAY
BOISE ID 83714

CRAIG MARCUS
7711 APACHE WAY
BOISE ID 83714

SOURCE: LAKE ELMORE

TRIBUTARY: BOISE RIVER

QUANTITY: 0.030 CFS

PRIORITY DATE: 03/01/1936

POINT OF DIVERSION:
T04N R01E S24 SESE Lot 1 Within ADA County

PURPOSE AND
PERIOD OF USE:

<u>PURPOSE OF USE</u>	<u>PERIOD OF USE</u>	<u>QUANTITY</u>
IRRIGATION	03/01 11/15	0.030 CFS

PLACE OF USE: IRRIGATION Within ADA County

T04N R01E S24 Lot 3 NESW	0.5	T04N R01E S24 Lot 3 SESW	0.1
T04N R01E S24	NWSE 0.3	T04N R01E S24 Lot 2 SWSE	0.1

1 ACRES TOTAL

OTHER PROVISIONS NECESSARY FOR DEFINITION OR ADMINISTRATION OF THIS WATER RIGHT:

This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.

EXPLANATORY MATERIAL: BASIS OF CLAIM - Beneficial Use

PROPERTY IS ALSO KNOWN AS A PORTION OF LOT 1, BLK 5, RIVERSIDE
VILLAGE NORTH #2.

Parcels

50524428202
50524428201

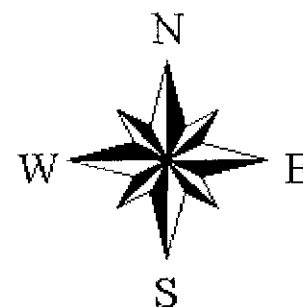
Idaho Department of Water Resources

T04N, R01E,
S24

Claim No: 63-04026A
Prepared By: Kimberly Brown
Date: August 31, 2004



- ⊙ Point of Diversion
- Place of Use
- Section Lines
- 1/4 1/4



0 0.1 0.2 0.3 0.4 Miles

0000 0000

08/04/2005

**NOTICE OF ERROR
REPLY**

RECEIVED

AUG 04 2005

**WATER RESOURCES
WESTERN REGION**

Please type or print clearly, fill out this form completely and mail.

Return this reply form to IDWR by the deadline date printed below if you want IDWR to change your recommendation or you want to let IDWR know that you agree with its recommendation.

YOUR DEADLINE FOR RETURNING A NOTICE OF ERROR REPLY IS: July 15, 2005

Water right number: 63-4026A

LYNNE MARCUS
7711 APACHE WAY
BOISE ID 83714
Telephone Number: (208)853-3812

CRAIG MARCUS
7711 APACHE WAY
BOISE ID 83714

1. Describe the portion of the proposed recommendation with which you disagree (e.g. priority date, period of use, source):

chg cfs to .05 (ie diversion rate)

2. Describe the changes you wish to make in the proposed recommendation:

See #1

3. Give a brief explanation as to why you disagree with these portions:

see SPF Water Engineer Hubble analysis of 7/05

☐ I AGREE with this proposed recommendation: no changes need to be made.

DATE: 8/05 SIGNATURE: Craig Marcus

Please print your name: Craig Marcus

IDWR Regional Office, 2735 Airport Wy, Boise, ID 83705, 2083342190

04/26/2005

IDAHO DEPARTMENT OF WATER RESOURCES
PRELIMINARY RECOMMENDATION OF WATER RIGHTS ACQUIRED UNDER STATE LAW

RIGHT NUMBER: 63-4026A

NAME AND ADDRESS: LYNNE MARCUS
7711 APACHE WAY
BOISE ID 83714

CRAIG MARCUS
7711 APACHE WAY
BOISE ID 83714

SOURCE: LAKE ELMORE

TRIBUTARY: BOISE RIVER

QUANTITY: 0.030 CFS

PRIORITY DATE: 03/01/1936

POINT OF DIVERSION:

T04N R01E S24 SESE Lot 1 Within ADA County

PURPOSE AND
PERIOD OF USE:

<u>PURPOSE OF USE</u>	<u>PERIOD OF USE</u>	<u>QUANTITY</u>
IRRIGATION	03/01 11/15	0.030 CFS

PLACE OF USE: IRRIGATION Within ADA County

T04N R01E S24 Lot 3 NESW	0.5	T04N R01E S24 Lot 3 SESW	0.1
T04N R01E S24 NWSE	0.3	T04N R01E S24 Lot 2 SWSE	0.1

1 ACRES TOTAL

OTHER PROVISIONS NECESSARY FOR DEFINITION OR ADMINISTRATION OF THIS WATER RIGHT:

This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.

EXPLANATORY MATERIAL: Beneficial Use

PROPERTY IS ALSO KNOWN AS A PORTION OF LOT 1, BLK 5, RIVERSIDE VILLAGE NORTH #2.

Idaho Department of Water Resources

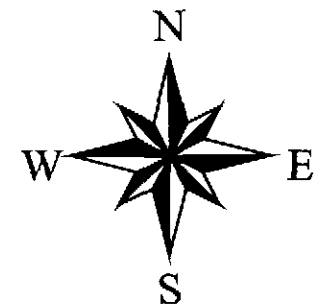
**T04N, R01E,
S24**

Claim No: 63-04026A
Prepared By: Kimberly Brown
Date: August 31, 2004

- ⊙ Point of Diversion
- Place of Use
- Section Lines

1/4 1/4

Acres Irrigated = 1.0



1987 NAPP



0 0.1 0.2 0.3 0.4 Miles



IDAHO DEPARTMENT OF WATER RESOURCES

Adjudication Claim Report 63-4026A

WATER RIGHT NUMBER: 63-4026A ✓

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	LYNNE MARCUS ✓ 7711 APACHE WAY BOISE, ID 83714 (208)853-3812
Current Owner	CRAIG MARCUS ✓ 7711 APACHE WAY BOISE, ID 83714
Original Owner	DENNIS E FLAKE ✓ RT 2 BOISE, ID 83703

Priority Date: 03/01/1936 ✓

Basis: ~~Statutory Claim~~

Status: Active

Source
LAKE ELMORE ✓

Tributary
BOISE RIVER ✓

Beneficial Use
IRRIGATION ✓

From To
3/15 to 11/15 ✓

Diversion Rate
03-0.080 CFS ✓

Annual Volume

Change 3/1 Total Diversion: 003-000 CFS ✓

Location of Point(s) of Diversion

LAKE ELMORE
ADA County ✓

SE1/4SE1/4 ✓

Sec. 24, Twp 04N, Rge 01E, B.M. ✓

Govt. Lot 1

Place of Use

IRRIGATION

[illegible]

Conditions of Approval:

POU calculations

Remarks:

1. General THIS IS RIVER BOTTOM LAND AND USES AN EXCESS AMOUNT OF WATER.

ADD JD1 - Place of use also known as a portion of Lot 1,
Block 5, Riverside Village North #2.

Parcel Nos: S0524428201, Portion of S0524428202.

Field Exam Date 7.1.04

(in office)

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
ADJUDICATION FIELD REPORT

Prior to Field Exam

- ☒ Copy of Claim, claim has been signed, sealed, and dated by notary?
- ☒ Check fees paid \$51.00
- ☐ Well logs (if needed) N/A
- ☒ Copy of topo or NAPP
- ☒ Check of Govt. Lots, if needed, Govt. Plat/Tax lot information Govt. lots 2 & 3
- ☒ Check POD & POU overlap, see below - include overlapping right for exam
- ☒ Evidence of Priority - if none, talk with claimant

CLAIMANT INFORMATION - verify contact information is complete

Claim No(s) A63-4026A

Owner: Lynne & Craig Marcus Phone No. (208) 853-3812

Current Address: 7711 Apache Way Boise 83714

- ☒ No change NAME IS THE SAME
- ☐ NEW OWNER
- ☒ No change Address
- ☐ NEW ADDRESS
- ☒ How long owned property? 1974

Accompanied by: N/A

PRIORITY DATE

- ☒ No change - Complete evidence submitted ~~or not necessary~~
- ☐ Incomplete - Claimant should be asked when water was first used and submit proof of date.
- ☐ Priority date is acceptable/within mandatory filing dates?

Priority date, per claimant, is: 3/1/1936

(If priority date, based on your exam, seems questionable, explain below.)

Source: Tributary to

- ☒ No Change - SAME SOURCE
- ☐ Source found is different than claimed:

POINT OF DIVERSION

- ☒ No change
- ☒ POD found is different than claimed: Government lot 1
- ☐ If different, when did POD change?

It was in question whether the source/POD location should be an "unnamed slough located in the NWSE, S24 (as in W.R. No. 63-4265), but after a meeting with my supervisor, Jan Shute (8.27.04), it was determined that Lake Elmore is correct.

DIVERSION AND DELIVERY SYSTEM

Points of Diversion:

ID #	Govt Lot #	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks GPS ID
	L1								

Description of diverting works

Headgate at Lake Elmore (located on Plantation Golf course)

OVERLAP REVIEW

Other water rights with the same point of diversion: 63-04026B, 63-04026C

Does overlap add acres or uses to existing system, increase rate of flow or volume, or other? Explain:

No, both are for different places of use.

WATER USES

☐ No change

☐ Different Uses

Use Irrigation From 3/1 To Amount 0.03 CFS AFA

Use From To Amount CFS AFA

Use From To Amount CFS AFA

Season of use is 3/1 to 11/15.

~~1.0 acre x 4.5 of / annum = 4.5 of / annum~~
TOTAL VOLUME Groundwater only

☒ Incomplete on claim, the total is, Amount CFS AFA

☐ Changes found, the new total is, Amount CFS AFA

☐ More than 1" per Acre? Yes (claimant must complete excess flow sheet)

surface water volume N/A

NON-IRRIGATION USES:

☒ No change

☐ Changes Exam found: Domestic # of homes Stock #

Types Additional comments:

PLACE OF USE:

☐ No Change

☒ Changes shown below:

Place of Use			NE				NW				SW				SE				Totals
TWP	RGE	SEC	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N	01E	24									L3			L3			0.1		1.0
																	L2		

Overlap with other water rights: 63-4265

Does overlap increase rate of flow, volume, additional acres, different source for same acres? Explain:

No, 63-4265 is for different place of use.

Delivery System Narrative: Cement ditch from lake to property.

Well or Diversion Identification No GPS ID	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge size

FLOW MEASUREMENTS: N/A

Attach appropriate documents

NARRATIVE/REMARKS/COMMENTS

(COVER)

Place of use is also known as a portion of lot 1,
Blk E, Riverside Village North #2.

Parcel Nos: 805244 28201, portion of 805244 28202

AFTER EXAM THE FILE SHOULD CONTAIN:

- ☒ Completed claim checklist
- ☐ Photographs of POD's and POU
- ☐ GPS readings
- ☒ Completed map and or GIS layout showing POD's and POU

DATE EXAM CONDUCTED: 8.31.04 (in office)

FIELD EXAMINER: Kimberly Brown

IDAHO DEPARTMENT OF WATER RESOURCES
ADJUDICATION CLAIM POD REVIEW REPORT
ADJUDICATION CLAIM NUMBER: 63-4026A

08/31/2004

1

ater Right #	Type	Twp	Rge	Sec	QQ	Q	Lot	Source	Name
63-9134	Claim	04N	01E	24	SE	SE		GROUND WATER	CITY OF GARDEN CITY
~~63-4026~~	~~Claim~~	~~04N~~	~~01E~~	~~24~~	~~SE~~	~~SE~~		~~LAKE ELMORE BOISE RIVER~~	
~~63-4026A~~	~~Claim~~	~~04N~~	~~01E~~	~~24~~	~~SE~~	~~SE~~		~~LAKE ELMORE BOISE RIVER~~	~~LYNNE MARCUS~~
63-4026B	Claim	04N	01E	24	SE	SE		LAKE ELMORE BOISE RIVER	MICHAEL J EDDY
63-7027B	Claim	04N	01E	24	SE	SE	1	GROUND WATER	PLANTATION VIEW CONDOMINIUM
63-4026C	Claim	04N	01E	24	SE	SE	1	LAKE ELMORE BOISE RIVER	SARAH TOTORICA
63-9134	Water Right	04N	01E	24	SE	SE	1	GROUND WATER	CITY OF GARDEN CITY
~~63-4026~~	~~Water Right~~	~~04N~~	~~01E~~	~~24~~	~~SE~~	~~SE~~	~~1~~	~~LAKE ELMORE BOISE RIVER~~	~~DENNIS E FLAKE~~ ^{previous owner}
63-7027B	Water Right	04N	01E	24	SE	SE	1	GROUND WATER	PLANTATION VIEW CONDOMINIUM

IDAHO DEPARTMENT OF WATER RESOURCES
ADJUDICATION CLAIM POU REVIEW REPORT
ADJUDICATION CLAIM NUMBER: 63-4026A

08/31/2004

1

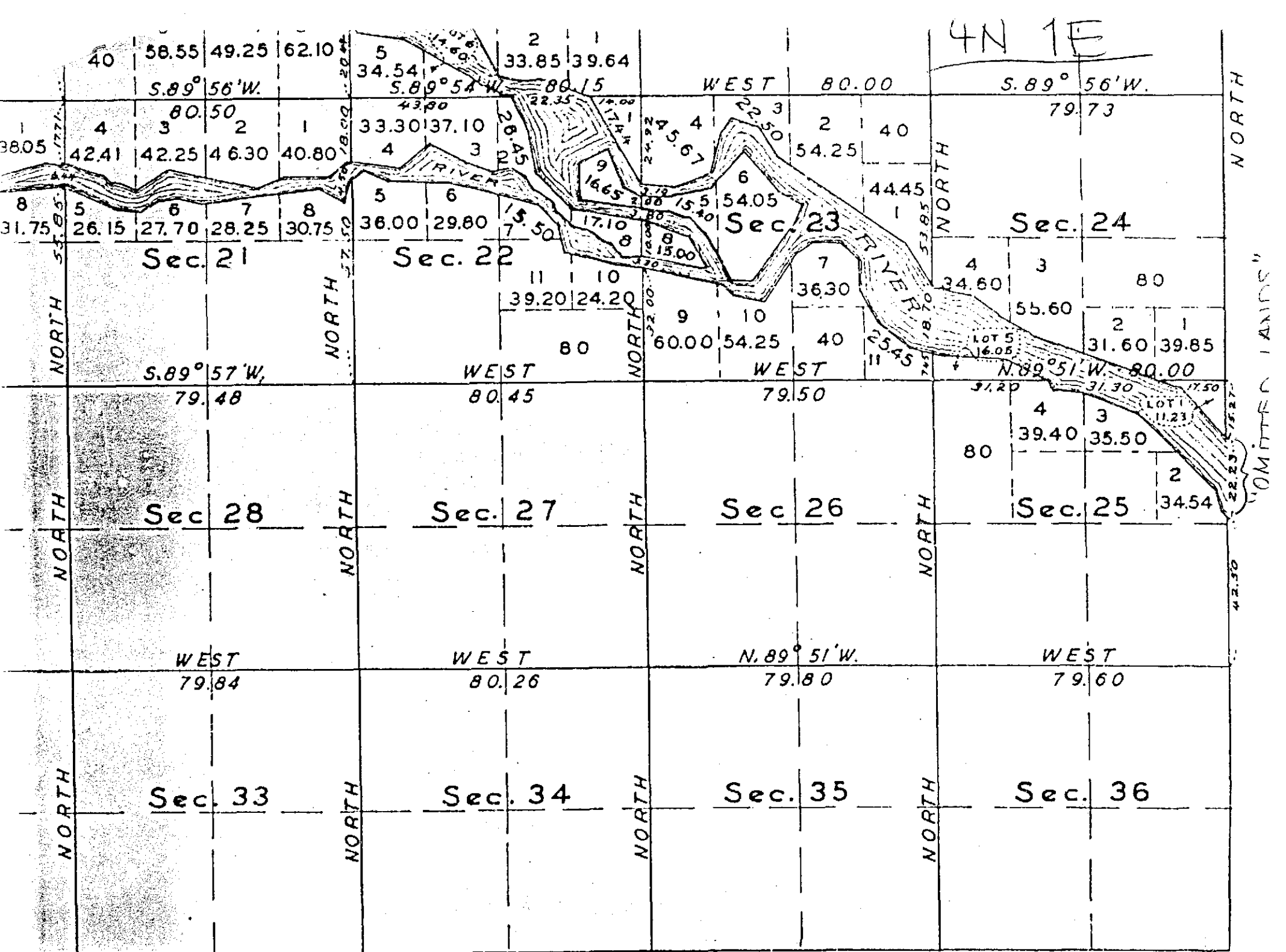
Right #	Type	Twp	Rge	Sec	QQ	Q	Lot	Purpose of Use	Acres/Total	Name
~~2406~~	~~Claim~~	~~04N~~	~~01E~~	~~24~~	~~NE~~	~~SW~~		~~IRRIGATION~~	~~20/29248~~	~~DRAINAGE DIST NO 2~~
~~1026A~~	~~Claim~~	~~04N~~	~~01E~~	~~24~~	~~NE~~	~~SW~~		~~IRRIGATION~~	~~0.5/1.1~~	~~LYNNE MARCUS~~
1026B	Claim	04N	01E	24	NE	SW		IRRIGATION	5.3/5.3	MICHAEL J EDDY
4265	Claim	04N	01E	24	NE	SW		IRRIGATION	0.4/0.5	LYNNE MARCUS
4651	Claim	04N	01E	24	NE	SW		IRRIGATION	6/6	ALICE M FLAVELLE
7972	Claim	04N	01E	24	NE	SW		IRRIGATION	1/1	MICKEY W MATTHEWS
10119	Claim	04N	01E	24	NE	SW		IRRIGATION	1/1	PATRICIA WARE
2406	Water Right	04N	01E	24	NE	SW		IRRIGATION	20/29248	DRAINAGE DIST NO 2
~~4026~~	~~Water Right~~	~~04N~~	~~01E~~	~~24~~	~~NE~~	~~SW~~		~~IRRIGATION~~	~~5/40~~	~~DENNIS E FLAKE~~
7838	Water Right	04N	01E	24	NE	SW		IRRIGATION	1/1	LYLE G SAXTON
7972	Water Right	04N	01E	24	NE	SW		IRRIGATION	1/1	MICKEY W MATTHEWS
10119	Water Right	04N	01E	24	NE	SW		IRRIGATION	1/1	RONALD WARE
~~1026A~~	~~Claim~~	~~04N~~	~~01E~~	~~24~~	~~SE~~	~~SW~~		~~IRRIGATION~~	~~0.1/1.1~~	~~LYNNE MARCUS~~
1651A	Claim	04N	01E	24	SE	SW		IRRIGATION	5/5	MICHAEL J EDDY
9718	Claim	04N	01E	24	SE	SW		IRRIGATION	1/11	RIVERSIDE VILLAGE HOMEOWNERS AS
4026	Water Right	04N	01E	24	SE	SW		IRRIGATION	15/40	DENNIS E FLAKE
4651	Water Right	04N	01E	24	SE	SW		IRRIGATION	6/6	ALICE M FLAVELLE
9718	Water Right	04N	01E	24	SE	SW	3	IRRIGATION	3/11	IDAHO FOREST INDUSTRIES INC
2406	Claim	04N	01E	24	NW	SE		IRRIGATION	30/29248	DRAINAGE DIST NO 2
1026A	Claim	04N	01E	24	NW	SE		IRRIGATION	0.3/1.1	LYNNE MARCUS
4265	Claim	04N	01E	24	NW	SE		IRRIGATION	0.1/0.5	LYNNE MARCUS
7739	Claim	04N	01E	24	NW	SE		IRRIGATION	2/2	RITA M FELL
7986	Claim	04N	01E	24	NW	SE		IRRIGATION	2/2	JOHN W THISTLEWOOD
2406	Water Right	04N	01E	24	NW	SE		IRRIGATION	30/29248	DRAINAGE DIST NO 2
4026	Water Right	04N	01E	24	NW	SE		IRRIGATION	5/40	DENNIS E FLAKE
4265	Water Right	04N	01E	24	NW	SE		IRRIGATION	1/1	CRAIG MARCUS
7739	Water Right	04N	01E	24	NW	SE		IRRIGATION	2/2	MARGARET DOMINICK
7986	Water Right	04N	01E	24	NW	SE		IRRIGATION	2/2	THOMAS B PETERSON

IDAHO DEPARTMENT OF WATER RESOURCES
ADJUDICATION CLAIM POU REVIEW REPORT
ADJUDICATION CLAIM NUMBER: 63-4026A

08/31/2004

2

Right #	Type	Twp	Rge	Sec	QQ	Q	Lot	Purpose of Use	Acres/Total	Name
2406	Claim	04N	01E	24	SW	SE		IRRIGATION	2/29248	DRAINAGE DIST NO 2
~~1026A~~	~~Claim~~	~~04N~~	~~01E~~	~~24~~	~~SW~~	~~SE~~		~~IRRIGATION~~	~~0.2/1.1~~	~~LYNNE MARCUS~~
9718	Claim	04N	01E	24	SW	SE		IRRIGATION	1/11	RIVERSIDE VILLAGE HOMEOWNERS ASSOCIATION
17679	Claim	04N	01E	24	SW	SE		IRRIGATION	8/8	JACK HOKE
24066	Claim	04N	01E	24	SW	SE		IRRIGATION	1.7/1.7	JACK HOKE
2406	Water Right	04N	01E	24	SW	SE		IRRIGATION	2/29248	DRAINAGE DIST NO 2
~~4026~~	~~Water Right~~	~~04N~~	~~01E~~	~~24~~	~~SW~~	~~SE~~		~~IRRIGATION~~	~~15/40~~	~~YOUNG & ASSOCIATES, DENNIS E FLAKE~~
1026C	Claim	04N	01E	24	SW	SE	2	IRRIGATION	2/2	SARAH TOTERICA
9718	Water Right	04N	01E	24	SW	SE	2	IRRIGATION	1/11	IDAHO FOREST INDUSTRIES INC



Lake Elmore (as source)

Original Claim 63-4026 (Flake):

Waste water from Lake Elmore. Headgate and cement ditch from lake to property.
(Elmore Lake constructed in 1910.) P.O.D.: SESE, Sec 24, T04N, R01E

Description from 63-4026A (Marcus):

Headgate at Lake Elmore, ditch to place of use.

Description from 63-4026B (Eddy):

Water exits Boise River via Farmers Union Canal, diverts through pipes and ditches to Lake Elmore. From Lake Elmore water runs through three ponds in Plantation residential development to box behind Earnst (Glenwood) then piped under Glenwood. Reemerges and is run above ground to Strawberry Glen, piped under the street, then runs in open ditches to property. The ditch originally drained in a relatively straight line from Strawberry Glen to property, but was rerouted by developers at Riverside Village approximately 8 to 10 years ago. (Wildlife pond [and storage] approximately 25' by 300' located at west end of property).

Description from 63-4026C (Totorica):

[This comment written by Steve Lester] Lake Elmore appears to be supplied by waste water from Plantation Golf Course, but the lake is listed as source since it appears on orthophoto. Excessive flow claimed per original statutory claim (ditch loss, etc.). Rate (2 AC/40AC)(2.64 cfs) = 0.13 cfs

Headgate and diversion ditch from lake. Ditch runs west-ward towards property for gravity irrigation.

ReceiptID	Amount	BasinNumber	SequenceNuml	SplitSuffix	Type
C007035	25.00	63	15472		Claim
C007035	25.00	63	15473		Claim
C007035	51.00	63	4265		Claim
C007035	51.00	63	4026 A		Claim

CLAUDE V. MARCUS
CRAIG MARCUS
BARRY MARCUS*
GALE M. MERRICK
MICHAEL CHRISTIAN†
TRENT MARCUS
DANIEL R. HARDEE

LAW OFFICES
MARCUS, MERRICK, CHRISTIAN & HARDEE LLP
THE MARCUS LAW BUILDING
737 NORTH 7TH STREET
BOISE, IDAHO 83702-5595

TELEPHONE
(208) 342-3563
TELEFAX
(208) 342-2170

*Also Admitted to the California State Bar

† Also Admitted to the Washington State Bar

September 23, 2003

RECEIVED

SEP 24 2003

WATER RESOURCES
WESTERN REGION

Kimberly Brown
Water Resource Agent
Adjudication Bureau
Department of Water Resources
State of Idaho
Western Region
2735 Airport Way
Boise, ID 83705-5082

Re: Craig and Lynne Marcus; Evidence of Priority; Claim Nos. A63-4026A
and A63-4265

Dear Kimberly:

I am enclosing a copy of your September 4, 2003 letter to me for your use in identifying the above claims, together with a copy of the computer printout sheets regarding each water right number which accompanied your letter. Claim 63-4265 relates to Lot 2, Block 2, Flake Country Subdivision (I notice the name of the subdivision is misspelled at the bottom of the document that accompanied your letter pertaining to that claim). You might recall that I called you a couple of weeks ago and discussed the type of evidence that would be satisfactory and I believe I have compiled and am enclosing that evidence.

Concerning Claim No. A63-4265, with a priority date of March 1, 1967, I am enclosing the original Affidavit of Marvin Stratton who owned the property at that time and applied the water to the beneficial use as described in the claim. Mr. Stratton signed the Affidavit September 16, 2003. His use continued until I purchased the property from him and took possession in early June 1974 and I have continuously lived on the property since then. It is my home and I have continuously applied water to the same beneficial use.

Concerning Claim A63-4026A with a priority date of March 1, 1936, I am enclosing a copy of the Ada County Board of County Commissioners Findings of Fact and Conclusions of Law in Ada County File Nos. 87-8-PDR/87-5-ZC/87-5-PR the original of which was signed by two of the County Commissioners December 14, 1987, and their signatures attested to by the Ada County Clerk. On the last page, in Condition of Approval 25, the Commissioners recited their finding concerning the 1936 Flake water right. You will notice from the water right claim that the original owner of my property was Dennis Flake. I was

Kimberly Brown
September 23, 2003
Page 2

involved in the proceeding before the County Commissioners because I wanted to make sure that the subdivision development on property adjacent to my property did not interfere with the 1936 Flake water right appurtenant to my property. That water right is used on an unsubdivided acre which is immediately adjacent to the one acre parcel in Flake County Subdivision where my home is located. Mr. Flake originally had many acres that he had irrigated beginning in 1936, including my unsubdivided acre. He sold that acre to Mr. Stratton and when I purchased my home, I purchased it from Mr. Stratton. Mr. Flake continued to irrigate many adjacent acres after I purchased in 1974 and later sold his property to the developers who initiated the proceedings before the Ada County Commissioners culminating in the enclosed Findings of Fact and Conclusions of Law. I have continued irrigating the acre and maintaining livestock on it to the present.

I hope the enclosed documentation is sufficient evidence. If it is not, please let me know.

Thank you for talking to me regarding the matter and for your consideration.

Best personal regards.

Very truly yours,

MARCUS, MERRICK, CHRISTIAN & HARDEE, L.L.P.

A handwritten signature in cursive script, appearing to read "Craig Marcus".

Craig Marcus

CM:da
Enclosures

Refer to Conditions
of Approval - Exhibit
A on last page of
document for evidence
of priority.

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF ADA COUNTY, IDAHO

In the matter of Application)	
for a Planned Residential)	File No.'s 87-8-PDR/87-5-ZC/
Development with a Private)	87-5-PR
Street and a Rezone from)	
AP-2 to R8 by Idaho Forest)	FINDINGS OF FACT AND
Industries, Inc.)	CONCLUSIONS OF LAW

A hearing was held before the Board of Ada County Commissioners on September 24, 1987, for the purpose of considering the above captioned application. The Board received evidence, heard testimony, and received exhibits. Pursuant to that hearing, and based upon the evidence and testimony, the Board of Commissioners issues the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

1. July 15, 1987, Ada County Development Services accepted an application for a Planned Residential Development from Idaho Forest Industries, Incorporated for a 74-lot residential subdivision near Riverside Drive and Strawberry Glenn Road. Also part of this application is a rezone from AP-2 (agricultural) to R8 (residential) and a private street. The property in question is inside the Boise Urban Service Planning Area as shown on the Boise Metropolitan Planning Area Map.
2. Development Services Staff scheduled the application for public hearing with the Ada County Planning and Zoning Commission (hereinafter Commission) on August 27, 1987. Staff notified other agencies seeking their comments about the proposal. Staff also prepared a staff report for the Commission reviewing applicable regulations and incorporating copies of the agency comments received.
3. August 10, 1987, legal notice of the hearing with the Commission on August 27, 1987, was published in the Idaho Statesman. Prior to the hearing, the premises was posted with a legal notice and neighboring property owners within 300 feet of the proposal were notified by mail.
4. August 27, 1987, the Commission held a public hearing to consider this application. Development Services Staff presented a summary of the proposal and the staff report. No testimony in opposition was received.
5. August 27, 1987, the Commission voted to recommend approval of this application to the Board subject to the Conditions of Approval in the staff report.

6. September 7, 1987, legal notice of the hearing with the Board on September 24, 1987, was published in the Idaho Statesman. Prior to the hearing, the premises was posted with a legal notice and neighboring property owners within 300 feet of the proposal were notified by mail.
7. September 24, 1987, the Board held a public hearing to consider this application. Development Services Staff presented a summary of the application and submitted as exhibits a copy of the staff report, the preliminary plat, and correspondence regarding the application. Testimony in opposition to the proposal raised concerns including: maintenance of existing irrigation rights, increased traffic in the neighborhood, and loss of access to property currently reached by crossing the development site.
8. September 24, 1987, the Board tabled this application to November 19, 1987, and encouraged the applicant and neighboring property owners to resolve their differences.
9. November 19, 1987, the Board removed this application from the table and supplemented the record with a revised preliminary plat from the applicant which provides access to the Craig Marcus property and with two letters (John Evans, representing Idaho Forest Industries, writing November 17, 1987 to Craig Marcus, an adjacent property owner; and letter dated November 18, 1987 from Craig Marcus to John Evans Entered as Exhibit No. 1 of the record) describing an agreement reached between these two parties. This agreement regarding irrigation, street access, utility easements, and other details, addresses and solves the concerns brought forth at the September 24, 1987 public hearing (see Finding No. 7 above).
10. November 19, 1987, the Board tabled this application to December 3, 1987.
11. December 3, 1987, the Board tabled this application to December 10, 1987.
12. December 10, 1987 the Board tabled this application to December 14, 1987.
13. This application is being heard under the Ada County Code Section 8-5-2 which allows the combination of the principal permitted uses and subdivisions in the R8 zone. Ada County Code Section 8-5-3 lists single family dwellings as principal permitted uses in the R8 zone.
14. Ada County Code Section 8-5-7 lists design and dimensional standards for the R8 zone. All lots proposed (as shown on the revised preliminary plat received November 19, 1987) meet the street frontage and lot size requirements of this section.

15. Ada County Code Section 8-9A-8A regulates vehicular circulation in planned residential developments including limitation of access from a development onto major streets. Conditions of Approval in Exhibit A eliminate direct access onto Riverside Drive from Lot 1 Block 3 and Lot 6 Block 1. Two points of ingress/egress are provided to the development via Rivervista Way which intersects Riverside Drive and Strawberry Glenn Road. Ada County Highway District has submitted comments on this proposal which indicate that traffic control devices such as a signal at Riverside Drive and Glenwood are not justified at this time. Street layout does not encourage unnecessary traffic through the development and provides safe access to all lots. Increased traffic in the neighborhood will be adequately provided for by the design proposed in the preliminary plat.
16. Ada County Code Section 8-9A-9 and Exhibit A Conditions of Approval require underground installation of all new utilities.
17. Ada County Code Section 8-9A-10 requires open space in a Planned Residential Development to be suitably improved for its intended use and to be well coordinated with the development schedule of the other improvements that are part of this project. As per Section 8-9A-10D, the Exhibit A Conditions of Approval require the open space and other common areas to be noted on the final plat and that ownership and maintenance of these areas shall become part of the responsibilities of a homeowner's association.
18. Ada County Code Section 8-13-3A provides standards for private streets which are required by Exhibit A Conditions of Approval to be maintained for Lot 4 Block 1. This private street is also required to be maintained by a homeowner's association. One residence would be served by this street.
19. Ada County Code Section 8-9-2E provides that planned development applications with land subdivision and rezoning may have concurrent processing of these applications.
20. Ada County Code Section 8-9-3C5 requires the Board to make Findings of Fact and Conclusions of Law prior to taking action on a planned development application. Section 8-9-3C5 findings are listed below:
 - 8-9-3C5a: This proposal site is relatively level with a small pond in the southeast corner and a slough along the north boundary. The design proposed conforms to the topography and features of the area.

8-9-3C5b: The proposal site has existing residential development nearly surrounding the site with Riverside Village Subdivision to the south (inside Garden City), Flake Country Subdivision to the north and west, and several unplatted residential parcels on Strawberry Glenn Road to the east. This area is designated as a Priority Development Area on the Boise Metropolitan Planning Area Map.

Written agreements and a revised preliminary plat have been submitted which address concerns raised during public testimony in the record (see Finding No. 9 above).

8-9-3C5c: Riverside Way acts as the major street through the proposal and connects to two existing streets, Riverside Drive and Strawberry Glenn Road. Strawberry Glenn Road connects to Glenwood Street a Principal Arterial, to the east. Riverside Drive also connects to Glenwood and is designated a collector street with future connection to State Street on the 1995 Urban Functional Street Classification Map.

Ada County Highway District comments request provisions for connection to Navaho Way on the west end of the proposal and no direct access onto Riverside Drive. The amended preliminary plat and the Exhibit A Conditions of Approval satisfy these requirements.

Public agency comments received do not indicate that an undue burden on public services will be created by this proposal. As residential development continues in this area, improvements to public streets and other services may be required when justified and funded.

8-9-3C5d: Open space areas are provided but without any loss in required lot size for the R8 zone. The common area facilities are accessible by private street and public streets.

8-9-3C5e: This proposal complies with Section 8-5-7-1 regarding minimum lot size and maximum development density.

8-9-3C5f: Ada County Code requirements for Planned Residential Developments in the R8 zone with private streets are reviewed above.

Boise City Resolution No. 9491 adopted on or about October 7, 1987, is an agreement between Boise City and Garden City that this proposal site will eventually be annexed by Garden City after negotiations on an Area of City Impact Ordinance among the two cities and Ada County.

Currently, Ada County Code Section 9-3-3A and Ada County Comprehensive Plan Policy 5.4-1 adopt the Policy Plan for the Boise Metropolitan Area (Metro Plan) as the applicable plan in this area.

This proposal contains no Class A, B, or C lands as shown in the maps of the Boise River Plan adopted in Ada County Code Section 9-3-3A1.

Ada County Code Section 9-3-3A2d encourages infilling vacant land surrounded by existing development where urban services are available and when development is subject to various criteria. This project is nearly surrounded by existing residential development. Urban services are available to serve this proposal. The detached, single-family dwellings proposed are compatible with existing land uses.

Assuming compliance with Exhibit A Conditions of Approval, Metro Plan Policies which support this proposal include:

Population Balance Goal B4 encouraging
Northwest Planning Area Development

Population Balance Goal B7 encouraging
infilling development consistent with
neighboring uses

Urban Quality Goal D1g encouraging underground
utilities

CONCLUSIONS OF LAW

1. This proposal, if carried out in conformance with the attached Conditions of Approval in Exhibit A, is in compliance with Policy Plan for the Boise Metropolitan Area.
2. This proposal complies with the requirements for Planned Residential Developments in the Ada County Zoning Ordinance (Ada County Code Volume II, Title 8).
3. The proposed rezone from AP-2 to R8 is consistent with residential development density existing and proposed for this vicinity. This subdivision is compatible with existing and planned uses in this area.
4. Objections to this proposal have been adequately resolved as evidenced in the record by public agency comments and private agreements between the developer and a property owner adjacent to the proposal site. (See Findings No. 9, 13, 18 above).
5. The Board of Ada County Commissioners therefore approves this Planned Residential Development and Rezone from AP-2 to R8 in accordance with the attached Exhibit A Conditions of Approval.

APPROVED 14th DAY OF DECEMBER, 1987.

BOARD OF COUNTY COMMISSIONERS

Michael L. Johnson
Michael L. Johnson, Chairman

Judy M. Peavey
Judy M. Peavey, Commissioner

ABSENT
Vernon L. Bisterfeldt, Commissioner

ATTEST:

John Bastida
John Bastida, Ada County Clerk

CONDITIONS OF APPROVAL
87-8-PDR/87-5-ZC/87-5-PR

EXHIBIT A

1. All public rights-of-way shall be dedicated and constructed to standards of the Ada County Highway District.
2. All street and subdivision names to be approved by Ada County Street Name Committee prior to submitting the final plat for approval.
3. Provide a surface run-off drainage plan to the County Engineer prior to submitting the final plat for approval.
4. Compliance with the Board of County Commissioner's resolution 182-1-79 and Section 31-3805 of the Idaho Code pertaining to irrigation waters.
5. If individual lot irrigation is to be provided, then an internal irrigation and drainage plan must be approved by Boise Valley Irrigation Ditch Company or other applicable irrigation entity prior to submitting the final plat for approval.
6. Any lot having a common boundary with a ditch, lateral or canal shall be tiled or fenced in accordance with Section 8-10A-7 of the Zoning Ordinance.
7. Installation of fire protection facilities as specifically required by the Cole-Collister Fire District.
8. Install service utilities to comply with the requirements of the Public Utility providing service. All new utilities shall be installed underground.
9. Submit letters of acceptance of domestic water service from Garden City Water prior to submitting the final plat for approval.
10. The development plans for installation of a community sanitary sewer system or domestic water system shall be approved by Central District Health Department and the State of Idaho, Department of Public Health prior to submitting the final plat for approval.
11. Perpetual maintenance and operation of the community sewer and water system shall be provided for in the conditions, covenants, and restrictions of a Homeowners Association or a similar organization utilizing the facility and approved by the State of Idaho, Department of Health and Welfare.

12. The preliminary and final plat shall be in conformance with Section 8-10-4 and Section 8-10A-1 through 8-10-7 of Ada County Code. Final plat location of North Riverfront Drive shall be as shown on the preliminary plat dated November 19, 1987 and entered into the record as Exhibit #2 and there shall be roadway access from the Marcus property to North Riverfront Drive where it crosses the Marcus property as shown on said preliminary plat.
13. Building setbacks and dimensional standards in this subdivision shall be in compliance with the applicable zoning regulations of Ada County. This statement shall appear on any final platting.
14. All building construction is prohibited prior to recording the final plat. Any preliminary construction of roads, sewer, water, irrigation, or other utility service systems shall be at the applicant's own risk.
15. Prior to approval by the Board of County Commissioners, the final plat shall contain the following certifications and endorsements: Signature of owner, certificate of plat engineer, certificate of County Engineer, certificate of City Clerk, endorsement of Central District Health Department, endorsement of Ada County Highway District, certificate of Boise City Engineer.
16. The following statement shall appear on the face of the final plat "Any re-subdivision of this plat shall comply with the applicable zoning regulations in effect at the time of the re-subdivision."
17. Compliance with the specific requirements of the Boise City Public Works Department.
18. Time extensions for plats in Ada County which are inside the Boise Area of City Impact may also require time extensions from the City of Boise.
19. The Final Plat must be approved by the Board within one (10) year of their approval of the preliminary plat, unless a time extension is granted as per Ada County Code Section 8-9-3C7.
20. Any rezone from AP-2 to R8 shall not become effective until the Board has approved the final plat (as per Section 8-9-2E) for Phase I as shown on the Preliminary Plat.
21. Lot 1 Block 3 and Lot 6 Block 1 shall not have any access directly onto Riverside Drive. This statement shall appear on the final plat.
22. The Final Plat shall designate those lots to be held in common and not developed for residential use.

23. Private streets shall comply with the construction standards in Ada County Code Section 8-13-3A and plans for said streets shall be approved by the County Engineer prior to approval of the final plat.
24. Ownership and maintenance of all private streets and common areas within this plat shall be incorporated into the responsibilities of a homeowner's association or similar entity.
25. The subdivision plat shall contain an easement for irrigation lateral and reasonable access to same for the purpose of maintenance of same for the portion of the Flake 1936 water right appurtenant to property owned by Marcus, Phillips, and Oliver or their successor and assigns (which are in the area marked "unplatted" north of Lots 8 through 13 Block 4 as shown on the preliminary plat dated received November 19, 1987 entered as Exhibit #2). Existing laterals relating to said water rights shall not be obstructed or changed unless comparable replacement laterals are installed for delivery of water to those properties. Tiled laterals shall be properly grated for cleaning access.



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190

FAX (208) 334-2348

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

September 4, 2003

GRAIG & LYNNE MARCUS
7711 APACHE WAY
BOISE, ID 83703

RE: EVIDENCE OF PRIORITY

Snake River Basin Claim No(s): A63-04026A & A63-04265

Dear Claimant(s),

In the past, you submitted the above referenced claim(s) during the Snake River Basin Adjudication (SRBA) claims taking. Enclosed is a computer generated print-out of the claim(s) for your reference only, it is not necessary to return this print-out or re-file it. You indicated, when this claim was filed, that the water right(s) was based on either a "Statutory Claim" or "Beneficial Use" of the water. Water rights of this type are established by historical use of the water for a beneficial use purpose, dating back to the time the water was first used; this date being the "Priority Date" as shown on the enclosed print-out. Your claim(s) has not been confirmed by a previous filing with the Department of Water Resources since there is no decree, license, or permit on file to verify the use of this water. For this reason, the Department is required to gather evidence from claimants supporting the date of priority for claims based on historical beneficial use of water.

Enclosed is a pamphlet entitled "Evidence of Priority" which describes why evidence of the priority date is necessary, along with examples of types of evidence that can be submitted to fulfill this requirement. While I encourage you to read the entire pamphlet, I direct your attention to the two sections entitled **"What Kind of Evidence is Required"** and **"Some Examples of Documents Which May Be Evidence of the Priority Date."**

It is important that each element of the Notice of Claim be substantiated. For instance, regarding claims for irrigation, the evidence should tend to show that diversion works were in place, that they were capable of diverting the claimed diversion rate, and that the diverted water was beneficially used on the entire claimed place of use on or before the claimed priority date.

If no evidence is submitted, or we do not hear from you within the time limit below, your priority date, as claimed, may not be recommended to the SRBA court for decree. This could jeopardize your water use under this right(s) if water availability problems arise in the future.

The required evidence supporting the priority date(s) requested needs to be submitted by October 2, 2003. Please let me know if you may not be able to submit proof of priority or have any questions not covered by this letter and the enclosed pamphlet, by the date indicated above.



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190

FAX (208) 334-2348

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

Respectfully Submitted,

A handwritten signature in cursive script that reads "Kimberly L. Brown". The signature is written in dark ink and is positioned below the "Respectfully Submitted," text.

Kimberly L. Brown
Water Resource Agent
Adjudication Bureau

Enclosure: "Evidence of Priority" pamphlet
Notice of Claim A63-04026A & A63-04265

NOTE: If you no longer own the property upon which this claim was filed, please contact this office immediately. Idaho State law requires that the Department be notified of a change of owner or address on a water right.

Identification No. 63-4026

Claim No. 42801

Map No. _____

STATE OF IDAHO
DEPARTMENT OF RECLAMATION
CLAIM TO A WATER RIGHT

Established by Diversion and Application to Beneficial Use

Under the provisions of Section 42-225a, Idaho Code, a person may file a claim to a right to use water which has been established by diversion and application to beneficial use. The filing of this claim does not confirm the water right but will serve for information purposes only. It may, however, become the basis for future adjudication of the water right by the Court.

(Please refer to the instructions on the back of this form)

1. Name of claimant Dennis E. Flake
post office address Route # 2, Boise, Idaho 83703
2. The point of diversion is in SE $\frac{1}{4}$ of SE $\frac{1}{4}$ Section 24 Township 4 N.
Range 1 E B.M. located on Lake Elmore - Waste Water
(name of source)
tributary to Boise River in Ada County.

3. Dates of priority claimed: list the priority for each separate quantity that you claim. Priority dates should be based upon the earliest diversion of the water which has resulted in continued beneficial use since that time. If there has been an interval of five years or greater when the water was not beneficially used for the same purpose as originally appropriated, the priority that you claim should date from the time that the water was again beneficially applied following the period of non-use.

a. Date of priority claimed:

March 1936 amount: 2.64 c.f.s. or _____ acre feet
_____ amount: _____ c.f.s. or _____ acre feet
_____ amount: _____ c.f.s. or _____ acre feet
Total claimed 2.64 c.f.s. or _____ acre feet.

- b. Explain the purpose for which the water has been used and the time during the year when you have used the right claimed:

use Irrigation period of use from April 1 to October 1 (both dates inclusive)
use _____ period of use from _____ to _____ (both dates inclusive)
use _____ period of use from _____ to _____ (both dates inclusive)
use _____ period of use from _____ to _____ (both dates inclusive).

4. Description of diverting works:

- a. Surface water diversion dam and/or headgate: material is composed of Headgate and
Cement ditch from lake to property.; length is 400 feet; height is _____ feet;
width at bottom is 80 feet; width at top is 100 feet; explain any increase in diversion capacity since structure was first built, giving dates and estimated capacities if known _____
Unknown

- b. Underground water diverting works: Is well flowing or pumped N.A.; depth of well is _____ feet; diameter of well is _____ inches; type of pump is _____
capacity of pump is _____ g.p.m.; name and address of well driller is _____

_____; if so, give dates and explain NA.

- ing date and dimensions if possible NONE

- location of reservoir by 40-acre subdivisions _____

describe _____

5. a. Where water is used for irrigation, describe area irrigated by 40-acre subdivisions and give total acres:

[illegible]

Total number of acres to be irrigated 40

Explain any significant increase in area irrigated since first use, give dates and acreages if known _____

b. Do you get water through a ditch owned by several users? No If yes, give the name of the ditch _____ The other users and their respective interests in the ditch are (if known) None

6. Where water is used for stock watering, give number of each kind of stock watered _____

7. Where water is used for domestic or municipal purposes give number of families served _____ name of town supplied _____

8. Where water is used for other purposes not above enumerated, give the nature of use, the extent of use, and any details regarding the initiation of the right or subsequent later expansion. Be as specific as possible, giving dates and quantities _____

9. Remarks: please explain any details of your claim which you feel need clarification or additional explanation
This is river bottom land and uses an excess amount of water.

BE IT KNOWN that the undersigned hereby makes claim to a water right as described above together with all attached information and certifies that all statements are true and accurate to the best of his knowledge.

August 30, 1968
(Date)

Dennis E. Flake
(Signature of Claimant)

State of Idaho }
County of Ada } ss.

On this 30th day of August 19 68, personally appeared before me the signer(s) of the above instrument, who duly acknowledged to me that he (~~she~~) executed the same.

Mr. Russell Smith
Notary Public residing at Boise, Idaho

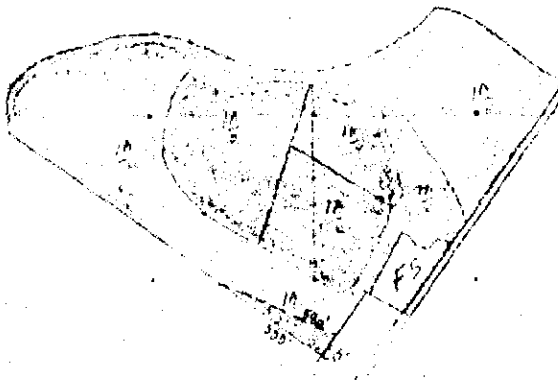
My commission expires Jan 19, 1969

For Department Use Only

Received by <u>JS</u> Date <u>8/30/68</u>	Exception filed by: _____	Forwarded to claimant by: _____	Date _____
Prelim. check by <u>JS</u> Date <u>8/30/68</u>	_____	_____	_____
Fee received by <u>JS</u> Date <u>8/30/68</u> Fee <u>\$10.00</u>	_____	_____	_____
Approved for publication by <u>JS</u> Date <u>9-13-68</u>	_____	_____	_____
Published in <u>Ada Daily Star</u> Dates <u>9-26/10-3</u>	<u>63-4026</u>	_____	_____

SECRET -- POLICY DOWNGRADING

N



17	30
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- ☒ *Impatiens* *sp.*
- ☒ *Impatiens* *sp.*
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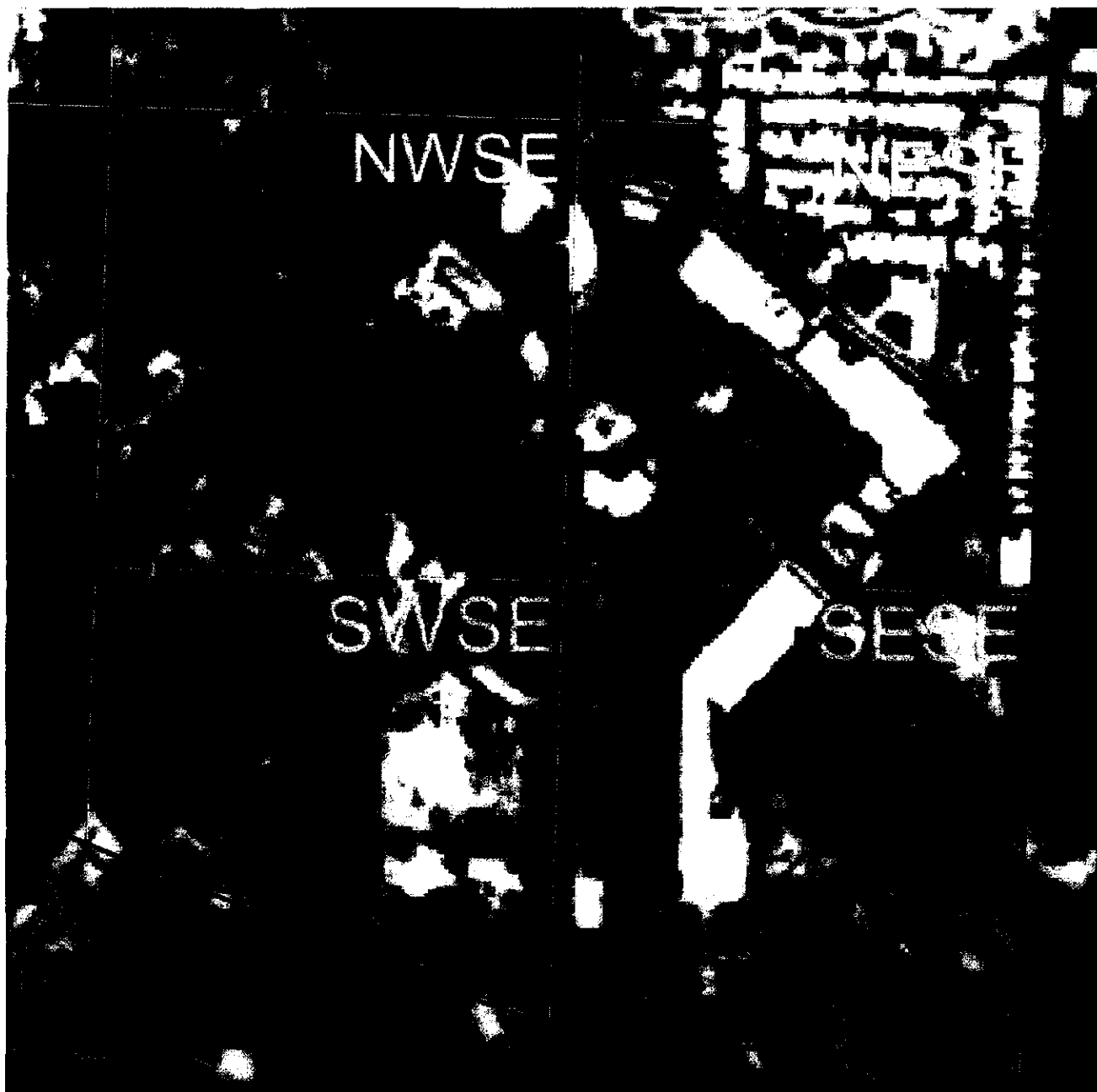
63 4020

ISSUES	SORT TYPE	MOM	PROMION
NAME <i>J.P. GORD</i>	1. <i>any issue at</i> 2. _____ 3. _____	A. <i>0</i> TO <i>2</i> % B. <i>3</i> TO <i>2</i> %	0 No appropriate 1 Less than 25% 2 25 to 75% 3 Over 75%
~~FOR NAME ISSUED~~	A. _____ S. _____	C. <i>5</i> TO <i>16</i> % D. <i>16</i> TO <i>70</i> %	

Idaho Department of Water Resources

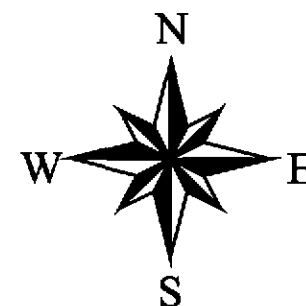
**T04N, R01E,
S24**

**Claim No: 63-04026A
Prepared By: Kimberly Brown
Date: August 31, 2004**



- ⊙ Point of Diversion
- Place of Use
- Section Lines

1/4 1/4



1987 NAPP

0 0.1 0.2 0.3 0.4 Miles