

Considered: _____

WATER PERMIT NO. 2234-2

Phone: 394-4165

Name of Applicant: City of Rapid City

Post Office Address: 300 6th St, Rapid City SD 57701

Amount of Water Claimed: 0.79 cfs Total Acres: NA

Source of Water Supply: Rapid Creek

Water to be used for: municipal County: Pennington

About _____ miles _____ of _____

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

F.F.& C/.L. Adopted _____ Not Approved _____ Deferred _____

PRIORITY Date Received: 6-16-92 Fee: \$50 Remarks Change in use

of a portion of irrigated land under South Side Ditch - Eisenbraun property

Corrected Application Received _____ Period of Annual Use _____

WATER QUALITY APPROVAL RECEIVED NA APPROVED/CONDITIONAL (Circle one)

WI-1 Description same as Application YES _____ NO _____ REMARKS _____

Diversion Point: _____

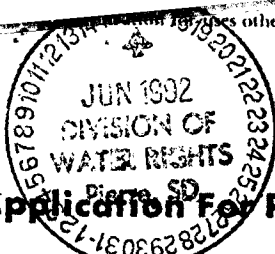
Land to be Irrigated: E 1/2 NW 1/4 Sec 26-T1N-R9E

Well Log: Driller: _____ Licensed YES _____ NO _____

Depth of Well: _____ REMARKS _____

Type of Map: _____ PREPARED BY: _____ Reviewed and the Number

Assigned on 6-22-92 By Karen Schlaak



No. 2234-2 Hydrologic Unit _____
 Map No. _____ Basin _____
 Newspaper Rapid City Journal, Rapid City, SD

Mail to: Water Rights Div.
 523 E. Capitol
 Pierre, SD 57501
 (605) 773-3352

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water: Industrial ☒ Commercial ☒ Municipal ☒ Other Common Distribution System ☒
 Rural Water System ☒ Suburban Housing ☒ Geothermal Heat ☐ Institutional ☐ Recreational ☐
 Domestic ☒ (above 18gpm) Other ☐

Type of Application: Check one or more of the following

New ☐ Vested Right ☐ Future Use ☐ Change Use ☒
☒ Amend Permit No. 2040-2 with old priority date retained
 Change diversion point(s) ☒ Add diversion point(s) ☒ Other ☐
☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. N/A
☐ Construction to use water reserved by Future Use Permit No. N/A

1. Name of Applicant CITY OF RAPID CITY Phone No. (605) 394-4165
 Post Office Address 300 6TH STREET, RAPID CITY State SD 57701
(Street, RR or Box) (City) Zip Code
2. Amount of water claimed (c.f.s) 0.79 CFS NOT TO EXCEED 137.3 AF/YR. OR 70.6 AF/YR. AT ALTERNATE PACTOLA RESERVOIR DIVERSION
3. Source of water supply RAPID CREEK (SEE ATTACHED EXHIBIT 1)
4. Location of point of diversion SEE ATTACHED EXHIBIT 2 FOR LEGAL DESCRIPTIONS OF CITY OF RAPID CITY WATER TREATMENT PLANT, GALLERIES AND ALTERNATE PACTOLA RESERVOIR DIVERSION POINTS.

County PENNINGTON

5. Counties where water will be used PENNINGTON COUNTY, SOUTH DAKOTA
6. Annual period during which water is to be used APRIL 15 THROUGH OCTOBER 15 (JANUARY 1 THROUGH DECEMBER 31 FOR PACTOLA DIVERSION RELEASES FROM STORAGE)
7. Give a brief description of proposed project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
 THE PROJECT IS DESCRIBED IN DETAIL IN THE ACCOMPANYING WRIGHT WATER ENGINEERS, INC. REPORT. THE PROJECT WILL DIVERT WATER FROM RAPID CREEK TO THE CITY OF RAPID CITY WATER TREATMENT PLANT THROUGH THE EXISTING DIVERSION STRUCTURE ON RAPID CREEK, AND TO THE EXISTING INFILTRATION GALLERIES. THE PROJECT WILL ALSO, IN THE ALTERNATIVE BUT NOT SIMULTANEOUSLY, DIVERT WATER FROM RAPID CREEK TO STORAGE IN PACTOLA RESERVOIR.

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map (see instruction)
 STATE OF SOUTH DAKOTA)
 County of PENNINGTON ss

I, EDWARD R. MC LAUGHLIN, MAYOR FOR THE CITY OF RAPID CITY the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Signed Ed McLaughlin

Subscribed and sworn to before me this 11th day of June 19 92

Josephine H. Givney
 Notary Public
 My commission Expires 7/15/2000

SOUTH DAKOTA
WATER PERMIT NO. 2234-2

Date of first receipt of application June 16, 1992.

The Water Management Board approved Water Permit Application No. 2234-2 on May 1, 1996 for the City of Rapid City, 300 6th St, Rapid City SD 57701 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 2234-2 transfers the use of a portion of Rapid Creek natural flows historically used to irrigate 70 acres known as the Eisenbraun property from South Side Ditch. The portion of Rapid Creek natural flows to be transferred to the city is 0.79 cubic feet of water per second (cfs) with an annual volume limitation of 131.6 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 67.7 acre-feet, if stored in Pactola Reservoir. Historically, the 0.79 cfs has been used to irrigate approximately 70 acres located in E 1/2 NE 1/4 Section 26-T1N-R8E. The existing diversion point on Rapid Creek for South Side Ditch is located in the SE 1/4 NW 1/4 Section 15-T1N-R8E. This permit is to change the diversion point for 0.79 cfs to diversion points for use by the city to be located in the SE 1/4 NE 1/4 Section 3 (Rapid City Water Treatment Plant); SW 1/4 SW 1/4 Section 3 (Sioux Park Gallery); SE 1/4 NE 1/4 Section 9 (Meadowbrook Gallery); NW 1/4 SE 1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW 1/4 SW 1/4 Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This permit does not authorize any new water appropriations from Rapid Creek.
2. The water appropriated shall be used for the purpose of meeting Rapid City's water needs and may not exceed the amount of water needed for beneficial use for municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic purposes.
3. The water is to be used during the following described annual period: May 1 - September 30 for diversions from the Water Treatment Plant, Sioux Park Gallery, Meadowbrook Gallery and Jackson Springs Gallery and January 1 - December 31 for Pactola Reservoir diversion releases from storage.
4. The date from which applicant may claim right is May 3, 1880.
5. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. Permit No. 2234-2 is limited to a diversion rate of 0.79 cfs for a total annual volume of 67.7 acre-feet at Pactola Reservoir or a total annual volume of 131.6 acre-feet at Sioux Park Gallery (SW 1/4 SW 1/4 Section 3), Meadowbrook Gallery (SE 1/4 NE 1/4 Section 9), Jackson Springs Gallery (NW 1/4 SE 1/4 Section 8), and the Rapid City Water Treatment Plant (SE 1/4 NE 1/4 Section 3), all in T1N-R7E. Maximum monthly diversion volumes at Pactola or the diversion points within Rapid City are as follows:

(continued)

<u>Monthly</u>	<u>Monthly acre-feet at Pactola</u>	<u>Monthly acre-feet at diversion points within Rapid City</u>
May	9.7	18.9
June	13.9	27.1
July	14.4	28.0
August	16.9	32.8
September	12.8	24.8
October	0.0	0.0

Diversions during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City diversion points.

2. Permit No. 2234-2 authorizes diversion of only natural flow water by the City of Rapid City and does not include any rights to stored irrigation water available under contract from Pactola Reservoir.
3. That the City of Rapid City report to the Chief Engineer annually the amount of water withdrawn each month at Pactola Reservoir or the diversion points within Rapid City.
4. That the Water Management Board is retaining jurisdiction of Permit No. 2234-2 in the event that additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2234-2.
5. Diversions under Permit No. 2234-2 may not interfere with existing water rights in effect prior to approval of No. 2234-2 or any domestic rights.
6. The amount of water with a May 3, 1880, priority date, which may be appropriated under Vested Water Right No. 2040-2 is reduced by 0.79 cfs.
7. Approval of Permit No. 2234-2 retires the 70 acres, known as the Eisenbraun property which has been historically irrigated from South Side Ditch, located in the E 1/2 NE 1/4 Section 26-T1N-R8E from future irrigation.

WATER MANAGEMENT BOARD

By: _____

John Hatch, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

JUN 10 1997

date



Supplemental Information

(type or print in ink)



1. Well Information - Proposed construction N/A

- Drill Hole Diameter _____ Depth _____
- Casing Type _____ Diameter _____ Thickness _____
- Screen Type _____ Diameter _____ Thickness _____
- Gravel Pack Thickness _____ Length of Gravel Pack _____
- Depth to Top of Water Bearing Material _____
- Depth to Water (ground surface to water level) _____
- Distance to nearest existing domestic well:
On applicants property _____ On property owned by others _____

2. Dugout Information Estimates N/A

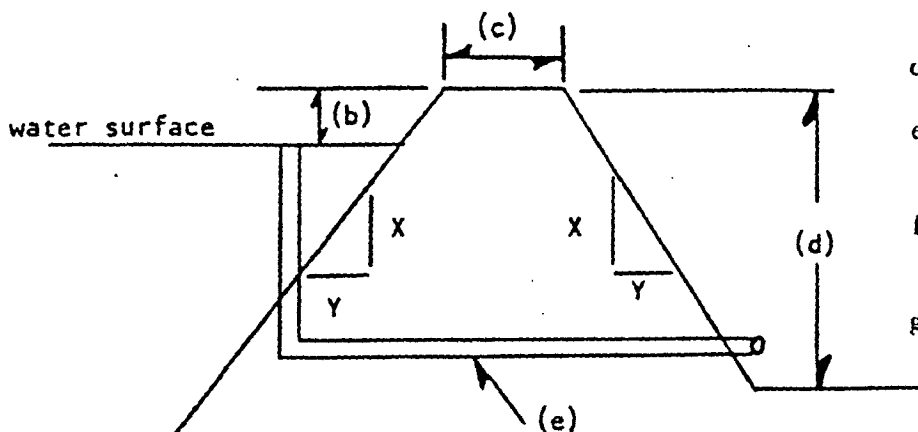
- Surface Dimensions _____ Depth _____
- Depth to water (ground surface to water level) _____

3. Water Storage Dams (EXISTING PACTOLA RESERVOIR)

If the proposed water use system contains one or more storage dams, please furnish the information requested below. The locations of each dam should be shown on the map submitted with the application.

- If a private engineering firm or government agency was involved in the design of this dam please give their name and address

UNITED STATES BUREAU OF RECLAMATION
DEPARTMENT OF THE INTERIOR



- Freeboard 3.3 FT
- Crest Width 40 FT
Crest Length 5,200 FT (INCLUDING DIKES)
- Height 245 FT
- Primary Outlet Capacity 1,150 CFS
If Pipe, diameter TWO 2.75 FT X 2.75 FT GATES
- Secondary Spillway Capacity 245,000 CFS
Spillway width 425 FT
- X & Y Slope
Upstream 2-1/2:1
Downstream 2:1

Surface Area of Impoundment 1,232 ACRES
1/

Storage 99,029 1/ acre feet

Drainage area above dam 319 SQ MI
1/ INCLUDES FLOOD POOL

Ed McLaughlin
Signature of Applicant EDWARD R. MC LAUGHLIN, Mayor
City of Rapid City



EXHIBIT 1

LEGAL DESCRIPTION OF IRRIGATED LAND
AFFECTED BY APPLICATION

East one-half of the NE $\frac{1}{4}$, less Lots 8 and 9 of Eisenbraum Subdivision and dedicated right-of-way, Section Twenty-Six (26), Township One (1) North, Range Eight (8) East of the Black Hills Meridian, Pennington County, South Dakota, consisting of 73 acres, more or less.

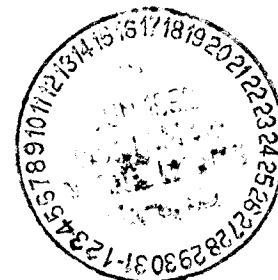


EXHIBIT 2

APPLICATION FOR PERMIT TO APPROPRIATE WATER WITHIN THE STATE OF SOUTH DAKOTA

4) LOCATION OF POINTS OF DIVERSION

City of Rapid City Water Treatment Plant:

North 71° 39' West, 1205 ft. from East $\frac{1}{4}$ corner of Section Three (3), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

Sioux Park "Girl Scout" Gallery:

1270 ft. North 54° 05' East of Southwest corner of Section Three (3), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

Meadowbrook Gallery:

2032 ft. South 31° 41' West of Northeast corner of Section Nine (9), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

Jackson Springs Gallery:

2943 ft. North 58° 54' West of Southeast corner of Section Eight (8), Township One (1) North, Range SEven (7) East of the Black Hills Meridian.

Alternate Pactola Reservoir Diversion (Inlet to Service Spillway:

South 19° East, 3740 ft. of Northwest corner of Section Two (2), Township One (1) North, Range Five (5) East of the Black Hills Meridian.

Reservoir generally located in portions of Sections Two (2), Three (3), Four (4), Five (5), Ten (10) and Eleven (11), Township One (1) North, Range Five (5) East of the Black Hills Meridian, and portions of Sections Thirty-One (31), Thirty-Two (32), Thirty-Three (33) and Thirty-Four (34), Township One (1) North, Range Five (5) East of the Black Hills Meridian.

All of the above in Pennington County, South Dakota.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

* I N V O I C E *

Invoice No. 20411 6-92

Accounts Payable
City Finance Office
300 Sixth Street
Rapid City SD 57701

Your purchase order #: 257660

Application for Permit to Appropriate Water
Within the State of South Dakota

\$50.00

Please pay this amount:

\$50.00

Karen Schlaak
KAREN SCHLAACK
Natural Resources Analyst
Water Rights Division
605 773-3352

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

416268

Pierre, July 8, 19 92

RECEIVED OF City of Rapid City Finance Office, Rapid City SD
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>2234-2</u> to Appropriate Water, to construct works and to put water to beneficial use _____	50	00
Fee for Application for Permit No. _____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	50 00

By John Hatch

Chief Engineer

JOHN HATCH (ks) 49



Wright Water Engineers, Inc.

DENVER OFFICE
2490 West 26th Ave., Suite 100 A
Denver, Colorado 80211
FAX (303) 480-1020
(303) 480-1700

GLENWOOD SPRINGS OFFICE
818 Colorado Avenue
P.O. Box 219
Glenwood Springs, Colorado 81602
FAX (303) 945-9210
Denver Line (303) 893-1608
(303) 945-7755

June 1, 1992

Mr. Del Brosz
Mr. Mark Rath
Water Rights Division
Department of Environment and
Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181



Re: Eisenbraun Property Water Rights Transfer

Dear Messrs. Brosz and Rath:

Wright Water Engineers, Inc. has determined the irrigated acreage under the South Side Ditch belonging to Reinhold A. Eisenbraun and the amount of water that can be transferred to the Rapid City water treatment plant and infiltration galleries as it relates to information detailed in the engineering report prepared for the Stromer property dated March 1992.

These calculations are based upon a flood irrigation efficiency of 50 percent and a 9.8 percent seepage loss for the South Side Ditch.

The October 27, 1987 vested rights for license No. 2040-2 on the South Side Ditch lists the 70 acres of irrigated land in the east half of the northeast quarter of Section 26, Township 1 North, Range 8 East of the Black Hills Meridian. Mr. Eisenbraun indicated that he irrigates 73 acres in the west half of the northeast quarter of Section 26, Township 1N, Range 8 East. According to the provided 1981 ASCS aerial photograph, the Eisenbraun property has 63.1 acres of irrigated acreage. Mr. Eisenbraun owns 7 1/2 shares of the South Side Ditch Company stock.

For purposes of the calculations herein, we have assumed 40 acres of alfalfa and 30 acres of hay are irrigated on the Eisenbraun property.

The consumptive use calculations in the attached Table A yield the following:

- a. To storage in Pactola Reservoir, the average year transferable amount would be:

$$(70.0 \text{ acres}) \times (1.01 \text{ acre-feet/acre}) = 70.6 \text{ acre-feet.}$$

Mr. Del Brosz
Mr. Mark Rath
June 1, 1992
Page 2

- b. To the city WTP and infiltration galleries, the average year transferable amount would be:

(70.0 acres) x (2.02 acre-feet/acre - 2.8 percent due to return flows from the Murphy and Cyclone ditches = 137.3 acre-feet (see attached Table B).

The calculations to determine if a full irrigation supply was provided by South Ditch to the Eisenbraun property are based on 1,313 acres of presently irrigated land for the South Side Ditch as agreed to in the January 3, 1992 telephone conference with Del Brosz and Mark Rath. The 1,313 acres consists of 1,078 acres irrigated under the South Side Ditch priority and 235 acres irrigated under the Little Giant Ditch priority.

The monthly transferable amounts to Pactola Reservoir and the City's WTP and infiltration galleries are presented in Table C. Diversion at the alternate points of diversion at the water treatment plant, infiltration galleries and Pactola Reservoir will only take place during the permitted irrigation season for the South Side Ditch of April 15 to November 1; Table C, however, includes transferable amounts for May through October because no historic diversion by the South Side Ditch is recorded for April.

The rate of diversion for the transferable amount from the Eisenbraun property is calculated by the following method:

$$\frac{70.0 \text{ acres}}{1,877 \text{ acres}} \quad \times \quad \begin{array}{c} 23.4 \text{ cfs} \\ \text{at the ditch} \\ \text{headgate} \end{array} \quad \times \quad (1.0 - 0.098) = 0.79 \text{ cfs}$$

where the 9.8 percent carriage loss would remain in the ditch, the 1,877 acres is the licensed acreage for the South Side Ditch, and the 23.4 cfs is the licensed diversion.

These transferable amounts and this rate of diversion insure that there will be no injury to downstream water rights, and that depletions to Rapid Creek will not exceed historic depletions.

Mr. Del Brosz
Mr. Mark Rath
June 1, 1992
Page 3

If you have any questions regarding these calculations, please do not hesitate to contact us.

Sincerely,

WRIGHT WATER ENGINEERS, INC.

By

Leo M. Eisel by gdwitt
Leo M. Eisel, P.E.

By

Gary D. Witt
Gary D. Witt

LME/GDW:ard
901-046.010
(RAPIDC/EISEPROP.GDW)
cc: Dan Bjerke
Bob Jackson
Leslie England

DETERMINATION OF CONSUMPTIVE USE FOR TRANSFER
RAPID CITY WATER RIGHTS

901-048.010

MARCH 21, 1982

FILENAME: B:\EISENBRN\EISNAVCU.WQ1

TABLE A

Q	R
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	599
AUG	701
SEP	531
TOTAL	2815

TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY PORTION OF SOUTH SIDE DITCH WATER RIGHTS (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS PRECIP. TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. (25.0%) (IN)	SURFACE WATER RETURN FLOW (25.0%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00
APR	0.24	2.11	0.16	0.08	0.00	0.08	0.00	0.00	0.00	0.00	2.12	0.00	0.00	0.00	0.00
MAY	3.67	2.58	1.78	1.91	0.00	1.91	0.00	0.00	3.33	2.16	2.37	0.00	0.83	0.83	1.67
JUN	5.32	3.29	2.40	2.92	0.00	2.37	0.55	1.09	4.78	2.40	2.40	0.00	1.20	1.20	2.39
JUL	7.25	1.87	1.61	5.64	0.00	2.40	3.24	6.49	4.94	0.00	0.00	0.77	1.23	1.23	2.47
AUG	6.24	1.55	1.26	4.96	0.00	0.00	4.96	9.92	5.78	0.00	0.00	2.07	1.44	1.44	2.89
SEP	3.50	1.10	0.79	2.71	0.00	0.00	2.71	5.42	4.38	0.00	0.00	0.52	1.09	1.09	2.19
OCT	1.30	0.75	0.29	1.01	0.00	0.00	1.01	2.02	1.01	0.00	0.00	0.51	0.25	0.25	0.51
TOTAL	27.52	16.39	10.49	19.23	2.20	6.76	12.47	24.94	24.22	4.56	12.54	3.87	6.05	6.05	12.11

AVERAGE CONDITIONS, CROP = 30 ACRES (43%) HAY, 40 ACRES (57%) ALFALFA

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

EISENBRAUN IRRIGATED ACREAGE = 70

50% IRRIGATION EFFICIENCY USING FLOOD IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (25.0%) PLUS EXCESS SOIL MOISTURE

OTHER HALF OF IRRIGATION INEFFICIENCY (25.0%) IS SURFACE WATER RETURN FLOW

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1949-1979 DUE TO CONSISTENCY OF DATA

GROSS TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY UNDER SOUTH SIDE DITCH			
	(INCHES)	(FEET)	(AC.FT)
TO PACT.	12.11	1.01	70.6
TO WTP	24.22	2.02	141.3

TABLE B**TRANSFERABLE AMOUNTS FROM EISENBRAUN PROPERTY
PORTION OF THE SOUTH SIDE DITCH WATER RIGHTS**

CONDITION	GROSS EISENBRAUN TRANSFER (IN)	GROSS EISENBRAUN TRANSFER (AF)	RETURN FLOW CONTRIBUTION (%)	RETURN FLOW CONTRIBUTION (AF)	NET TRANSFERABLE AMOUNT (AF)
AVERAGE DIVERSION TO WTP	24.2	141.3	2.8	4.0	137.3
AVERAGE DIVERSION TO PACTOLA	12.1	70.6	--	--	70.6

The return flow contribution is that portion of the Eisenbraun property South Side Ditch water rights that is composed of return flows from upstream ditches which reach Rapid Creek upstream from the South Side Ditch point of diversion. These percentages and amounts are calculated in Appendix N of "Engineering Report for Transfer of Stomer Property Portion of South Side Ditch Water Rights", March, 1992.



TABLE C

MONTHLY TRANSFER SUMMARY EISENBRAUN PROPERTY

MONTH	DIVERSION TO STORAGE IN PACTOLA RESERVOIR (AC. FT)*	DIVERSION AT THE RAPID CITY WTP AND INFILTRATION GALLERIES (AC. FT)**
MAY	9.7	18.9
JUNE	13.9	27.1
JULY	14.4	28.0
AUGUST	16.9	32.8
SEPTEMBER	12.8	24.8
OCTOBER	2.9	5.7
TOTAL	70.6	137.3

* Monthly amount transferable to storage in Pactola Reservoir:

Column P (Table A) x 70.0 acres x 1 foot/12 inches

** Monthly amount transferable to Rapid City WTP and infiltration galleries:

(Column J (Table A) x 70.0 acres x 1 foot/12 inches) -
2.8 percent return flows from Murphy and Cyclone
ditches (See attached Table B)



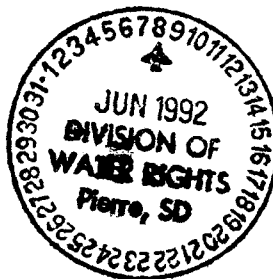
Wright Water Engineers, Inc.

DENVER OFFICE
2490 West 26th Ave., Suite 100 A
Denver, Colorado 80211
FAX (303) 480-1020
(303) 480-1700

GLENWOOD SPRINGS OFFICE
818 Colorado Avenue
P.O. Box 219
Glenwood Springs, Colorado 81602
FAX (303) 945-9210
Denver Line (303) 893-1608
(303) 945-7755

June 3, 1992

Mr. Del Brosz
Mr. Mark Rath
Water Rights Division
Department of Environment and
Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181



Re: Eisenbraun Property Water Rights Transfer

Dear Messrs. Brosz and Rath:

Additional review of the data submitted to you regarding the Eisenbraun property transfer indicates that the monthly diversions in Table C are incorrect. Enclosed are copies of revised Table C. While most of the changes are relatively small it is important that they are consistent with the previously approved transfers. It should be noted that while the monthly figures have changed slightly, the totals have not.

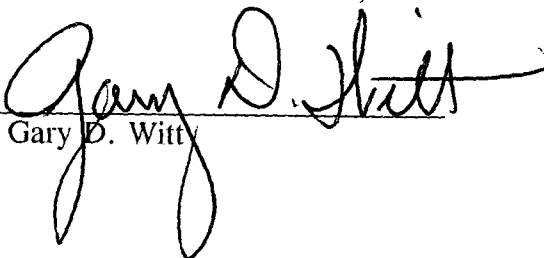
We suggest you discard the previous Table C and replace it with the one enclosed.

We apologize for any inconvenience this may have caused.

Sincerely,

WRIGHT WATER ENGINEERS, INC.

By


Gary D. Witt

GDW:ard
901-046.020

Encls.

cc: Dan Bjerke
Bob Jackson
Leslie England

(RAPIDC/TRANLTRF.GDW)



Wright Water Engineers, Inc.

DENVER OFFICE
2490 West 26th Ave., Suite 100 A
Denver, Colorado 80211
FAX (303) 480-1020
(303) 480-1700

GLENWOOD SPRINGS OFFICE
818 Colorado Avenue
P.O. Box 219
Glenwood Springs, Colorado 81602
FAX (303) 945-9210
Denver Line (303) 893-1608
(303) 945-7755

June 11, 1992

Mr. Del Brosz
Mr. Mark Rath
Water Rights Division
Department of Environment and
Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181



Re: Eisenbraun Property Water Rights Transfer

Dear Messrs. Brosz and Rath:

Wright Water Engineers, Inc. has determined the irrigated acreage under the South Side Ditch belonging to Reinhold A. Eisenbraun and the amount of water that can be transferred to the Rapid City water treatment plant and infiltration galleries as it relates to information detailed in the engineering report prepared for the Stromer property dated March 1992.

These calculations are based upon a flood irrigation efficiency of 50 percent and a 9.8 percent seepage loss for the South Side Ditch.

The October 27, 1987 vested rights for license No. 2040-2 on the South Side Ditch lists the 70 acres of irrigated land in the east half of the northeast quarter of Section 26, Township 1 North, Range 9 East of the Black Hills Meridian. Mr. Eisenbraun indicated that he irrigates 73 acres in the west half of the northeast quarter of Section 26, Township 1N, Range 8 East. According to the provided 1981 ASCS aerial photograph, the Eisenbraun property has 63.1 acres of irrigated acreage. Mr. Eisenbraun owns 7 1/2 shares of the South Side Ditch Company stock.

For purposes of the calculations herein, we have assumed 40 acres of alfalfa and 30 acres of hay are irrigated on the Eisenbraun property.

The consumptive use calculations in the attached Table A yield the following:

- a. To storage in Pactola Reservoir, the average year transferable amount would be:

$$(70.0 \text{ acres}) \times (1.01 \text{ acre-feet/acre}) = 70.6 \text{ acre-feet.}$$

Mr. Del Brosz
Mr. Mark Rath
June 11, 1992
Page 2

- b. To the city WTP and infiltration galleries, the average year transferable amount would be:

(70.0 acres) x (2.02 acre-feet/acre - 2.8 percent due to return flows from the Murphy and Cyclone ditches = 137.3 acre-feet (see attached Table B).

The calculations to determine if a full irrigation supply was provided by South Ditch to the Eisenbraun property are based on 1,313 acres of presently irrigated land for the South Side Ditch as agreed to in the January 3, 1992 telephone conference with Del Brosz and Mark Rath. The 1,313 acres consists of 1,078 acres irrigated under the South Side Ditch priority and 235 acres irrigated under the Little Giant Ditch priority.

The monthly transferable amounts to Pactola Reservoir and the City's WTP and infiltration galleries are presented in Table C. Diversion at the alternate points of diversion at the water treatment plant, infiltration galleries and Pactola Reservoir will only take place during the permitted irrigation season for the South Side Ditch of April 15 to November 1; Table C, however, includes transferable amounts for May through October because no historic diversion by the South Side Ditch is recorded for April.

The rate of diversion for the transferable amount from the Eisenbraun property is calculated by the following method:

$$\frac{70.0 \text{ acres}}{1,877 \text{ acres}} \times 23.4 \text{ cfs at the ditch headgate} \times (1.0 - 0.098) = 0.79 \text{ cfs}$$

where the 9.8 percent carriage loss would remain in the ditch, the 1,877 acres is the licensed acreage for the South Side Ditch, and the 23.4 cfs is the licensed diversion.

These transferable amounts and this rate of diversion insure that there will be no injury to downstream water rights, and that depletions to Rapid Creek will not exceed historic depletions.

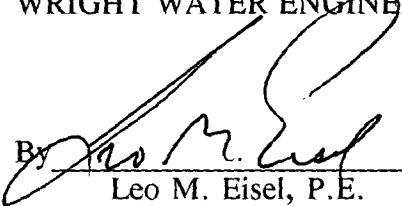
Mr. Del Brosz
Mr. Mark Rath
June 11, 1992
Page 3

If you have any questions regarding these calculations, please do not hesitate to contact us.

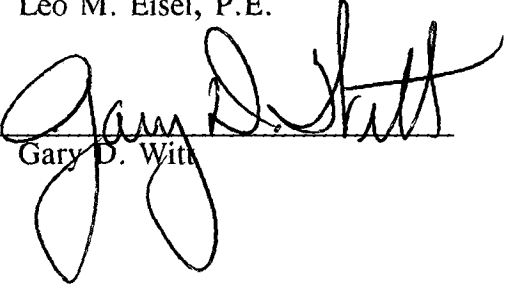
Sincerely,

WRIGHT WATER ENGINEERS, INC.

By


Leo M. Eisel, P.E.

By


Gary D. Witt

LME/GDW:ard
901-046.010
(RAPIDC/EISEPROP.GDW)
cc: Dan Bjerke
Bob Jackson
Leslie England

DETERMINATION OF CONSUMPTIVE USE FOR TRANSFER

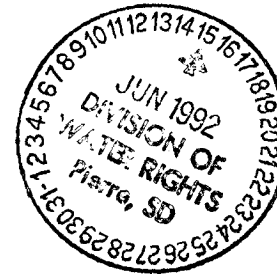
RAPID CITY WATER RIGHTS

901-046.010

MARCH 21, 1992

FILENAME: B:\EISENBRN\EISNAVCU.WQ1

TABLE A



Q	R
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	599
AUG	701
SEP	531
TOTAL	2815

TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY PORTION OF SOUTH SIDE DITCH WATER RIGHTS (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS PRECIP. TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. (25.0%) (IN)	SURFACE WATER RETURN FLOW (25.0%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00
APR	0.24	2.11	0.18	0.08	0.00	0.08	0.00	0.00	0.00	0.00	2.12	0.00	0.00	0.00	0.00
MAY	3.67	2.58	1.76	1.91	0.00	1.91	0.00	0.00	3.33	2.16	2.37	0.00	0.83	0.83	1.67
JUN	5.32	3.29	2.40	2.92	0.00	2.37	0.55	1.09	4.78	2.40	2.40	0.00	1.20	1.20	2.39
JUL	7.25	1.87	1.61	5.64	0.00	2.40	3.24	6.49	4.94	0.00	0.00	0.77	1.23	1.23	2.47
AUG	6.24	1.55	1.28	4.96	0.00	0.00	4.96	9.92	5.78	0.00	0.00	2.07	1.44	1.44	2.89
SEP	3.50	1.10	0.79	2.71	0.00	0.00	2.71	5.42	4.38	0.00	0.00	0.52	1.09	1.09	2.19
OCT	1.30	0.75	0.29	1.01	0.00	0.00	1.01	2.02	1.01	0.00	0.00	0.51	0.25	0.25	0.51
TOTAL	27.52	16.39	10.49	19.23	2.20	6.76	12.47	24.94	24.22	4.56	12.54	3.67	6.05	6.05	12.11

AVERAGE CONDITIONS, CROP = 30 ACRES (43%) HAY, 40 ACRES (57%) ALFALFA

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

EISENBRAUN IRRIGATED ACREAGE = 70

50% IRRIGATION EFFICIENCY USING FLOOD IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (25.0%) PLUS EXCESS SOIL MOISTURE

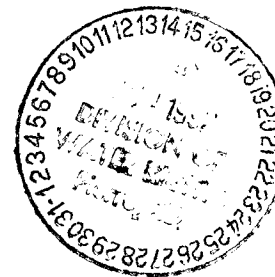
OTHER HALF OF IRRIGATION INEFFICIENCY (25.0%) IS SURFACE WATER RETURN FLOW

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1949-1979 DUE TO CONSISTENCY OF DATA

GROSS TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY UNDER SOUTH SIDE DITCH			
	(INCHES)	(FEET)	(AC.FT)
TO PACT.	12.11	1.01	70.6
TO WTP	24.22	2.02	141.3

TABLE B**TRANSFERABLE AMOUNTS FROM EISENBRAUN PROPERTY
PORTION OF THE SOUTH SIDE DITCH WATER RIGHTS**

CONDITION	GROSS EISENBRAUN TRANSFER (IN)	GROSS EISENBRAUN TRANSFER (AF)	RETURN FLOW CONTRIBUTION (%)	RETURN FLOW CONTRIBUTION (AF)	NET TRANSFERABLE AMOUNT (AF)
AVERAGE DIVERSION TO WTP	24.2	141.3	2.8	4.0	137.3
AVERAGE DIVERSION TO PACTOLA	12.1	70.6	--	--	70.6

The return flow contribution is that portion of the Eisenbraun property South Side Ditch water rights that is composed of return flows from upstream ditches which reach Rapid Creek upstream from the South Side Ditch point of diversion. These percentages and amounts are calculated in Appendix N of "Engineering Report for Transfer of Stomer Property Portion of South Side Ditch Water Rights", March, 1992.



TABLE C

MONTHLY TRANSFER SUMMARY EISENBRAUN PROPERTY

MONTH	DIVERSION TO STORAGE IN PACTOLA RESERVOIR (AC. FT)*	DIVERSION AT THE RAPID CITY WTP AND INFILTRATION GALLERIES (AC. FT)**
MAY	9.7	18.9
JUNE	13.9	27.1
JULY	14.4	28.0
AUGUST	16.9	32.8
SEPTEMBER	12.8	24.8
OCTOBER	2.9	5.7
TOTAL	70.6	137.3

* Monthly amount transferable to storage in Pactola Reservoir:

Column P (Table A) x 70.0 acres x 1 foot/12 inches

** Monthly amount transferable to Rapid City WTP and infiltration galleries:

(Column J (Table A) x 70.0 acres x 1 foot/12 inches) -
2.8 percent return flows from Murphy and Cyclone
ditches (See attached Table B)



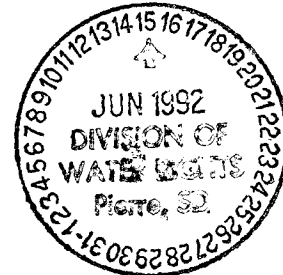
Wright Water Engineers, Inc.

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Denver, Colorado 80211
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June 11, 1992

Mr. Del Brosz
Mr. Mark Rath
Water Rights Division
Department of Environment and
Natural Resources
Joe Foss Building
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The consumptive use calculations in the attached Table A yield the following:

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Mr. Del Brosz
Mr. Mark Rath
June 11, 1992
Page 2

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(70.0 acres) x (2.02 acre-feet/acre - 2.8 percent due to return flows from the Murphy and Cyclone ditches = 137.3 acre-feet (see attached Table B).

The calculations to determine if a full irrigation supply was provided by South Ditch to the Eisenbraun property are based on 1,313 acres of presently irrigated land for the South Side Ditch as agreed to in the January 3, 1992 telephone conference with Del Brosz and Mark Rath. The 1,313 acres consists of 1,078 acres irrigated under the South Side Ditch priority and 235 acres irrigated under the Little Giant Ditch priority.

The monthly transferable amounts to Pactola Reservoir and the City's WTP and infiltration galleries are presented in Table C. Diversion at the alternate points of diversion at the water treatment plant, infiltration galleries and Pactola Reservoir will only take place during the permitted irrigation season for the South Side Ditch of April 15 to November 1; Table C, however, includes transferable amounts for May through October because no historic diversion by the South Side Ditch is recorded for April.

The rate of diversion for the transferable amount from the Eisenbraun property is calculated by the following method:

$$\frac{70.0 \text{ acres}}{1,877 \text{ acres}} \quad \times \quad \begin{array}{l} 23.4 \text{ cfs} \\ \text{at the ditch} \\ \text{headgate} \end{array} \quad \times \quad (1.0 - 0.098) = 0.79 \text{ cfs}$$

where the 9.8 percent carriage loss would remain in the ditch, the 1,877 acres is the licensed acreage for the South Side Ditch, and the 23.4 cfs is the licensed diversion.

These transferable amounts and this rate of diversion insure that there will be no injury to downstream water rights, and that depletions to Rapid Creek will not exceed historic depletions.

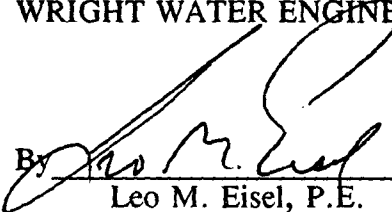
Mr. Del Brosz
Mr. Mark Rath
June 11, 1992
Page 3

If you have any questions regarding these calculations, please do not hesitate to contact us.

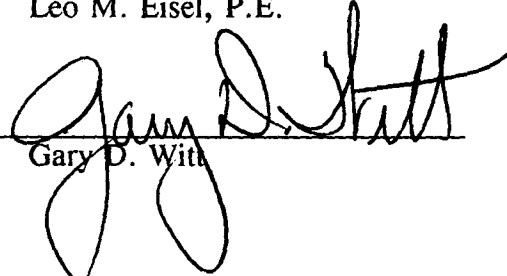
Sincerely,

WRIGHT WATER ENGINEERS, INC.

By


Leo M. Eisel, P.E.

By


Gary D. Witt

LME/GDW:ard
901-046.010
(RAPIDC/EISEPROP.GDW)
cc: Dan Bjerke
Bob Jackson
Leslie England

DETERMINATION OF CONSUMPTIVE USE FOR TRANSFER

RAPID CITY WATER RIGHTS

901-046.010

MARCH 21, 1992

FILENAME: B:\EISENBRAUN\EISNAVCU.WQ1

TABLE A



Q	R
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	599
AUG	701
SEP	531
TOTAL	2615

TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY PORTION OF SOUTH SIDE DITCH WATER RIGHTS (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS PRECIP. TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. (25.0%) (IN)	SURFACE WATER RETURN FLOW (25.0%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00
APR	0.24	2.11	0.16	0.08	0.00	0.08	0.00	0.00	0.00	0.00	2.12	0.00	0.00	0.00	0.00
MAY	3.87	2.58	1.78	1.91	0.00	1.91	0.00	0.00	3.33	2.16	2.37	0.00	0.83	0.83	1.87
JUN	5.32	3.29	2.40	2.92	0.00	2.37	0.55	1.09	4.78	2.40	2.40	0.00	1.20	1.20	2.39
JUL	7.25	1.87	1.81	5.64	0.00	2.40	3.24	6.49	4.94	0.00	0.00	0.77	1.23	1.23	2.47
AUG	6.24	1.55	1.28	4.96	0.00	0.00	4.96	9.92	5.78	0.00	0.00	2.07	1.44	1.44	2.89
SEP	3.50	1.10	0.79	2.71	0.00	0.00	2.71	5.42	4.38	0.00	0.00	0.52	1.09	1.09	2.19
OCT	1.30	0.75	0.29	1.01	0.00	0.00	1.01	2.02	1.01	0.00	0.00	0.51	0.25	0.25	0.51
TOTAL	27.52	16.39	10.49	19.23	2.20	6.76	12.47	24.94	24.22	4.56	12.54	3.87	6.05	6.05	12.11

AVERAGE CONDITIONS, CROP = 30 ACRES (43%) HAY, 40 ACRES (57%) ALFALFA

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

EISENBRAUN IRRIGATED ACREAGE = 70

50% IRRIGATION EFFICIENCY USING FLOOD IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (25.0%) PLUS EXCESS SOIL MOISTURE

OTHER HALF OF IRRIGATION INEFFICIENCY (25.0%) IS SURFACE WATER RETURN FLOW

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1949-1979 DUE TO CONSISTENCY OF DATA

GROSS TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY UNDER SOUTH SIDE DITCH			
	(INCHES)	(FEET)	(AC.FT)
TO PACT.	12.11	1.01	70.6
TO WTP	24.22	2.02	141.3



TABLE B

**TRANSFERABLE AMOUNTS FROM EISENBRAUN PROPERTY
PORTION OF THE SOUTH SIDE DITCH WATER RIGHTS**

CONDITION	GROSS EISENBRAUN TRANSFER (IN)	GROSS EISENBRAUN TRANSFER (AF)	RETURN FLOW CONTRIBUTION (%)	RETURN FLOW CONTRIBUTION (AF)	NET TRANSFERABLE AMOUNT (AF)
AVERAGE DIVERSION TO WTP	24.2	141.3	2.8	4.0	137.3
AVERAGE DIVERSION TO PACTOLA	12.1	70.6	--	--	70.6

The return flow contribution is that portion of the Eisenbraun property South Side Ditch water rights that is composed of return flows from upstream ditches which reach Rapid Creek upstream from the South Side Ditch point of diversion. These percentages and amounts are calculated in Appendix N of "Engineering Report for Transfer of Stroman Property Portion of South Side Ditch Water Rights", March, 1992.

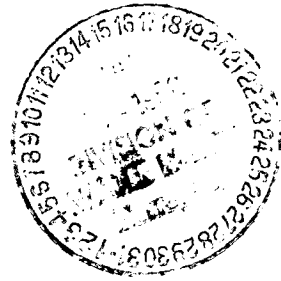


TABLE C

MONTHLY TRANSFER SUMMARY

EISENBRAUN PROPERTY

MONTH	DIVERSION TO STORAGE IN PACTOLA RESERVOIR (AC. FT)*	DIVERSION AT THE RAPID CITY WTP AND INFILTRATION GALLERIES (AC. FT)**
MAY	9.7	18.9
JUNE	13.9	27.1
JULY	14.4	28.0
AUGUST	16.9	32.8
SEPTEMBER	12.8	24.8
OCTOBER	2.9	5.7
TOTAL	70.6	137.3

* Monthly amount transferable to storage in Pactola Reservoir:

Column P (Table A) x 70.0 acres x 1 foot/12 inches

** Monthly amount transferable to Rapid City WTP and infiltration galleries:

(Column J (Table A) x 70.0 acres x 1 foot/12 inches) -
2.8 percent return flows from Murphy and Cyclone
ditches (See attached Table B)

MEMORANDUM

Wright Water Engineers, Inc.

2490 West 26th Avenue, Suite 100-A
 Denver, Colorado 80211
 (303) 480-1700

To: Del Brosz & Mark RathFrom: Gary WittDate: June 11, 1992Subject: Eisenbraun Property

Please excuse our oversight once again.

The Eisenbraun property is located
 in Section 26, Township 1 North, Range
8 East (Not 9) of the Black
 Hills Meridian.

Range 8 East should show up
 twice in the 3rd paragraph of the
 first page.

This has been corrected on these
 enclosed copies.

I am sorry for any inconvenience
 this may have caused.

Sincerely,
 Gary Witt

cc: Dan Bjelke
 Bob Jackson
 Leslie England

MEMORANDUM

Wright Water Engineers, Inc.

2490 West 26th Avenue, Suite 100-A
 Denver, Colorado 80211
 (303) 480-1700



To: Del Brong & Mark Rath
 From: Gary Stett Date: June 22, 1992
 Subject: Cisenbram Property

As per my conversation with Mr. Mark Rath of the date, I am writing to confirm that the 73 acres that Mr. Reinhold Cisenbram claims to irrigate with his South Side Ditch water under license No. 2040-Z is located in the east half of the northwest corner of Section 26 T1N, R8E.

It is our understanding that Ervin Cisenbram, Reinhold's brother, owns and irrigates the western half of Section 26.

Please excuse the typographical error in our June 11, 1992 letter report.

c.c. Dan Bjerke

Sincerely,
 Gary Stett



City of Rapid City

RAPID CITY, SOUTH DAKOTA 57701

Michael D. Shrub, Public Works Director

Public Works Department

300 Sixth Street

605-394-4165



June 12, 1992

Mr. John Hatch
Chief Engineer
Water Rights Division
SD Dept. of Environment & Natural Resources
Joe Foss Building
Pierre, SD 57501

Re: Application for Permit to Appropriate Water
Eisenbraun Property Water Rights Transfer
South Side Ditch

Dear Mr. Hatch:

Transmitted herewith are two copies of the above referenced application for your consideration. The engineering report referenced in the application has been sent to Messengers Del Brosz and Mark Rath in your office at an earlier date.

If you need any additional regarding this application, please call me at 394-4165

Sincerely,
CITY OF RAPID CITY

Daniel L. Bjerke, PE/LS
Public Works Director of Engineering/Utilities

cc: Bob Jackson



EQUAL HOUSING
OPPORTUNITY

EQUAL OPPORTUNITY EMPLOYER





Wright Water Engineers, Inc.

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Denver, Colorado 80211
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July 17, 1992

Mr. Mark Rath
Water Rights Division
Department of Environment and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181



Re: Eisenbraun Property Water Rights Transfer

Dear Mr. Rath:

Enclosed you will find a copy of the TR-21 consumptive use calculation table for both hay and alfalfa as you requested. Columns K, N and O were weighted (i.e., 43 percent hay and 57 percent alfalfa) to produce the data which was used in Table A of our letter report dated June 11, 1992. (A revised Table A is also included herein.)

In addition, we have reviewed the source of the 0.51 inches of transferable consumptive use claimed in October of an average year. We have determined that there was no soil moisture nor diversion available to meet the consumptive use demand of the crop. Therefore, although Blaney-Criddle calculations show that consumptive use was occurring in October, there can be no claim made to the transfer of 0.51 inches in October. The net result of this determination is that the gross transferable amount from the Eisenbraun property under the South Side Ditch has been decreased to 11.6 inches (12.11 inches - 0.51 inches - 11.6 inches). The resulting transferable amount to Pactola based on 70 acres is, therefore, 67.7 acre-feet. This is approximately 3 acre-feet less than that which was previously presented. This change also creates a decrease of approximately 6 acre-feet of water which can be transferred to the water treatment plant and infiltration galleries. The revised Tables A, B, and C have been enclosed for your review.

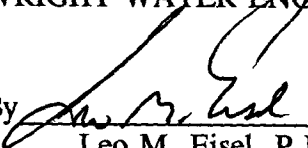
Mr. Mark Rath
July 17, 1992
Page 2

We hope that this information satisfied your questions concerning these issues. We would be happy to discuss any additional questions you have regarding this matter.

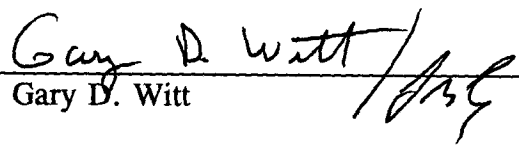
Sincerely,

WRIGHT WATER ENGINEERS, INC.

By


Leo M. Eisel, P.E.

By


Gary D. Witt

LME/GDW:ard

901-046.030

Encls.

cc: Del Brosz
Dan Bjerke
Bob Jackson

(RAPIDC/EISETR-2.LME)

TABLE A

Q	R
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	599
AUG	701
SEP	531
TOTAL	2815

TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY PORTION OF SOUTH SIDE DITCH WATER RIGHTS (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS PRECIP. TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. (25.0%) (IN)	SURFACE WATER RETURN FLOW (25.0%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00
APR	0.24	2.11	0.16	0.08	0.00	0.08	0.00	0.00	0.00	0.00	2.12	0.00	0.00	0.00	0.00
MAY	3.67	2.58	1.76	1.91	0.00	1.91	0.00	0.00	3.33	1.67	1.87	0.00	0.83	0.83	1.67
JUN	5.32	3.29	2.40	2.92	0.00	1.87	1.05	2.09	4.78	1.34	1.34	0.00	1.20	1.20	2.39
JUL	7.25	1.87	1.61	5.64	0.00	1.34	4.30	8.59	4.94	0.00	0.00	1.83	1.23	1.23	2.47
AUG	6.24	1.55	1.28	4.96	0.00	0.00	4.96	9.92	5.78	0.00	0.00	2.07	1.44	1.44	2.89
SEP	3.50	1.10	0.79	2.71	0.00	0.00	2.71	5.42	4.38	0.00	0.00	0.52	1.09	1.09	2.19
OCT	1.30	0.75	0.29	1.01	0.00	0.00	1.01	2.02	0.00	0.00	0.00	1.01	0.00	0.00	0.00
TOTAL	27.52	16.39	10.49	19.23	2.20	5.21	14.02	28.05	23.21	3.01	10.99	5.43	5.80	5.80	11.60

AVERAGE CONDITIONS, CROP = 30 ACRES (43%) HAY, 40 ACRES (57%) ALFALFA

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

EISENBRAUN IRRIGATED ACREAGE = 70

50% IRRIGATION EFFICIENCY USING FLOOD IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (25.0%) PLUS EXCESS SOIL MOISTURE

OTHER HALF OF IRRIGATION INEFFICIENCY (25.0%) IS SURFACE WATER RETURN FLOW

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1949-1979 DUE TO CONSISTENCY OF DATA

GROSS TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY UNDER SOUTH SIDE DITCH			
	(INCHES)	(FEET)	(AC.FT)
TO PACT.	11.60	0.97	67.7
TO WTP	23.21	1.93	135.4

TABLE B

**TRANSFERABLE AMOUNTS FROM EISENBRAUN PROPERTY
PORTION OF THE SOUTH SIDE DITCH WATER RIGHTS**

CONDITION	GROSS EISENBRAUN TRANSFER (IN)	GROSS EISENBRAUN TRANSFER (AF)	RETURN FLOW CONTRIBUTION (%)	RETURN FLOW CONTRIBUTION (AF)	NET TRANSFERABLE AMOUNT (AF)
AVERAGE DIVERSION TO WTP	23.2	135.4	2.8	3.8	131.6
AVERAGE DIVERSION TO PACTOLA	11.6	67.7	--	--	67.7

The return flow contribution is that portion of the Eisenbraun property South Side Ditch water rights that is composed of return flows from upstream ditches which reach Rapid Creek upstream from the South Side Ditch point of diversion. These percentages and amounts are calculated in Appendix N of "Engineering Report for Transfer of Stomer Property Portion of South Side Ditch Water Rights", March, 1992.

TR-21

TR-21 CONSUMPTIVE USE CALCULATIONS (AVERAGE)

LATITUDE: 44 N
 CROP: HAY
 YEAR: 49-54,56-59,63-68,70-79

STATION: RAPID CITY WSO AP

IRR. APPL. IN.: 3.00
 LIMIT: 45 F MEAN TEMP

f= 1.00067

MONTH	DAYS	TEMP	ADJ. TEMP.	% DAY	ADJ. DAY	CU FACTOR	CLIMATE COEFF.	GROWTH COEFF.	CU COEFF.	MONTH CU	MONTH PPT.	PPT. FACTOR	EFFECT. PPT.	ADJUSTED CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.49	0.1470	0.00	--	-0.12	0.00	0.00
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.57	0.1710	0.00	--	-0.12	0.00	0.00
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.00
APR	9	43.9	47.4	9.05	2.72	1.2869	0.5060	0.85	0.4301	0.55	0.63	0.38	0.38	0.17
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	0.90	0.5800	3.29	2.58	1.72	1.72	1.57
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	0.92	0.7170	4.71	3.29	2.31	2.31	2.40
JUL	31	72.3	72.3	10.41	10.41	7.5264	0.9368	0.92	0.8618	6.49	1.87	1.54	1.54	4.94
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	0.91	0.8289	5.70	1.55	1.24	1.24	4.46
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.87	0.6374	3.24	1.10	0.78	0.78	2.46
OCT	26	49.3	51.1	7.64	6.41	3.2744	0.5700	0.79	0.4503	1.47	0.63	0.40	0.40	1.07
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.67	0.2010	0.00	--	-0.12	0.00	0.00
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.55	0.1650	0.00	--	-0.12	0.00	0.00

SUM	188
-----	-----

INCHES	25.46	11.65		8.38	17.07
FEET	2.12	0.97		0.70	1.42

TR-21

TR-21 CONSUMPTIVE USE CALCULATIONS (AVERAGE)

LATITUDE: 44 N
CROP: ALFALFA
YEAR: 49-54,56-59,63-68,70-79

STATION: RAPID CITY WSO AP

IRR. APPL. IN.: 3.00
LIMIT: 50 F MEAN TEMP

f= 1.00067

MONTH	DAYS	TEMP	ADJ. TEMP.	% DAY	ADJ. DAY	CU FACTOR	CLIMATE COEFF.	GROWTH COEFF.	CU COEFF.	MONTH CU	MONTH PPT.	PPT. FACTOR	EFFECT. PPT.	ADJUSTED CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.63	0.1890	0.00	--	-0.12	0.00	0.0000
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.0000
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.86	0.2580	0.00	--	-0.12	0.00	0.0000
APR	--	--	--	9.05	0.00	0.0000	0.3000	0.99	0.2970	0.00	--	-0.12	0.00	0.0000
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	1.08	0.6960	3.95	2.58	1.79	1.79	2.1636
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	1.13	0.8807	5.78	3.29	2.46	2.46	3.3270
JUL	31	72.3	72.3	10.41	10.41	7.5264	0.9368	1.11	1.0398	7.83	1.87	1.66	1.66	6.1647
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	1.06	0.9655	6.64	1.55	1.31	1.31	5.3295
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.99	0.7253	3.69	1.10	0.80	0.80	2.8892
OCT	15	49.3	55.1	7.64	3.70	2.0369	0.6392	0.91	0.5817	1.18	0.36	0.21	0.21	0.9795
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.78	0.2340	0.00	--	-0.12	0.00	0.0000
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.64	0.1920	0.00	--	-0.12	0.00	0.0000

SUM	168
-----	-----

INCHES	29.07	10.75	8.22	20.85
FEET	2.42		0.69	1.74

TABLE C

MONTHLY TRANSFER SUMMARY

EISENBRAUN PROPERTY

MONTH	DIVERSION TO STORAGE IN PACTOLA RESERVOIR (AC. FT)*	DIVERSION AT THE RAPID CITY WTP AND INFILTRATION GALLERIES (AC. FT)**
MAY	9.7	18.9
JUNE	13.9	27.1
JULY	14.4	28.0
AUGUST	16.9	32.8
SEPTEMBER	12.8	24.8
OCTOBER	0.0	0.0
TOTAL	67.7	131.6

* Monthly amount transferable to storage in Pactola Reservoir:

Column P (Table A) x 70.0 acres x 1 foot/12 inches

** Monthly amount transferable to Rapid City WTP and infiltration galleries:

(Column J (Table A) x 70.0 acres x 1 foot/12 inches) -
2.8 percent return flows from Murphy and Cyclone
ditches (See attached Table B)



CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701-2724

Public Works Department

300 Sixth Street

605-394-4165

FAX 605-394-6636



July 29, 1992

Mr. Del Brosz
Mr. Mark Rath
Water Right Divisions
SD Dept. of Environment & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501

Re: Eisenbraun Water Right Transfer
City of Rapid City

Dear Messrs. Brosz and Rath:

The City of Rapid City requests that the consideration of the application for the Eisenbraun water right transfer on the South Side Ditch be continued until a later date. Some personal matters regarding the Eisenbraun transaction have necessitated the request for continuation. Hopefully the City will be able to resolve these matters so the transfer process can be completed.

Your attention to this request will be appreciated.

Sincerely,
CITY OF RAPID CITY

Daniel L. Bjerke
Public Works Director of Engineering/Utilities

cc: Bob Jackson



EQUAL HOUSING
OPPORTUNITY

EQUAL OPPORTUNITY EMPLOYER



Wright Water Engineers, Inc.

DENVER OFFICE
2490 West 26th Ave., Suite 100 A
Denver, Colorado 80211
FAX (303) 480-1020
(303) 480-1700

GLENWOOD SPRINGS OFFICE
818 Colorado Avenue
P.O. Box 219
Glenwood Springs, Colorado 81602
FAX (303) 945-9210
Denver Line (303) 893-1608
(303) 945-7755

August 10, 1992

Mr. Mark Rath
Water Rights Division
Department of Environment and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181



Re: Eisenbraun Property Water Rights Transfer

Dear Mr. Rath:

Enclosed you will find the following requested information:

1. Revised TR-21 table for average year consumptive use calculations for both hay and alfalfa.
2. Revised Table A from our July 17, 1992 letter with corrections based upon error indicated by you in the TR-21 tables for July (Percent day) column.
3. Revised footnotes for Table A incorporating information about weighting of Blaney-Criddle results and calculation of monthly farm irrigation supply.
4. Precipitation and temperature data for years 1949-1979 from which averages for 1949-1954, 1956-1959, 1963-1968, and 1970-1979 were determined. These years were averaged in that they coincide with the years we have diversion data.
5. The answer to your question about why 0.30 is entered in Column (H) of the TR-21 table is that page 15, footnote 1 of the TR-21 report states that a value of 0.3 should be entered when mean temperatures fall below 36°F.

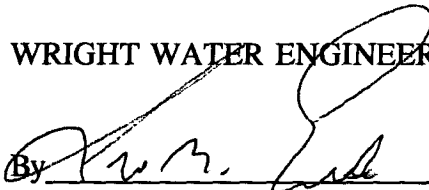
Mr. Mark Rath
August 10, 1992
Page 2

I hope that this information is sufficient for your needs. If you have any additional request or questions, feel free to call.

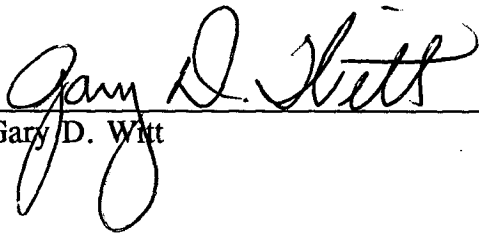
Sincerely,

WRIGHT WATER ENGINEERS, INC.

By


Leo M. Eisel, P.E.

By


Gary D. Witt

LME/GDW:ard
901-046.030
Encls.
(RAPIDC/EISPROWT.GDW)

TABLE A-2

TR-21 CONSUMPTIVE USE CALCULATIONS (AVERAGE) - ALFALFA

LATITUDE: 44 N

IRR. APPL. IN.: 3.00

f= 1.00067

CROP: ALFALFA

STATION: RAPID CITY WSO AP

LIMIT: 50 F MEAN TEMP

YEAR: 49-54,56-59,63-68,70-79

MONTH	DAYS	TEMP	ADJ. TEMP.	% DAY	ADJ. DAY	CU FACTOR	CLIMATE COEFF.	GROWTH COEFF.	CU COEFF.	MONTH CU	MONTH PPT.	PPT. FACTOR	EFFECT. PPT.	ADJUSTED CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.63	0.1890	0.00	--	-0.12	0.00	0.0000
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.0000
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.86	0.2580	0.00	--	-0.12	0.00	0.0000
APR	--	--	--	9.05	0.00	0.0000	0.3000	0.99	0.2970	0.00	--	-0.12	0.00	0.0000
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	1.08	0.6960	3.95	2.58	1.79	1.79	2.1636
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	1.13	0.8807	5.78	3.29	2.46	2.46	3.3270
JUL	31	72.3	72.3	10.49	10.49	7.5843	0.9368	1.11	1.0398	7.89	1.87	1.67	1.67	6.2193
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	1.06	0.9655	6.64	1.55	1.31	1.31	5.3295
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.99	0.7253	3.69	1.10	0.80	0.80	2.8892
OCT	15	49.3	55.1	7.64	3.92	2.1579	0.6392	0.91	0.5817	1.26	0.36	0.21	0.21	1.0491
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.78	0.2340	0.00	--	-0.12	0.00	0.0000
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.64	0.1920	0.00	--	-0.12	0.00	0.0000

SUM	168
-----	-----

INCHES	29.20	10.75		8.23	20.98
FEET	2.43			0.69	1.75

TABLE A-1

TR-21 CONSUMPTIVE USE CALCULATIONS (AVERAGE) - HAY

LATITUDE: 44 N

IRR. APPL. IN.: 3.00

f= 1.00067

CROP: HAY

STATION: RAPID CITY WSO AP

LIMIT: 45 F MEAN TEMP

YEAR: 49-54,56-59,63-68,70-79

MONTH	DAYS	TEMP	ADJ. TEMP.	% DAY	ADJ. DAY	CU FACTOR	CLIMATE COEFF.	GROWTH COEFF.	CU COEFF.	MONTH CU	MONTH PPT.	PPT. FACTOR	EFFECT. PPT.	ADJUSTED CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.49	0.1470	0.00	--	-0.12	0.00	0.00
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.57	0.1710	0.00	--	-0.12	0.00	0.00
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.00
APR	9	43.9	47.4	9.05	2.84	1.3466	0.5060	0.85	0.4301	0.58	0.63	0.38	0.38	0.20
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	0.90	0.5800	3.29	2.58	1.72	1.72	1.57
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	0.92	0.7170	4.71	3.29	2.31	2.31	2.40
JUL	31	72.3	72.3	10.49	10.49	7.5843	0.9368	0.92	0.8618	6.54	1.87	1.55	1.55	4.99
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	0.91	0.8289	5.70	1.55	1.24	1.24	4.46
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.87	0.6374	3.24	1.10	0.78	0.78	2.46
OCT	26	49.3	51.1	7.64	6.67	3.4062	0.5700	0.79	0.4503	1.53	0.63	0.40	0.40	1.13
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.67	0.2010	0.00	--	-0.12	0.00	0.00
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.55	0.1650	0.00	--	-0.12	0.00	0.00

SUM	188
-----	-----

INCHES	25.59	11.65		8.39	17.20
FEET	2.13	0.97		0.70	1.43

TABLE A-1



TR-21

TR-21 CONSUMPTIVE USE CALCULATIONS (AVERAGE)

LATITUDE: 44 N

IRR. APPL. IN.: 3.00

f = 1.00067

CROP: ALFALFA

STATION: RAPID CITY WSO AP

LIMIT: 50 F MEAN TEMP

YEAR: 49-54,56-59,63-68,70-79

MONTH	DAYS	TEMP	ADJ. TEMP.	% DAY	ADJ. DAY	CU FACTOR	CLIMATE COEFF.	GROWTH COEFF.	CU COEFF.	MONTH CU	MONTH PPT.	PPT. FACTOR	EFFECT. PPT.	ADJUSTED CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.63	0.1890	0.00	--	-0.12	0.00	0.0000
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.0000
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.86	0.2580	0.00	--	-0.12	0.00	0.0000
APR	--	--	--	9.05	0.00	0.0000	0.3000	0.99	0.2970	0.00	--	-0.12	0.00	0.0000
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	1.08	0.6960	3.95	2.58	1.79	1.79	2.1636
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	1.13	0.8807	5.78	3.29	2.46	2.46	3.3270
JUL	31	72.3	72.3	10.49	10.49	7.5843	0.9368	1.11	1.0398	7.89	1.87	1.67	1.67	6.2193
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	1.06	0.9655	6.64	1.55	1.31	1.31	5.3295
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.99	0.7253	3.69	1.10	0.80	0.80	2.8892
OCT	15	49.3	55.1	7.64	3.70	2.0369	0.6392	0.91	0.5817	1.18	0.36	0.21	0.21	0.9795
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.78	0.2340	0.00	--	-0.12	0.00	0.0000
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.64	0.1920	0.00	--	-0.12	0.00	0.0000

SUM	168
-----	-----

INCHES	29.13	10.75		8.23	20.91
FEET	2.43			0.69	1.74

TABLE A-2

TR-21

TR-21 CONSUMPTIVE USE CALCULATIONS (AVERAGE)

LATITUDE: 44 N
CROP: HAY
YEAR: 49-54,56-59,63-68,70-79

STATION: RAPID CITY WSO AP

IRR. APPL. IN.: 3.00
LIMIT: 45 F MEAN TEMP

f= 1.00067

MONTH	DAYS	TEMP	ADJ. TEMP.	% DAY	ADJ. DAY	CU FACTOR	CLIMATE COEFF.	GROWTH COEFF.	CU COEFF.	MONTH CU	MONTH PPT.	PPT. FACTOR	EFFECT. PPT.	ADJUSTED CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.49	0.1470	0.00	--	-0.12	0.00	0.00
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.57	0.1710	0.00	--	-0.12	0.00	0.00
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.00
APR	9	43.9	47.4	9.05	2.72	1.2869	0.5060	0.85	0.4301	0.55	0.63	0.38	0.38	0.17
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	0.90	0.5800	3.29	2.58	1.72	1.72	1.57
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	0.92	0.7170	4.71	3.29	2.31	2.31	2.40
JUL	31	72.3	72.3	10.49	10.49	7.5843	0.9368	0.92	0.8618	6.54	1.87	1.55	1.55	4.99
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	0.91	0.8289	5.70	1.55	1.24	1.24	4.46
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.87	0.6374	3.24	1.10	0.78	0.78	2.46
OCT	26	49.3	51.1	7.64	6.41	3.2744	0.5700	0.79	0.4503	1.47	0.63	0.40	0.40	1.07
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.67	0.2010	0.00	--	-0.12	0.00	0.00
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.55	0.1650	0.00	--	-0.12	0.00	0.00
SUM	188													
INCHES	25.51	11.65												
FEET	2.13	0.97												

TABLE A

Q	R
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	599
AUG	701
SEP	531
TOTAL	2815

TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY PORTION OF SOUTH SIDE DITCH WATER RIGHTS (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. (25.0%) (IN)	SURFACE WATER RETURN FLOW (25.0%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00
APR	0.24	2.11	0.16	0.08	0.00	0.08	0.00	0.00	0.00	0.00	2.12	0.00	0.00	0.00	0.00
MAY	3.67	2.58	1.76	1.91	0.00	1.91	0.00	0.00	3.33	1.67	1.87	0.00	0.83	0.83	1.67
JUN	5.32	3.29	2.40	2.92	0.00	1.67	1.05	2.09	4.78	1.34	1.34	0.00	1.20	1.20	2.39
JUL	7.31	1.87	1.62	5.69	0.00	1.34	4.35	8.69	4.94	0.00	0.00	1.88	1.23	1.23	2.47
AUG	6.24	1.55	1.28	4.96	0.00	0.00	4.96	9.92	5.78	0.00	0.00	2.07	1.44	1.44	2.89
SEP	3.50	1.10	0.79	2.71	0.00	0.00	2.71	5.42	4.38	0.00	0.00	0.52	1.09	1.09	2.19
OCT	1.30	0.75	0.29	1.01	0.00	0.00	1.01	2.02	0.00	0.00	0.00	1.01	0.00	0.00	0.00
TOTAL	27.58	16.39	10.50	19.28	2.20	5.21	14.07	28.15	23.21	3.01	10.99	5.48	5.80	5.80	11.60

AVERAGE CONDITIONS, CROP = 30 ACRES (43%) HAY, 40 ACRES (57%) ALFALFA

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

EISENBRAUN IRRIGATED ACREAGE = 70

50% IRRIGATION EFFICIENCY USING FLOOD IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (25.0%) PLUS EXCESS SOIL MOISTURE

OTHER HALF OF IRRIGATION INEFFICIENCY (25.0%) IS SURFACE WATER RETURN FLOW

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1949-1979 DUE TO CONSISTENCY OF DATA

GROSS TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY UNDER SOUTH SIDE DITCH			
	(INCHES)	(FEET)	(AC.FT)
TO PACT.	11.60	0.97	67.7
TO WTP	23.21	1.93	135.4

TABLE A
FOOTNOTES FOR EISENBRAUN TRANSFERABLE AMOUNT

Column A

Month

Column B

Gross consumptive use calculated by weighting 43 percent hay and 57 percent alfalfa results from the Blaney-Criddle method presented in Tables A-1 and A-2.

Column C

Total monthly precipitation taken from NOAA gage at Rapid City airport

Column D

Effective precipitation is precipitation available to meet crop consumptive use requirements

Nongrowing season: $0.7 \times C_i$

Growing season: Calculated by weighting 43 percent hay and 57 percent alfalfa results from the Blaney-Criddle regression presented in Tables A-1 and A-2

Column E

Net consumptive use

Growing season: $B_i - D_i$

Nongrowing season: 0

Column F

Excess precipitation to soil moisture in storage

All months: if $D_i \geq B_i$, then $D_i - B_i$, else 0

Column G

Soil moisture used to satisfy adjusted consumptive use

All months: if $E_i = 0$, then 0, else if $L_{i-1} \geq E_i$, then E_i , else L_{i-1}

TABLE A
FOOTNOTES FOR EISENBRAUN TRANSFERABLE AMOUNT
(Continued)

Column H

Remaining crop needs

All months: if $E_i \geq L_{t-1}$, then $E_i - L_{t-1}$, else 0

Column I

Gross crop needs accounting for farm irrigation inefficiencies

All months: $H/0.50$

Column J

Farm irrigation supply is prorated for the Eisenbraun property as percentage of South Side water (9.8 percent South Side Ditch seepage loss and 1,313 total acres of land irrigated by South Side Ditch water rights).

November-April:	$R = 0$
May-September:	$R \times 0.902 \times 12/1,313$ (average year conditions)
October:	$R = 0$

Column K

Excess irrigation soil moisture contribution

All months: if $J_i = 0$, then 0, else, if $J_i \leq I_i$, then 0, else $(J_i - I_i) \times 0.50$

TABLE A
FOOTNOTES FOR EISENBRAUN TRANSFERABLE AMOUNT
(Continued)

Column L

Accumulative soil moisture storage after irrigation

All months: if $J_i - I_i < 0$, then 0 else,
 if $F_i = 0$ then $L_{i-1} - G_i + K_i$, else $L_{i-1} + F_i$

Column M

Additional water required to meet consumptive use needs from subirrigation

All months: if $L_i = 0$, then $(I_i - J_i) \times 0.50$, else 0

Column N

Deep percolation with flood irrigation

All months: if $L_i > 9.5$, then $L_i - 9.5 + (J_i \times 0.25)$, else $J_i \times 0.25$

Column O

Surface water return flow

All months: $J_i \times 0.25$

Column P

Claimed irrigation consumptive use for transfer from Eisenbraun property

All months: if $J_i = 0$, then $P_i = 0$;
 if $E_i \leq 0.50 J_i$, then $P_i = E_i$;
 if $E_i > 0.50 J_i$, then $P_i = 0.50 J_i$

TABLE A
FOOTNOTES FOR EISENBRAUN TRANSFERABLE AMOUNT
(Continued)

Column Q

Month during irrigation season

Column R

South Side diversions (AF)

**Wright Water Engineers, Inc.**

DENVER OFFICE
2490 West 26th Ave., Suite 100 A
Denver, Colorado 80211
FAX (303) 480-1020
(303) 480-1700

GLENWOOD SPRINGS OFFICE
818 Colorado Avenue
P.O. Box 219
Glenwood Springs, Colorado 81602
FAX (303) 945-9210
Denver Line (303) 893-1608
(303) 945-7755

November 25, 1992

Mr. Daniel L. Bjerke, P.E./L.S.
Water/Wastewater Division Manager
City of Rapid City
300 Sixth Street
Rapid City, South Dakota 57701

Re: Transferable Water From Jundt Property

Dear Dan:

The purpose of this letter is to confirm our telephone conference call of November 24, 1992 concerning the transferable water from the Jundt property.

You indicated that there is 7.4 acres of unirrigated land on the 40 acres that Jundt sold off; therefore, there is 32.6 acres of irrigated land on this property. Subtracting 32.6 acres from the licensed acreage of 286.0 acres leaves a residual of 253.4 acres of irrigated land on the remaining Jundt property.

Referring to the August 26, 1992 letter to you concerning Exhibit B for the South Side Ditch transfer agreement, we see in Table 2 of that letter that 1.88 acre-feet per acre of water can be transferred to the water treatment plant under either alfalfa or hay. The reason this transferable amount is the same is because we are transferring diversion and not consumptive use to the water treatment plant. Therefore, multiplying 253.4 acres by 1.88 acre-feet per acre results in 476 acre-feet of transferable water.

I have enclosed a revised copy of the August 26, 1992 letter report to you for your files. The original Exhibit B that was sent to you was stamped draft for your review and approval. This revised Exhibit B will be considered final after your approval.

Since August 26, we have made some additional changes per the direction of Mark Rath in our spreadsheet which are the basis of the unit alfalfa and hay consumptive use determinations for average years. We have revised the tables attached to the August 26 report to include these latest changes by Mark Rath. These changes do not affect the conclusions of 1.88 acre-feet per acre transferable diversion to the water treatment plant.

Mr. Daniel L. Bjerke
November 25, 1992
Page 2

I hope this is not too confusing and I apologize; however, we are constantly making these little changes to keep the state happy and it is important that we remember to revise tables accordingly. Let us know if you have any questions.

Sincerely,

WRIGHT WATER ENGINEERS, INC.

By Leo M. Eisel / G. Witt
Leo M. Eisel, P.E.

By Gary D. Witt
Gary D. Witt

LME/GDW:ard
901-046.040
Encls.
(RAPIDC/JUNPRO.LME)

Mr. Daniel L. Bjerke
August 26, 1992
Page 2

The verification of the acreage is very important. We have emphasized in Exhibit B that use of the acreage associated with the number of South Side Ditch shares owned by the particular farmer is not appropriate for use in the formula involving Table 1 and Table 2. In order to correctly use Table 1 and Table 2, it is necessary that the historical South Side Ditch irrigated acreage for the specific property, as verified by the South Dakota Department of Environment and Natural Resources, Water Rights Division, through the Water Management Board be used. It is also important that this acreage be capable of being dried up and that no subirrigation will remain.

If you have questions or concerns involving this matter, please contact us.

Sincerely,

WRIGHT WATER ENGINEERS, INC.

By Leo M. Eisel / gdw
Leo M. Eisel, Ph.D., P.E.

By Gary D. Witt
Gary D. Witt

LME/GDW:ard
901-046.030
Attach.
(RAPIDC/EXHIBITR.LME)

REVISED
EXHIBIT B
(11/25/92)

The purpose of this exhibit is to provide a quantitative method for determining the amount of water from historically irrigated areas supplied by the South Side Ditch that can be transferred by the City of Rapid City to new points of diversion at Pactola Reservoir, the City water treatment plant and infiltration galleries.

The transferable amounts on an acre feet per acre basis are specified in Tables 1 and 2. These unit amounts have been calculated based on assumptions agreed to by the South Dakota Department of Environment and Natural Resources, Water Resources Division.

In order to determine the transferable amounts, it is necessary to multiply the appropriate unit factor in Tables 1 or 2 by the historical South Side Ditch irrigated acreage for the specific property as verified by the South Dakota Department of Natural Resources, Water Rights Division through the Water Management Board. In addition, this historically irrigated acreage must be capable of being dried up. If subirrigation will continue after irrigation from the South Side Ditch ceases, a deduction must be made from the calculated transferable amount of water for that subirrigation.

The historically irrigated acreages verified by the South Dakota Department of Environmental and Natural Resources, may be different from the acreage based on ownership of shares in the South Side Ditch Company. It is not appropriate to use the acreage based on shares when calculating the transferable amount of water using Tables 1 and 2. Use of the acreage based on shares is not appropriate unless it can be demonstrated that this acreage has been fully and consistently irrigated.

TABLE 1

**TRANSFERABLE ANNUAL AMOUNT (acre-feet/acre)
TO PACTOLA RESERVOIR
PER ACRE IRRIGATED**

CROP	IRRIGATION TYPE	
	FLOOD	SPRINKLER
ALFALFA	0.97	1.41
HAY	0.96	1.24

TABLE 2

**TRANSFERABLE ANNUAL AMOUNT (acre-feet/acre)
TO WATER TREATMENT PLANT
PER ACRE IRRIGATED**

CROP	IRRIGATION TYPE	
	FLOOD	SPRINKLER
ALFALFA	1.88*	1.88*
HAY	1.88*	1.88*

* This number is the result of subtracting 2.8 percent Cyclone and Murphy ditch return flows from the calculated WTP transferable amount (1.93 AF/acre). This number is based on diversion data.

DETERMINATION OF CONSUMPTIVE USE FOR TRANSFER

RAPID CITY WATER RIGHTS

901-046.030

AUGUST 24, 1992

FILENAME: B:\SSIDE\ALFALFA\FLOOD.WQ1

Q	R
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	509
AUG	701
SEP	531
TOTAL	2815

UNIT ALFALFA CONSUMPTIVE USE FROM SOUTH SIDE DITCH WATER RIGHTS USING FLOOD IRRIGATION (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS PRECIP. TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. (25.0%) (IN)	SURFACE WATER RETURN FLOW (25.0%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00
APR	0.00	2.11	1.48	0.00	1.48	0.00	0.00	0.00	0.00	0.00	3.68	0.00	0.00	0.00	0.00
MAY	3.95	2.58	1.79	2.18	0.00	2.18	0.00	0.00	3.33	1.67	3.18	0.00	1.20	1.20	2.39
JUN	5.78	3.29	2.46	3.33	0.00	3.18	0.15	0.30	4.78	2.24	2.24	0.00	1.51	1.23	2.47
JUL	7.89	1.87	1.87	8.22	0.00	2.24	3.98	7.96	4.94	0.00	0.00	0.00	1.44	1.44	2.89
AUG	6.64	1.55	1.31	5.33	0.00	0.00	5.33	10.68	5.78	0.00	0.00	0.00	1.09	1.09	2.19
SEP	3.69	1.10	0.80	2.89	0.00	0.00	2.89	5.78	4.38	0.00	0.00	0.00	0.00	0.00	0.00
OCT	1.26	0.75	0.21	1.05	0.00	0.00	1.05	2.10	0.00	0.00	0.00	1.05	0.00	0.00	0.00
TOTAL	29.21	18.39	11.92	20.98	3.68	7.58	13.40	26.79	23.21	3.91	14.78	5.70	5.80	5.80	11.60

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

50% IRRIGATION EFFICIENCY USING FLOOD IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (25.0%) PLUS EXCESS SOIL MOISTURE

OTHER HALF OF IRRIGATION INEFFICIENCY (25.0%) IS SURFACE WATER RETURN FLOW

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1949-1979 DUE TO CONSISTENCY OF DATA

GROSS TRANSFERABLE AMOUNT UNDER SOUTH SIDE DITCH		
	(INCHES)	(FEET)
TO PACT.	11.00	0.97
TO WTP	23.21	1.93

DETERMINATION OF CONSUMPTIVE USE FOR TRANSFER

RAPID CITY WATER RIGHTS

901-046.030

AUGUST 24, 1992 FILENAME: B:\SSIDEVALFALFA\SPRINKLER.WQ1

R	S
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	599
AUG	701
SEP	531
TOTAL	2815

UNIT ALFALFA CONSUMPTIVE USE FROM SOUTH SIDE DITCH WATER RIGHTS USING SPRINKLER IRRIGATION (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS PRECIP. TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. WITH SPRINKLER IRRIG. (10%) (IN)	SPRINK. APPL. LOSSES (5%) (IN)	SPRINK. TAIL- WATER RETURN (5%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00	0.00
APR	0.00	2.11	1.48	0.00	1.48	0.00	0.00	0.00	0.00	0.00	3.68	0.00	0.00	0.00	0.00	0.00
MAY	3.95	2.58	1.79	2.16	0.00	2.16	0.00	0.00	3.33	2.66	4.18	0.00	0.33	0.17	0.17	2.16
JUN	5.78	3.29	2.46	3.33	0.00	3.33	0.00	0.00	4.78	3.83	4.87	0.00	0.48	0.24	0.24	3.33
JUL	7.89	1.87	1.67	6.22	0.00	4.87	1.55	1.93	4.94	2.40	2.40	0.00	0.48	0.25	0.25	3.95
AUG	6.64	1.55	1.31	5.33	0.00	2.40	2.92	3.66	5.78	1.70	1.70	0.00	0.58	0.29	0.29	4.82
SEP	3.69	1.10	0.80	2.89	0.00	1.70	1.19	1.49	4.38	2.31	2.31	0.00	0.44	0.22	0.22	2.89
OCT	1.26	0.75	0.21	1.05	0.00	1.05	0.00	0.00	0.00	0.00	1.26	0.00	0.00	0.00	0.00	0.00
TOTAL	29.21	16.39	11.92	20.98	3.66	15.32	5.66	7.08	23.21	12.90	25.66	0.00	2.32	1.16	1.16	16.95

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

80% IRRIGATION EFFICIENCY USING SPRINKLER IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (10%) PLUS EXCESS SOIL MOISTURE

OTHER HALF OF IRRIGATION INEFFICIENCY (10%) IS TAIL WATER RETURN FLOW AND APPLICATION LOSSES

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1949-1979 DUE TO CONSISTENCY OF DATA

TRANSFERABLE AMOUNT UNDER SOUTH SIDE DITCH		
	(INCHES)	(FEET)
TO PACT.	16.95	1.41
TO WTP	23.21	1.93

TR-21 CONSUMPTIVE USE CALCULATIONS (AVERAGE) - ALFALFA

LATITUDE: 44 N

IRR. APPL. IN.: 3.00

f= 1.00067

CROP: ALFALFA

STATION: RAPID CITY WSO AP

LIMIT: 50 F MEAN TEMP

YEAR: 49-54,56-59,63-68,70-79

MONTH	DAYS	TEMP	ADJ.	%	ADJ.	CU	CLIMATE	GROWTH	CU	MONTH	MONTH	PPT.	EFFECT.	ADJUSTED
			TEMP.	DAY	DAY	FACTOR	COEFF.	COEFF.	COEFF.	CU	PPT.	FACTOR	PPT.	CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.63	0.1890	0.00	--	-0.12	0.00	0.0000
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.0000
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.86	0.2580	0.00	--	-0.12	0.00	0.0000
APR	--	--	--	9.05	0.00	0.0000	0.3000	0.99	0.2970	0.00	--	-0.12	0.00	0.0000
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	1.08	0.6960	3.95	2.58	1.79	1.79	2.1636
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	1.13	0.8807	5.78	3.29	2.46	2.46	3.3270
JUL	31	72.3	72.3	10.49	10.49	7.5843	0.9368	1.11	1.0398	7.89	1.87	1.67	1.67	6.2193
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	1.06	0.9655	6.64	1.55	1.31	1.31	5.3295
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.99	0.7253	3.69	1.10	0.80	0.80	2.8892
OCT	15	49.3	55.1	7.64	3.92	2.1579	0.6392	0.91	0.5817	1.26	0.36	0.21	0.21	1.0491
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.78	0.2340	0.00	--	-0.12	0.00	0.0000
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.64	0.1920	0.00	--	-0.12	0.00	0.0000

SUM	168
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INCHES	29.20	10.75		8.23	20.98
FEET	2.43			0.69	1.75

DETERMINATION OF CONSUMPTIVE USE FOR TRANSFER

RAPID CITY WATER RIGHTS

901-046.030

AUGUST 24, 1992

FILENAME: B:\SSIDE\HAY\FLOOD.WQ1

Q	R
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	599
AUG	701
SEP	531
TOTAL	2815

UNIT HAY CONSUMPTIVE USE FROM SOUTH SIDE DITCH WATER RIGHTS USING FLOOD IRRIGATION (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS PRECIP. TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. (25.0%) (IN)	SURFACE WATER RETURN FLOW (25.0%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00
APR	0.58	2.11	0.38	0.19	0.00	0.19	0.00	0.00	0.00	0.00	2.01	0.00	0.00	0.00	0.00
MAY	3.29	2.58	1.72	1.57	0.00	1.57	0.00	0.00	3.33	1.87	2.10	0.00	0.83	0.83	1.57
JUN	4.71	3.29	2.31	2.40	0.00	2.10	0.30	0.59	4.78	2.09	2.09	0.00	1.20	1.20	2.39
JUL	6.54	1.87	1.55	4.99	0.00	2.09	2.90	5.79	4.94	0.00	0.00	0.43	1.23	1.23	2.47
AUG	5.70	1.55	1.24	4.46	0.00	0.00	4.46	8.92	5.78	0.00	0.00	1.57	1.44	1.44	2.89
SEP	3.24	1.10	0.78	2.46	0.00	0.00	2.46	4.92	4.38	0.00	0.00	0.27	1.09	1.09	2.19
OCT	1.53	0.75	0.40	1.13	0.00	0.00	1.13	2.26	0.00	0.00	0.00	1.13	0.00	0.00	0.00
TOTAL	25.59	16.39	10.58	17.20	2.20	5.98	11.24	22.49	23.21	3.76	11.86	3.40	5.80	5.80	11.51

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

50% IRRIGATION EFFICIENCY USING FLOOD IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (25.0%) PLUS EXCESS SOIL MOISTURE

OTHER HALF OF IRRIGATION INEFFICIENCY (25.0%) IS SURFACE WATER RETURN FLOW

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1949-1979 DUE TO CONSISTENCY OF DATA

GROSS TRANSFERABLE AMOUNT UNDER SOUTH SIDE DITCH		
	(INCHES)	(FEET)
TO PACT.	11.51	0.96
TO WTP	23.21	1.93

DETERMINATION OF CONSUMPTIVE USE FOR TRANSFER

RAPID CITY WATER RIGHTS

901-046.030

AUGUST 24, 1992 FILENAME: B:\SSIDEWAY\SPRNKLER.WQ1

R	S
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	509
AUG	701
SEP	531
TOTAL	2815

UNIT HAY CONSUMPTIVE USE FROM SOUTH SIDE DITCH WATER RIGHTS USING SPRINKLER IRRIGATION (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS PRECIP. TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. WITH SPRINKLER IRRIG. (10%) (IN)	SPRINK. APPL. LOSSES (5%) (IN)	SPRINK. TAIL- WATER RETURN (5%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00	0.00
APR	0.58	2.11	0.36	0.19	0.00	0.19	0.00	0.00	0.00	0.00	2.01	0.00	0.00	0.00	0.00	0.00
MAY	3.29	2.58	1.72	1.57	0.00	1.57	0.00	0.00	3.33	2.66	3.10	0.00	0.33	0.17	0.17	1.57
JUN	4.71	3.29	2.31	2.40	0.00	2.40	0.00	0.00	4.78	3.63	4.53	0.00	0.48	0.24	0.24	2.40
JUL	6.54	1.87	1.55	4.99	0.00	4.53	0.46	0.58	4.94	3.49	3.49	0.00	0.49	0.25	0.25	3.95
AUG	5.70	1.55	1.24	4.46	0.00	3.49	0.97	1.22	6.78	3.65	3.65	0.00	0.58	0.29	0.29	4.46
SEP	3.24	1.10	0.78	2.46	0.00	2.46	0.00	0.00	4.38	3.50	4.60	0.00	0.44	0.22	0.22	2.46
OCT	1.53	0.75	0.40	1.13	0.00	1.13	0.00	0.00	0.00	0.00	3.56	0.00	0.00	0.00	0.00	0.00
TOTAL	25.59	16.39	10.58	17.20	2.20	15.77	1.43	1.79	23.21	17.13	30.69	0.00	2.32	1.16	1.16	14.84

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

80% IRRIGATION EFFICIENCY USING SPRINKLER IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (10%) PLUS EXCESS SOIL MOISTURE

OTHER HALF OF IRRIGATION INEFFICIENCY (10%) IS TAIL WATER RETURN FLOW AND APPLICATION LOSSES

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1849-1979 DUE TO CONSISTENCY OF DATA

TRANSFERABLE AMOUNT UNDER SOUTH SIDE DITCH		
	(INCHES)	(FEET)
TO PACT.	14.84	1.24
TO WTP	23.21	1.93

TR-21 CONSUMPTIVE USE CALCULATIONS (AVERAGE) - HAY

LATITUDE: 44 N

IRR. APPL IN.: 3.00

f= 1.00067

CROP: HAY

STATION: RAPID CITY WSO AP

LIMIT: 45 F MEAN TEMP

YEAR: 49-54,56-59,63-68,70-79

MONTH	DAYS	TEMP	ADJ. TEMP.	% DAY	ADJ. DAY	CU FACTOR	CLIMATE COEFF.	GROWTH COEFF.	CU COEFF.	MONTH CU	MONTH PPT.	PPT. FACTOR	EFFECT. PPT.	ADJUSTED CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.49	0.1470	0.00	--	-0.12	0.00	0.00
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.57	0.1710	0.00	--	-0.12	0.00	0.00
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.00
APR	9	43.9	47.4	9.05	2.84	1.3466	0.5060	0.85	0.4301	0.58	0.63	0.38	0.38	0.20
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	0.90	0.5800	3.29	2.58	1.72	1.72	1.57
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	0.92	0.7170	4.71	3.29	2.31	2.31	2.40
JUL	31	72.3	72.3	10.49	10.49	7.5843	0.9368	0.92	0.8618	6.54	1.87	1.55	1.55	4.99
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	0.91	0.8289	5.70	1.55	1.24	1.24	4.46
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.87	0.6374	3.24	1.10	0.78	0.78	2.46
OCT	26	49.3	51.1	7.64	6.67	3.4062	0.5700	0.79	0.4503	1.53	0.63	0.40	0.40	1.13
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.67	0.2010	0.00	--	-0.12	0.00	0.00
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.55	0.1650	0.00	--	-0.12	0.00	0.00

SUM	188
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INCHES	25.59	11.65		8.39	17.20
FEET	2.13	0.97		0.70	1.43

FOOTNOTES FOR UNIT CONSUMPTIVE USE CALCULATIONS FLOOD IRRIGATION

Column A

Month

Column B

Gross consumptive use calculated by Blaney-Criddle method as demonstrated in accompanying Blaney-Criddle tables.

Column C

Total monthly precipitation taken from NOAA gage at Rapid City airport

Column D

Effective precipitation is precipitation available to meet crop consumptive use requirements

Nongrowing season: $0.7 \times C_i$

Growing season: Calculated by Blaney-Criddle regression in accompanying Blaney-Criddle tables

Column E

Net consumptive use

Growing season: $B_i - D_i$

Nongrowing season: 0

Column F

Excess precipitation to soil moisture in storage

All months: if $D_i \geq B_i$, then $D_i - B_i$, else 0

Column G

Soil moisture used to satisfy adjusted consumptive use

All months: if $E_i = 0$, then 0, else if $L_{i-1} \geq E_i$, then E_i , else L_{i-1}

**FOOTNOTES
FLOOD IRRIGATION
(Continued)**

Column H

Remaining crop needs

All months: if $E_i \geq L_{t-1}$, then $E_i - L_{t-1}$, else 0

Column I

Gross crop needs account for farm irrigation inefficiencies

All months: $H/0.50$

Column J

Farm irrigation supply is prorated for the South Side Ditch properties as percentage of South Side water (9.8 percent South Side Ditch seepage loss and 1,313 total acres of land irrigated by South Side Ditch water rights).

All months: $R \times 0.902 \times 12/1,313$

Column K

Excess irrigation soil moisture contribution

All months: if $J_i = 0$, then 0, else, if $J_i \leq I_i$, then 0, else $(J_i - I_i) \times 0.50$

Column L

Accumulative soil moisture storage after irrigation

All months: if $J_i - I_i < 0$, then 0 else,
if $F_i = 0$ then $L_{t-1} - G_i + K_i$, else $L_{t-1} + F_i$

**FOOTNOTES
FLOOD IRRIGATION
(Continued)**

Column M

Additional water available to meet consumptive use needs from subirrigation

All months: if $L_i = 0$, then $(L_i - J_i) \times 0.50$, else 0

Column N

Deep percolation

All months: if $L_i > 9.5$, then $L_i - 9.5 + (J_i \times 0.25)$, else $J_i \times 0.25$

Column O

Surface water return flow

All months: $J_i \times 0.25$

Column P

Claimed irrigation consumptive use for transfer from Stromer property

All months: if $J_i = 0$, then $P_i = 0$;
if $E_i \leq 0.50 J_i$, then $P_i = E_i$;
if $E_i > 0.50 J_i$, then $P_i = 0.50 J_i$

Column Q

Month during irrigation season

Column R

South Side Ditch diversions (AF)

FOOTNOTES FOR UNIT CONSUMPTIVE USE CALCULATIONS SPRINKLER IRRIGATION

Column A

Month

Column B

Gross consumptive use calculated by Blaney-Criddle method as demonstrated in accompanying Blaney-Criddle tables.

Column C

Total monthly precipitation taken from NOAA gage at Rapid City airport

Column D

Effective precipitation is precipitation available to meet crop consumptive use requirements

Nongrowing season: $0.7 \times C_i$

Growing season: Calculated by Blaney-Criddle regression in accompanying Blaney-Criddle tables

Column E

Net consumptive use

Growing season: $B_i - D_i$

Nongrowing season: 0

Column F

Excess precipitation to soil moisture in storage

All months: if $D_i \geq B_i$, then $D_i - B_i$, else 0

Column G

Soil moisture used to satisfy adjusted consumptive use

All months: if $E_i = 0$, then 0, else if $L_{i-1} \geq E_i$, then E_i , else L_{i-1}

**FOOTNOTES
SPRINKLER IRRIGATION
(Continued)**

Column H

Remaining crop needs

All months: if $E_i \geq L_{i-1}$, then $E_i - L_{i-1}$, else 0

Column I

Gross crop needs account for farm irrigation inefficiencies

All months: $H/0.80$

Column J

Farm irrigation supply is prorated for the South Side Ditch properties as percentage of South Side water (9.8 percent South Side Ditch seepage loss and 1,313 total acres of land irrigated by South Side Ditch water rights).

All months: $R \times 0.902 \times 12/1,313$

Column K

Excess irrigation soil moisture contribution

All months: if $J_i = 0$, then 0, else, if $J_i \leq I_i$, then 0, else $(J_i - I_i) \times 0.80$

Column L

Accumulative soil moisture storage after irrigation

All months: if $J_i - I_i < 0$, then 0 else,
if $F_i = 0$ then $L_{i-1} - G_i + K_i$, else $L_{i-1} + F_i$

**FOOTNOTES
SPRINKLER IRRIGATION
(Continued)**

Column M

Additional water available to meet consumptive use needs from subirrigation

All months: if $L_i = 0$, then $(I_i - J_i) \times 0.80$, else 0

Column N

Deep percolation

All months: if $L_i > 9.5$, then $L_i - 9.5 + (J_i \times 0.10)$, else $J_i \times 0.10$

Column O

Sprinkler application losses

All months: $J_i \times 0.05$

Column P

Tail water return flows

All months: $J_i \times 0.05$

Column Q

Claimed irrigation consumptive use for transfer from Stomer property

All months: if $J_i = 0$, then $P_i = 0$;
if $E_i \leq 0.80 J_i$, then $P_i = E_i$;
if $E_i > 0.80 J_i$, then $P_i = 0.80 J_i$

Column R

Month during irrigation season

Column S

South Side Ditch diversions (AF)



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

February 10, 1993

Dan Bjerke
City of Rapid City
300 6th St.
Rapid City, SD 57701

Dear Mr. Bjerke:

This letter is in regard to the inspection I made of the City's water rights this past summer. During that inspection I found that several systems are not constructed as covered by the associated water permits/licenses. The following table lists the permit/licenses that need to be changed.

Table 1.

Diversion Site	Permit Nos.	Problem	Correction
Jackson Springs Gallery	432-2	Diversion rate is low by 2.71 cfs.	Apply for a 2.71 cfs increase from Future Use No. 439-2.
City Springs Gallery	437-2	Diversion site is at the treatment plant intakes.	Transfer diversion authority from License No. 437-2 to Permit No. 2138-2.
Well #5 Well #6 Well #9	2085-2	Diversion rate is low by 4.41 cfs.	1) Transfer diversion authority for excess water, 0.44 cfs, from Permit No. 2124-2, Well #8 2) Transfer diversion point with a diversion rate of 2.23 cfs from Permit No. 2125-2, Well #7. 3) Apply for the balance of the diversion rate increase, 1.74 cfs, from Future Use No. 2086-2.
Well #10	2155-2	Diversion rate is low by 1.13 cfs.	Apply for a 1.13 cfs increase from Future Use No. 2086-2.
** Meadowbrook Golf Course	0646-2A 1998-2	More acres than permitted and diversion rate is low by 1.41 cfs.	Application to increase the acres and increase the diversion rate by 1.41 cfs with water to come from Future Use No. 1088-2.
** Executive Golf Course	1931-2	Diversion rate is low by 1.34 cfs.	Apply for a 1.34 cfs increase from Future Use 1088-2.

** The diversion rates for the golf courses is greater than the 1 cfs per 70 acres. At the increased pumping rate, a restriction on the pumping time allowed per day will need to be imposed

I am enclosing several partially completed applications with a suggested method for correcting each of the problems. The problem concerning Permit No. 2085-2 will involve three separate applications for handling each of the corrective measures.

I did not include an application for correcting Permit No. 1998-2, Meadowbrook Golf Course. The permit was originally issued for a 9-hole course and the existing course has been expanded to 18 holes. Because of this, you will need to submit an application based on your determination of the course as it is currently constructed. Please keep in mind you will be able to apply for diversion rate beyond the 1 cfs per 70 acres, but a time restriction would have to be imposed.

If you have any questions please feel free to call me.

Sincerely,

A handwritten signature in cursive script, appearing to read "Mark D Rath".

Mark D Rath
Natural Resources Engineer
Division of Water Rights
(605) 773-3352

enclosures
cc: Bob Jackson

FORM 2: Application for irrigation in South Dakota

(type or print)

Mail to:
Water Rights Division
Joe Foss Building
523 E Capitol
Pierre SD 57501-3181
605 773-3352

No. _____ Hydrologic Unit _____
Basin _____
Newspaper _____
(office use only)

Application For Soil/Water Compatibility Permit And Permit To Appropriate Water

Type of Application: X New Vested Right Amendment/Correction to Permit No. _____
(check one) (Use predates Mar 2, 1955)

Description of amendment/correction: (i.e. acreage change, change diversion point(s), add diversion point(s), etc.) _____
To appropriate an additional 1.34 cfs from Future Use Permit No. 1088-2
for the irrigation of land authorized by Permit No. 1931-2.

- Name of Applicant City of Rapid City Phone (605) 394-4165
Mailing Address 300 6th St Rapid City State SD 57701
(Street, RR, or Box) (City) (Zip Code)
- Amount of water claimed 1.34 *CFS or **GPM ***AF Total Acreage 37
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout if applicable)
- Source of water supply Rapid Creek
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) _____
SE1/4 SW1/4 Section 35 T2N-R7E
County Pennington
- County or counties where water will be used Pennington
- Annual period during which water is to be used May 1 - November 1
- List below each forty acre subdivision, or lot, or fraction thereof and show number of acres to be irrigated in each.

(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
NW1/4 SW1/4 Sec 35 T2N-R7E	13		
NE1/4 SE1/4 " "	18		
SE1/4 SE1/4 " "	5		
SW1/4 SE1/4 " "	1		

- Type of Irrigation: Gravity: Towline: Center Pivot: Gun: Other (Specify): Sprinkler
- Crops to be irrigated: Turf, grass
- Give a description of the project. (Attach sheet if more space is needed)

Increase the diversion rate for irrigating Executive Golf Course.

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach maps, soils information and any other technical information. (see instructions)

STATE OF SOUTH DAKOTA)

County of _____)^{ss}

I, _____, the applicant, certify that I have read this application and examined the attached maps, that the water sample, if needed, has been taken by the required procedures and has not been adulterated or tampered with and is representative of the water to be used, and that the matters stated in this application are true and correct.

Signed _____

Subscribed and sworn to before me this _____ day of _____ 19 _____

FORM 2: Application for uses other than irrigation

(type or print)

Mail to:
Water Rights Division
Joe Foss Building
523 E Capitol
Pierre SD 57501-3181
605 773-3352

No. _____ Hydrologic Unit _____
Basin _____
Newspaper _____
(office use only)

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water:

☒ Municipal ☐ Suburban Housing ☐ Recreational ☐ Institutional
☐ Rural Water System ☐ Commercial ☐ Fish & Wildlife ☐ Geothermal Heat
☐ Domestic ☐ Industrial ☐ Other _____
(over 18 gpm)

Type of Application: ☐ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
(check one) ☒ Place to Beneficial Use Water Reserved by Future Use Permit No. 439-2
☐ Amendment/Correction to Permit No. _____

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)
Increase the diversion rate authorized by license No. 432-2 from 7.75 cfs
to 10.46 cfs.

1. Name of Applicant City of Rapid City Phone (605) 394-4165
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 300 6th St Rapid City State SD 57701
(Street, RR, or Box) (City) (Zip Code)
2. Amount of water claimed 2.71 *CFS or _____ **GPM _____ ***AF _____
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply Rapid Creek
4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) _____
Jackson Springs Gallery - NW1/4 SE1/4 Section 8 T1N-R7E
County Pennington
5. County or counties where water will be used Pennington
6. Annual period during which water is to be used January 1 - December 31
7. Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

This will increase the authorized diversion rate for Jackson Springs Gallery to the developed level.

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

STATE OF SOUTH DAKOTA)

County of _____^{ss}

I, _____, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Signed _____

Subscribed and sworn to before me this _____ day of _____ 19____

Notary Public

FORM 2: Application for uses other than irrigation

(type or print)

Mail to:
Water Rights Division
Joe Foss Building
523 E Capitol
Pierre SD 57501-3181
605 773-3352

No. _____ Hydrologic Unit _____
Basin _____
Newspaper _____
(office use only)

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water:

☒ Municipal _____ Suburban Housing _____ Recreational _____ Institutional
_____ Rural Water System _____ Commercial _____ Fish & Wildlife _____ Geothermal Heat
_____ Domestic _____ Industrial _____ Other _____
(over 18 gpm)

Type of Application:

(check one)

☐ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
☒ Place to Beneficial Use Water Reserved by Future Use Permit No. 2086-2
☐ Amendment/Correction to Permit No. _____

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.) _____
Increase the diversion rate for the well developed under Permit No. 2155-2.

- Name of Applicant City of Rapid City Phone (605) 394-4165
(check one) ☒ Owner _____ Tenant/lessee
Mailing Address 300 6th St Rapid City State SD 57701
(Street, RR, or Box) (City) (Zip Code)
- Amount of water claimed 1.13 *CFS or _____ **GPM _____ ***AF _____
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Ground water, Madison Aquifer
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) _____
NW1/4 SE1/4 Section 27 T2N- R7E
_____ County Pennington
- County or counties where water will be used Pennington
- Annual period during which water is to be used January 1 - December 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

This will increase the diversion rate to the developed level for Well No.10.

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

STATE OF SOUTH DAKOTA)

County of _____)^{ss}

I, _____, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Signed _____

Subscribed and sworn to before me this _____ day of _____ 19____

FORM 2: Application for uses other than irrigation

(type or print)

Mail to:
Water Rights Division
Joe Foss Building
523 E Capitol
Pierre SD 57501-3181
605 773-3352

No. _____ Hydrologic Unit _____
Basin _____
Newspaper _____
(office use only)

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water:

☒ Municipal ☐ Suburban Housing ☐ Recreational ☐ Institutional
☐ Rural Water System ☐ Commercial ☐ Fish & Wildlife ☐ Geothermal Heat
☐ Domestic ☐ Industrial ☐ Other _____
(over 18 gpm)

Type of Application: ☒ **New** ☐ **Vested Right** (Use predates Mar 2, 1955) ☐ **Future Use Reservation**
(check one) ☐ **Place to Beneficial Use Water Reserved by Future Use Permit No.** _____
 ☐ **Amendment/Correction to Permit No.** _____

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.) _____
Transfer diversion authority from License No. 437-2 to Permit No. 2138-2.

1. Name of Applicant City of Rapid City Phone (605) 394-4165
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 300 6th St Rapid City State SD 57701
(Street, RR, or Box) (City) (Zip Code)
2. Amount of water claimed 0.78 *CFS or _____ **GPM _____ ***AF _____
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet -- storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply City Springs
4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) _____
City treatment plant, SE1/4 NE1/4 Sec 3 T1N-R7E
County Pennington
5. County or counties where water will be used Pennington
6. Annual period during which water is to be used January 1 - December 31
7. Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

This will change the diversion site from City Springs on Lime Creek to the treatment plant on Rapid Creek.

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

STATE OF SOUTH DAKOTA)

County of _____)^{ss}

I, _____, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Signed _____

Subscribed and sworn to before me this _____ day of _____ 19____

FORM 2: Application for uses other than irrigation

(type or print)

Mail to:
Water Rights Division
Joe Foss Building
523 E Capitol
Pierre SD 57501-3181
605 773-3352

No. _____ Hydrologic Unit _____
Basin _____
Newspaper _____
(office use only)

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water:

☒ Municipal ☐ Suburban Housing ☐ Recreational ☐ Institutional
☐ Rural Water System ☐ Commercial ☐ Fish & Wildlife ☐ Geothermal Heat
☐ Domestic ☐ Industrial ☐ Other _____
(over 18 gpm)

Type of Application: ☐ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
(check one) ☒ Place to Beneficial Use Water Reserved by Future Use Permit No. 2086-2
☐ Amendment/Correction to Permit No. _____

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)
Increase the diversion rate for water appropriated by Permit No. 2085-2.

- Name of Applicant City of Rapid City Phone (605) 394-4165
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 300 6th St Rapid City State SD 57701
(Street, RR, or Box) (City) (Zip Code)
- Amount of water claimed 1.74 *CFS or _____ **GPM _____ ***AF _____
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet -- storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Ground water, Madison Aquifer
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) _____
3 wells - SE1/4 NE1/4 Sec 32 T2N-R7E; SW1/4 NW1/4 Sec 10 T1N-R7E;
NW1/4 NW1/4 Sec 1 T1N-R7E County Pennington
- County or counties where water will be used Pennington
- Annual period during which water is to be used January 1 - December 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
This will increase the diversion rate for well nos. 5, 6 & 9.

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

STATE OF SOUTH DAKOTA)

County of _____)^{ss}

I, _____, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Signed _____

Subscribed and sworn to before me this _____ day of _____

Notary Public

(type or print)

No. _____ Hydrologic Unit _____
Basin _____
Newspaper _____
(office use only)

76

FORM 2: Application for uses other than irrigation

(type or print)

Mail to:
Water Rights Division
Joe Foss Building
523 E Capitol
Pierre SD 57501-3181
605 773-3352

No. _____ Hydrologic Unit _____
Basin _____
Newspaper _____
(office use only)

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water:

☒ Municipal _____ Suburban Housing _____ Recreational _____ Institutional _____
☐ Rural Water System _____ Commercial _____ Fish & Wildlife _____ Geothermal Heat _____
☐ Domestic _____ Industrial _____ Other _____
(over 18 gpm)

Type of Application: _____ New _____ Vested Right (Use predates Mar 2, 1955) _____ Future Use Reservation
(check one) ☒ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☒ Amendment/Correction to Permit No. 2125-2

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.) _____
Change the point of diversion to the the location of the three wells authorized
by Permit No. 2085-2

- Name of Applicant City of Rapid City Phone (605) 394-4165
(check one) ☒ Owner _____ Tenant/lessee _____
Mailing Address 300 6th St Rapid City State SD 57701
(Street, RR, or Box) (City) (Zip Code)
- Amount of water claimed 2.23 *CFS or _____ **GPM _____ ***AF _____
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Ground water, Madison Aquifer
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) _____
3 wells - SE1/4 NE1/4 Sec 32 T2N-R7E; SW1/4 NW1/4 Sec 10 T1N-R7E;
NW1/4 NW1/4 Sec 1 T1N-R7E County Pennington
- County or counties where water will be used Pennington
- Annual period during which water is to be used January 1 - December 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

This application is to change the point of diversion from the location of well no. 7
to the locations of well nos. 5, 6 & 9.

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map
and any other technical information. (see instructions)

STATE OF SOUTH DAKOTA)

County of _____)^{ss}

I, _____, the applicant, certify that I have read this application, have examined the attached map
and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Signed _____

Subscribed and sworn to before me this _____ day of _____



McLaughlin Water Engineers, Ltd.

March 8, 1995



2420 Alcott Street, Denver, Colorado 80211 (303) 458-5550
Facsimile (303) 480-9766

RONALD C. McLAUGHLIN
HALFORD E. ERICKSON
WILLIAM R. KENDALL
RALPH L. TOREN
TERRENCE P. KENYON
RICHARD E. McLAUGHLIN

GENE A. BURRELL
MICHAEL E. MERCER
JOHN M. PFLAUM
MICHAEL R. GALUZZI
SCOTT E. LEHMAN
BRIAN S. KOLSTAD
G. DEAN DEROSIER
EDWARD D. BAIN
BRIAN E. CHEVALIER
PAUL D. ZACHARY

J. HAROLD ROBERTS
LEANDER L. URMY
DANIEL M. PETRAMALA
RONALD D. LUCERO

Mr. Daniel L. Bjerke, P.E./L.S.
Water/Wastewater Division Manager
City of Rapid City
300 Sixth Street
Rapid City, South Dakota 57701

RE: Eisenbraun Property Water Rights Transfer

Dear Dan:

The transferable annual amount of water rights from the Eisenbraun property to the water treatment plant is 1.88 acre-feet per acre. This number is the result of subtracting 2.8% Cyclone and Murphy Ditch return flows from the calculated water treatment plant transferable amount of 1.93 acre-feet per acre. This is explained in the attached November 25, 1992, Jundt property report.

The 2.02 acre-feet of transferable diversion for the Eisenbraun property is shown in the attached June 1, 1992 report. In subsequent reports concerning the Eisenbraun property, (July 17, 1992 and August 10, 1992) the 1.93 acre-feet per acre transferable consumptive use estimate resulted from the changes in the consumptive use estimates as described in the July 17 and August 10 reports.

If you have any questions concerning this matter please contact me.

Very truly yours,

Leo M. Eisel, PhD, P.E.
President

Enclosures

LME:djm
95-002.001
LME-3

ASPEN, CO
(303) 925-1920

TULSA, OK
(918) 582-6800





CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701-2724

Public Works Department

300 Sixth Street

605-394-4165

FAX 605-394-6636



March 17, 1995

Mr. Mark Rath
SD Department of Water & Natural Resources
Water Rights Division
Joe Foss Building
523 East Capitol
Pierre, SD 57501

Re: Water Permit Application No. 2334-2
Eisenbraun Property
City of Rapid City, SD

Dear Mark:

This letter is a request to continue the above referenced water permit application process.

I have enclosed copies of water consumptive use, ditch seepage losses and return flows for the South Side Ditch as provided to me by our water rights consultant, Leo M. Eisel, PhD., PE., with McLaughlin Water Engineers, Ltd. of Denver, Colorado. The numbers have been revised based on available data from Duane Scott, Rapid Creek Water Master, the Bureau of Reclamation, and from your office.

If you have any questions or need additional information, please call me at 394-4165.

Sincerely yours,
CITY OF RAPID CITY

Daniel L. Bjerke
Public Works Director of Engineering/Utilities



EQUAL HOUSING
OPPORTUNITY

EQUAL OPPORTUNITY EMPLOYER



McLaughlin Water Engineers, Ltd.

2420 Alcott Street, Denver, Colorado 80211 (303) 458-5550
Facsimile (303) 480-9766

April 19, 1995

Mr. Del Brosz
Mr. Mark Rath
Water Rights Division
Department of Environment and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181



RONALD C. McLAUGHLIN
LEO M. EISEL
HALFORD E. ERICKSON
WILLIAM R. KENDALL
RALPH L. TOREN
TERRENCE P. KENYON
RICHARD E. McLAUGHLIN

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C. DEAN DEROSIER
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BRIAN E. CHEVALIER
PAUL D. ZACHARY

J. HAROLD ROBERTS
LEANDER L. URMY
DANIEL M. PETRAMALA
RONALD D. LUCERO

RE: Eisenbraun Property Water Rights Transfer

Dear Messrs. Brosz and Rath:

McLaughlin Water Engineers, Ltd. has determined the irrigated acreage under the South Side Ditch formerly belonging to Reinhold A. Eisenbraun and the amount of water that can be transferred to the Rapid City water treatment plant and infiltration galleries as it relates to information detailed in the engineering report prepared for the Stromer property dated March 1992. It is our understanding that this property is now owned by the former Mrs. Eisenbraun.

These calculations are based upon a flood irrigation efficiency of 50 percent and a 9.8 percent seepage loss for the South Side Ditch.

Mrs. Eisenbraun owns 7½ shares of the South Side Ditch Company stock. The October 27, 1987 vested rights for (License N° 2040-2 the South Side Ditch) lists 70 acres of irrigated land in the east half of the northeast quarter of Section 26, Township 1 North, Range 8 East of the Black Hills Meridian (i.e. the Eisenbraun property). Mr. Eisenbraun indicated in 1992 that he irrigated 73 acres of hay and alfalfa at this location. According to the provided 1981 ASCS aerial photograph 63.1 acres were irrigated by Eisenbraun during that year. For purposes of the calculations herein, the licensed 70 acres are assumed correct and include 40 acres of irrigated alfalfa and 30 acres of irrigated hay.

Potential consumptive use calculations are presented in Tables 1 and 2 for hay and alfalfa respectively. Table 3 presents the weighted average potential consumptive use for the Eisenbraun property. The gross transferable amount of the Eisenbraun property portion of the South Side ditch is presented in Table 4

ASPEN, CO
(970) 925-1920

TULSA, OK
(918) 582-6800

PHOENIX, AZ
(602) 248-7702

and Table 5 presents the net transferable amounts after subtracting out the return flow contribution from ditches upstream from the South Side ditch which cannot be exchanged to the City of Rapid City's water treatment plant and/or infiltration galleries. The net transferable amount, on a monthly basis are presented in Table 6.

The consumptive use calculations in the attached Table 4 yield the following:

- a. To storage in Pactola Reservoir, the average year transferable amount would be:

$$(70.0 \text{ acres}) \times (11.6 \text{ inches/acre}) \div 12 \text{ inches/foot} = 67.7 \text{ acre-feet.}$$

- b. To the city WTP and infiltration galleries, the average year transferable amount would be:

$$(70.0 \text{ acres}) \times (23.21 \text{ inches/acre}) \div (12 \text{ inches/foot}) - 2.8 \text{ percent due to return flows from the Murphy and Cyclone ditches} = 131.6 \text{ acre-feet (see attached Table 5).}$$

The calculations to determine if a full irrigation supply was provided by the South Side Ditch to the Eisenbraun property are based on 1,313 acres of presently irrigated land for the South Side Ditch as agreed to in the January 3, 1992 telephone conference with Del Brosz and Mark Rath. The 1,313 acres consists of 1,078 acres irrigated under the South Side Ditch priority and 235 acres irrigated under the Little Giant Ditch priority.

The monthly transferable amounts to Pactola Reservoir and the City's WTP and infiltration galleries are presented in Table 6. Diversion at the alternate points of diversion at the water treatment plant, infiltration galleries and Pactola Reservoir will only take place during the permitted irrigation season for the South Side Ditch of April 15 to November 1; Table 6, however, includes transferable amounts for May through October because no historic diversion by the South Side Ditch is recorded for April.

The rate of diversion for the transferable amount from the Eisenbraun property is calculated by the following method:

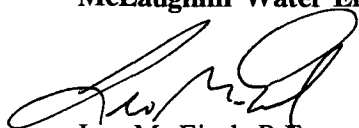
$$\frac{70.0 \text{ acres}}{1,877 \text{ acres}} \times 23.4 \text{ cfs at the ditch headgate} \times (1.0 - 0.098) = 0.79 \text{ cfs}$$

where the 9.8 percent carriage loss would remain in the ditch, the 1,877 acres is the licensed acreage for the South Side Ditch, and the 23.4 cfs is the licensed diversion.

The transferable amounts and this rate of diversion insure that there will be no injury to downstream water rights, and that depletions to Rapid Creek will not exceed historic depletions.

If you have any questions regarding these calculations, please do not hesitate to contact us.

Very truly yours,
McLaughlin Water Engineers, Ltd.



Leo M. Eisel, P.E.
President

Enclosures

cc: Dan Bjerke
Bob Jackson

LME:es
95-002.001
LME-8

TABLE 1

TR-21 POTENTIAL CONSUMPTIVE USE CALCULATIONS (AVERAGE) - HAY

LATITUDE: 44 N IRR. APPL. IN.: 3.00 f= 1.00067
 CROP: HAY STATION: RAPID CITY WSO AP LIMIT: 45 F MEAN TEMP
 YEAR: 49-54,56-59,63-68,70-79

MONTH	DAYS	TEMP	ADJ. TEMP.	% DAY	ADJ. DAY	CU FACTOR	CLIMATE COEFF.	GROWTH COEFF.	CU COEFF.	MONTH CU	MONTH PPT.	PPT. FACTOR	EFFECT. PPT.	ADJUSTED CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.49	0.1470	0.00	--	-0.12	0.00	0.00
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.57	0.1710	0.00	--	-0.12	0.00	0.00
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.00
APR	9	43.9	47.4	9.05	2.84	1.3466	0.5060	0.85	0.4301	0.58	0.63	0.38	0.38	0.20
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	0.90	0.5800	3.29	2.58	1.72	1.72	1.57
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	0.92	0.7170	4.71	3.29	2.31	2.31	2.40
JUL	31	72.3	72.3	10.49	10.49	7.5843	0.9368	0.92	0.8618	6.54	1.87	1.55	1.55	4.99
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	0.91	0.8289	5.70	1.55	1.24	1.24	4.46
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.87	0.6374	3.24	1.10	0.78	0.78	2.46
OCT	26	49.3	51.1	7.64	6.67	3.4062	0.5700	0.79	0.4503	1.53	0.63	0.40	0.40	1.13
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.67	0.2010	0.00	--	-0.12	0.00	0.00
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.55	0.1650	0.00	--	-0.12	0.00	0.00

SUM	188
-----	-----

INCHES	25.59	11.65		8.39	17.20
FEET	2.13	0.97		0.70	1.43

TABLE 2

TR-21 POTENTIAL CONSUMPTIVE USE CALCULATIONS (AVERAGE) - ALFALFA

LATITUDE: 44 N

IRR. APPL. IN.: 3.00

f= 1.00067

CROP: ALFALFA

STATION: RAPID CITY WSO AP

LIMIT: 50 F MEAN TEMP

YEAR: 49-54,56-59,63-68,70-79

MONTH	DAYS	TEMP	ADJ. TEMP.	% DAY	ADJ. DAY	CU FACTOR	CLIMATE COEFF.	GROWTH COEFF.	CU COEFF.	MONTH CU	MONTH PPT.	PPT. FACTOR	EFFECT. PPT.	ADJUSTED CU
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
JAN	--	--	--	6.48	0.00	0.0000	0.3000	0.63	0.1890	0.00	--	-0.12	0.00	0.00
FEB	--	--	--	6.57	0.00	0.0000	0.3000	0.73	0.2190	0.00	--	-0.12	0.00	0.00
MAR	--	--	--	8.29	0.00	0.0000	0.3000	0.86	0.2580	0.00	--	-0.12	0.00	0.00
APR	--	--	--	9.05	0.00	0.0000	0.3000	0.99	0.2970	0.00	--	-0.12	0.00	0.00
MAY	31	55.4	55.4	10.25	10.25	5.6785	0.6444	1.08	0.6960	3.95	2.58	1.79	1.79	2.16
JUN	30	63.2	63.2	10.39	10.39	6.5665	0.7794	1.13	0.8807	5.78	3.29	2.46	2.46	3.33
JUL	31	72.3	72.3	10.49	10.49	7.5843	0.9368	1.11	1.0398	7.89	1.87	1.67	1.67	6.22
AUG	31	70.8	70.8	9.71	9.71	6.8747	0.9108	1.06	0.9655	6.64	1.55	1.31	1.31	5.33
SEP	30	60.5	60.5	8.41	8.41	5.0881	0.7327	0.99	0.7253	3.69	1.10	0.80	0.80	2.89
OCT	15	49.3	55.1	7.64	3.92	2.1579	0.6392	0.91	0.5817	1.26	0.36	0.21	0.21	1.05
NOV	--	--	--	6.50	0.00	0.0000	0.3000	0.78	0.2340	0.00	--	-0.12	0.00	0.00
DEC	--	--	--	6.22	0.00	0.0000	0.3000	0.64	0.1920	0.00	--	-0.12	0.00	0.00

SUM	168
-----	-----

INCHES	29.20	10.75		8.23	20.98
FEET	2.43			0.69	1.75

TABLE 3

Alfalfa and Hay combination on Eisenbraun Property
(57% Alfalfa and 43% Hay)

MONTH	TR-21 Potential C.U. (AVERAGE)		
	Alfalfa (Table A-2)	Hay (Table A-1)	Weighted

Nov	0.00	0.00	0.00
Dec	0.00	0.00	0.00
Jan	0.00	0.00	0.00
Feb	0.00	0.00	0.00
Mar	0.00	0.00	0.00
Apr	0.00	0.58	0.25
May	3.95	3.29	3.67
Jun	5.78	4.71	5.32
Jul	7.89	6.54	7.31
Aug	6.64	5.70	6.24
Sep	3.69	3.24	3.50
Oct	1.26	1.53	1.38

Total (in)	29.21	25.59	27.65
Total (ft)	2.43	2.13	2.30

DETERMINATION OF CONSUMPTIVE USE FOR TRANSFER

RAPID CITY WATER RIGHTS

901-046.030

APRIL 16, 1995

FILENAME: 901046\030\EISENBRN\EISNAVCU.WQ1

TABLE 4

Q	R
MONTH	SOUTH SIDE WATER (AF)
MAY	404
JUN	580
JUL	599
AUG	701
SEP	531
TOTAL	2815

TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY PORTION OF SOUTH SIDE DITCH (AVERAGE)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MONTH	C.U. (IN)	PRECIP. (IN)	EFFECT. PRECIP. (IN)	PRECIP. ADJ. C.U. (IN)	EXCESS PRECIP. TO SOIL MOIST. DURING MONTH (IN)	SOIL MOIST. USED TO SATISFY ADJUST. C.U. (IN)	REMAIN. CROP REQUIR. (IN)	GROSS CROP NEEDS (IN)	FARM IRRIG. SUPPLY (IN)	EXCESS IRRIG. SOIL MOIST. CONTRIB. (IN)	ACCUM. SOIL MOIST. STORAGE AFTER IRRIG. (IN)	ADDITIONAL WATER REQUIRED TO MEET C.U. NEEDS FROM SUBIRRIG. (IN)	DEEP PERC. (25.0%) (IN)	SURFACE WATER RETURN FLOW (25.0%) (IN)	CLAIMED IRRIG. C.U. FOR TRANSFER (IN)
NOV	0.00	0.53	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00
DEC	0.00	0.41	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00
JAN	0.00	0.50	0.35	0.00	0.35	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00
FEB	0.00	0.59	0.41	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00
MAR	0.00	1.11	0.78	0.00	0.78	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00
APR	0.25	2.11	0.16	0.09	0.00	0.09	0.00	0.00	0.00	0.00	2.11	0.00	0.00	0.00	0.00
MAY	3.67	2.58	1.76	1.91	0.00	1.91	0.00	0.00	3.33	1.67	1.87	0.00	0.83	0.83	1.67
JUN	5.32	3.29	2.40	2.92	0.00	1.87	1.05	2.10	4.78	1.34	1.34	0.00	1.20	1.20	2.39
JUL	7.31	1.87	1.62	5.69	0.00	1.34	4.35	8.70	4.94	0.00	0.00	1.88	1.23	1.23	2.47
AUG	6.24	1.55	1.28	4.96	0.00	0.00	4.96	9.91	5.78	0.00	0.00	2.07	1.44	1.44	2.89
SEP	3.50	1.10	0.79	2.71	0.00	0.00	2.71	5.41	4.38	0.00	0.00	0.52	1.09	1.09	2.19
OCT	1.38	0.75	0.29	1.09	0.00	0.00	1.09	2.17	0.00	0.00	0.00	1.09	0.00	0.00	0.00
TOTAL	27.65	16.39	10.50	19.35	2.20	5.20	14.15	28.30	23.21	3.00	10.97	5.55	5.80	5.80	11.60

AVERAGE CONDITIONS, CROP = 30 ACRES (43%) HAY, 40 ACRES (57%) ALFALFA

SOUTH SIDE DITCH AND LITTLE GIANT DITCH IRRIGATED ACREAGE (1989) = 1078 + 235 = 1313

9.8% SEEPAGE LOSS IN 1989

EISENBRAUN IRRIGATED ACREAGE = 70

50% IRRIGATION EFFICIENCY USING FLOOD IRRIGATION

DEEP PERCOLATION IS ONE HALF OF IRRIGATION INEFFICIENCY (25.0%) PLUS EXCESS SOIL MOISTURE

OTHER HALF OF IRRIGATION INEFFICIENCY (25.0%) IS SURFACE WATER RETURN FLOW

PACT. = PACTOLA RESERVOIR

WTP = RAPID CITY WATER TREATMENT PLANT AND INFILTRATION GALLERIES

SOUTH SIDE DITCH AVERAGE MONTHLY DIVERSION IS FOR YEARS 1949-1979 DUE TO CONSISTENCY OF DATA

GROSS TRANSFERABLE AMOUNT FROM EISENBRAUN PROPERTY UNDER SOUTH SIDE DITCH			
	(INCHES)	(FEET)	(AC.FT)
TO PACT.	11.60	0.97	67.7
TO WTP	23.21	1.93	135.4

TABLE 5**TRANSFERABLE AMOUNTS FROM EISENBRAUN PROPERTY
PORTION OF THE SOUTH SIDE DITCH WATER RIGHTS**

CONDITION	GROSS EISENBRAUN TRANSFER (IN)	GROSS EISENBRAUN TRANSFER (AF)	RETURN FLOW CONTRIBUTION (%)	RETURN FLOW CONTRIBUTION (AF)	NET TRANSFERABLE AMOUNT (AF)
AVERAGE DIVERSION TO WTP	23.2	135.4	2.8	3.8	131.6
AVERAGE DIVERSION TO PACTOLA	11.6	67.7	--	--	67.7

The return flow contribution is that portion of the Eisenbraun property South Side Ditch water rights that is composed of return flows from upstream ditches which reach Rapid Creek upstream from the South Side Ditch point of diversion. These percentages and amounts are calculated in Appendix N of "Engineering Report for Transfer of Stomer Property Portion of South Side Ditch Water Rights", March, 1992.

MONTHLY TANSFER SUMMARY

RAPID CITY WATER RIGHTS

901-046.010

APRIL 16, 1995

FILENAME: 901046\030\EISENBRN\TRANSUMM.

TABLE 6

MONTHLY TRANSFER SUMMARY EISENBRAUN PROPERTY

MONTH	DIVERSION TO STORAGE IN PACTOLA RESERVOIR (AC. FT)*	DIVERSION AT THE RAPID CITY WTP AND INFILTRATION GALLERIES (AC. FT)**
MAY	9.7	18.9
JUNE	13.9	27.1
JULY	14.4	28.0
AUGUST	16.9	32.8
SEPTEMBER	12.8	24.8
OCTOBER	0.0	0.0
TOTAL	67.7	131.6

* Monthly amount transferable to storage in Pactola Reservoir as follows:

Column P (Table A) x 70.0 acres x 1 foot/12 inches

** Monthly amount transferable to Rapid City WTP and infiltration galleries as follows:

(Column J (Table A) x 70.0 acres x 1 foot/12 inches) -
2.8 percent return flows from Murphy and Cyclone
ditches (See Table B)

Report on Water Permit Application No. 2234-2
City of Rapid City
May 12, 1995

Application No. 2234-2, City of Rapid City, proposes to transfer an annual volume of 131.6 acre-feet of water (ac-ft), if diverted at the city's water treatment plant or infiltration galleries, or 67.7 ac-ft, if stored in Pactola Reservoir. The maximum diversion rate proposed for this transfer is 0.79 cubic feet of water per second (cfs) from the natural flows of Rapid Creek. The transfer is from irrigation to municipal, industrial, commercial, common distribution system, rural water system, suburban housing, and domestic uses for the City of Rapid City. Application No. 2234-2 proposes to transfer South Side Ditch Company stockholder/landowner's water which has been historically used to irrigate 70 acres located in the E1/2 NE1/4 of Section 26 T1N-R8E also known as the Eisenbraun property.

The source of water for the proposed transfer is from the natural flow of Rapid Creek, when available, through South Side ditch. Vested Water Right No. 2040-2, South Side Ditch, was validated for 23.40 cfs with a priority date of May 3, 1880. The existing diversion point for South Side ditch is located in the SE1/4 NW1/4 of Section 15 T1N-R8E. The locations of the diversion points for the proposed transfer are in the SE1/4 NE1/4 Section 3 (Rapid City Water Treatment Plant); SW1/4 SW1/4 Section 3 (Sioux Park Gallery); SE1/4 NE1/4 Section 9 (Meadowbrook Gallery); NW1/4 SE1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E and NW1/4 SW1/4 Section 2 T1N-R5E (Pactola Reservoir). Pactola Reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This application does not request any new water appropriation from Rapid Creek and the validated priority date of May 3, 1880 is to be retained by the city.

Review of Existing Water Rights

The water to be transferred has been appropriated under Vested Water Right No. 2040-2, South Side Ditch, with a priority date of May 3, 1880. The water right authorizes the irrigation of 70 acres of the Eisenbraun property. The 70 acres located in the E1/2 NE1/4 Section 26 T1N-R8E have been continually irrigated.

There are 76 existing water rights/permits appropriating 263.50 cfs from Rapid Creek between Pactola Reservoir and the confluence with the Cheyenne River. Of these, 14 water rights appropriating approximately 28.32 cfs have priority dates which are senior to this proposed transfer.

Review of the Proposed Transfer

SDCL 46-5-34.1 states that no transfer can occur unless the transfer can be made without detriment to existing water rights, or to individual domestic use rights. SDCL 46-5-34.1 also states "No person who has transferred an irrigation right pursuant to this section may acquire another irrigation right for the same land." SDCL 46-2A-12 allows a change in use "only if the change does not unlawfully impair existing rights and is for a beneficial use and in the public

interest." Calculations using accepted scientific methods and available climatic and cropping data have been made to insure that adverse affects on existing water rights do not occur.

The volume of water which could be stored in Pactola Reservoir is 67.7 ac-ft annually. This volume of water is equal to the amount of water estimated to have been consumed annually by the crop. The amount of water which can be diverted at Rapid City water system intakes is 131.6 ac-ft annually. This volume of water includes the amount of water consumed by the crop plus the return water to Rapid Creek. Murphy and Cyclone Ditches contribute return water, which becomes natural flow water, to Rapid Creek upstream of the South Side Ditch head gate. The Jundt property has historically received a portion of this water as part of its natural flow. Because the source of this natural flow is located downstream of any of Rapid City's proposed diversion points, this water cannot be included in the volume of water transferred to the City's intakes. This extra water will be a benefit to downstream water rights.

The volume of water estimated to have been consumed by the crop is calculated on a monthly basis. For each month the maximum amount of water the crop would use is calculated. This is compared to the amount of water that is available for the crop's use based on historical ditch diversions and the total acreage irrigated annually from the ditch. A determination is made, on a monthly basis, whether maximum crop water usage or available water supply is the limiting factor. The lesser of these is used as the volume of water consumed by the crop for that particular month. Water which has been returned to Rapid Creek through irrigation would also be returned to Rapid Creek by Rapid City through their waste water treatment system. (Wright, 1992) If in the future the City of Rapid City stops returning effluent to Rapid Creek, then the diversion proposed by this application will need to be recalculated to reflect that condition.

Farm turnouts do not have measuring devices, so actual individual diversions from the ditch are unknown. Water in the ditch is shared by the users as needed. Based on actual past operations, the calculated diversion rate transfer is based on a pro rata share of the total ditch diversion. The proposed diversion rate transfer is based on water beneficially used as described under SDCL 46-1-8.

The transferable diversion rate is determined by acreage pro-rating the South Side Ditch's 1880 priority diversion rate which is then decreased by the 9.8 percent carriage loss which is to remain in the ditch. This gives a transferable diversion rate of 0.79 cfs which has historically been used to irrigate the 70 acres.

If this transfer is approved, the diversion rate and acreage authorized by the May 3, 1880 priority date of Water Right No. 2040-2 should be decreased by 0.79 cfs and 70 acres due to the transfer.

The water available for transfer is only from the natural flow in Rapid Creek and does not include stored water or stored water releases from the Deerfield - Pactola Reservoirs.

To insure that the transfer of the water can be made without detriment to existing water rights, the Water Management Board should monitor the management and operation of the proposed transfer.

Conclusions

1. SDCL 46-5-34.1 allows for the transfer of irrigation water rights apart from the land to municipal use when the transfer can be made without causing detriment to existing rights. SDCL 46-2A-12 allows a change in use "only if the change does not unlawfully impair existing rights and is for a beneficial use and in the public interest."
2. The water has been historically used to irrigate 70 acres.
3. The priority date of May 3, 1880 should be retained.
4. The diversion rate to be transferred is 0.79 cfs, and is based on the pro-rated share of the total ditch diversion rate.
5. The amount of water requested to be transferred, 67.7 ac-ft and 131.6 ac-ft is reasonable. The following table lists the monthly diversion volume:

Month	Diversion at Pactola (ac-ft)	Diversion at Intakes (ac-ft)
-----	-----	-----
May	9.7	18.9
June	13.9	27.1
July	14.4	28.0
Aug	16.9	32.8
Sept	12.8	24.8
Oct	0.0	0.0

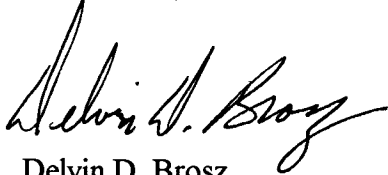
6. If application No. 2234-2 is approved, the authorized diversion rate and acreage for the South Side Ditch Water Right No. 2040-2 under the May 3, 1880 priority date should be decreased by 0.79 cfs and 70 acres.
7. The Water Management Board should continue to monitor the management and operation of the transfer of the water right and of existing water rights.
8. Approval of Application No. 2234-2, only approves transfer of natural flow water and does not include any rights to stored irrigation water available under contract from Pactola Reservoir.
9. Because natural flow water has not been available for No. 2040-2 during lower flow periods, approval of No. 2234-2 does not guarantee that natural flow water will be available for No. 2234-2 for diversion or storage during low flow periods.

10. The effect of approval of No. 2234-2 will be to retire the Eisenbraun property from irrigation. SDCL 46-5-34.1 states "No land which has had an irrigation right transferred from it pursuant to this section may qualify for another irrigation right from any water source."



Mark D. Rath
Natural Resources Engineer III

Approved by,



Delvin D. Brosz
Natural Resources Engineer IV

References

1. Wright Water Engineers, Inc. 1992. Engineering Report for Transfer of Stroman Property Portion of South Side Ditch Water Rights. Wright Water Engineers, Inc. Engineering Consultants, Denver, Colorado.
2. U.S. Bureau of Reclamation. 1990. Rapid Valley Water Management Study. U.S. Bureau of Reclamation, Belle Fourche Projects Office, Newell, South Dakota.
3. S.D. Department of Environment and Natural Resources. Water Rights Program Records.

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2234-2, City of Rapid City**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 2234-2, City of Rapid City, c/o Daniel Bjerke, 300 Sixth Street, Rapid City, SD 57701.

The Chief Engineer is recommending DEFERRAL of Application No. 2234-2 to allow the applicant to supply additional documentation and for staff to investigate the application and prepare a report.

See report on application for additional information.

JOHN HATCH, Chief Engineer
May 19, 1995

**REVISED RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2234-2, City of Rapid City**

Pursuant to SDCL 46-2A-2, the following is the revised recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 2234-2, City of Rapid City, c/o Daniel Bjerke, 300 Sixth Street, Rapid City, SD 57701.

The Chief Engineer is recommending APPROVAL of Application No. 2234-2 because 1) the proposed diversion can be developed without unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) in the public interest with the following qualifications:

1. Permit No. 2234-2 is limited to a diversion rate of 0.79 cfs for a total annual volume of 67.7 acre feet at Pactola Reservoir or a total annual volume of 131.6 acre feet at Sioux Park Gallery (SW1/4 SW1/4 Section 3), Meadowbrook Gallery (SE1/4 NE1/4 Section 9), Jackson Springs Gallery (NW1/4 SE1/4 Section 8) and the Rapid City Water Treatment Plant (SE1/4 NE1/4 Section 3), all in T1N-R7E. Maximum monthly diversion volumes at Pactola or the diversion points within Rapid City area as follows:

<u>Month</u>	<u>Monthly acre feet at Pactola</u>	<u>Monthly acre feet at diversion points within Rapid City</u>
May	9.7	18.9
June	13.9	27.1
July	14.4	28.0
August	16.9	32.8
September	12.8	24.8
October	0.0	0.0

Diversions during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City Diversion points.

2. Permit No. 2234-2 authorizes diversions of only natural flow water by the City of Rapid City and does not include any rights to stored irrigation water available under contract from Pactola Reservoir.
3. That the City of Rapid City report to the chief engineer annually the amount of water withdrawn each month at Pactola Reservoir or the diversion points within Rapid City.

4. That the Water Management Board is retaining jurisdiction of Permit No. 2234-2 in the event that additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2234-2.
5. Diversions under Permit No. 2234-2 may not interfere with existing water rights in effect prior to approval of No. 2234-2 or any domestic rights.
6. The amount of water with a May 3, 1880, priority date, which may be appropriated under Vested Water Right No. 2040-2 is reduced by 0.79 cfs.
7. Approval of Water Permit No. 2316-2 retires the 70 acres, known as the Eisenbraun property which has been historically irrigated from South Side Ditch, located in the E1/2 NE1/4 Section 26, T1N, R8E from future irrigation.

See report on application for additional information.



JOHN HATCH, Chief Engineer
July 18, 1995



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.

July 26, 1995

Daniel Bjerke
City of Rapid City
300 6th Street
Rapid City, SD 57701

Dear Mr. Bjerke:

Water Permit Application Nos. 2234-2, 2316-2 and 2317-2 for municipal use have been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the Rapid City Journal printed at Rapid City, SD (Ph # 605-394-8300). For your information, a copy of the notice, the recommendations of the Chief Engineer and reports on the applications are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice of Hearing and to arrange for payment. Early contact with the paper can eliminate delays. The publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. The newspaper has been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the applications.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendations, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the applications.



Post-it™ Fax Note 7671		Date 8/9/95	# of pages 3
To Lori Frohman		From Karen Schlaak	
Co./Dept. Journal		Co. DENR	
Phone # 394-8300		Phone # 773-3352	
Fax # 394-8462		Fax #	

of ENVIRONMENT
L RESOURCES

523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

July 26, 1995

Rapid City Journal
PO Box 450
Rapid City, SD 57709-0450

ATTENTION: Legal Department

Enclosed is a Notice of Hearing on Application Nos. 2234-2, 2316-2 and 2317-2 to be published twice. Please publish the first notice on August 9, 1995, with the second publication 7 days later.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the first publication. Please BILL the APPLICANT for the cost of publication. The APPLICANT is the City of Rapid City, c/o Daniel Bjerke, 300 6th Street, Rapid City, SD 57701 (Ph # 605-394-4165).

A copy of BOTH publications must be SENT to the WATER RIGHTS PROGRAM. IMMEDIATELY return the FIRST publication with the FIRST Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. No action may be taken on the permit application until proof of publication has been received.

Sincerely,

Eric Gronlund

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

FIRST TRANSMITTAL NOTICE

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

No. _____

Date _____

We are in receipt of your letter of _____ enclosing Notice of Hearing to Appropriate Water by Application No. _____ which was first published in our issue of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name _____

Newspaper _____

Instruction to Newspaper - Publish first Notice on August 9, 1995, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application Nos. 2234-2, 2316-2 and 2317-2 to Transfer Use

Notice is given that the City of Rapid City, c/o Daniel Bjerke, 300 6th Street, Rapid City, SD 57701 has filed Water Permit Application Nos. 2234-2, 2316-2 and 2317-2 pursuant to 46-5-34.1 to transfer the use of a portion of Rapid Creek natural flows appropriated for irrigation use to municipal, industrial, commercial, common distribution system, rural water system, suburban housing, and domestic use by the City of Rapid City.

Water Permit No. 2234-2 is to transfer the use of a portion of Rapid Creek natural flows historically used to irrigate 70 acres known as the Eisenbraun property from South Side Ditch. The portion of Rapid Creek natural flows to be transferred to the city is 0.79 cubic feet of water per second (cfs) with an annual volume limitation of 131.6 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 67.7 acre-feet, if stored in Pactola Reservoir. Historically, the 0.79 cfs has been used to irrigate approximately 70 acres located in the E 1/2 NE 1/4 Section 26-T1N-R8E. The existing diversion point on Rapid Creek for South Side Ditch is located in the SE 1/4 NW 1/4 Section 15-T1N-R8E. This application is to change the diversion point for the 0.79 cfs to diversion points for use by the city to be located in the SE 1/4 NE 1/4 Section 3 (Rapid City Water Treatment Plant); SW 1/4 SW 1/4 Section 3 (Sioux Park Gallery); SE 1/4 NE 1/4 Section 9 (Meadowbrook Gallery); NW 1/4 SE 1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW 1/4 SW 1/4 Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This application does not authorize any new water appropriation from Rapid Creek and the claimed priority date of May 3, 1880, for use of 0.79 cfs is to be retained by the city.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2234-2 with qualifications because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest.

Water Permit No. 2316-2 is to transfer the use of a portion of Rapid Creek natural flows historically used to irrigate 64 acres known as the Morris property from Murphy Ditch. The portion of Rapid Creek natural flows to be transferred to the city is 0.81 cfs with an annual volume limitation of 94.5 acre-feet, if diverted at the city's water treatment plants and infiltration galleries or 47.2 acre-feet, if stored in Pactola Reservoir. Historically, the 0.81 cfs has been used to irrigate approximately 64 acres located in the W 1/2 SE 1/4 Section 9-T1N-R8E. The existing diversion point on Rapid Creek for Murphy Ditch is located in the SW 1/4 Section 8-T1N-R8E. This application is to change the diversion point for 0.81 cfs to diversion points for use by the city to be located in the SE 1/4 NE 1/4 Section 3 (Rapid City Water Treatment Plant); SW 1/4 SW 1/4 Section 3 (Sioux Park Gallery); SE 1/4 NE 1/4 Section 9 (Meadowbrook Gallery); NW 1/4 SE 1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW 1/4 SW 1/4 Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This application does not authorize any new water appropriations from Rapid Creek and the claimed priority date of April 6, 1878, for use of 0.81 cfs is to be retained by the city.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2316-2 with qualifications because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest.

Water Permit No. 2317-2 is to transfer the use of a portion of Rapid Creek natural flows historically used to irrigate 46 acres known as the Morris property from Hawthorne Ditch. The portion of Rapid Creek natural flows to be transferred to the city is 0.84 cfs with an annual volume limitation of 93.6 acre-feet, if diverted at the city's water treatment plants and infiltration galleries or 46.8 acre-feet, if stored in Pactola Reservoir. Historically, the 0.84 cfs has been used to irrigate approximately 46 acres located in the

SW 1/4 NE 1/4, SE 1/4 NW 1/4, NE 1/4 SW 1/4, NW 1/4 SE 1/4 Section 9-T1N-R8E. The existing diversion point on Rapid Creek for Hawthorne Ditch is located in the SE 1/4 Section 6-T1N-R8E. This application is to change the diversion point for 0.84 cfs to diversion points for use by the city to be located in the SE 1/4 NE 1/4 Section 3 (Rapid City Water Treatment Plant); SW 1/4 SW 1/4 Section 3 (Sioux Park Gallery); SE 1/4 NE 1/4 Section 9 (Meadowbrook Gallery); NW 1/4 SE 1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW 1/4 SW 1/4 Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This application does not authorize any new water appropriations from Rapid Creek and the claimed priority date of July 12, 1886, for use of 0.84 cfs is to be retained by the city.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2317-2 with qualifications because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest.

Any person interested in opposing or supporting these applications must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendations. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by September 22, 1995. The petition may be informal, but must include a statement describing the petitioner's interest in the applications, the petitioner's reasons for opposing or supporting the applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

The Water Management Board will consider these applications at 2:00 p.m., October 4, 1995, Conference Room, Floyd Matthew Training Center, Joe Foss Building, 523 East Capitol, Pierre, SD. The actual time of the hearing may be later than 2:00 p.m. due to prior agenda items. If the hearing is not completed on October 4, 1995, the hearing will continue on October 5, 1995, beginning at 8:30 a.m. The Chief Engineer's recommendations are not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny these applications based on the facts presented at the public hearing. The October 4, 1995, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing these applications. The request for an automatic delay must be filed by September 22, 1995.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 22, 1995, at the above Water Rights Program address to request copies of information pertaining to these applications, to assure access to the hearing by the handicapped or to obtain an interpreter for the hearing impaired.

These applications are made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-5-33 thru 46-5-35; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15. Nettie H. Myers, Secretary, Department of Environment and Natural Resources.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

FACSIMILE TRANSMITTAL COVER SHEET

TRANSMITTAL DATE: 7/31/95

PLEASE DELIVER THE FOLLOWING PAGE(S) TO:

NAME: Lori Protman

DESTINATION: Rapid City Journal

ADDRESS: _____

PHONE: 394-8300 FAX: 394-8462

MESSAGE: On July 26, 1995, we sent this notice to you.

The 2 corrections are circled in the 2nd paragraph.

Call if you have questions. This should be published

Aug 9 & 16. Thanks

FROM: Karen Schlaak

AGENCY: DENR/WATER RIGHTS PROGRAM

ADDRESS: JOE FOSS BUILDING, 523 EAST CAPITOL, PIERRE, SD 57501-3181

PHONE: (605) 773-3352 FAX: (605) 773-4068

****THIS TRANSMISSION INCLUDES 2 PAGES INCLUDING THIS PAGE****

IF THERE IS ANY PROBLEM WITH THIS TRANSMITTAL, PLEASE CALL (605) 773-3352.

THANK YOU.

Instruction to Newspaper - Publish first Notice on August 9, 1995, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application Nos. 2234-2, 2316-2 and 2317-2 to Transfer Use

Notice is given that the City of Rapid City, c/o Daniel Bjerke, 300 6th Street, Rapid City, SD 57701 has filed Water Permit Application Nos. 2234-2, 2316-2 and 2317-2 pursuant to 46-5-34.1 to transfer the use of a portion of Rapid Creek natural flows appropriated for irrigation use to municipal, industrial, commercial, common distribution system, rural water system, suburban housing, and domestic use by the City of Rapid City.

Water Permit No. 2234-2 is to transfer the use of a portion of Rapid Creek natural flows historically used to irrigate 70 acres known as the Eisenbraun property from South Side Ditch. The portion of Rapid Creek natural flows to be transferred to the city is 0.79 cubic feet of water per second (cfs) with an annual volume limitation of (131.6) acre-feet, if diverted at the city's water treatment plant and infiltration galleries or (67.7) acre-feet, if stored in Pactola Reservoir. Historically, the 0.79 cfs has been used to irrigate approximately 70 acres located in the E 1/2 NE 1/4 Section 26-T1N-R8E. The existing diversion point on Rapid Creek for South Side Ditch is located in the SE 1/4 NW 1/4 Section 15-T1N-R8E. This application is to change the diversion point for the 0.79 cfs to diversion points for use by the city to be located in the SE 1/4 NE 1/4 Section 3 (Rapid City Water Treatment Plant); SW 1/4 SW 1/4 Section 3 (Sioux Park Gallery); SE 1/4 NE 1/4 Section 9 (Meadowbrook Gallery); NW 1/4 SE 1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW 1/4 SW 1/4 Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This application does not authorize any new water appropriation from Rapid Creek and the claimed priority date of May 3, 1880, for use of 0.79 cfs is to be retained by the city.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2234-2 with qualifications because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest.

Water Permit No. 2316-2 is to transfer the use of a portion of Rapid Creek natural flows historically used to irrigate 64 acres known as the Morris property from Murphy Ditch. The portion of Rapid Creek natural flows to be transferred to the city is 0.81 cfs with an annual volume limitation of 94.5 acre-feet, if diverted at the city's water treatment plants and infiltration galleries or 47.2 acre-feet, if stored in Pactola Reservoir. Historically, the 0.81 cfs has been used to irrigate approximately 64 acres located in the W 1/2 SE 1/4 Section 9-T1N-R8E. The existing diversion point on Rapid Creek for Murphy Ditch is located in the SW 1/4 Section 8-T1N-R8E. This application is to change the diversion point for 0.81 cfs to diversion points for use by the city to be located in the SE 1/4 NE 1/4 Section 3 (Rapid City Water Treatment Plant); SW 1/4 SW 1/4 Section 3 (Sioux Park Gallery); SE 1/4 NE 1/4 Section 9 (Meadowbrook Gallery); NW 1/4 SE 1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW 1/4 SW 1/4 Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This application does not authorize any new water appropriations from Rapid Creek and the claimed priority date of April 6, 1878, for use of 0.81 cfs is to be retained by the city.

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SW 1/4 NE 1/4, SE 1/4 NW 1/4, NE 1/4 SW 1/4, NW 1/4 SE 1/4 Section 9-T1N-R8E. The existing diversion point on Rapid Creek for Hawthorne Ditch is located in the SE 1/4 Section 6-T1N-R8E. This application is to change the diversion point for 0.84 cfs to diversion points for use by the city to be located in the SE 1/4 NE 1/4 Section 3 (Rapid City Water Treatment Plant); SW 1/4 SW 1/4 Section 3 (Sioux Park Gallery); SE 1/4 NE 1/4 Section 9 (Meadowbrook Gallery); NW 1/4 SE 1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW 1/4 SW 1/4 Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This application does not authorize any new water appropriations from Rapid Creek and the claimed priority date of July 12, 1886, for use of 0.84 cfs is to be retained by the city.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2317-2 with qualifications because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest.

Any person interested in opposing or supporting these applications must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendations. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by September 22, 1995. The petition may be informal, but must include a statement describing the petitioner's interest in the applications, the petitioner's reasons for opposing or supporting the applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

The Water Management Board will consider these applications at 2:00 p.m., October 4, 1995, Conference Room, Floyd Matthew Training Center, Joe Foss Building, 523 East Capitol, Pierre, SD. The actual time of the hearing may be later than 2:00 p.m. due to prior agenda items. If the hearing is not completed on October 4, 1995, the hearing will continue on October 5, 1995, beginning at 8:30 a.m. The Chief Engineer's recommendations are not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny these applications based on the facts presented at the public hearing. The October 4, 1995, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing these applications. The request for an automatic delay must be filed by September 22, 1995.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 22, 1995, at the above Water Rights Program address to request copies of information pertaining to these applications, to assure access to the hearing by the handicapped or to obtain an interpreter for the hearing impaired.

These applications are made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-5-33 thru 46-5-35; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15. Nettie H. Myers, Secretary, Department of Environment and Natural Resources.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

July 27, 1995

Jerry Hammerquist
Rapid Valley Water Conservancy District
Box 26
Caputa, SD 57725

Dear Mr. Hammerquist:

Enclosed is a copy of the reports, recommendations and notice of hearing for Water Permit Application Nos. 2234-2, 2316-2 and 2317-2. These applications, filed by the City of Rapid City, propose to transfer the use of a portion of Rapid Creek natural flows appropriated for irrigation use to municipal uses.

If you have any questions concerning these applications, please contact Mark Rath at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

July 27, 1995

Bruce Laymon, Project Manager
Bureau of Reclamation
P.O. Box 226
Newell, SD 57760

Dear Mr. Laymon:

Enclosed is a copy of the reports, recommendations and notice of hearing for Water Permit Application Nos. 2234-2, 2316-2 and 2317-2. These applications, filed by the City of Rapid City, propose to transfer the use of a portion of Rapid Creek natural flows appropriated for irrigation use to municipal uses.

If you have any questions concerning these applications, please contact Mark Rath at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

July 27, 1995

Jerry Marsh
HCR 36, Box 35
Caputa, SD 57725

Dear Mr. Marsh:

Enclosed is a copy of the reports, recommendations and notice of hearing for Water Permit Application Nos. 2234-2, 2316-2 and 2317-2. These applications, filed by the City of Rapid City, propose to transfer the use of a portion of Rapid Creek natural flows appropriated for irrigation use to municipal uses.

If you have any questions concerning these applications, please contact Mark Rath at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures

**Water Rights Division
File Documentation**

NAME OF PERSON OR FILE: Rapid City Journal - Lori Frohman

ADDRESS: Rapid City SD COUNTY: Pennington

DATE: 8-10-95 TELEPHONE: 394-8300

RE: Publication Notice

COMMENTS:

I talked with Lori from the Rapid City Journal. Lori stated that the Notice for the three Rapid City permits did not get published on August 9th. She wasn't sure why.

Lori said the Notice will be published on August 16 and the 23. I told her changing the publication dates to the 16th and 23rd would be O.K. None of the dates within the notice need to be changed.



Karen Schlaak
Environmental Scientist



Affidavit of Publication

STATE OF SOUTH DAKOTA

County of Pennington SS.

I, Samantha Wentworth, being first duly sworn,

upon his oath says: That he is now and was at all times hereinafter mentioned,

an employee of the RAPID CITY JOURNAL COMPANY, a corporation, of

Rapid City, South Dakota, the owner and publisher of the RAPID CITY JOUR-

NAL, a legal and daily newspaper printed and published in Rapid City, in said

County of Pennington, and has full and personal knowledge of all the facts

herein stated as follows: that said newspaper is and at all of the times herein

mentioned has been a legal and daily newspaper with a bonafide paid circula-

tion of at least Two Hundred copies daily, and has been printed and published

in the English language, at and within an office maintained by the owner and

publisher thereof, at Rapid City, in said Pennington County, and has been

admitted to the United States mail under the second class mailing privilege for

at least one year prior to the publication herein mentioned; that the advertise-

ment, a printed copy of which, taken from said RAPID CITY JOURNAL, the

paper in which the same was published, is attached to this sheet and made a part

of this affidavit, was published in said paper once each Week

for Two successive weeks, the

first publication thereof being on the 16th day of

September, 19 95, that the fees charged for the

public ars and

cents.

day of

August

pires:

of T2N-R5E. This application does not authorize any new water appropriation from Rapid Creek and the claimed priority date of May 3, 1880, for use of 0.79 cfs is to be retained by the city.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2234-2 with qualifications because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest.

Water Permit No. 2214-2 is to transfer the use of a portion of Rapid Creek natural flows historically used to irrigate 64 acres known as the Morris property from Murphy Ditch. The portion of Rapid Creek natural flows to be transferred to the city is 0.81 cfs with an annual volume limitation of 94.5 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 47.2 acre-feet, if stored in Pactola Reservoir. Historically, the 0.81 cfs has been used to irrigate approximately 64 acres located in the NW 1/4 Section 9-T1N-R8E. The existing diversion point on Rapid Creek for Murphy Ditch is located in the SW 1/4 Section 8-T1N-R8E. This application is to change the diversion point for 0.81 cfs to diversion points for use by the city to be located in the SE 1/4 Section 3 (Rapid City Water Treatment Plant); SW 1/4 Section 3 (Sioux Park Gallery); SE 1/4 Section 9 (Meadowbrook Gallery); NW 1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW 1/4 Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This application does not authorize any new water appropriations from Rapid Creek and the claimed priority date of April 4, 1878, for use of 0.81 cfs is to be retained by the city.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2214-2 with qualifications because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest.

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Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2217-2

Aug. 16, 23 L1367 NOTICE OF HEARING ON APPLICATION NOS. 2234-2, 2214-2 AND 2217-2 TO TRANSFER USE

Notice is given that the City of Rapid City, c/o Daniel Bierke, 300 6th Street, Rapid City, SD 57701 has filed Water Permit Application Nos. 2234-2, 2214-2 and 2217-2 pursuant to 46-5-34.1 to transfer the use of a portion of Rapid Creek natural flows appropriated for irrigation use to municipal, industrial, commercial, common distribution system, rural water system, suburban housing, and domestic use by the City of Rapid City.

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The Water Management Board will consider these applications at 2:00 p.m., October 4, 1995, Conference Room, Floyd Matthews Training Center, Joe Foss Building, 523 East Capitol, Pierre, SD. The actual time of the hearing may be later than 2:00 p.m. due to prior agenda items. If the hearing is not completed on October 4, 1995, the hearing will continue on October 5, 1995, beginning at 8:30 a.m. The Chief Engineer's recommendations are not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny these applications based on the facts presented at the public hearing. The October 4, 1995, hearing date will be automatically delayed for at least 30 days upon written request to the Chief Engineer from the applicant or any interested person opposing these applications. The request for an automatic delay must be filed by September 22, 1995.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 22, 1995, at the above Water Rights Program address to request copies of information pertaining to these applications, to assure access to the hearing by the handicapped or to obtain an interpreter for the hearing impaired.

These applications are made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-5-33 thru 46-5-35; and Board Rules ARSD 74-02:01:01 thru 74-02:01:15.

Nettie H. Myers
Secretary
Department of Environment
and Natural Resources

**Have an item
or pet to give
away?**

We'll place your
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10 DAYS
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Journal**
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394-8383

Chief Engineer - Water Rights Program
Foss Building
523 E. Capitol
Pierre, S. D. 57501



We, the undersigned irrigators, Mark Kieffer, Jones Ranch, Zoltan Szakacs, Ham Ranch, Marsh Hereford Ranch, Jerry Hammerguist, Ed Taylor, Melvin Brassfield, Dustman Ranch, St. Germain Irrigating Co., George Sanders Ranch individually and collectively, are filing this protest with regard to Rapid City's applications Nos. 2234-2, 2316-2 and 2317-2 for transfers of irrigation water rights to municipal use.

We submit that Rapid City may not designate a portion of the effluent discharge from the City waste water treatment facility as replacement of those portions of the water rights to be transferred which would have been return flows to Rapid Creek. As a basis for our protest, we quote from the Deerfield Contract of 27 July, 1943, entered into and signed by the U. S. Bureau of Reclamation, Rapid City and the Rapid Valley Water Conservancy District. Pages 19 - 20, SUBSTITUTE WATER - ABANDONMENT OF RETURN FLOWS : "(b) The municipality hereby abandons all claims, present and prospective, of whatsoever nature, to any and all water, of every kind and description, after its municipal use thereof and when the same is returning, whether visibly or invisibly, to Rapid Creek or its tributaries, including natural springs.

As further evidence of our position we quote from the REPORT OF MEETING - RAPID VALLEY WATER USERS ASSN.(predecessor to the Rapid Valley Water Conservancy District) dated 12 April, 1941. Reference - Mr. W. J. Burke, District Council, U. S. Bureau of Reclamation. Statement made by Mr. Burke during discussion of the proposed Deerfield Contract, page 3, last paragraph. "Mr. Burke was definite in insisting upon language to the effect that Rapid City shall abandon any and all claim to water being returned to Rapid Creek from the sewage disposal plant. He stated that this is "free water" and belongs to the irrigators of Rapid Valley."

Further, our position is supported by research by George A. Bangs, Attorney at Law. In his report Mr. Bangs asserts "(4) Effluent flows historically available to downstream water rights, flows to which Rapid City has relinquished all claim for any purpose whatsoever under Article 19 of the Deerfield Contract, a contract affirmed by the S. D. Supreme Court, and under stipulation before and order of the S. D. Water Rights Commission on Nov. 7, 1963 with final order on May 7, 1964. May not be used to offset loss of irrigation return flows to downstream irrigators."

Therefore, we submit that the statement on page 2, second paragraph of the Report on Water Permit Application No. 2234-2 - City of Rapid City, "Water which has been returned to Rapid Creek through irrigation would also be returned to Rapid Creek through their waste water treatment system" is contrary to the terms of the Deerfield Contract and the

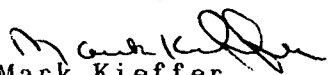
Commission. We submit that Rapid City must maintain flows in Rapid Creek, other than waste water effluent, equal to the flows that have historically returned from irrigation under the water rights proposed to be transferred.

In addition, statements made in Applications Nos. 2316-2 and 2317-2, page 2, third paragraph, Under this proposal there are five water rights/permits Nos. 653-2, 971-2, 1461-2, 1461A-2 and 2040-2, with diversion points located downstream from the Murphy(Hawthorne) ditch historical return point..." are erroneous. Water which has historically returned to Rapid Creek as irrigation return flows would and should be available to any and all downstream domestic users and/or irrigation water rights. Coincidentally, of the five water rights listed, only two are active irrigation rights, both of which have high priorities and seldom require purchased water.

Further, we reiterate our previous protests that the effluent discharged into Rapid Creek by Rapid City's waste water treatment system is of considerably inferior quality than irrigation return flows would be, and as such are a detriment to domestic water supplies and irrigation water. We contend that this water quality problem adds to the continued degradation of water quality where this water is used for stock watering and to domestic and ground water where this water is used for irrigation due to infiltration and irrigation canal seepage. Historically, stream flows, including irrigation return flows, have provided a diluent of the effluent and we contend that this is essential and that these sources of diluent should continue. Additionally, the U. S. Bureau of Reclamation, in its environmental assessment, which assessment is required by law in the NEPA process before negotiations can begin on new contracts for Rapid City and the District access to Pactola water, have suggested that the effluent is of a quality that increased flows in Rapid Creek would improve downstream water quality. The conclusion must be made that decreased flows will decrease water quality.

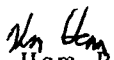
Thus, we contend that the quantity and quality of the water which has historically been irrigation return flows must remain in Rapid Creek at all times.

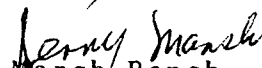
Signed:


Mark Kieffer


Jones Ranch


Zoltan Szakacs


Ham Ranch


Marsh Ranch


Ed Taylor


Jerry Hammerquist


Dustman Ranch


Melvin Brassfield


St. Germain Irrigating Co.


George Sanders Ranch



NAMES AND ADDRESSES OF PROTEST SIGNERS

MARK KIEFFER KEYSTONE RT., BOX 3808, RAPID CITY, S.D. 57702
JONES RANCH 15248 CAPUTA LOOP , RAPID CITY, S. D. 57701
ZOLTAN SZAKACS PO BOX CAPUTA, S. D. 57725
HAM RANCH HCR 36 BOX 34, CAPUTA, S. D. 57725
MARSH RANCH HCR 36 BOX 35 CAPUTA, S. D. 57725
ED TAYLOR HCR 36 BOX 60 CAPUTA, S. D. 57725
JERRY HAMMERQUIST PO BOX 26 CAUTA, S. D. 57725
DUSTMAN RANCH PO BOX 53 CAPUTA, S. D. 57725
MELVIN BRASSFIELD PO BOX 24 CAPUTA, S. D. 57725
ST GERMAIN IRRIGATING CO PO BOX 32 CAPUTA, S. D. 57725
GEORGE SANDERS RANCH 3023 TOMAHAWK DR. RAPID CITY S. D. 57702
ODOM RANCH 23232 HUNTINGTON PLACE RAPID CITY, S. D. 57702



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

September 25, 1995

NOTICE

TO: Daniel L. Bjerke
Public Works Director of Engineering/Utilities
City of Rapid City
300 Sixth Street
Rapid City, SD 57701-2724
and Parties of Record (see attached list)

FROM: John Hatch, Chief Engineer
Water Rights Program
(605) 773-3352

SUBJECT: Water Management Board Hearing on Water Permit Application Nos.
2234-2, 2316-2 and 2317-2, City of Rapid City

A petition in protest to Water Permit Application Nos. 2234-2, 2316-2 and 2317-2 has been filed with the Water Rights Program. The Water Management Board will still consider Application Nos. 2234-2, 2316-2 and 2317-2 on October 4, 1995, at 2:00 pm in the Conference Room, Floyd Matthew Training Center, Joe Foss Building, 523 East Capitol Ave., Pierre, SD. The agenda time is an estimate and may be delayed due to prior agenda items. If the hearing is not concluded on October 4, 1995, the hearing will continue at 8:30 am on October 5, 1995. Parties should make any necessary arrangements in the event the hearing continues on October 5, 1995.

Applicable provisions of the Notice of Hearing published August 16 and 23, 1995 in the Rapid City Journal will apply at this hearing. This hearing is an adversary proceeding. Any party of record has the right to be present and to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Please contact Eric Gronlund at (605) 773-3352, if you have any questions.

c: Diane Best, Assistant Attorney General
Bob Jackson, City Attorney

PARTIES OF RECORD LIST
APPLICATION NOS. 2234-2, 2316-2 AND 2317-2
CITY OF RAPID CITY

Applicant

Daniel L. Bjerke, P.E./L.S.
Water/Wastewater Division Manager
City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Attorney for Applicant

Bob Jackson, Attorney
%City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Petitioners

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701

Zoltan Szakacs
P.O. Box
Caputa, SD 57725

Wm Ham
Ham Ranch
HCR 36, Box 34
Caputa, SD 57725

Jerry Marsh
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Robert Dustman
Dustman Ranch
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Caputa, SD 57725

Melvin Brassfield
P.O. Box 24
Caputa, SD 57725

Wm Ham, President
St. Germain Irrigating Co.
P.O. Box 32
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

Tom Odom
Odom Ranch
23232 Huntington Place
Rapid City, SD 57702

CERTIFICATION

I hereby certify that on September 25, 1995, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated September 25, 1995, along with a copy of the Parties of Record List, regarding Water Management Board Hearing on Water Permit Application Nos. 2234-2, 2316-2 and 2317-2, City of Rapid City, addressed as stated below, and on the attached Parties of Record List:

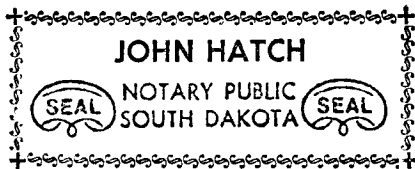
Copy Sent Inter-office to:

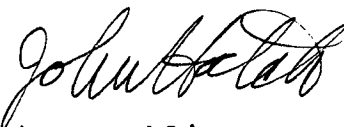
Diane Best, Assistant Attorney General, Capitol Building.


Cheryl F. Frost
Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 28th day of September, 1995




Notary Public

JOHN HATCH, Notary Public
My Commission Expires
April 1, 2001



CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701-2724

Office of the City Attorney

300 Sixth Street

Rapid City, South Dakota 57701

Telephone: 605-394-4140

Fax: 605-394-6636

September 27, 1995



TO: Board of Water Management

FROM: Robert R. Jackson, City Attorney, City of Rapid City

SUBJECT: Water Management Board Hearing on Water Permit Application Nos. 2234-2, 2316-2, and 2317-2, City of Rapid City.

REQUEST FOR CONTINUANCE

The City of Rapid City hereby moves the Board to continue the hearing in the above-captioned matters to its December, 1995, meeting. This motion is made upon the following bases:

- (1) The protest filed jointly by some twelve parties raises several issues which the City will need more than six business days to prepare to meet. Specifically, the protest refers rather vaguely to documents to which the City is not privy and to court decisions which not described with sufficient specificity to allow the City to determine which decisions are intended.
- (2) Two of the protesting parties, Jerry Hammerquist and Jerry Marsh, have informed the City that a December hearing would be fully acceptable to them and, further, that they do not believe that any of the other protestants would have any objection to a December hearing.
- (3) Diane Best, Assistant Attorney General, counsel for the Water Rights Division, has informed the City that she would not offer an objection to such continuance.

Respectfully submitted,

Robert R. Jackson
City Attorney
Attorney for the Applicant

RRJ:tpt



EQUAL OPPORTUNITY EMPLOYER

**PARTIES OF RECORD LIST
APPLICATION NOS. 2234-2, 2316-2 AND 2317-2
CITY OF RAPID CITY**

WATER MANAGEMENT BOARD
DEPARTMENT OF ENVIRONMENT
& NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SD 57501-3181

DIANE BEST
ASSISTANT ATTORNEY GENERAL
CAPITOL BUILDING
500 EAST CAPITOL AVENUE
PIERRE, SD 57501-5070

Petitioners

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701

Zoltan Szakacs
P.O. Box
Caputa, SD 57725

Wm Ham
Ham Ranch
HCR 36, Box 34
Caputa, SD 57725

Jerry Marsh
Marsh Ranch
HCR 36, Box 35
Caputa, SD 57725

Ed Taylor
HCR 36, Box 60
Caputa, SD 57725

Jerry Hammerquist
P.O. Box 26
Caputa, SD 57725

Robert Dustman
Dustman Ranch
P.O. Box 53
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Melvin Brassfield
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Wm Ham, President
St. Germain Irrigating Co.
P.O. Box 32
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

Tom Odom
Odom Ranch
23232 Huntington Place
Rapid City, SD 57702



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

November 6, 1995

NOTICE

TO: Daniel L. Bjerke
Public Works Director of Engineering/Utilities
City of Rapid City
300 Sixth Street
Rapid City, SD 57701-2724
and Parties of Record (see attached list)

FROM: John Hatch, Chief Engineer
Water Rights Program
(605) 773-3352

SUBJECT: Water Management Board Hearing on Water Permit Application Nos.
2234-2, 2316-2 and 2317-2, City of Rapid City

On October 4, 1995, The Water Management Board granted Rapid City's request for a continuance on Water Permit Application Nos. 2234-2, 2316-2 and 2317-2. The Board will now consider these applications on December 7, 1995, at 8:30 am in the Conference Room, Floyd Matthew Training Center, Joe Foss Building, 523 East Capitol Ave., Pierre, SD. The agenda time is an estimate and may be delayed due to prior agenda items.

Applicable provisions of the Notice of Hearing published August 16 and 23, 1995 in the Rapid City Journal will apply at this hearing. This hearing is an adversary proceeding. Any party of record has the right to be present and to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Please contact Eric Gronlund at (605) 773-3352, if you have any questions.

c: Diane Best, Assistant Attorney General
Bob Jackson, City Attorney

**PARTIES OF RECORD LIST
APPLICATION NOS. 2234-2, 2316-2 AND 2317-2
CITY OF RAPID CITY**

Applicant

Daniel L. Bjerke, P.E./L.S.
Water/Wastewater Division Manager
City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Attorney for Applicant

Bob Jackson, Attorney
%City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Petitioners

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701

Zoltan Szakacs
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P.O. Box 32
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

Tom Odom
Odom Ranch
23232 Huntington Place
Rapid City, SD 57702

CERTIFICATION

I hereby certify that on November 6, 1995, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated November 6, 1995, along with a copy of the Parties of Record List, regarding Water Management Board Hearing on Water Permit Application Nos. 2234-2, 2316-2 and 2317-2, City of Rapid City, addressed as stated below, and on the attached list:

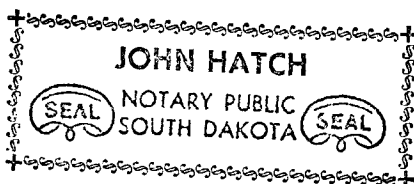
Copy of the above described Notice and Parties of Record List were sent inter-office to:

Diane Best, Assistant Attorney General, Capitol Building.


Cheryl F. Frost
Secretary

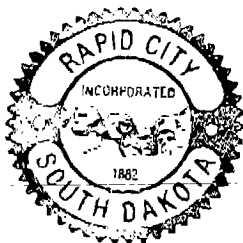
STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 7th day of November, 1995




Notary Public

JOHN HATCH, Notary Public
My Commission Expires
April 1, 2001



CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701-2724

December, 4, 1995



Ms. Diane Best
Attorney General's Office
500 E. Capitol
Pierre, SD 57501

Re: Water Permit Application Nos. 2234-2, 2316-2 and
2317-2

Dear Diane:

This is to confirm that the City of Rapid City has
consented to the request made by the Petitioners.

Thank you.

Very truly yours,

Robert R. Jackson
Robert R. Jackson
City Attorney

RRJ/map

Post-It™ brand fax transmittal memo 7671		# of pages ▶ /
To <i>DIANE BEST</i>	From <i>R. Jackson</i>	
Co. <i>AG's OFF.</i>	Co. <i>RL</i>	
Dept. <i>WATER RIGHTS</i>	Phone # <i>394-4140</i>	
Fax # <i>773-4068</i>	Fax #	



DATE: December 5, 1995

TO: Department of Environment and Natural Resources
ATTN: Eric Gronlund

FROM: Jerry Hammerquist, President
Rapid Valley Water Conservancy District

MESSAGE: We request that the Water Management Board grant
a delay on water permit applications:
2234-2; 2316-2; 2317-2, City of Rapid City



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

December 8, 1995

NOTICE

TO: Daniel L. Bjerke
Public Works Director of Engineering/Utilities
City of Rapid City
300 Sixth Street
Rapid City, SD 57701-2724
and Parties of Record (see attached list)

FROM: John Hatch, Chief Engineer
Water Rights Program
(605) 773-3352

SUBJECT: Water Management Board Hearing on Water Permit Application Nos.
2234-2, 2316-2 and 2317-2, City of Rapid City

On December 6, 1995, the Water Management Board granted the petitioners request for a continuance of the hearing for Water Permit Application Nos. 2234-2, 2316-2 and 2317-2. The Water Management Board will now consider these applications at the March 6 and 7, 1996 meeting in Pierre.

Please plan your schedule so that you may be present at the hearing on March 6 or 7, 1996. Future notice of the exact time, date and location of the hearing will be provide to all parties. Please contact Eric Gronlund at (605) 773-3352, if you have any questions.

c: Diane Best, Assistant Attorney General
Bob Jackson, City Attorney

PARTIES OF RECORD LIST
APPLICATION NOS. 2234-2, 2316-2 AND 2317-2
CITY OF RAPID CITY

Applicant

Daniel L. Bjerke
Water/Wastewater Division Manager
Public Works Director of
Engineering/Utilities
300 Sixth Street
Rapid City, SD 57701-2724

Attorney for Applicant

Bob Jackson, Attorney
%City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Petitioners

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Walter Jones
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15248 Caputa Loop
Rapid City, SD 57701

Zoltan Szakacs
P.O. Box
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Rapid City, SD 57702

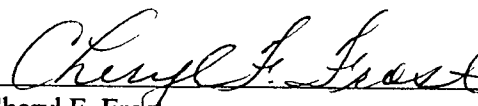
Tom Odom
Odom Ranch
23232 Huntington Place
Rapid City, SD 57702

CERTIFICATION

I hereby certify that on December 8, 1995, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated December 8, 1995, along with a copy of the Parties of Record list, regarding Water Management Board Hearing on Water Permit Application Nos. 2234-2, 2316-2 and 2317-2, City of Rapid City, addressed as stated below and on the attached Parties of Record list:

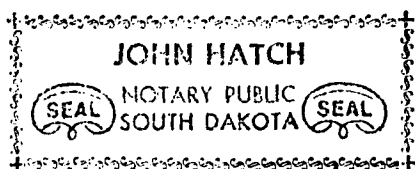
A copy of the above describe Notice and Parties or Record list was sent inter-office to:

Diane Best, Assistant Attorney General, Capitol Building.


Cheryl F. Frost
Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 12th day of December, 1995




Notary Public

JOHN HATCH, Notary Public
My Commission Expires
April 1, 2001



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

January 12, 1996

NOTICE

TO: Daniel Bjerke
Public Works Director of Engineering/Utilities
City of Rapid City
300 Sixth Street
Rapid City, SD 57701-2724
and Parties of Record (see attached list)

FROM: John Hatch, Chief Engineer
Water Rights Program
(605) 773-3352

SUBJECT: Rescheduling Water Management Board Hearing on Water Permit Application
Nos. 2234-2, 2316-2 and 2317-2, City of Rapid City

On December 6, 1995, the Water Management Board granted the petitioner's request for a continuance of the hearing on Water Permit Application Nos. 2234-2, 2316-2, and 2317-2. The Board will now consider these application on March 6, 1996, at 1:30 pm, Conference Room, Floyd Matthew Training Center, Foss Building, 523 East Capitol Ave., Pierre, SD. The agenda time is an estimate and may be delayed due to prior agenda items. The hearing will continue in the morning of March 7, 1996, if necessary.

Applicable provisions of the Notice of Hearing published August 16 and 23, 1995 in the Rapid City Journal will apply at this hearing. This hearing is an adversary proceeding. Any party of record has the right to be present and to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Please plan your schedule so that you may be present at the March, 6, 1996. hearing. Contact Eric Gronlund at (605) 773-3352, if you have any questions.

c: Diane Best, Assistant Attorney General
Bob Jackson, City Attorney

PARTIES OF RECORD LIST
APPLICATION NOS. 2234-2, 2316-2 AND 2317-2
CITY OF RAPID CITY

Applicant

Daniel L. Bjerke
Water/Wastewater Division Manager
Public Works Director of
Engineering/Utilities
300 Sixth Street
Rapid City, SD 57701-2724

Attorney for Applicant

Bob Jackson, Attorney
%City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Petitioners

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701

Zoltan Szakacs
P.O. Box
Caputa, SD 57725

Wm Ham
Ham Ranch *little*
HCR 36, Box 34 *returned by*
Caputa, SD 57725 *P.O.*

Jerry Marsh
Marsh Ranch
HCR 36, Box 35
Caputa, SD 57725

Ed Taylor
HCR 36, Box 60
Caputa, SD 57725

Jerry Hammerquist
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Melvin Brassfield
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Wm Ham, President
St. Germain Irrigating Co.
P.O. Box 32
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

Tom Odom
Odom Ranch
23232 Huntington Place
Rapid City, SD 57702

CERTIFICATION

I hereby certify that on January 12, 1996, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated January 12, 1996, along with the Parties of Record List, regarding Rescheduling Water Management Board Hearing on Water Permit Application Nos. 2234-2, 2316-2 and 2317-2, City of Rapid City, addressed as stated below, and on the attached Parties of Record list:

Copy of the above described Notice was sent inter-office to:

Diane Best, Assistant Attorney General, Capitol Building.



Cheryl F. Frost
Secretary

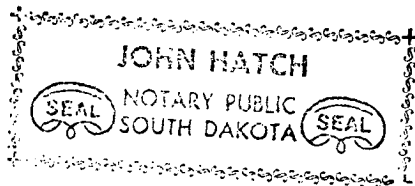
STATE OF SOUTH DAKOTA)

)

SS

COUNTY OF HUGHES)

Sworn to, before me, this 17th day of January, 1996



Notary Public

JOHN HATCH, Notary Public
My Commission Expires
April 1, 2001



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

March 13, 1996

NOTICE

TO: Daniel Bjerke
Public Works Director of Engineering/Utilities
City of Rapid City
300 Sixth Street
Rapid City, SD 57701-2724
and Parties of Record (see attached list)

FROM: John Hatch, Chief Engineer
Water Rights Program
(605) 773-3352

SUBJECT: Preparation of Findings of Fact, Conclusions of Law and Final Decision

The Water Management Board directed John Guhin, the Board's attorney, to prepare proposed Findings of Fact, Conclusions of Law and a Final Decision for Water Permit Application Nos. 2234-2, 2316-2 and 2317-2. The Board will consider the proposed Findings, Conclusions and Final Decision at 11:00 AM on May 1, 1996, in the Education Center Room, Third Floor of the First Dakota National Bank, 225 Cedar Street, Yankton, SD 57078.

The Board requested that a copy of the proposed Findings, Conclusions and Final Decision be mailed to each Board member and all Parties of Record and their attorneys (name and addresses enclosed) by April 11, 1996. Written objections or comments in support of the proposed Findings, Conclusions and Final Decision, or alternative Findings, Conclusions and Final Decision, are to be mailed to each Board member, the Board attorney and all Parties of Record by April 22, 1996.

Oral arguments by parties filing written comments in opposition or support of the proposed Findings, Conclusions and Final Decision, or alternative Findings, Conclusions and Final Decision, may be made on May 1, 1996. The public hearing was completed March 6, 1996. No additional testimony will be received on May 1, 1996.

enclosures

c: John Guhin, Deputy Attorney General
Diane Best, Assistant Attorney General

**PARTIES OF RECORD LIST
APPLICATION NOS. 2234-2, 2316-2 AND 2317-2
CITY OF RAPID CITY**

Applicant

Daniel L. Bjerke, P.E./L.S.
Water/Wastewater Division Manager
City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Attorney for Applicant

Bob Jackson, Attorney
%City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Petitioners

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Zoltan Szakacs
P.O. Box
Caputa, SD 57725

Jerry Marsh
Marsh Ranch
HCR 36, Box 35
Caputa, SD 57725

Jerry Hammerquist
P.O. Box 26
Caputa, SD 57725

Melvin Brassfield
P.O. Box 24
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701



Ed Taylor
HCR 36, Box 60
Caputa, SD 57725

Robert Dustman
Dustman Ranch
P.O. Box 53
Caputa, SD 57725

Wm Ham, President
St. Germain Irrigating Co.
P.O. Box 32
Caputa, SD 57725

Tom Odom
Odom Ranch
23232 Huntington Place
Rapid City, SD 57702

WATER MANAGEMENT BOARD MEMBERS

Dwayne A. Rollag - Chairman
320 Lincoln Lane South
Brookings, SD 57006

Francis E. Brink
1214 South Wells Street
Aberdeen, SD 57401

Bernita Loucks
219 42nd Street
Rapid City, SD 57702

Marian Gunderson
811 West 3rd
Yankton, SD 57078

Rodney Freeman, Jr.
PO Box 176
Huron, SD 57350

Joel Rickenbach
Box 97
Oelrichs, SD 57763

Leo Holzbauer
RR 1 Box 170
Wagner, SD 57380-9681

BOARD ATTORNEY

John Guhin, Deputy Attorney General
Office of Attorney General
Natural Resource Section
State Capitol Building
Pierre, SD 57501

DIVISION OF WATER RIGHTS

Department of Environment and
Natural Resources

John Hatch, Chief Engineer
Water Rights Division
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

STAFF ATTORNEY

Diane Best
Assistant Attorney General
Office of Attorney General
Natural Resource Section
State Capitol Building
Pierre, SD 57501

CERTIFICATION

I hereby certify that on March 13, 1996, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated March 13, 1996, along with a copy of the Parties of Record list, and a copy of the names and addresses of the Water Management Board members, regarding Preparation of Findings of Fact, Conclusions of Law and Final Decision for Water Permit Application Nos. 2234-2, 2316-2 and 2317-2, addressed as stated on the attached "Notice" and Parties of Record List:

A copy of the above described Notice and attachments were sent inter-office to:

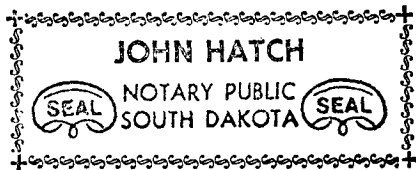
John Guhin, Deputy Attorney General, Capitol Building.

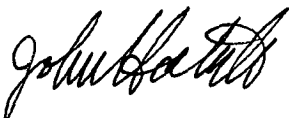
Diane Best, Assistant Attorney General, Capitol Building.


Cheryl F. Frost
Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 14th day of March, 1996




Notary Public
JOHN HATCH, Notary Public
My Commission Expires
April 1, 2001

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT)
APPLICATION NO. 2234-2,)
AN APPLICATION OF THE CITY)
OF RAPID CITY TO TRANSFER THE)
USE OF WATER APPROPRIATED)
UNDER VESTED WATER RIGHT)
NO. 2040-2, SOUTH SIDE DITCH)
COMPANY.)

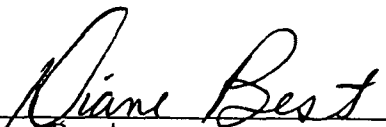
DIVISION RESPONSE TO
FINDINGS OF FACT,
CONCLUSIONS OF LAW,
AND FINAL DECISION

COMES NOW, the Department of Environment and Natural Resources, Division of Environmental Regulation (hereinafter Division), and requests that the Board make the following changes to the proposed Findings of Fact, Conclusions of Law, and Final Decision in the above-entitled matter.

1. There appears to be a typographical error on page 2, paragraph V. The correct vested water right number is No. 2040-2.

2. On page 8, Final Decision 8, there appears to be a typographical error with respect to the water permit number in the above-entitled matter. The correct water permit number in Final Decision 8 should be No. 2234-2.

Dated this 14th day of April, 1996.


Diane Best
Assistant Attorney General
500 E. Capitol
Pierre, South Dakota 57501-5070
Telephone: (605) 773-3215
Attorney for Division

CERTIFICATE OF SERVICE

The undersigned hereby certifies that true and correct copies of Division Response to proposed Findings of Fact, Conclusions of Law, and Final Decision of the Water Management Board were served upon each of the following by enclosing the same in envelopes with first class postage, prepaid and affixed thereto, and depositing said envelopes in the United States mail at Pierre, South Dakota, on this 19th day of April, 1996:

Francis E. Brink
1214 S. Wells St.
Aberdeen, SD 57401-7351

Rodney Freeman, Jr.
P.O. Box 176
Huron, SD 57350-0176

Marian Gunderson
811 W. Third
Yankton, SD 57078-3702

Joel Rickenbach
P.O. Box 97
Oelrichs, SD 57763-0097

Bernita Loucks
219 42nd St.
Rapid City, SD 57702-2123

Leo Holzbauer
RR 1, Box 170
Wagner, SD 57380-9681

Dwayne A. Rollag
320 Lincoln Lane South
Brookings, SD 57006-2741

Daniel L. Bjerke, PE/LS
Water/Wastewater Div.
City of Rapid City
300 Sixth St.
Rapid City, SD 57701

Bob Jackson
City Attorney
300 Sixth St.
Rapid City, SD 57701

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701

Zoltan Szakacs
Caputa, SD 57725

Jerry Marsh
Marsh Ranch
HCR 36, Box 35
Caputa, SD 57725

Robert Dustman
Dustman Ranch
P.O. Box 53
Caputa, SD 57725

Ed Taylor
HCR 36, Box 60
Caputa, SD 57725

Jerry Hammerquist
P.O. Box 26
Caputa, SD 57725

Melvin Brassfield
P.O. Box 24
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

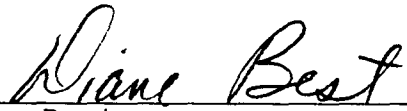
William Ham, President
St. Germain Irrigating Co.
P.O. Box 32
Caputa, SD 57725

Tom Odom
Odom Ranch
23232 Huntington Pl.
Rapid City, SD 57702

and sent by interoffice mail to the following on the same date:

John Hatch
Chief Engineer
Department of Environment
& Natural Resources
Foss Building
Pierre, SD 57501

John P. Guhin
Deputy Attorney General
500 E. Capitol
Pierre, SD 57501-5070



Diane Best
Assistant Attorney General

d-pld418.db(dh)

1 HEARING ON WATER PERMIT

2 APPLICATION NOS. 2234-2, 2316-2, AND 2317-2

3 * * *

4 Hearing before the Water Board held
5 Wednesday, May 1, 1996, commencing at 10:35 a.m.,
6 in the Education Center Room, First Dakota
7 National Bank, 21st and Broadway, Yankton, South
8 Dakota. Reported by Mary Anne Cassel Meyer,
9 CSR-CRR-RDR.

10 * * *

11 Board Members Present:

12

13 Mr. Francis E. Brink
14 Ms. Marian B. Gunderson
15 Mr. Leo Holzbauer
16 Ms. Bernita Loucks
17 Mr. Joel Rickenbach
18 Mr. Dwayne Rollag, Hearing Officer

19 Also present:

20 Mr. Harold Deering, Assistant Attorney General

21 * * *

22

23

24

25

1 HEARING OFFICER: Okay. Let's move on to
2 Application Numbers 2234-2, 2316-2, and 2317-2,
3 City of Rapid City. And I believe we have here
4 just two -- our attorney's version and then some
5 recommendations by the Division. Is that right?

6 MR. DEERING: Right.

7 HEARING OFFICER: And we're going to turn
8 it over to Harold Deering, therefore, this part
9 of the proceedings.

10 MR. DEERING: After the hearing,
11 Mr. Guhin proposed findings of fact, conclusions
12 of law, and final decision for the board in these
13 three cases. He asked that I do these one at a
14 time so the record is straight.

15 We'll start with the matter of Water
16 Permit Application Number 2234-2. As the
17 chairman has pointed out, these went out, I
18 believe, like the 11th of April. There was a
19 deadline set for responses. The only response
20 received on these proposed findings was from the
21 Division of Water Rights.

22 Mr. Guhin has indicated he has reviewed
23 that response and recommendation and has no
24 objection to the proposed findings being so
25 amended, and would recommend to the board that

1 they approve it with the amendments proposed by
2 the Division.

3 HEARING OFFICER: Do we hear a motion?

4 MS. GUNDERSON: I so move.

5 HEARING OFFICER: This motion would be to
6 approve the findings of fact, conclusions of law,
7 and final decision on 2234-2, accepting the
8 proposed changes as proposed by the Division.

9 Is there a second?

10 MR. BRINK and MS. LOUCKS: Second.

11 HEARING OFFICER: Okay. Motion and
12 second. Any discussion now? Does everybody have
13 a copy of the Division's proposed changes?
14 Everybody had a chance to look them over?

15 Okay. Are we ready to vote? All those
16 in favor of the motion signify by saying aye.

17 ALL BOARD MEMBERS: Aye.

18 HEARING OFFICER: All opposed, the same
19 sign.

20 (No response.)

21 HEARING OFFICER: Motion is carried.

22 MR. DEERING: The second proposed
23 findings of fact, conclusions of law, and final
24 decision are in the matter of Water Permit
25 Application Number 2316-2. Again, the only

1 response filed by was by the Division of Water
2 Rights.

3 Mr. Guhin has recommended -- or reviewed
4 those, has no problem with the changes suggested
5 by the Division, would recommend that the
6 findings be adopted with the changes recommended
7 by the Division.

8 HEARING OFFICER: Do I hear a motion?

9 MS. LOUCKS: Motion to approve.

10 HEARING OFFICER: Do I hear a second?

11 MR. RICKENBACH: Second.

12 HEARING OFFICER: Okay. The motion to
13 accept the findings of fact, conclusions of law,
14 and final decision for 2316-2, with the proposed
15 changes by the Division, has been made and
16 seconded. Any discussion?

17 (No response.)

18 HEARING OFFICER: Those in favor of the
19 motion signify by saying aye.

20 ALL BOARD MEMBERS: Aye.

21 HEARING OFFICER: Opposed, the same sign.

22 (No response.)

23 HEARING OFFICER: Motion carried.

24 MR. DEERING: The third set of proposed
25 findings of fact, conclusions of law, and final

1 decision are in the matter of Water Permit
2 Application Number 2317-2. Again, the only
3 response for those proposals was filed by the
4 Division of Water Rights. Mr. Guhin has reviewed
5 those, has no problems with the changes
6 suggested, would recommend they be approved as
7 changed by the Division.

8 HEARING OFFICER: We hear a motion?

9 MS. LOUCKS: So moved.

10 HEARING OFFICER: Second?

11 MR. HOLZBAUER: Second.

12 HEARING OFFICER: Any discussion?

13 (No response.)

14 HEARING OFFICER: Those in favor of the
15 motion signify by saying aye.

16 ALL BOARD MEMBERS: Aye.

17 HEARING OFFICER: Opposed the same sign.

18 (No response.)

19 HEARING OFFICER: The motion carried.

20 * * *

21 (End of proceedings at 10:45 a.m., 5-1-96.)

22 * * *

23

24

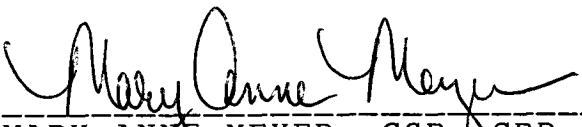
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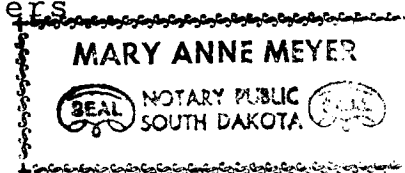
1 CERTIFICATE OF REPORTER.

2 I, Mary Anne Meyer, Certified Shorthand
3 Reporter in and for the State of Iowa, and Notary
4 Public in and for the State of South Dakota, do
5 hereby certify that I took down in shorthand,
6 correctly, the proceedings as set forth on page 1
7 of this transcript; that this transcript contains
8 a true and accurate record of the proceedings so
9 had and of my shorthand notes so taken;

10 That I am not related by consanguinity or
11 affinity within the fourth degree to any party or
12 his attorney; that I am not financially
13 interested in these proceedings; and that I am
14 not the employee of any party or his attorney.

15 Signed this 11th day of September, 1996.

16
17 
18 MARY ANNE MEYER, CSR, SCRR, RDR
19 For the firm of Cassel, Inc.
20 Certified Shorthand Reporters
21 705 Douglas, Ste. 315
22 Sioux City, Iowa 51101
23 (712) 258-3528
24
25



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SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
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- The Return Receipt will show to whom the article was delivered and the date delivered.

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2. ☐ Restricted Delivery

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RENAE TRUMAN
PENNINGTON CO. CLERK OF COURTS
PO BOX 230
RAPID CITY, SD 57709

4a. Article Number

P 378 080 528

4b. Service Type

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|---|---|
| ☐ Registered | ☐ Insured |
| ☒ Certified | ☐ COD |
| ☐ Express Mail | ☐ Return Receipt for Merchandise |

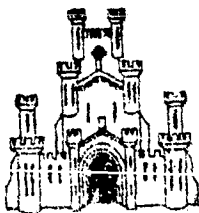
7. Date of Delivery

8-22-96

5. Signature (Addressee)**8. Addressee's Address (Only if requested and fee is paid)****6. Signature (Agent)**

Dawn Harrell

TAX I.D. # 42-0948541



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(800) 264-4767

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9-11-96

INVOICE NO. 091196-M3

Ms. Diane Best
Attorney General's Office
500 East Capitol
Pierre, SD 57501
(605) 773-3215

Hearing held 5-1-96 in Yankton, SD, before the Water
Board, Re Rapid City Water Permit Application Nos.
2234-2, 2316-2, and 2317-2

Transcript of Proceedings (5 pp)	\$15
Postage:	2.41
Total due and owing:	\$17.41

THANK YOU FOR CALLING CASSEL'S COURT REPORTERS!
Please submit copy of bill with payment.

MAY - 6 1996

BANGS McCULLEN LAW FIRM

Bangs, McCullen, Butler, Foye & Simmons, L.L.P.

818 St. Joe Street

Mailing Address P.O. Box 2670

Rapid City, South Dakota 57709-2670

605-343-1040

Telecopier 605-343-1503

May 3, 1996

Joseph M. Butler
Thomas H. Foye
Thomas E. Simmons
Charles L. Riter
Allen G. Nelson
James P. Hurley
Michael M. Hickey
Terry L. Hofer
Patrick Duffy
Rod Schlauger *
Daniel F. Duffy
Jeffrey G. Hurd
Veronica L. Bowen
John H. Rafterth
John C. Quinn

George A. Bangs (1943-1995)
W.A. McCullen (1943-1987)

* Also admitted in Minnesota,
Nebraska and North Dakota

Diane Best
Assistant Attorney General
500 E. Capitol
Pierre, SD 57501

Re: In the Matter of Water Permit Application No. 2316-2 an Application
of the City of Rapid City to Transfer the Use of Water Appropriated
Under Vested Water Right No. 1727-2, Rapid Valley Water Company;

In the Matter of Water Permit Application No. 2317-2 an Application
of the City of Rapid City to Transfer the Use of Water Appropriated
Under Vested Water Right No. 2039-2, Hawthorne Ditch Company; and

In the Matter of Water Permit Application No. 2234-2 an Application
of the City of Rapid City to Transfer the Use of Water Appropriated
Under Vested Water Right No. 2040-2, Hawthorne Ditch Company;

Dear Diane:

Our office represents Jerry Hammerquist, Jerry Marsh, and other protesters in connection with the above-referenced actions. They are in receipt of your April 19, 1996 Response to the Findings of Fact, Conclusions of Law, and Final Decision. My clients intend to appeal the Board's decision if your response is not included in the Findings of Fact and Conclusions of Law. If your response is included, there will be no appeal. Please send me a copy of the formal Findings and Conclusions adopted by the board.

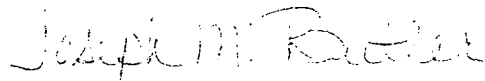
May 3, 1996

Page 2

Let me know if you have any questions.

Sincerely,

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

A handwritten signature in cursive script that reads "Joseph M. Butler".

Joseph M. Butler

jmb:sw

cc: Jerry Hammerquist
Jerry Marsh

BEFORE THE WATER MANAGEMENT BOARD
OF THE DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES

In Re:

In Consideration of
Water Permit Application
Nos. 2234-2, 2316-2 and
2317-2, City of Rapid City

HEARING

DATE/TIME/PLACE

March 6, 1996
Matthew Training Center
Joe Foss Building
523 E. Capitol
Pierre, South Dakota

* * * * *

BEFORE:

Mr. Duane Rollag, Chairman

BOARD MEMBERS:

Mr. Francis Brink
Mr. Rodney Freeman
Ms. Marian Gunderson
Ms. Bernita Loucks
Mr. Leo Holzbauer
Mr. Joel Rickenbach

A-P-P-E-A-R-A-N-C-E-S

MR. JOHN P. GUHIN
Asst. Attorney General
500 East Capitol
Pierre, South Dakota

MS. DIANE BEST
Asst. Attorney General
500 East Capitol
Pierre, South Dakota

MR. ROBERT JACKSON
City Attorney
300 Sixth Street
Rapid City, South Dakota

ORIGINAL

1 MR. GRONLUND: You are right back on schedule.

2 CHAIRMAN ROLLAG: So we can now proceed with
3 the 1:30 agenda item, consideration of water permit
4 application numbers 2234-2, 2316-2, 2317-2, City of Rapid
5 City, and we'll ask Diane to begin this process.

6 MS. BEST: You threw me off there for a
7 minute. Even I was speechless. This application pending
8 today is a request by City of Rapid City to transfer water
9 rights to municipal use and to retire three parcels from
10 irrigation, and the division has -- since we've done a
11 number of these transfers before, the Division's proposal
12 here today is to have Mark Rath provide a very general and
13 very brief overview at the beginning of the presentation,
14 perhaps more of an introduction for you, and then to go
15 ahead and I'll let Rapid City proceed without a lengthy
16 presentation by the State.

17 And then if the State -- or if the Division
18 needs to come back to provide later testimony, we would be
19 pleased to do that as well. With that I'll ask Mark to step
20 forward and give an overview on the locations and water
21 qualities involved.

22 There are intervenors in this proceeding and I
23 think the petitions to intervene have just been
24 distributed. Is that -- we need to introduce the file. At
25 this time I would ask that Division file be admitted into

1 evidence in this proceeding. It contains petitions to
2 intervene, the affidavits of publication, and of course
3 copies of the publications, the applications for transfers
4 in the three proceedings involved here, as well as the
5 engineer report submitted in support of those applications,
6 and it includes the staff recommendations in this matter.

7 CHAIRMAN ROLLAG: It will be received.

8 MS. BEST: With that, if you have not been
9 handed out already, I think Brenda was going to hand out
10 Mark's report and recommendation, which is also included in
11 Exhibit 1. Please proceed, Mark.

12 MARK RATH,
13 called as a witness, being previously duly sworn by the
14 Chairman of the Board, testified as follows:

15 MR. RATH: Good afternoon. This afternoon the
16 Water Management Board has three applications by the City of
17 Rapid City to transfer natural flow Rapid Creek irrigation
18 water to the city for municipal use. This water has been
19 historically used to water land from three separate
20 irrigation ditches.

21 The first application is application number
22 2234-2 and proposes to transfer a maximum diversion of 0.79
23 cubic feet per second, an annual volume of 134.6 acre feet.
24 If diverted at the city's municipal intakes or annual volume
25 of 67.7 acre feet if stored in Pactola Reservoir.

1 This water has been historically used to
2 irrigate 70 acres known as the Eisenbraun property from
3 South Side Ditch having a priority date of May 3, 1880.

4 The second application is application number
5 2316-2, which proposes to transfer a maximum diversion rate
6 0.81 cubic feet per second, for annual volume of 94.5
7 acre-feet if diverted at the city's intakes; annual volume
8 of 47.2 acre feet if stored in Pactola Reservoir.

9 This water has been historically used to
10 irrigate 64 acres known as Morris property from Rapid Valley
11 or Murphy -- otherwise known as Murphy Ditch, having a
12 priority date of April 6, 1878.

13 The third application is application number
14 2317-2. This application proposes to transfer a maximum
15 diversion rate of 0.84 cubic feet per second, annual volume
16 of 93.6 acre-feet if diverted at the city intakes, or annual
17 volume of 646.8 acre-feet if stored in Pactola Reservoir.
18 This water has been historically used, the 46 acres, also
19 known as the Morris property from the Hawthorn Ditch, and
20 having a priority date of July 12, 1886.

21 The chief engineer is recommending approval of
22 each of these applications with respective qualifications
23 and you have copies of those. We have received one letter
24 of opposition which was signed by eleven irrigators and one
25 ditch company, and I believe they have representatives of

1 them here. With that I'll leave off with the city for their
2 presentation.

3 MS. BEST: Mark, there may be questions.

4 CHAIRMAN ROLLAG: Any questions for Mark?
5 Maybe later.

6 MR. JACKSON: Good afternoon. I am Bob Jackson
7 with the city attorney's office in Rapid City. We have with
8 us the usual suspects, Dan Bjerke, our public works director
9 for engineering and utilities, and Leo Eisel, who I believe
10 since the last time we brought him here has moved from
11 Wright Water Engineers to McLaughlin Water Engineers in
12 Denver. With that I will ask Dan Bjerke to make his
13 presentation.

14 MR. BJERKE: If you don't mind I'll just stand
15 right here; is that all right?

16 DAN BJERKE,
17 called as a witness, being first duly sworn by the Chairman
18 of the Board, testified as follows:

19 MR. ROLLAG: Would you please state your name
20 for the reporter.

21 MR. BJERKE: My name a Dan Bjerke, and I am
22 public works director of engineers and utilities for the
23 City of Rapid City. What I intend to do this afternoon is
24 very briefly start out by more or less a refresher course
25 because I know the members of the board are the same since

1 the last time I gave this presentation, just to indicate to
2 you what our need is in terms of having these three water
3 permit applications approved for the city and how it fits
4 into our short term and long term water needs for the city.

5 Back in 1990 the city did put together a water
6 management plan that took a look at the city's present needs
7 and also projected out future needs out to about 30 years.
8 And some of the figures I have in front of me here spell out
9 some of the goals that we have in terms of meeting those
10 present and future needs.

11 On a short term basis we feel we need about
12 11,000 acre feet of water, basically that's what our demand
13 is today. On long term basis, based on a population
14 projection of about 117,000 people -- presently there's
15 about 60,000 people in the city and city water supply does
16 provide all the water for Ellsworth Air Force Base, and just
17 since the last time I was here we are in the process of
18 negotiating a water contract with the Rapid Valley Water and
19 Sewer District, and they will be taking approximately 80 to
20 85 percent of their water, if we do sign an agreement with
21 them from the City of Rapid City.

22 So in terms of long term needs we believe,
23 based on those population projections, we will need
24 approximately 22,000 acre-feet. The makeup of the supply
25 that we're looking at, if you recall, we do get about

1 presently about 50 percent of our water from surface
2 supplies from Rapid Creek, and that includes natural flows
3 from Rapid Creek and stored water that we purchase from
4 Bureau of Reclamation through Pactola Reservoir and
5 Deerfield reservoir.

6 And presently we are in the process of
7 negotiating a new contract with the Bureau of Reclamation, a
8 storage contract. Hopefully that will provide about 37,000
9 acre-feet long term from Pactola. And we have -- presently
10 have 7,000 acre-feet of stored water in Deerfield
11 Reservoir. So the total that we're looking for short term
12 and long term is 42,000 acre-feet of water, stored water.

13 We did drill six wells in the Madison aquifer,
14 if you recall, and we did get those water rights through
15 your board here, and presently we get 5,000 acre feet, or
16 approximately half of our water presently comes from the
17 Madison aquifer and we do have three Minnelusa aquifer
18 wells, smaller wells. So short term we have already met our
19 need.

20 Long term, as the city grows and we do have
21 that big of demand for water, our ratio of groundwater to
22 surface water, we hope to maintain at about 40 to 50 percent
23 groundwater versus 50 to 60 percent surface water. So long
24 term we'll probably need about 10,000 acre feet of water
25 from the ground surface.

1 Our short term goal in terms of the issue
2 that's before us today on transferring water rights for
3 irrigation purposes for municipal purposes, short term goal
4 is 2,000 acre-feet. And again long term, to keep that kind
5 of balance between surface and groundwater, we're estimating
6 that we're going to need about 3700 acre-feet from purchased
7 water rights.

8 Again, our policy has been to buy water from
9 irrigators that are either ready to sell out or selling
10 their land off for development purposes on a willing-seller
11 willing-buyer basis. Just to refresh your memory on the
12 ones that we have transferred to date from the Murphy Ditch,
13 we have transferred 99.8 acre-feet, and today we have in
14 front of us another transfer from the Murphy Ditch for 94.5
15 acre-feet. We've also had 1110.7 acre-feet transferred from
16 the South Side Ditch.

17 These two ditches by weight are very high up in
18 the seniority -- priority list, I should say, on Rapid
19 Creek, and today in front of us we have 131.6 acre-feet that
20 we're here to ask for your approval for. And this is a new
21 ditch that we are requesting transfer on, and that's the
22 Hawthorn Ditch. It's lower in the priority status and we
23 figure probably about one in eight or nine years we'll
24 actually be able to use that water right because it is so
25 low on the priority list, but we're asking for 93.6

1 acre-feet. Any questions on that?

2 This aerial photo map that I have in front of
3 me shows one of the sites that we're proposing to transfer
4 water off of and that's from water permit 2234-2, called the
5 Eisenbraun property. There's approximately 70 acres located
6 off the South Side Ditch and this blue line right here is
7 where the South Side Ditch goes and is basically on the
8 south side of the property.

9 The lay of the land is such that water is
10 flowing toward Rapid Creek, which is located in this area.
11 It's presently an alfalfa field. I don't have any slides of
12 this one, so that's why I wanted to point this one out.

13 As far as reference, this is our water
14 reclamation plant. This is Highway 44. Rapid City Regional
15 Airport is located approximately a mile to the north and
16 east of this location.

17 Water permit applications 2316-2 and 2317-2
18 both relate to the same property. And by the way, this
19 particular parcel of property is about 120 acres the city
20 actually purchased from this party and we call this the
21 Morris property.

22 The blue line that bisects the property is the
23 Murphy Ditch, and the Rapid Creek is located south of the
24 property, and the lay of the land is such that the water
25 flows by gravity into a southerly direction, the upside down

1 L portion of the property located adjacent to Highway 44.
2 And for your reference this is the St. Pat bypass. So it's
3 closer into town.

4 This part of the property is served off the
5 Hawthorn Ditch, which is located to the north and on the
6 north side of Highway 44 and is served by some laterals, and
7 I do have some slides that I'm going to show of this piece
8 of property. On the Eisenbraun property we are just
9 purchasing the water rights and not the land. Any questions
10 at this point?

11 Do you want to turn that slide projector on.

12 MR. HOLZBAUER: We are taking about 120 acres
13 of land out of irrigation?

14 MR. BJERKE: That's correct. The first slide
15 is kind of hard to see, but what I wanted to point out here
16 is we are asking for the diversion point to be changed to
17 four intake facilities that the city currently uses in the
18 city. Let me just walk over here and point those out.

19 This is the west side of the -- of Rapid City
20 and this is the east side of Rapid City. Those intake
21 points that we are presently taking water out of Rapid Creek
22 are Jackson Springs infiltration gallery, which is located
23 on the west side of Canyon Lake, Meadowbrook Golf Course,
24 located at the golf course there in Rapid City along Jackson
25 Boulevard, Girl Scouts gallery, which is located behind

1 Storybook Island, and the surface water treatment plant,
2 which takes water directly out of Rapid Creek, which is
3 located at Sioux Park. Those are the points that we plan
4 to use the water. Our ultimate diversion point is at
5 Pactola Reservoir.

6 And the next slide there's a shot of Pactola
7 Reservoir. We propose as an alternative to store water if
8 we do not put it to beneficial use. These next few slides
9 are slides that we took of the Morris property, these first
10 few slides, and this one is actually the property that is
11 irrigated by the Hawthorn ditch. And this photo was taken
12 right adjacent to Highway 44 looking south. And as I said
13 before, this property is served by laterals that come off of
14 the Hawthorn ditch and go south of Highway 44 to serve this
15 property.

16 Next slide. I'll just use this map kind of as
17 a reference to show you what we are looking at. This photo
18 was taken about this point looking west towards town and you
19 can see it's all an alfalfa field presently.

20 Next slide. This you can't see it, but that
21 brown area is actually the lateral that serves the water
22 from the Hawthorn ditch to irrigate the property.

23 Next slide. This again is another photo
24 looking west, just from a little bit farther down on the
25 property. This photo is a photo of the Murphy Ditch, which,

1 as I said before, bisects the property and serves the
2 irrigated water for the southern portion of the Morris
3 property. And if you can see it right in there, that's the
4 actual diversion weir where the water is backed up to over
5 flow on to the property.

6 Next slide. And this is a photo of the Murphy
7 Ditch looking west towards town. Picture of one of the
8 laterals that comes off Murphy Ditch. That ditch actually
9 runs about down the center of the property, and using this
10 there was some snow on the ground but you can kind of see
11 on this photo where the lateral runs.

12 Next slide. And there are a couple of laterals
13 that come off running east and west that serve part of the
14 property. Next slide. And this photo is a photo also of
15 the portion irrigated off of Murphy Ditch, and that photo
16 was taken down along Rapid Creek looking off toward Murphy
17 ditch, and so that line of trees is actually where the ditch
18 is located.

19 I think that's the last one. The only other
20 issue that I was going to briefly address is the actual
21 water quality issue that the protestors had brought up in
22 their letter to the board. The City of Rapid City
23 presently is meeting all of the applicable standards of
24 water quality and effluent in the area as it's discharged
25 into Rapid Creek.

1 Water quality criteria established for the
2 stretch of Rapid Creek located at the discharge point, water
3 reclamation facilities are established by South Dakota
4 Department of Environment and Natural Resources. Those
5 standards were established based on concentrations of
6 certain key water quality parameters determined to be
7 required for the beneficial use classifications of the
8 surface waters of Rapid Creek, and we have consistently met
9 those standards.

10 And so we quite frankly don't believe there is
11 a water quality issue with our effluent. In fact, we
12 believe it's actually water that is very beneficial for
13 irrigation purposes. At this time I'm going to ask Leo
14 Eisel to come up and maybe talk a little bit about some of
15 the technical issues and answer any questions that you might
16 have.

17 LEO EISEL,
18 called as a witness, being first duly sworn by the Chairman
19 of the Board, testified as follows:

20 MR. ROLLAG: Would you please state your name
21 for the record.

22 MR. EISEL: I am Leo Eisel, and I'm a
23 consulting engineer from Denver, Colorado, and I am working
24 with the City of Rapid City on this transfer. I don't have
25 a whole lot new to add, that this transfer is being -- or

1 all of the calculations are being done according to the same
2 procedure as the standards that we have employed for the
3 other transfers that we have brought to this board.

4 The one new thing or slightly new thing I might
5 add for this transfer is that in the case of the Morris
6 property and the two rights there on Hawthorn Ditch and on
7 the Murphy Ditch, that we include terms and conditions in
8 this transfer stating that when the rights that divert from
9 Rapid Creek between the historic point of return flows from
10 irrigation on the Morris property and the new point of
11 return flows, which will be the Rapid City wastewater
12 treatment plant, when any of those rights are having to call
13 for water, in other words, they are not getting their total
14 appropriation, that the City of Rapid City will not transfer
15 the total diversion amount from the Morris property up to
16 the water treatment plant.

17 And this is the same condition we have agreed
18 to before, or that the city has agreed to before. But in
19 this case, in the case of these two transfers for the Morris
20 property, that it's stated specifically with regard to five
21 water rights that exist there. So a bit of change in
22 emphasis.

23 I'd also like to make a point about the water
24 quality, based on data that we have from U.S.G.S. and other
25 sources for Rapid Creek on water quality that have been

1 taken from samples upstream from the Rapid City wastewater
2 treatment plant and downstream from the outfall, that there
3 will be an increase in total dissolved solids and salts in
4 the water. But that the quality of the water downstream
5 from the wastewater treatment plant in Rapid Creek will
6 still be below the standards for irrigation water that have
7 been promulgated by the State of South Dakota with regard to
8 total dissolved solids, and with regard to the modified
9 sodium and option ratio, which are the two parameters that
10 are used for water quality required for irrigation.

11 So with that I'd be happy to answer questions
12 concerning the specifics of these three proposed transfers.

13 CHAIRMAN ROLLAG: Any questions for Leo? Maybe
14 later.

15 MR. EISEL: Thank you.

16 CHAIRMAN ROLLAG: Anyone else here would like
17 to testify in favor of these applications? Okay, now we'll
18 ask is there anyone here who would like to testify in
19 opposition to these applications, please come forward.

20 JERRY HAMMERQUIST,
21 called as a witness, being first duly sworn by the Chairman
22 of the Board, testified as follows:

23 CHAIRMAN ROLLAG: Would you please state your
24 name?

25 MR. HAMMERQUIST: Jerry Hammerquist. I'm the

1 pitch hitter. The attorney and the other man that was going
2 to make the presentation could not attend because of the
3 weather and the calving, and so I'm going to make it real
4 short. Do you have a copy of the -- our -- the individuals
5 that appealed this.

6 CHAIRMAN ROLLAG: Yes.

7 MR. HAMMERQUIST: I don't think I need to read
8 it. Have you guys all read it? Our only two concerns, I
9 guess, is the credit returns at the sewage treatment plant
10 and as self-explanatory in our appeal, and also the water
11 quality. We don't -- we live on the creek. I've lived on
12 the creek for about 50 years, and I do not think the water
13 quality is good. And when it gets down to the level that
14 we irrigate with in July and August, it's really bad, and I
15 realize that their statement says that it is all right, but
16 I guess I don't agree with that, and I guess if there's
17 anything else I can answer I will or try to.

18 MR. HOLZBAUER: What is the quality of this
19 water? What kind of quality is this water in July and
20 August?

21 MR. HAMMERQUIST: Well, it's about this thick
22 on the irrigation dams and it's not good.

23 MR. FREEMAN: Have you ever had it tested at
24 that point.

25 MR. HAMMERQUIST: No. I just-- I don't know

1 what their tests show or anything, but we do have an
2 individual here that has had it tested and at this time
3 would you like to address it?

4 CHAIRMAN ROLLAG: Mr. Hammerquist, we might ask
5 you some questions later on of you.

6 MARK KIEFFER,
7 called as a witness, being first duly sworn by the Chairman
8 of the Board, testified as follows:

9 CHAIRMAN ROLLAG: Would you please state your
10 name for the record?

11 MR. KIEFFER: Mark Kieffer. I run water out
12 Lone Creek Ditch, which is below the sewer treatment plant.
13 We were -- when we started working with irrigation we were
14 really concerned about what we were putting on. We wanted
15 to know what our available nitrogen level and phosphorus
16 level was. We know we need some for alfalfa, but we didn't
17 know how much. So we tested prior to and after city
18 treatment we were ten times higher in level after than we
19 were before, and that's really -- that's in the solids that
20 you're seeing when you open up your irrigation pipes you
21 definitely smell that, because it's pretty raw.

22 We were also excited one time about the level
23 of phosphorus because, as you know, most of them that come
24 in are high in phosphorus, and so we started studying that
25 and worked with South Dakota State University and we were

1 six times higher prior to the sewer treatment with
2 phosphorus levels.

3 But that phosphorus, as we put it on, is not
4 available to the plants and it takes a breakdown period of
5 about ten years, we find out, for the plants to be able to
6 utilize that. So we built up our levels after we started
7 irrigating with the effluent in the latter part of the
8 summer, was building up and now it's six times higher on
9 irrigated ground than it is on non irrigated ground, which
10 is typically, we don't think, healthy for alfalfa.

11 And the next thing we're going to test are
12 things that all environmentalists are concerned about, but
13 the amount of heavy metals that we might be seeing. We feel
14 that we really need to test on that.

15 And so I think when we see that the quality
16 that we're irrigating, sure, as we transcend and transpire
17 water through our plants, we're getting fairly pure water.
18 As that goes back into the atmosphere, we really do -- with
19 our alfalfa plants we really do clean up that water. But to
20 make a generalized statement saying that water quality and
21 quality for irrigation, it's not just irrigation on that.
22 We have to have so much going out the end of that stream for
23 livestock sources, and we were wondering about the levels we
24 have on there for livestock sources.

25 So just to say that's the same quality of

1 water, you know, the water we normally would be getting, I
2 don't think it is. We found out and we'll continue to study
3 that because as ranchers become more proficient at
4 irrigation and start knowing their plants better, we have to
5 know the amount of nitrogen, phosphorus and potassium that
6 we are putting on our fields, and so scientifically we have
7 to know where we're at on that and we do that. Thank you.

8 MR. HOLZBAUER: But you've never had this water
9 tested, yet, though.

10 MR. KIEFFER: Yes, we've been working with
11 South Dakota State.

12 MR. HOLZBAUER: You say ten times?

13 MR. KIEFFER: Ten times higher in nitrogen
14 level. When we test our fields we don't have to put on any
15 available nitrogen, but the thing we are concerned about is
16 the buildup of phosphorus from the phosphate detergents that
17 are going through, because that's -- you grow some of those
18 out in treatment, but you don't grow all of them out.

19 MR. HOLZBAUER: What does -- you say you have
20 been working with Brookings?

21 MR. KIEFFER: Yes.

22 MR. HOLZBAUER: What are they telling you.

23 MR. KIEFFER: They are telling us that we're
24 building up a non-usable source higher than we can use it.
25 We're putting on a lot of phosphates in the form of

1 phosphates, but that's not utilized. Well, the breakdown
2 from phosphate detergents compared to the breakdown of our
3 fertilizer is a much slower process and we don't know the
4 end result as we are using the effluent.

5 MR. HOLZBAUER: Do they give you any projected
6 ideas?

7 MR. KIEFFER: They are interested in studying
8 this, too, that's the reason they have come out and have
9 tested for us. So I guess what I'm concerned about, I
10 don't know if it's good or bad or whether we're aiding our
11 fields or not aiding our fields, but what I'm concerned
12 about is to say it's consistent quality and that there may
13 or may not be any damages, I think it's too early to tell
14 on this. Thank you.

15 MR. HOLZBAUER: This is the same water that's
16 being used for livestock.

17 MR. KIEFFER: For livestock, you bet. The
18 water for irrigation is the same thing, same place that the
19 livestock are watering from.

20 MR. HOLZBAUER: And does this meet livestock
21 water specifications.

22 MR. KIEFFER: It could sure run into a nitrate
23 level problem with it, and we have known that for years,
24 compared to -- effluent compared to livestock losses around
25 Rapid City or down Rapid Creek and down from sewer for a

1 number of years, and I think we definitely just make a
2 gross statement, you know, this water is definitely of a
3 quality that can be used and should be used in a transfer.
4 I think it has to be diluted through natural flows if it's
5 all effluent and you're getting, I think, that's a problem
6 with that concept. That's a good question I'm concerned
7 about.

8 MR. HOLZBAUER: Well, it's concerns that we
9 have to have in making decisions.

10 CHAIRMAN ROLLAG: Do you have any of these
11 reports, did they test.

12 MR. KIEFFER: Not with me. You bet, I have
13 reports on that and I will continue to monitor it because
14 it's important in growth, you know. I really appreciate
15 the nitrate levels until I open up my irrigation lines and
16 I know the best way to fertilize probably is naturally, so
17 along with those solids that we're getting from the
18 effluent we're getting available nitrogen that we can use
19 in our alfalfa.

20 The concern I have is what happens if we build
21 up a phosphorus level over six times higher than normal
22 right now in our soil and are we going to continue to build
23 that up within a ten year period of time phosphates from
24 detergents is supposed to start breaking down and being
25 available, but can we reach a detrimental level for our

1 plants.

2 MS. GUNDERSON: What is your proposal that the
3 City of Rapid City would do?

4 MR. KIEFFER: I've always felt -- and I wasn't
5 a native to the Rapid Valley area, but I guess I've always
6 been a little bit of appalled at the quality that we have
7 down stream at certain times of year.

8 MS. GUNDERSON: What is your proposal that they
9 do?

10 MR. KIEFFER: To -- I'm not a water engineer
11 and I'm not an sewage engineer. I know that during -- when
12 we are pretty much faced with effluent and that effluent is
13 counted as their return, I think the water down stream from
14 treatment is pretty harsh, and those flows, even though we
15 order them from Pactola as irrigators, still aren't
16 earmarked totally for irrigation. It's mixed with the rest
17 of the water, so they go through the sewer treatment along
18 with our purchased water. So it gets pretty rank in the
19 fall of the year.

20 MR. HOLZBAUER: Is their discharge in
21 permissible levels? I mean have you checked that out, you
22 know, the discharge that's coming out off of their sewage
23 treatment.

24 MR. KIEFFER: For a class four stream I've --

25 MR. HOLZBAUER: Is this a class four stream?

1 Can you answer that, Dan?

2 MR. BJERKE: They don't use class one, class
3 two. It's classified based on beneficial use, and I don't
4 know -- I guess I don't know what exactly their
5 classification is.

6 MR. KIEFFER: Carp are about the only thing
7 that can live in it below the sewer treatment. There are no
8 trout living in the stream.

9 MR. HOLZBAUER: There has to be a
10 recommendation of what can be discharged; are they meeting
11 those recommendations?

12 MR. KIEFFER: Dan said they were, so I'm sure
13 they are.

14 MR. BJERKE: Yes, we are, and again, actually
15 that criteria has been getting more stringent and more
16 stringent as time goes by. We have probably more difficult
17 time meeting ammonium than anything. And of course that is
18 based on -- that's flow proportional. We have to take into
19 consideration how much water is in the creek and the actual
20 concentration parameter that we have to meet is based on
21 flow.

22 MR. KIEFFER: Ammonium nitrate, we're talking
23 about the same thing here.

24 MR. BJERKE: But we have a tertiary wastewater
25 treatment plant there. The effluent is very good.

1 MR. JACKSON: Normally I would interpose an
2 objection, but if I could just try to refocus where this
3 seems to be going. I don't think the issue before the
4 board is whether the quality of the effluent from the
5 wastewater treatment plant is appropriate or not. That's --
6 those rules are set and I think it's agreed that we are
7 complying with those.

8 The only issue is whether the wastewater
9 treatment plant effluent qualifies as return flow of water,
10 as replacement for the return flow from irrigation, and I
11 think that's the only issue. And they seem to be objecting
12 to it on the basis of the quality, but their doesn't seem
13 to be any question that it complies with all regulations
14 as far as the constituents, and also provide no numbers
15 other than just multiples.

16 And I think frankly they have admitted they
17 don't know whether it is better for the land or worse for
18 the land. They have some feelings or concerns, but no hard
19 evidence that says this effluent is causing any damage and
20 no disagreement that it is within all legal limits as far as
21 what we are entitled to put into the treatment.

22 CHAIRMAN ROLLAG: This effluent goes directly
23 to the stream. It doesn't go into the ground and then back
24 out?

25 MR. BJERKE: It discharges directly into the

1 stream.

2 CHAIRMAN ROLLAG: Yes, Joel.

3 MR. RICKENBACH: Well, the problem I'm seeing
4 here, and if I don't understand this correctly, why, please
5 tell me. But I understand that the water district has their
6 permit from Pactola Dam; is that correct?

7 MR. HAMMERQUIST: And Deerfield.

8 MR. RICKENBACH: Is that correct?

9 MR. RATH: What they have is each of the
10 irrigation -- irrigators separately, if they hold separate
11 water rights, have water rights for natural flows, if
12 available, and many of them, including the district, have
13 a contract with the Bureau of Reclamation for stored water
14 releases.

15 So if the natural flows isn't enough to make up
16 what they need, then they can order stored water releases
17 from Pactola Reservoir. Bureau of Reclamation holds what's
18 called a withdrawal of water right for the storage in
19 Pactola Reservoir.

20 MR. RICKENBACH: But they have no way of
21 getting that water except running it down Rapid Creek?

22 MR. RATH: Right. Rapid Creek, in this case,
23 is the delivery canal for the project.

24 MS. GUNDERSON: Are you finished, Joel?

25 MR. RICKENBACH: And their problem then is

1 they feel that right now, as I understand the testimony,
2 that the flow from the treatment plant, plus whatever water
3 is in the creek, and they are having to use it then, they
4 take that water out of the creek after it's mixed with the
5 treatment plant return flow, is marginal now, and if, in
6 fact, these permits are granted, then there will be more
7 water that's taken out above the treatment plant, so there
8 will be less water left in the creek. The effluent from the
9 treatment plant will further dilute the creek water.

10 MR. HAMMERQUIST: Yeah.

11 MR. RICKENBACH: Is that --

12 MR. RATH: I think Jerry would be better to
13 answer that.

14 MR. HAMMERQUIST: Yes.

15 MR. RICKENBACH: That would be a fair
16 assessment of the problem. Okay, thank you.

17 MS. GUNDERSON: I'm trying to remember as we
18 walked Hawthorn ditch, now that is below -- both above and
19 below the treatment plant?

20 MR. BJERKE: If I can interject here.

21 MS. GUNDERSON: Please.

22 MR. BJERKE: Really the ditches we are talking
23 about, that they are talking about, are the Lone Tree Ditch
24 and the St. Germaine Ditch, which take their water downstream
25 of the discharge point from the Water Reclamation property.

1 South Side Ditch, Hawthorn Ditch and Murphy Ditch, their
2 diversion points are upstream from the discharge point. So
3 those ditches are not affected by the effluent from the
4 water Reclamation plant at all.

5 And the other thing I would like to point out
6 is all they are talking about is return flows. The volume
7 of water that we're putting back into the creek before and
8 after this transfer has not changed. The volume has stayed
9 the same, and it will continue to grow as the city grows.
10 But presently it's not changing.

11 What we're talking about is that instrumental
12 part of the total flow through there, that is return flow
13 only from those parts of the property, which is a pretty
14 small amount of water.

15 MS. GUNDERSON: But there is -- Mr. Chairman,
16 there is water which bypasses -- there is water in Rapid
17 Creek which bypasses the sewage treatment plant.

18 MR. BJERKE: Yes, there is always water in the
19 creek 365 days a year. The point they are making during the
20 irrigation season when there is heavy demand, the flow in
21 Rapid Creek does get quite low in certain stretches of the
22 creek, and quite frankly upstream -- there is a stretch
23 upstream that is pretty low, and I don't know what the flow
24 numbers are, but there could be more flow coming from the
25 Water Reclamation plant effluent than there is from the

1 creek, so the dilution factor would be less at that point.

2 MS. GUNDERSON: Just to get this straight, when
3 they order the water from Pactola and they have a contract
4 with Pactola to get the water, that water can come down
5 through the creek and bypass the treatment plant.

6 MR. BJERKE: Yes.

7 MS. GUNDERSON: Or it can come through the
8 treatment plant.

9 MR. BJERKE: No, it doesn't go through the
10 treatment plant.

11 MS. GUNDERSON: Except as Rapid City uses the
12 water and puts it back into the creek.

13 MR. HOLZBAUER: But not the water they order.

14 MR. BJERKE: The water they order, what they do
15 is the water master tries to maximize the water in the
16 system so they are using return flows from those other four
17 ditches I mentioned to make up their total demand. So if
18 they need -- if Lone Tree needs 16 cfs -- I'm just throwing
19 a number out -- there may be half of that return flow that
20 they are depending on. Lone Tree Ditch pretty much uses all
21 of the effluent most of the time. They purchase hardly any
22 water, because they are taking the effluent for their
23 water. It's free water at that point, so it makes
24 economical sense for them to do that.

25 MR. HAMMERQUIST: Can I say one thing? We

1 didn't come down here to take after the city. We're down
2 here to protect our own rights, which we feel are the water
3 quality. If they take out the good water up at the top and
4 replace it with effluent, it lowers the quality of the
5 water, and we're already real concerned about that.

6 We didn't come down to dispute what they are
7 saying or their tests or anything else, but we are -- we
8 will have more tests, but it's just not a good situation to
9 go out and irrigate and have all this slime in your dam. It
10 gets on your hands and your skin peels and it's rank stuff.
11 If it's diluted more we don't have such a problem with it,
12 but in July or August, it gets mighty rank. You almost hate
13 to put your hands in it.

14 CHAIRMAN ROLLAG: What kind of treatment is
15 provided?

16 MR. BJERKE: Tertiary treatment, advanced
17 treatment, particular any filters are secondary treatment
18 and RBCs is tertiary.

19 CHAIRMAN ROLLAG: You're not taking out the
20 phosphorus?

21 MR. BJERKE: No, we're not removing the
22 phosphorus.

23 MR. HOLZBAUER: I hope you know what those
24 treatments are, because I don't.

25 CHAIRMAN ROLLAG: Well, what is the strength of

1 the effluent?

2 MR. BJERKE: We're generally in that 10 to 15
3 range.

4 CHAIRMAN ROLLAG: So about a third of what a
5 normal city --

6 MR. BJERKE: Quite frankly, in summertime total
7 suspended solids that we put in the creek are generally less
8 than what's there naturally, just by flowing down the creek.

9 MR. HOLZBAUER: I'm hearing two different
10 things here, guys.

11 MR. BJERKE: We do have to test it. We test it
12 daily, so we have a lot of test data if anybody -- I didn't
13 bring it with me, but it's certainly available for public
14 inspection.

15 MR. HAMMERQUIST: And likewise with mine, in
16 July and August it's available for public inspection.

17 MR. HOLZBAUER: Well, like I'm saying, I'm
18 hearing two different things.

19 CHAIRMAN ROLLAG: These effects that you're
20 talking about would be over a long period of time; that's
21 your concern, isn't it.

22 MR. HAMMERQUIST: Yes, it's a concern right
23 now. In the summertime our cattle do not drink out of the
24 creek. They come across the creek to the well for water.
25 They do not drink out of the creek. There are people that

1 are below us that have to drink out of it. If they have a
2 choice, they don't drink it.

3 MR. JACKSON: If I could interpose, again, the
4 one objective fact here, I think everybody agrees that the
5 water that is being replaced into the stream meets all of
6 the legal standards that is required to meet. I wish I
7 could tell you that it was the sort of thing that you would
8 find in a fountain in a building, but perhaps it's not. I
9 don't know.

10 CHAIRMAN ROLLAG: This is an effluent permit
11 standards and you're meeting those?

12 MR. JACKSON: Yes. As I understand it, there
13 is no disagreement with that.

14 MR. RICKENBACH: Well, I think that the
15 problem that I would see, that this could develop into, is
16 that because there's fresh water being taken out of the
17 stream, it's essentially -- Rapid City isn't taking that
18 municipal water out below where they are putting this water
19 back in from their treatment plant. They are taking it out
20 up above, and that's water that isn't available to dilute
21 the effluent water from your treatment plant and that seems
22 to be what's causing the problem.

23 If the water -- the fresh water in the stream
24 was, say, ten times what it is today, then the water in the
25 Rapid Creek, after you turn this -- or after your effluent

1 from your treatment plant flows back into the creek, nobody
2 would notice it. But it's by diminishing the amount of
3 fresh water that's in the stream, not that you're putting
4 any more water in, or that it's any worse. It's the fact
5 that there is a smaller supply of fresh water, that's
6 causing the problem, and that's what I'm looking at.

7 MR. JACKSON: May I respond to that?

8 CHAIRMAN ROLLAG: Sure.

9 MR. JACKSON: I agree that that is the issue,
10 except that there also is the legal issue, and in effect,
11 we are being asked by the intervenors to meet an imaginary
12 standard that is also unspecified. Apparently we are being
13 asked to clean up the water to the point that they don't
14 object. We don't know how clean that has to be.

15 Legally we are meeting all of the standards
16 that have been established. Now whether, for example,
17 running -- taking fresh water out of the stream, putting it
18 through the city's water distribution system collecting it
19 through the wastewater collection system and taking it
20 through the water reclamation facility and then discharging
21 it to the stream causes more or less degradation than, for
22 example, running it through cattle in a feed lot and back to
23 the stream, there is no specified standard for either.

24 So the question is how much degradation is one
25 allowed to do to water. We know we are meeting an

1 established standard for the rest of the world. In a non
2 point source setting there is no standard. We don't know
3 how much degradation is occurring in that setting.

4 CHAIRMAN ROLLAG: Mr. Guhin, why don't you
5 comment.

6 MR. GUHIN: Mr. Chairman, the parties can
7 certainly interject, but I'm trying to locate the legal
8 standard which we are talking about, and I think it's found
9 it, 46-5-34.1. If somebody has a different view, they
10 certainly should make it. No transfer may be approved by
11 the Water Management Board unless the transfer can be made
12 without detriment to existing rights having a priority date
13 before July 1, 1978, or to individual domestic users.

14 And I think what he's talking about is transfer
15 being made without having this priority date, or to existing
16 rights. If anybody has a different idea of what the legal
17 standard is --

18 CHAIRMAN ROLLAG: Which in my mind would --
19 really wouldn't have much to do with whether Rapid City now
20 is meeting some standard. That's a separate issue from what
21 we're considering here is a detriment to downstream users.

22 MR. FREEMAN: I must be missing something here
23 because it seems to me that the permits that Rapid City
24 wants to have transferred to them somebody is already using
25 that water. So whether we grant this transfer or don't

1 grant the transfer, it's not going to make any difference to
2 the quality of water, because that water is not being
3 bypassed into it anyway. So I understand your concerns, but
4 I don't think this is the forum or the time to address it,
5 because those people who already own the permits could
6 continue using that water as they see fit. And the fact
7 that Rapid wants to use it in a different manner, either way
8 that water is not going to be in the system.

9 MR. RICKENBACH: Except for your return flow
10 and for those times when the man that now owns the permit
11 wouldn't be irrigating, and that's -- there's only certain
12 periods of year when they irrigate and there's always a
13 certain amount of return flow and that -- you know, that
14 would be water that would not be going through the treatment
15 plant.

16 MR. FREEMAN: Oh, okay, that then brings us
17 back to Bob's point, how do we measure that. I mean where
18 is the standard? I don't think we can just go fishing in
19 the air and pull down a standard.

20 MR. RICKENBACH: Well, that's true.

21 MR. HOLZBAUER: They are meeting their standard
22 of quality discharge.

23 MR. BRINK: What is the quality of the water in
24 the return flows?

25 MS. GUNDERSON: That's not a question.

1 MR. BRINK: In the return flows off the
2 irrigated land, I'm saying; that's an unknown?

3 MR. FREEMAN: Nobody knows.

4 MR. BRINK: What's the classification for this
5 part of Rapid Creek stream standard.

6 MR. WOODMANSEY: Mr. Chairman, committee
7 members, my name is Kent Woodmansey. I'm with the air and
8 surface water program with the department. Part of what we
9 do is work with wastewater treatment plant permits and water
10 quality standards and water quality standards. Beneficial
11 uses for this section of Rapid Creek are warm water, semi
12 permanent fish propagation, limited contact recreation,
13 submerging recreation or merging recreation, stock watering
14 and irrigation waters.

15 MR. RICKENBACH: Are you acquainted with this
16 situation?

17 MR. WOODMANSEY: I am familiar with the permit.

18 CHAIRMAN ROLLAG: Is this water safe for cattle
19 to drink then.

20 MR. WOODMANSEY: It's meeting the requirements
21 of the permit, which are based on protecting those uses.

22 MR. BRINK: Disinfection of the effluent is
23 required here, is it not.

24 MR. WOODMANSEY: Right.

25 MR. BRINK: And ammonia removal is not a

1 requirement?

2 MR. WOODMANSEY: Ammonia removal is a
3 requirement and, as was mentioned earlier, it's based on
4 flow. Actually have an equation in the permit and they have
5 a discharge flow at the discharge facility and they can
6 determine the instream flow and the limit varies depending
7 on that ratio.

8 MR. HOLZBAUER: And you have no problem with
9 monitoring of that, what's going on, right?

10 MR. WOODMANSEY: Rapid City has to monitor and
11 submit their reports monthly and there have been a few minor
12 problems, but no major problems with the permit.

13 MR. RICKENBACH: And you're saying they would
14 have to adjust the amount of contaminants -- I'm using that
15 word because I don't have a better one -- that might be left
16 in that flow, depending on how much flow there is in the
17 stream.

18 MR. WOODMANSEY: For most of the pollutants
19 that they have limits for in the permit, there are a certain
20 specific number, or they are based on different seasons
21 because the flow changes with the season. But for ammonia,
22 they also have seasonal equations, four different seasons
23 and four different equations, and they have to take into
24 account the instream flow and the flow of the wastewater
25 treatment plant to calculate out what their limit is.

1 MR. RICKENBACH: In whatever ratio it might
2 be?

3 MR. WOODMANSEY: Right.

4 MR. RICKENBACH: Okay.

5 MR. WOODMANSEY: Any other questions?

6 CHAIRMAN ROLLAG: Any trimethylene requirements
7 on it?

8 MR. WOODMANSEY: No. There's chlorine,
9 residual chlorine, and they have to disinfect to meet that
10 requirement and that's it. They have -- and they have whole
11 effluent toxicity requirements that might attack something
12 like that.

13 MR. HAMMERQUIST: You say they monitor it
14 monthly?

15 MR. WOODMANSEY: No, they have to submit their
16 reports monthly.

17 MR. HAMMERQUIST: And monitor it daily.

18 MR. WOODMANSEY: It depends on the parameter.
19 Some are probably -- some are all the time, some are a
20 couple times a week, it just depends.

21 CHAIRMAN ROLLAG: Diane.

22 MS. BEST: I would like to ask Mr. Woodmansey
23 some questions. We're kind of in an interesting procedural
24 position here, because Mr. Woodmansey, of course, is an
25 employee of the same division, as the Division of Water

1 Rights, and so I'm going to assume he's our witness and ask
2 him some direct questions.

3 CHAIRMAN ROLLAG: Go right ahead.

4 MS. BEST: Mr. Woodmansey happened to be in the
5 audience, and I asked him to respond to some inquiries if
6 they arose, and I wanted to help clarify some things.

7 KENT WOODMANSEY,
8 called as a witness, being first duly sworn by the Chairman
9 of the Board, testified as follows:

10 EXAMINATION

11 BY MS. BEST:

12 Q. Kent, there are -- first of all, I don't know if we
13 had an adequate opportunity to go through what your job is
14 with the Division of Environmental Services; could you
15 explain that for the record?

16 A. Sure. I'm in charge of the permits program within
17 the air and surface water program. And the permits program
18 deals with writing air quality and surface water discharge
19 permits. And in doing the surface water discharge permits
20 we work with the people within the program that write the
21 surface water quality standards.

22 Q. How long have you been in that position?

23 A. About three years, and I have been in the NPDS
24 surface water discharge part of the department since 1988.

25 Q. Is part of your position you have an opportunity to

1 look at test sample results from Rapid Creek for water
2 quality?

3 A. The program has a water quality monitoring network
4 throughout the state that we go and take samples from on a
5 predetermined basis. We use that data in developing the
6 permit limits that we put in the permits. So we see that
7 data when it comes in and when we're writing the permits.

8 Q. Have you looked at water quality test data in the
9 area -- let me rephrase that. You're familiar with the
10 irrigation rights -- the area where the irrigation rights
11 would be retired here and the municipal use would be
12 transferred to stream into Rapid City's treatment plant?

13 A. Generally, yes.

14 Q. Have you had an opportunity to compare water quality
15 in that upstream area versus the water quality downstream of
16 the treatment plant, immediately down stream of the
17 treatment plant?

18 A. The parameter I looked at was conductivity, which
19 is one of the main -- in water quality standards beneficial
20 uses, one of the beneficial uses was irrigation waters, and
21 the main parameter in that classification was used to look
22 at, to make sure that use is protected, is conductivity.
23 And I looked at the water quality monitoring network data
24 upstream and downstream of the Rapid City wastewater
25 treatment plant. There was slight difference between the

1 upstream and downstream values, as you would expect, but
2 they were well, well below the beneficial use level of
3 2,500.

4 Q. Based on -- in looking at this situation, have you
5 -- would you be able to formulate an opinion as to whether
6 retiring water from irrigation uses and having the quantity
7 of water involved in this proceeding and having that water
8 being available for municipal use, with the change in flow
9 in the stream, would this proposal affect the water quality
10 then downstream? Would it have a significant effect
11 downstream of the treatment plant?

12 A. The limits, like for ammonia, that are flow-based
13 would change depending upon the amount of flow in the
14 receiving stream. But they already do that anyway, and so
15 they would still have to meet the requirements of the
16 permit. So as long as they can meet those requirements, I
17 don't think that would be a problem.

18 Q. And the other requirements, do you have any reason
19 to think that they would be unable to meet the water quality
20 standards?

21 A. Not that I know of.

22 MS. BEST: Well, I have nothing further, merely
23 a point of clarification, but if there are further questions
24 of Kent, if that opens the door, feel free.

25 CHAIRMAN ROLLAG: Any further questions.

1 MR. BRINK: Mr. Woodmansey, if the City of
2 Rapid City should continue to grow, as I'm sure they will,
3 the percentage of flows discharged from the plant becomes
4 more disproportionate of the flows in the stream. Is their
5 present plant capable of adjusting to fine tune some of
6 those parameters, like you said on the proportional part?

7 Is ammonia the only thing we're talking about
8 here that has to be adjusted?

9 A. Like dissolved oxygen, I think, also has some
10 seasons, but the ammonia one, since it has the equations in
11 there, is probably the one they have to watch a little more
12 closer. The permit was last issued in January 1995, and
13 some of the requirements did get more stringent in the
14 permit, and so they had until January 1996 to make some
15 upgrades at the wastewater treatment plant, so that they
16 were sure they could meet the new permit limits. And as
17 far as I know, they have made those changes and are meeting
18 the new limits.

19 The permits are five year permits, so we
20 review these every five years to make sure that the limits
21 that we're putting in the permits are reflecting current
22 conditions on the wastewater treatment plant.

23 One of the other things that Rapid City has
24 been doing, that I'm not sure if you're aware of, but some
25 of the major facilities in the state are voluntarily

1 participating in what's known as the municipal water
2 pollution prevention program. It's a program that the
3 Environmental Protection Agency and the Department are
4 working with those facilities on, and it's looking at the
5 wastewater processes and financial capabilities of the
6 cities and seeing how they are doing, so if there's areas
7 in the plant where they need to be planning ahead, that
8 they are going to need additional treatment capacity, they
9 know in advance and they can plan to make those changes.

10 MR. BRINK: Can you make a comparison between
11 the quality of the effluent today versus the quality of the
12 effluent before the last expansion of the plant, or when the
13 plant was built, this particular plant was built? This
14 plant has been moved, has it not? I mean this is not in
15 its always present location?

16 A. The last major upgrade of the wastewater treatment
17 plant was before I started with the department, so I don't
18 think I would be able to answer your question.

19 MR. BRINK: Would you venture a guess as to the
20 difference in water quality from the 1972 plant versus the
21 1996 plant?

22 A. There's a big difference in the requirements and so
23 the quality discharge is much better.

24 Q. You don't know where the old plant is located?

25 A. I don't know. Maybe Mr. Bjerke can --

1 MR. BJERKE: It is located on the east edge of
2 town, east of Campbell Street, and it was a secondary
3 treatment type facility. So obviously effluent was not as
4 good quality at that point as it is today. It was rebuilt
5 in 1967 with, again, a secondary treatment type plant using
6 trickling filters, and again would not have been -- the
7 effluent would not have been of the quality it is today,
8 since we've added the tertiary part of the plant with the
9 rotating biological contactors to reduce the ammonia
10 concentrations down, and that sort of thing, and also to
11 decrease the amount of solids that we're discharging back
12 to the receiving stream, to Rapid Creek, and that was
13 completed -- that last project that Mr. Woodmansey alluded
14 to was completed in the mid '80s.

15 MR. BRINK: Was there much dilution behind that
16 plant?

17 MR. BJERKE: The one in town?

18 MR. BRINK: Yes.

19 MR. BJERKE: There was -- yes, there was more
20 dilution at that point, but the quality was definitely
21 less. The other thing I was going to mention, right now we
22 do the same thing as we do with our water supply. We're not
23 just looking today, we're looking 10, 15 years out, and
24 we're doing comprehensive performance evaluations with the
25 consultant and hopefully we can come up with some

1 recommendations on how we can continue to meet those
2 standards that are established by DENR. And he is right,
3 they actually have tightened up those standards as time has
4 gone by. And so quite frankly, we feel the quality right
5 now is considerably better than it was say ten years ago.

6 MR. BRINK: At that location?

7 MR. BJERKE: At that location.

8 MR. BRINK: Even at the location --

9 MR. BJERKE: Presently, just for your
10 information, in the summertime which is our peak flow
11 condition, we have flows, average flows, daily flows in the
12 range of 11 to 12 million gallons a day. And the plant is
13 about a 15 mgd plant. So we need to do some planning as to
14 volume-wise so what we can handle in the near future.

15 MR. BRINK: How long has the plant been at that
16 location again?

17 MR. BJERKE: 1967.

18 MR. BRINK: At that location?

19 MR. BJERKE: Yes.

20 CHAIRMAN ROLLAG: Any further questions for
21 Mr. Woodmansey? Thank you, sir.

22 Anyone else like to comment regarding this
23 matter pro or con? I just want to make a statement, what is
24 the pleasure of the board.

25 MR. FREEMAN: Well, Mr. Chairman, I will move

1 approval of water permit applications number 2317-2, 2316-2
2 and 2234-2. If I get a second then I can explain why.

3 MS. GUNDERSON: I'll second.

4 MR. FREEMAN: Mr. Hammerquist and Mr. Kieffer,
5 I want you guys to know, at least from my standpoint, I
6 understand and appreciate your concerns, and I did mean for
7 that motion to include subject to the qualifications of the
8 chief engineer. But there are two specific qualifications
9 here that I think offer you guys as much protection as
10 anyone could possibly get. Number four says this board is
11 retaining jurisdiction in the event that additional
12 information shows that changes need to be made in monthly or
13 total annual volumes.

14 So, again, I think if you all continue to
15 experience problems and you can document those problems, I
16 think this board still has jurisdiction. It could be
17 brought back in front of us very easily.

18 The second one is pretty standard, diversions
19 may not interfere with existing water rights in effect or
20 any domestic rights. Again if you guys can document that
21 the water is affecting your domestic rights, which is
22 cattle feeding, then bring it back to us, bring it to Rapid
23 City first. Talk to them. If you don't feel you are
24 getting it resolved, bring it to the division or to this
25 board and we'll look into it.

1 So that's why I feel relatively comfortable in
2 doing it. That's it for me.

3 CHAIRMAN ROLLAG: Any comments from any other
4 member of the board?

5 MR. RICKENBACH: Well, it's rather disturbing
6 to me that what, as a boy, I considered to be one of the
7 finest streams of water that flowed out of the Black Hills,
8 and the testimony was that livestock didn't want to drink it
9 at certain times of the year now, I think there must be
10 something wrong.

11 I know that in certain conditions -- under
12 concern conditions -- in fact, Rapid City was involved in a
13 situation here just this winter, where mud was killing fish
14 and, you know, if we've got a condition here where nothing
15 but suckers or carp can exist below Rapid City, and there's
16 a trout stream in Rapid City, I can't help but think we have
17 a problem, and that's what's troubling me here.

18 I think we have a problem and I don't know
19 whether we're solving it by issuing these permits or whether
20 we're adding to the problem.

21 MS. GUNDERSON: But we have taken care of that
22 somewhat, Joel, by retaining jurisdiction. But the problem
23 that we have here is that we have actual test results from
24 the city and we don't have any actual test results from
25 downstream, and we can only act on actual figures.

1 MR. RICKENBACH: Well, I understand that. I
2 understand that we have -- the evidence that we have here is
3 that it will comply with rules and regulations of state law.

4 CHAIRMAN ROLLAG: The qualifications would seem
5 to indicate that we do have further jurisdiction in this
6 thing if problems do arise, and I assume that the downstream
7 water users are going to keep collecting data to provide
8 some tangible evidence of any changes that could be
9 occurring. I hope that's the intention, and you know, if
10 there's hard data that shows there could be problems
11 developing, then I certainly think this board or a future
12 board would have the jurisdiction to intervene.

13 MR. FREEMAN: If I could just add, so that you
14 all don't think we're trying to make you jump through the
15 hood as far as testing and hard data, the reason that we
16 need that is so that it can be evaluated by the division.
17 It can be evaluated by Rapid and their people and then we
18 can form a good solid basis for taking some action.

19 I don't have any doubt when you say the water
20 is rank at certain times of the year, your nose is as good
21 as anybody else's, and I have been in those situations, too,
22 where you know something is wrong, but there's no way for
23 them to cross-examine your nose, or for the division to
24 analyze it, and that's why when it is rank like that, get
25 some in a proper manner and have it tested so we know, so

1 that everybody knows what we're dealing with and we can get
2 things resolved.

3 MS. GUNDERSON: And I would add to that, this
4 board does not want water going down Rapid Creek which is
5 not of the quality of effluent that it should not be, and I
6 really believe that Rapid City does not either. But until
7 we have hard data, we can't find where the problem is. So
8 until then, since we have retained jurisdiction, we have not
9 totally let the situation go. But at this point there is no
10 hard data to say other than that Rapid City should have
11 these permits.

12 MR. BRINK: If there's a problem I think the
13 problem goes clear back to when the stream standard
14 allocations were set, whenever, '72, '74, when standards
15 were set for segments of streams throughout the states, and
16 they recognized there was going to be some degradation
17 required beyond treatment plants, and that's the way it is.

18 And I would have to agree with Mr. Freeman's
19 comments earlier that water probably already is being
20 diverted through these irrigation permits, and what small
21 amount of that does return is not -- to me doesn't
22 constitute enough dilution to affect what's already taken
23 place, and the city is not interested in going face to face
24 with EPA on fines. I'm sure they are going to be doing
25 everything they can to meet those sections of the

1 requirements.

2 MR. FREEMAN: It would be good for a couple of
3 years.

4 CHAIRMAN ROLLAG: Any other comments?

5 MR. HOLZBAUER: Basically we're saying the same
6 thing I was concerned about. If our standards are not
7 proper standards to meet, what we need for our state in
8 water quality, those standards have to be challenged. And
9 if it's necessary, they will be changed, period. But until
10 that happens we're going by the standards that we're working
11 with right now and the way I hear it, those standards are
12 being met and that's what I hear.

13 MR. BRINK: Pretty tough to make a change on
14 waste load now with all the users that are there. It is
15 what it is.

16 CHAIRMAN ROLLAG: Is the City of Rapid City
17 required to do any sampling downstream?

18 MR. WOODMANSEY: No, the permit doesn't require
19 any. They may do some on their own, I'm not sure.

20 CHAIRMAN ROLLAG: You're not doing anything
21 right now?

22 MR. BJERKE: Not really.

23 MR. HOLZBAUER: You just monitor at the point
24 of discharge?

25 MR. BJERKE: Yeah, right, we have to sample

1 upstream, too, but right where -- in the vicinity of where
2 the effluent goes into Rapid Creek, yes.

3 MR. HAMMERQUIST: Can I add one point of
4 question? Dan, do you need instream flow to make your plant
5 work when you discharge, if the creek is not running by your
6 plant when you discharge in, does that meet standards or do
7 you need --

8 MR. BJERKE: It depends on the time of the
9 year. In the summertime when we are at peak flow and
10 there's low volume of water, like I said before, we do have
11 some trouble meeting that ammonia criteria.

12 MR. HAMMERQUIST: And this is the time of year
13 we're talking about.

14 MR. HOLZBAUER: So what do you do with that to
15 meet that?

16 MR. BJERKE: We fine tune the plan as best we
17 can. We've had a couple violations.

18 MR. HOLZBAUER: Can you buy water?

19 MR. BJERKE: One option I think we do have and
20 I haven't talked to Craig from the Bureau, but we could
21 order some more water down. But certainly our opinion is
22 it's a waste of water. But it hasn't got to that point,
23 really, and there was specific reasons why the influent raw
24 water influent ammonia concentration was high because of
25 things going on that happened during the motorcycle rally

1 and Central States Fair going on at the same time. And
2 there's a lot of portlets around town and companys were
3 dumping it into our waste treatment, and we think that was
4 the reason we were having the high influent numbers. So
5 there was a specific reason for it.

6 MR. HAMMERQUIST: Can I make one other
7 comment? The reason I brought that up is the ditches take
8 out -- above the sewer plant the creek is practically dry
9 when it goes by the sewer plant return below the sewer
10 plant, and that's where we have the problem. So at the time
11 they are discharging there may not be but one cfs in the
12 stream; that's when we get our problems.

13 CHAIRMAN ROLLAG: Any further comment from
14 anyone before we vote?

15 (No response.)

16 Ready for the vote? All those in favor of the
17 motion signify by saying aye.

18 Opposed the same sign.

19 One negative. So the motion carried.

20 Yes, we probably should have findings of fact.
21 That pretty well concludes our agenda for this afternoon,
22 unless there's anything else that anyone wants to bring up
23 today, we will recess until 9:00 a.m. tomorrow and
24 reconvene.

25 (Whereupon, the proceedings were adjourned.)

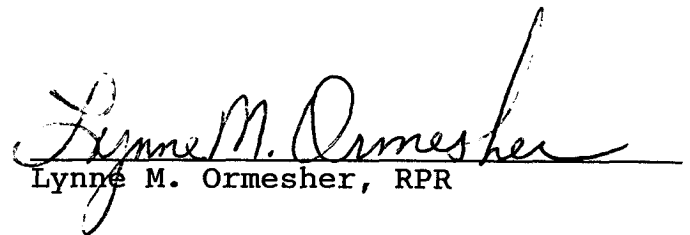
1 STATE OF SOUTH DAKOTA)

2 COUNTY OF HUGHES)

CERTIFICATE

3
4
5
6 I, Lynne M. Ormesher, Registered Professional Reporter,
7 hereby certify that the foregoing pages 1 through 51,
8 inclusive, are a true and correct transcript of my stenotype
9 notes.

10 Dated at Pierre, South Dakota, this 30th day of August,
11 1996.

12
13
14
15
16
17
18 
19 Lynne M. Ormesher, RPR
20
21
22
23
24
25



OFFICE OF ATTORNEY GENERAL

500 EAST CAPITOL
Pierre, South Dakota 57501-5070
Phone (605) 773-3215



MARK W. BARNETT
ATTORNEY GENERAL

May 17, 1996

LAWRENCE E. LONG
CHIEF DEPUTY ATTORNEY GENERAL

MEMORANDUM

TO: Persons and entities listed on the enclosed Certificate of Service

FROM: John P. Guhin, Deputy Attorney General *John P. Guhin*

RE: In the Matter of Water Permit Application No. 2316-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 1727-2, Rapid Valley Water Company;

In the Matter of Water Permit Application No. 2317-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2309-2, Hawthorne Ditch Company; and

In the Matter of Water Permit Application No. 2234-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2040-2, Hawthorne Ditch Company

At the direction of Prehearing Chairman, I am herewith enclosing a copy of a May 3, 1996, letter from Mr. Joseph Butler, attorney for Jerry Hammerquist, Jerry Marsh, and other protesters of the above-noted water permit applications.

Mr. Freeman has directed me to inform each of you that he has elected to treat this letter as a motion to reopen. Mr. Freeman has further requested me to request that any person who wishes to state a view on whether the matter should be reopened in light of the May 3, 1996, letter should make that view known to him by letter postmarked no later than May 30, 1996.

Upon receiving responses, if any, Mr. Freeman will enter an appropriate order.

MEMORANDUM

May 17, 1996

Page 2

Any responses should be sent to the attention of all persons listed upon the Certificate of Service. In addition, it should be sent to:

Mr. Rodney Freeman, Jr.
P.O. Box 176
Huron, SD 57350-0176

John P. Guhin
Deputy Attorney General
500 E. Capitol Avenue
Pierre, SD 57501-5070

JPG:nan

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of Letter of May 17, 1996, and the Letter of May 3, 1996, in relation to In the Matter of Water Permit Application No. 2316-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 1727-2, Rapid Valley Water Company; In the Matter of Water Permit Application No. 2317-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2309-2, Hawthorne Ditch Company; and In the Matter of Water Permit Application No. 2234-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2040-2, Hawthorne Ditch Company, was served by United States mail, first class, postage prepaid upon

Bob Jackson
City Attorney
300 Sixth St.
Rapid City, SD 57701

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701

Zoltan Szakacs
P.O. Box
Caputa, SD 57725

Ed Taylor
HCR 36, Box 60
Caputa, SD 57725

Robert Dustman
Dustman Ranch
P.O. Box 53
Caputa, SD 57725

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Daniel J. Bjerke, PE/LS
Water/Wastewater Division
City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Jerry Marsh
Marsha Ranch
HCR 36, Box 35
Caputa, SD 57725

Jerry Hammerquist
P.O. Box 26
Caputa, SD 57725

Melvin Brassfield
P.O. Box 24
Caputa, SD 57725

Wm. Ham, President
St. Germain Irrigating Co.
P.O. Box 32
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

Tom Odom
Odom Ranch
23232 Huntington Pl.
Rapid City, SD 57702

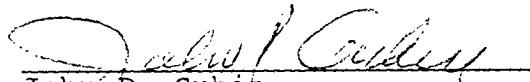
and by interoffice mail to:

John Hatch, Chief Engineer
Division of Water Rights
523 East Capitol Avenue
Pierre, SD 57501-3181

and hand-delivered to:

Diane Best
Assistant Attorney General
500 E. Capitol Avenue
Pierre, SD 57501-5070

on this 17th day of May, 1996.


John P. Guhin
Deputy Attorney General
500 E. Capitol Avenue
Pierre, South Dakota 57501-5070

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BANGS McCULLEN LAW FIRM

Bangs, McCullen, Butler, Foye & Simmons, L.L.P.

818 St. Joe Street
Mailing Address P.O. Box 2670
Rapid City, South Dakota 57709-2670
605-343-1040
Telecopier 605-343-1503

May 22, 1996



Joseph M. Butler
Thomas H. Foye
Thomas E. Simmons
Charles L. Riter
Allen G. Nelson
James P. Hurley
Michael M. Hickey
Terry L. Hofer
Patrick Duffy
Rod Schlauger *
Daniel F. Duffy
Jeffrey G. Hurd
Veronica L. Bowen
John H. Reforth
John C. Quinn

George A. Bangs (1943-1995)
W.A. McCullen (1943-1987)

* Also admitted in Minnesota,
Nebraska and North Dakota

Rodney Freeman, Jr.
P.O. Box 176
Huron, SD 57350-0176

Re: Water Permit Application Nos. 2316-2, 2317-2, and 2234-2

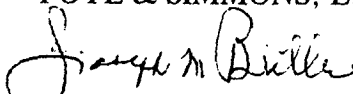
Dear Mr. Freeman:

I received a copy of John Guhin's memorandum letter dated May 17 setting out your decision to treat my letter of May 3 as a motion to reopen. I am afraid I did not make myself very clear. I understand that Diane Best's response to the proposed findings and conclusions were ultimately included in the final decision but that it has not as yet been signed because of my letter. The purpose of my letter was merely to be assured that Diane's response would be included by the Board in its final decision.

Simply stated, I see no reason to have the hearing reopened so long as the wording of Diane's response is included in the final decision. Let me know if you have any questions.

Sincerely,

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.


Joseph M. Butler

jmb:sw

cc: John P. Guhin
Bob Jackson
Walter Jones
Zoltan Szakacs
Ed Taylor
Melvin Brassfield
George Sanders Ranch
John Hatch

Robert Dustman
Mark Kieffer
Daniel J. Bjerke
Jerry Marsh
Jerry Hammerquist
Wm. Ham
Tom Odom
Diane Best



JUN 10 1997

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

Daniel L. Bjerke
Public Works Director of Engineering/Utilities
City of Rapid City
300 6th St
Rapid City SD 57701-2724

Dear Mr. Bjerke:

Enclosed are Water Permit Nos. 2234-2, 2276-2, 2316-2, 2317-2 and Vested Right No. 2294-2 issued to the City of Rapid City.

As long as the City uses the water beneficially, as stated in the various permits, State Water Laws provide that the City of Rapid City has a continuing right to use the water.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
605 773-3352

enclosures

STATE OF SOUTH DAKOTA



OFFICE OF ATTORNEY GENERAL

500 EAST CAPITOL
Pierre, South Dakota 57501-5070
Phone (605) 773-3215



MARK W. BARNETT
ATTORNEY GENERAL

LAWRENCE E. LONG
CHIEF DEPUTY ATTORNEY GENERAL

May 29, 1996

Rodney Freeman Jr.
Attorney at Law
P.O. Box 176
Huron, SD 57350-0176

Re: Water Permit Application Nos. 2316-2, 2317-2 and 2234-2

Dear Mr. Freeman:

I have received a copy of Mr. Butler's May 3, 1996, letter regarding the Findings of Fact, Conclusions of Law and Final Decision in the above-entitled matter. I have also received Mr. Guhin's May 17, 1996, Memorandum as well as Mr. Butler's Response dated May 22, 1996.

Mr. Butler has indicated that his letter was not intended as a motion to reopen the hearing. The Water Rights Program is also of the opinion that the hearing need not be reopened.

Sincerely,

Diane Best
Diane Best
Assistant Attorney General

DB:mjj
Enc.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that true and correct copies of Letter of May 29, 1996, in relation to In the Matter of Water Permit Application No. 2316-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 1727-2, Rapid Valley Water Company; In the Matter of Water Permit Application No. 2317-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2309-2, Hawthorne Ditch Company; In the Matter of Water Permit Application 2234-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2040-2, Hawthorne Ditch Company, were served by United States mail, first class, postage prepaid upon:

Bob Jackson
City Attorney
300 Sixth St.
Rapid City, SD 57701

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701

Daniel J. Bjerke, PE/LS
Water/Wastewater Division
City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Zoltan Szakacs
P.O. Box
Caputa, SD 57725

Jerry Marsh
Marsha Ranch
HCR 36, Box 35
Caputa, SD 57725

Ed Taylor
HCR 36, Box 60
Caputa, SD 57725

Jerry Hammerquist
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Robert Dustman
Dustman Ranch
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Melvin Brassfield
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Wm. Ham, President
St. Germain Irrigating Co.
P.O. Box 32
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

Tom Odom
Odom Ranch
23232 Huntington Pl.
Rapid City, SD 57702

Rodney Freeman
Attorney at Law
P.O. Box 176
Huron, SD 57350-0176

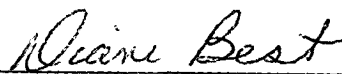
and by interoffice mail to:

John Hatch
DENR
Water Rights Division
Foss Building
Pierre, SD 57501-3182

and hand-delivered to:

John P. Guhin
Deputy Attorney General
Assistant Attorney General
500 E. Capitol Avenue
Pierre, SD 57501-5070

on this 30th day of May, 1996.



Diane Best
Assistant Attorney General

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT)
APPLICATION NO. 2316-2 AN)
APPLICATION OF THE CITY OF)
RAPID CITY TO TRANSFER THE)
USE OF WATER APPROPRIATED)
UNDER VESTED WATER RIGHT)
NO. 1727-2, RAPID VALLEY)
WATER COMPANY;)

ORDER

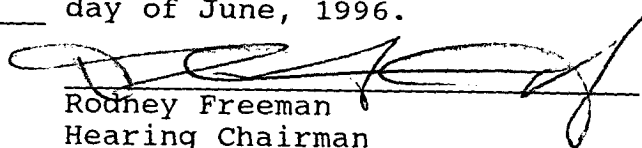
IN THE MATTER OF WATER PERMIT)
APPLICATION NO. 2317-2 AN)
APPLICATION OF THE CITY OF)
RAPID CITY TO TRANSFER THE)
USE OF WATER APPROPRIATED)
UNDER VESTED WATER RIGHT)
NO. 2309-2, HAWTHORNE DITCH)
COMPANY; AND)

IN THE MATTER OF WATER PERMIT)
APPLICATION NO. 2234-2 AN)
APPLICATION OF THE CITY OF)
RAPID CITY TO TRANSFER THE)
USE OF WATER APPROPRIATED)
UNDER VESTED WATER RIGHT)
NO. 2040-2, HAWTHORNE DITCH)
COMPANY)

The Prehearing Chairman, having reviewed the responses to the May 17, 1996, letter sent at its direction, has concluded that no party requests that the applications in question be re-opened. It is therefore

ORDERED that the case not be reopened and that the Findings of Fact, Conclusions of Law and Final Decision, as revised by the Board, be submitted to the chairman of the Water Management Board for his signature.

Dated this 10th day of June, 1996.


Rodney Freeman
Hearing Chairman

STATE OF SOUTH DAKOTA



OFFICE OF ATTORNEY GENERAL

500 EAST CAPITOL
Pierre, South Dakota 57501-5070
Phone (605) 773-3215
FAX# (605) 773-4106

MARK W. BARNETT
ATTORNEY GENERAL

LAWRENCE E. LONG
CHIEF DEPUTY ATTORNEY GENERAL



June 17, 1996

MEMORANDUM

TO: Persons and entities listed on the enclosed Certificate of Service

FROM: John P. Guhin, Deputy Attorney General *John Guhin*

RE: In the Matter of Water Permit Application No. 2316-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 1727-2, Rapid Valley Water Company;

In the Matter of Water Permit Application No. 2317-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2309-2, Hawthorne Ditch Company; and

In the Matter of Water Permit Application No. 2234-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2040-2, Hawthorne Ditch Company

I am herewith enclosing, at the direction of the Prehearing Chairman, an Order dated June 10, 1996.

JPG:nan

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the Order of June 10, 1996, in relation to In the Matter of Water Permit Application No. 2316-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 1727-2, Rapid Valley Water Company; In the Matter of Water Permit Application No. 2317-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2309-2, Hawthorne Ditch Company; and In the Matter of Water Permit Application No. 2234-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2040-2, Hawthorne Ditch Company, was served by United States mail, first class, postage prepaid upon

Bob Jackson
City Attorney
300 Sixth St.
Rapid City, SD 57701

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701

Daniel J. Bjerke, PE/LS
Water/Wastewater Division
City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Zoltan Szakacs
P.O. Box
Caputa, SD 57725

Jerry Marsh
Marsha Ranch
HCR 36, Box 35
Caputa, SD 57725

Ed Taylor
HCR 36, Box 60
Caputa, SD 57725

Jerry Hammerquist
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Caputa, SD 57725

Robert Dustman
Dustman Ranch
P.O. Box 53
Caputa, SD 57725

Melvin Brassfield
P.O. Box 24
Caputa, SD 57725

Wm. Ham, President
St. Germain Irrigating Co.
P.O. Box 32
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

Tom Odom
Odom Ranch
23232 Huntington Pl.
Rapid City, SD 57702

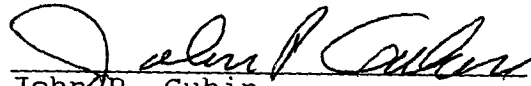
and by interoffice mail to:

John Hatch, Chief Engineer
Division of Water Rights
523 East Capitol Avenue
Pierre, SD 57501-3181

and hand-delivered to:

Diane Best
Assistant Attorney General
500 E. Capitol Avenue
Pierre, SD 57501-5070

on this 17th day of June, 1996.



John P. Guhin
Deputy Attorney General
500 E. Capitol Avenue
Pierre, South Dakota 57501-5070



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

June 26, 1996

NOTICE

TO: Daniel Bjerke
Public Works Director of Engineering/Utilities
City of Rapid City
300 Sixth Street
Rapid City, SD 57701-2724
and parties of record

FROM: John Hatch, Chief Engineer
Water Rights Program
(605) 773-3352

SUBJECT: Adoption of Findings of Fact, Conclusions of Law and Final Decision

This is to notify you that the Final Decisions, including Findings of Fact and Conclusions of Law, were adopted May 1, 1996, by the Water Management Board for Water Permit Application Nos. 2234-2, 2316-2 and 2317-2. Copies of the signed Findings of Fact, Conclusions of Law and Final Decisions are enclosed.

South Dakota Statutes provide that decisions of the Board may be appealed to the Courts. Notice of appeal of the Board's decision must be filed within thirty days of this notice and be in accordance with procedures established in SDCL 1-26-31.

enclosures

c: John Guhin, Deputy Attorney General
Diane Best, Assistant Attorney General
Joseph Butler, Bangs McCullen Law Firm

**PARTIES OF RECORD LIST
APPLICATION NOS. 2234-2, 2316-2 AND 2317-2
CITY OF RAPID CITY**

Applicant

Daniel L. Bjerke
Water/Wastewater Division Manager
Public Works Director of
Engineering/Utilities
300 Sixth Street
Rapid City, SD 57701-2724

Attorney for Applicant

Bob Jackson, Attorney
%City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Petitioners

Mark Kieffer
Keystone Rt., Box 3808
Rapid City, SD 57702

Walter Jones
Jones Ranch
15248 Caputa Loop
Rapid City, SD 57701

Zoltan Szakacs
P.O. Box
Caputa, SD 57725

Jerry Marsh
Marsh Ranch
HCR 36, Box 35
Caputa, SD 57725

Ed Taylor
HCR 36, Box 60
Caputa, SD 57725

Jerry Hammerquist
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Robert Dustman
Dustman Ranch
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Melvin Brassfield
P.O. Box 24
Caputa, SD 57725

Wm Ham, President
St. Germain Irrigating Co.
P.O. Box 32
Caputa, SD 57725

George Sanders Ranch
3023 Tomahawk Dr.
Rapid City, SD 57702

Tom Odom
Odom Ranch
23232 Huntington Place
Rapid City, SD 57702

CERTIFICATION

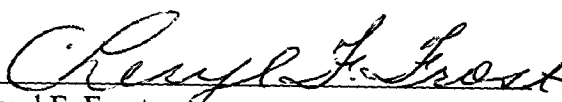
I hereby certify that on June 26, 1996, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated June 26, 1996, along with a copy of the Findings of Fact, Conclusions of Law and Final Decision for Water Permit Application No. 2234-2, Water Permit Application No. 2316-2, and Water Permit Application No. 2317-2, and also a copy of the Parties of Record List, regarding Adoption of Findings of Fact, Conclusions of Law and Final Decision, addressed as stated below, and on the attached Parties of Record List:

Joseph Butler, Bangs, McCullen Law Firm, P.O. Box 2670, Rapid City, SD 57709-2670.

A copy of the above described Notice and attachments were sent Inter-office to:

John Guhin, Deputy Attorney General, Capitol Building.

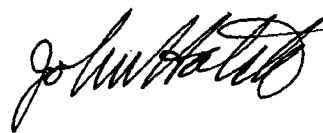
Diane Best, Assistant Attorney General, Capitol Building.


Cheryl F. Frost
Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 27th day of June, 1996




Notary Public

JOHN HATCH, Notary Public
My Commission Expires
April 1, 2001

CERTIFICATION

I hereby certify that on July 3, 1996, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated June 26, 1996, along with a copy of the Parties of Record List, a copy of the Findings of Fact, Conclusions of Law and Final Decision for Water Permit Application Nos. 2234-2, 2316-2, and 2317-2, regarding Adoption of Findings of Fact, Conclusions of Law and Final Decision, addressed as stated below:

Tom Odom, Odom Ranch, 2323 Huntington Place, Rapid City, SD 57702.

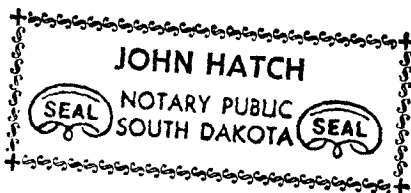
The above described Notice and attachments were originally mailed out on June 26, 1996, to the address below, but were returned to our office on July 3, 1996, because of an incorrect address:

Tom Odom, Odom Ranch, 23232 Huntington Place, Rapid City, SD 57702.


Cheryl F. Frost
Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 8th day of July, 1996




Notary Public

JOHN HATCH, Notary Public
My Commission Expires
April 1, 2001

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT)	FINDINGS OF FACT,
APPLICATION NO. 2234-2)	CONCLUSIONS OF LAW
AN APPLICATION OF THE CITY)	AND FINAL DECISION
OF RAPID CITY TO TRANSFER THE)	
USE OF WATER APPROPRIATED)	
UNDER VESTED WATER RIGHT)	
NO. 2040-2, SOUTH SIDE DITCH)	
COMPANY.)	

FINDINGS OF FACT

I

The City of Rapid City has applied for a change in the use of water which has been used to irrigate 70 acres of land known as the Eisenbraun property. The water in question is supplied by the South Side Ditch Company from Rapid Creek and all the water at issue constitutes "natural flows."

II

The water to be transferred has been appropriated under Vested Water Right No. 2040-2, South Side Ditch Company, which had a priority date of May 3, 1880.

III

Rapid City wishes to change the diversion point either to one of several points within the City of Rapid City including the Rapid City Water Treatment Plant, Sioux Park Gallery, Meadowbrook Gallery, or Jackson Springs Gallery; or, alternatively, to Pactola Reservoir.

IV

The City of Rapid City seeks the transfer as part of a comprehensive approach to future water planning which also includes water conservation, search for new ground water

supplies, purchase of water rights, and negotiations with the United States seeking storage in Pactola Reservoir for its water.

V

The diversion rate which may be transferred from Vested Water Right No. 2040-2 is determined by pro-rating acreage entitled to the South Side Ditch's 1880 priority diversion rate; the result is decreased by a 9.890% carriage loss, which carriage loss is to remain in the ditch. This yields a transferable diversion rate of .79 cfs which has been historically used to irrigate the 70 acres.

VI

The Board finds that the volume of water which has been consumed annually by the crops planted on the 70 acres is 67.7 acre feet.

VII

The Board finds that the amount of water actually diverted was 131.6 acre feet of which 67.7 acre feet was consumed by the crop; the remainder was returned to Rapid Creek as return flow.

VIII

The following table of monthly diversion volumes indicates those which can be made at Pactola or alternatively at the Rapid City sites, without adversely affecting present users:

Month	Diversion at Pactola (ac-ft)	Diversion at Intakes (ac-ft)
May	9.7	18.92
June	13.9	27.1
July	14.4	28.0
Aug	16.9	32.8
Sept	12.8	24.8
Oct	0.0	0.0

IX

Testimony was received demonstrating that opponents of the transfer believe that water which is discharged from the city's wastewater treatment plant is of lower quality than water which is discharged as return flow by irrigators. The opponents of the application therefore argue that allowing the transfer will further degrade downstream water supplies.

X

The opponents further allege that, at present, water quality downstream is not good, especially in the months of July and August, and is at times not fit for irrigation or stockwater use.

XI

The waters in question are classified by the state's system as warm water semi-permanent waters fit for fish life propagation, limited contact recreation, immersion recreation, wildlife propagation, stockwater and irrigation water.

XII

Unrefuted testimony indicates that the City of Rapid City subjects the waste water to tertiary treatment. Furthermore, the City of Rapid City's discharge system is permitted and is in compliance with state discharge standards.

XIII

Unrefuted testimony indicates that the standards Rapid City has been obliged to meet have substantially increased in the last twenty to thirty years. The City of Rapid City, as of January 1, 1996, was obligated to meet further stringent standards.

XIV

The Board credits the expert testimony of a state water quality expert who tested water both upstream and downstream of the Rapid City discharges. While a slight difference in the water quality was detected, the difference was not adjudged to be significant. Furthermore, the expert testimony revealed that the beneficial use standards were easily met both above and below the water treatment plant.

XV

Because the amount of water at issue here is very small, even when combined with the other two permits under consideration today, because testing credited by the Board indicates that there is at present only a slight difference in water quality upstream and downstream of the city

treatment plant, because the opponents of the permit have failed to demonstrate that the transfer at issue will in fact have an adverse affect on or will actually impair their rights, and because the Board is retaining jurisdiction of this matter, the permit should be granted.

CONCLUSIONS OF LAW

1. The Board has jurisdiction of this matter.
2. The applicant's request for a change in use can be made without detriment or impairment to existing rights when accomplished as set forth in the Final Decision.
3. The proposed change from irrigation use to municipal use is a beneficial use and is in the public interest. The Board finds specifically that the changes in water use are in support of Rapid City's long-term comprehensive plans for the development and conservation of a municipal water supply and that such long-term planning and conservation is to the public benefit and should be encouraged.
4. The priority date of May 3, 1880, which is the priority date of Vested Water Right No. 2040-2, should be retained for the transferred water right.
5. The diversion rate which should be transferred under this permit is .79 cfs.
6. Approval of this application necessitates that the authorized diversion rate and acreage for South Side Ditch Company Water Right No. 2040-2 under the May 3, 1880,

priority date should be decreased by .79 cfs and decreased by 70 acres.

7. Additional information may be made available to the Board with regard to water quality, seepage rates, or hydrology which may require adjustment of monthly or total annual volumes or diversion rates authorized by this permit. Therefore, the Board should retain jurisdiction to make these and other appropriate adjustments.

8. The opponents of the application have urged in their September 25, 1995, letter that the application is contrary to the Deerfield Contract of July 27, 1943. The Board rejects the contention. First, the entire contract has not been submitted to the Board for its analysis. Second, the Board's reading of the language quoted by the opponents has not been demonstrated to be dispositive of any issue presented here. The Board specifically does not credit the apparent argument of the opponents that because the City cannot claim its return flows as its property, the return flows do not actually exist and are not relevant to the resulting stream flow.

9. Approval of Water Right Application No. 2234-2 does not guarantee that natural flow water will be available for the permit for diversion or storage during extreme low flow periods.

10. The effect of approval of Water Permit Application No. 2234-2 will be to retire the Eisenbraum property from irrigation. SDCL 45-6-34.1.

FINAL DECISION

Application No. 2234-2 is granted subject to the following qualifications:

1. Permit No. 2234-2 is limited to a diversion rate of 0.79 cfs for a total annual volume of 67.7 acre feet at Pactola Reservoir or a total annual volume of 131.6 acre feet at Sioux Park Gallery (SW1/4 SW1/4 Section 3), Meadowbrook Gallery (SE1/4 NE1/4 Section 9), Jackson Springs Gallery (NW1/4 SE1/4 Section 8) and the Rapid City Water Treatment Plant (SE1/4 NE1/4 Section 3), all in T1N-R7E. Maximum monthly diversion volumes at Pactola or the diversion points within Rapid City area as follows:

Month	Monthly acre feet at Pactola	Monthly acre feet at diversion points within Rapid City
May	9.7	18.9
June	13.9	27.1
July	14.4	28.0
Aug	16.9	32.8
Sept	12.8	24.8
Oct	0.0	0.0

Diversions during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City Diversion points.

2. Permit No. 2234-2 authorizes diversions of only natural flow water by the City of Rapid City and does not include any rights to stored irrigation water available under contract from Pactola Reservoir.

3. That the City of Rapid City report to the chief engineer annually the amount of water withdrawn each month at Pactola Reservoir or the diversion points within Rapid City.

4. That the Water Management Board is retaining jurisdiction of Permit No. 2234-2 in the event that additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2234-2.

6. Diversions under Permit No. 2234-2 may not interfere with existing water rights in effect prior to approval of No. 2234-2 or any domestic rights.

7. The amount of water with a May 3, 1880, priority date, which may be appropriated under Vested Water Right No. 2040-2 is reduced by 0.79 cfs.

8. Approval of Water Permit No. 2234-2 retires the 70 acres, known as the Eisenbraun property which has been historically irrigated from South Side Ditch, located in the E1/2 NE1/4 Section 26, T1N, R8E from future irrigation.

Dated this 24th day of ^{June}~~May~~, 1996.

BY THE BOARD:

Duane Ralley
Chairman

p1d411.jpg(mas)

BANGS McCULLEN LAW FIRM

Bangs, McCullen, Butler, Foye & Simmons, L.L.P.

818 St. Joe Street
Mailing Address P.O. Box 2670
Rapid City, South Dakota 57709-2670
605-343-1040
Telecopier 605-343-1503

July 22, 1996



Joseph M. Butler
Thomas H. Foye
Thomas E. Simmons
Charles L. Riter
Allen G. Nelson
James P. Hurley
Michael M. Hickey
Terry L. Hofer
Patrick Duffy
Rod Schlauger *
Daniel F. Duffy
Jeffrey G. Hurd
Veronica L. Bowen
John H. Raforth
John C. Quinn

George A. Bangs (1943-1995)
W.A. McCullen (1943-1987)

* Also admitted in Minnesota,
Nebraska and North Dakota

Clerk of Courts
P.O. Box 230
Rapid City, SD 57709

Re: Hammerquist, et al. v. State of South Dakota

Dear Clerk:

Enclosed for filing are the following original documents:

1. Three Notices of Appeal (Application Nos. 2317-2, 2316-2, and 2234-2);
2. Three Order for Transcript of Proceedings; and
3. Three Statements of Issues on Appeal.

Also enclosed are three checks made payable to your office in the amount of \$35 each for the appeal filing fees.

Please don't hesitate to contact me if you have any questions.

Sincerely,

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

Joseph M. Butler

jmb:sw
Enclosures

cc: Jerry Hammerquist
Jerry Marsh
Water Management Board
Diane Best
Francis Brink
Marian Gunderson
Leo Holzbauer

John P. Guhin
Bob Jackson
Dwayne Rollag
Dan Bjerke
Bernita Loucks
Rodney Freeman
Joel Rickenbach

STATE OF SOUTH DAKOTA:
SS
COUNTY OF PENNINGTON :

IN CIRCUIT COURT
SEVENTH JUDICIAL CIRCUIT

JERRY HAMMERQUIST and)
MARSH HERFORD RANCH, INC.,)
Appellants,)

vs.)

**ORDER FOR TRANSCRIPT
OF PROCEEDINGS**

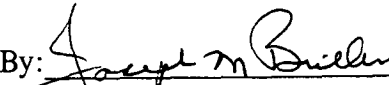
STATE OF SOUTH DAKOTA)
ACTING AS THE WATER)
MANAGEMENT BOARD OF THE)
DEPARTMENT OF ENVIRONMENT)
AND NATURAL RESOURCES,)
Respondent.)

TO: CAPITAL REPORTING

Jerry Hammerquist and the Marsh Hereford Ranch, Inc. order transcripts of the hearing before the Water Management Board of the Department of Environment and Natural Resources in Pierre, South Dakota, in re In the Matter of the Water Permit Application No. 2234-2 an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2040-2, South Side Ditch Company.

Dated this 22nd day of July, 1996.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

By: 
Joseph M. Butler
Attorneys for Appellants
818 St. Joe St.; P.O. Box 2670
Rapid City, SD 57709
(605) 343-1040

Received and acknowledged this _____ day of _____, 1996. The transcripts should be completed and delivered by _____, 1996.

Court Reporter

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, by certified mail, in envelopes addressed to said addressees, to wit:

John P. Guhin
Deputy Attorney General
Office of Attorney General
500 East Capitol
Pierre, SD 57501-5070

Diane Best
Assistant Attorney General
Office of Attorney General
500 East Capitol
Pierre, SD 57501-5070

Bob Jackson
City Attorney
300 6th Street
Rapid City, SD 57701

Dan Bjerke
City of Rapid City
300 6th Street
Rapid City, SD 57701

Water Management Board
Department of Environment
and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

Dwayne Rollag
Chairman, Water Management Bd.
320 Lincoln Lane South
Brookings, SD 57006

Francis Brink
1214 S. Wells Street
Aberdeen, SD 57401

Bernita Loucks
219 42nd Street
Rapid City, SD 57702

Marian Gunderson
811 West 3rd
Yankton, SD 57078

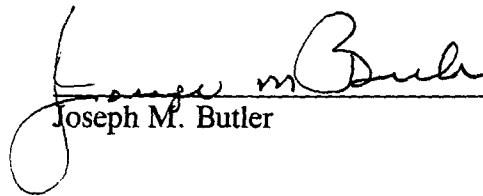
Rodney Freeman
P.O. Box 176
Huron, SD 57350

Leo Holzbauer
R.R. 1, Box 170
Waggoner, SD 57380-9681

Joel Rickenbach
P.O. Box 97
Oelrichs, SD 57763

which are the last addresses of the addressees known to the subscriber.

Dated this 22nd day of July, 1996.



Joseph M. Butler

STATE OF SOUTH DAKOTA:
SS
COUNTY OF PENNINGTON :

IN CIRCUIT COURT
SEVENTH JUDICIAL CIRCUIT

JERRY HAMMERQUIST and)
MARSH HERFORD RANCH, INC.,)
Appellants,)

vs.)

NOTICE OF APPEAL

STATE OF SOUTH DAKOTA)
ACTING AS THE WATER)
MANAGEMENT BOARD OF THE)
DEPARTMENT OF ENVIRONMENT)
AND NATURAL RESOURCES,)
Respondent.)

TO: RESPONDENT THE STATE OF SOUTH DAKOTA ACTING AS THE WATER
MANAGEMENT BOARD OF THE DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES.

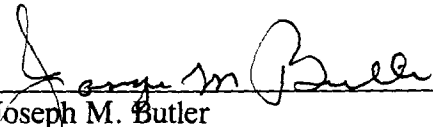
Please take notice that the above-named Appellants, pursuant to SDCL 1-26-30 through
1-26-37 hereby appeal to the Circuit Court within and for the County of Pennington, State of
South Dakota, Seventh Judicial Circuit, from a decision of the South Dakota Water Management
Board of the Department of Natural Resources within and for the County of Pennington, State of
South Dakota, Seventh Judicial Circuit, from a decision of the South Dakota Water Management
Board of the Department of Natural Resources in re In the Matter of the Water Permit
Application No. 2234-2 an Application of the City of Rapid City to Transfer the Use of Water
Appropriated Under Vested Water Right No. 2040-2, South Side Ditch Company.

The final decision of the South Dakota Water Management Board of the Department of Environment and Natural Resources was rendered on June 24, 1996. Notice of that decision was served on the Appellants on June 26, 1996.

Dated this 22nd day of July, 1996.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

By: _____


Joseph M. Butler
Attorneys for Appellants
818 St. Joe St.; P.O. Box 2670
Rapid City, SD 57709
(605) 343-1040

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, by certified mail, in envelopes addressed to said addressees, to wit:

John P. Guhin
Deputy Attorney General
Office of Attorney General
500 East Capitol
Pierre, SD 57501-5070

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City of Rapid City
300 6th Street
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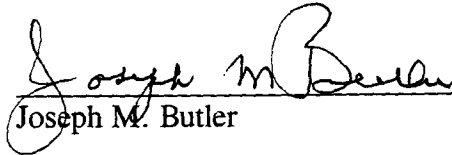
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Joel Rickenbach
P.O. Box 97
Oelrichs, SD 57763

which are the last addresses of the addressees known to the subscriber.

Dated this 22nd day of July, 1996.



Joseph M. Butler

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT)	FINDINGS OF FACT,
APPLICATION NO. 2234-2)	CONCLUSIONS OF LAW
AN APPLICATION OF THE CITY)	AND FINAL DECISION
OF RAPID CITY TO TRANSFER THE)	
USE OF WATER APPROPRIATED)	
UNDER VESTED WATER RIGHT)	
NO. 2040-2, SOUTH SIDE DITCH)	
COMPANY.)	

FINDINGS OF FACT

I

The City of Rapid City has applied for a change in the use of water which has been used to irrigate 70 acres of land known as the Eisenbraun property. The water in question is supplied by the South Side Ditch Company from Rapid Creek and all the water at issue constitutes "natural flows."

II

The water to be transferred has been appropriated under Vested Water Right No. 2040-2, South Side Ditch Company, which had a priority date of May 3, 1880.

III

Rapid City wishes to change the diversion point either to one of several points within the City of Rapid City including the Rapid City Water Treatment Plant, Sioux Park Gallery, Meadowbrook Gallery, or Jackson Springs Gallery; or, alternatively, to Pactola Reservoir.

IV

The City of Rapid City seeks the transfer as part of a comprehensive approach to future water planning which also includes water conservation, search for new ground water

supplies, purchase of water rights, and negotiations with the United States seeking storage in Pactola Reservoir for its water.

V

The diversion rate which may be transferred from Vested Water Right No. 2040-2 is determined by pro-rating acreage entitled to the South Side Ditch's 1880 priority diversion rate; the result is decreased by a 9.890% carriage loss, which carriage loss is to remain in the ditch. This yields a transferable diversion rate of .79 cfs which has been historically used to irrigate the 70 acres.

VI

The Board finds that the volume of water which has been consumed annually by the crops planted on the 70 acres is 67.7 acre feet.

VII

The Board finds that the amount of water actually diverted was 131.6 acre feet of which 67.7 acre feet was consumed by the crop; the remainder was returned to Rapid Creek as return flow.

VIII

The following table of monthly diversion volumes indicates those which can be made at Pactola or alternatively at the Rapid City sites, without adversely affecting present users:

Month	Diversion at Pactola (ac-ft)	Diversion at Intakes (ac-ft)
May	9.7	18.92
June	13.9	27.1
July	14.4	28.0
Aug	16.9	32.8
Sept	12.8	24.8
Oct	0.0	0.0

IX

Testimony was received demonstrating that opponents of the transfer believe that water which is discharged from the city's wastewater treatment plant is of lower quality than water which is discharged as return flow by irrigators. The opponents of the application therefore argue that allowing the transfer will further degrade downstream water supplies.

X

The opponents further allege that, at present, water quality downstream is not good, especially in the months of July and August, and is at times not fit for irrigation or stockwater use.

XI

The waters in question are classified by the state's system as warm water semi-permanent waters fit for fish life propagation, limited contact recreation, immersion recreation, wildlife propagation, stockwater and irrigation water.

XII

Unrefuted testimony indicates that the City of Rapid City subjects the waste water to tertiary treatment. Furthermore, the City of Rapid City's discharge system is permitted and is in compliance with state discharge standards.

XIII

Unrefuted testimony indicates that the standards Rapid City has been obliged to meet have substantially increased in the last twenty to thirty years. The City of Rapid City, as of January 1, 1996, was obligated to meet further stringent standards.

XIV

The Board credits the expert testimony of a state water quality expert who tested water both upstream and downstream of the Rapid City discharges. While a slight difference in the water quality was detected, the difference was not adjudged to be significant. Furthermore, the expert testimony revealed that the beneficial use standards were easily met both above and below the water treatment plant.

XV

Because the amount of water at issue here is very small, even when combined with the other two permits under consideration today, because testing credited by the Board indicates that there is at present only a slight difference in water quality upstream and downstream of the city

treatment plant, because the opponents of the permit have failed to demonstrate that the transfer at issue will in fact have an adverse affect on or will actually impair their rights, and because the Board is retaining jurisdiction of this matter, the permit should be granted.

CONCLUSIONS OF LAW

1. The Board has jurisdiction of this matter.
2. The applicant's request for a change in use can be made without detriment or impairment to existing rights when accomplished as set forth in the Final Decision.
3. The proposed change from irrigation use to municipal use is a beneficial use and is in the public interest. The Board finds specifically that the changes in water use are in support of Rapid City's long-term comprehensive plans for the development and conservation of a municipal water supply and that such long-term planning and conservation is to the public benefit and should be encouraged.
4. The priority date of May 3, 1880, which is the priority date of Vested Water Right No. 2040-2, should be retained for the transferred water right.
5. The diversion rate which should be transferred under this permit is .79 cfs.
6. Approval of this application necessitates that the authorized diversion rate and acreage for South Side Ditch Company Water Right No. 2040-2 under the May 3, 1880,

priority date should be decreased by .79 cfs and decreased by 70 acres.

7. Additional information may be made available to the Board with regard to water quality, seepage rates, or hydrology which may require adjustment of monthly or total annual volumes or diversion rates authorized by this permit. Therefore, the Board should retain jurisdiction to make these and other appropriate adjustments.

8. The opponents of the application have urged in their September 25, 1995, letter that the application is contrary to the Deerfield Contract of July 27, 1943. The Board rejects the contention. First, the entire contract has not been submitted to the Board for its analysis. Second, the Board's reading of the language quoted by the opponents has not been demonstrated to be dispositive of any issue presented here. The Board specifically does not credit the apparent argument of the opponents that because the City cannot claim its return flows as its property, the return flows do not actually exist and are not relevant to the resulting stream flow.

9. Approval of Water Right Application No. 2234-2 does not guarantee that natural flow water will be available for the permit for diversion or storage during extreme low flow periods.

10. The effect of approval of Water Permit Application No. 2234-2 will be to retire the Eisenbraum property from irrigation. SDCL 45-6-34.1.

FINAL DECISION

Application No. 2234-2 is granted subject to the following qualifications:

1. Permit No. 2234-2 is limited to a diversion rate of 0.79 cfs for a total annual volume of 67.7 acre feet at Pactola Reservoir or a total annual volume of 131.6 acre feet at Sioux Park Gallery (SW1/4 SW1/4 Section 3), Meadowbrook Gallery (SE1/4 NE1/4 Section 9), Jackson Springs Gallery (NW1/4 SE1/4 Section 8) and the Rapid City Water Treatment Plant (SE1/4 NE1/4 Section 3), all in T1N-R7E. Maximum monthly diversion volumes at Pactola or the diversion points within Rapid City area as follows:

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Diversions during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City Diversion points.

2. Permit No. 2234-2 authorizes diversions of only natural flow water by the City of Rapid City and does not include any rights to stored irrigation water available under contract from Pactola Reservoir.

3. That the City of Rapid City report to the chief engineer annually the amount of water withdrawn each month at Pactola Reservoir or the diversion points within Rapid City.

4. That the Water Management Board is retaining jurisdiction of Permit No. 2234-2 in the event that additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2234-2.

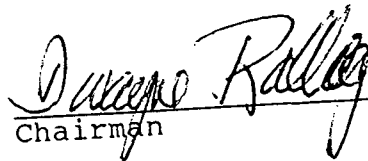
6. Diversions under Permit No. 2234-2 may not interfere with existing water rights in effect prior to approval of No. 2234-2 or any domestic rights.

7. The amount of water with a May 3, 1880, priority date, which may be appropriated under Vested Water Right No. 2040-2 is reduced by 0.79 cfs.

8. Approval of Water Permit No. 2234-2 retires the 70 acres, known as the Eisenbraun property which has been historically irrigated from South Side Ditch, located in the E1/2 NE1/4 Section 26, T1N, R8E from future irrigation.

Dated this 24th day of ^{June}~~May~~, 1996.

BY THE BOARD:


Chairman

p1d411.jpg(mas)

STATE OF SOUTH DAKOTA:
SS
COUNTY OF PENNINGTON :

IN CIRCUIT COURT
SEVENTH JUDICIAL CIRCUIT

JERRY HAMMERQUIST and)
MARSH HERFORD RANCH, INC.,)
Appellants,)

vs.)

**STATEMENT OF ISSUES
ON APPEAL**

STATE OF SOUTH DAKOTA)
ACTING AS THE WATER)
MANAGEMENT BOARD OF THE)
DEPARTMENT OF ENVIRONMENT)
AND NATURAL RESOURCES,)
Respondent.)

Appellants, Jerry Hammerquist and Marsh Hereford Ranch, Inc., for their Statement of Issues on Appeal in re In the Matter of the Water Permit Application No. 2234-2, an Application of the City of Rapid City to Transfer the Use of Water Appropriated Under Vested Water Right No. 2040-2, South Side Ditch Company, pursuant to SDCL 1-26-31.4 submit the following:

I.

The Conclusions of Law are erroneous in that they fail to include the language proposed by the Department of Environmental and Natural Resources and required by the Deerfield contract restricting the City of Rapid City to taking only water previously associated with crop consumptive use and to not take any water represented by historical return flows when natural water was not available.

Dated this 22nd day of July, 1996.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

By: Joseph M. Butler
Joseph M. Butler
Attorneys for Appellants
818 St. Joe St.; P.O. Box 2670
Rapid City, SD 57709
(605) 343-1040

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, by certified mail, in envelopes addressed to said addressees, to wit:

John P. Guhin
Deputy Attorney General
Office of Attorney General
500 East Capitol
Pierre, SD 57501-5070

Diane Best
Assistant Attorney General
Office of Attorney General
500 East Capitol
Pierre, SD 57501-5070

Bob Jackson
City Attorney
300 6th Street
Rapid City, SD 57701

Dan Bjerke
City of Rapid City
300 6th Street
Rapid City, SD 57701

Water Management Board
Department of Environment
and Natural Resources
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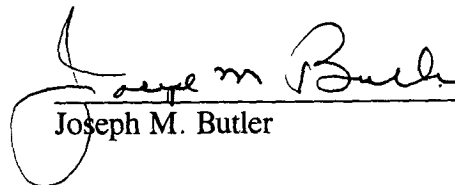
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Leo Holzbauer
R.R. 1, Box 170
Waggoner, SD 57380-9681

Joel Rickenbach
P.O. Box 97
Oelrichs, SD 57763

which are the last addresses of the addressees known to the subscriber.

Dated this 22nd day of July, 1996.



Joseph M. Butler



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

August 21, 1996

Civ. 96 - 619

Civ. 96 - 620

Civ. 96 - 621

Rena Truman
Pennington County Clerk of Courts
P.O. Box 230
Rapid City, SD 57709

Re: **In the Matter of City of Rapid City's Water Permit Application Nos. 2234-2, 2316-2
and 2317-2**

Dear Clerk Truman:

Consistent with SDCL 1-26-33, I am transmitting the original agency record for the above-entitled matters. As of this date, the court reporter has not filed the transcripts from the hearing with this agency. In addition, I have prepared a chronological and alphabetical index of the agency record which is being transmitted pursuant to SDCL 1-26-33. A copy of each index submitted is also being sent to all parties of record on this date.

The only exhibit introduced during the hearing were the agency files.

Sincerely,

Eric Gronlund
Eric Gronlund
Water Rights Program
(605) 773-3352

enclosure

IN CIRCUIT COURT
SEVENTH JUDICIAL CIRCUIT

Civ. 96 - 619

**CERTIFICATION AND TRANSMITTAL
OF RECORD FOR WATER PERMIT
APPLICATION NO. 2234-2**

1. As a Natural Resource Engineer employed by the Water Rights Program, Department of Environment and Natural Resources, I am responsible for maintaining the formal agency file on all applications to appropriate water which are subject to the jurisdiction of the South Dakota Water Management Board.

2. Consistent with my responsibilities in the Water Rights Program, I have prepared a true and correct copy of the agency records for Water Permit Application No. 2234-2. The true and correct copy of the record is herewith transmitted to the above-captioned reviewing court pursuant to SDCL 1-26-33.

3. In addition, I have prepared a chronological and alphabetical index of the agency record which are herewith transmitted to the above-captions reviewing court pursuant to SDCL 1-26-33. A copy of the index submitted is also being sent to the counsel for the parties of record on this date.

Dated this 20th day of August, 1996.

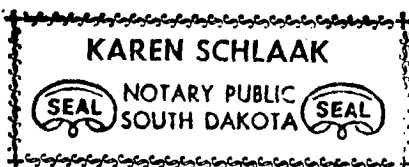

Eric S. Gronlund, Natural Resource Engineer
Water Rights Program
Dept. of Environment & Natural Resources

Subscribed and sworn to before me this
20th day of August, 1996

Karen Schlaak
Notary Public

My commission expires: **KAREN SCHLAAK, Notary Public**
My Commission Expires
April 1, 2001

SEAL



STATE OF SOUTH DAKOTA

)

IN CIRCUIT COURT

: SS

COUNTY OF PENNINGTON

)

SEVENTH JUDICIAL COURT

(Civ. 96 - 619)

IN THE MATTER OF
CITY OF RAPID CITY'S
WATER PERMIT
APPLICATION NO. 2234-2

)

)

)

)

CHRONOLOGICAL
INDEX

<u>Entry</u>	<u>Date</u>	<u>Document</u>	<u>Pages</u>
1.	November 25, 1992	Letter to Daniel Bjerke from Leo Eisel (w/ attachement on consumptive use)	1 - 17
2.	June 4, 1992	Letter to Del Brosz and Mark Rath from Leo Eisel and Gary Will (w/ table on transferable portion from Eisenbraun property)	18 - 23
3.	June 8, 1992	Letter to Del Brosz and Mark Rath from Gary Witt	24
4.	June 15, 1992	Letter to Del Brosz and Mark Rath from Leo Eisel and Gary Witt (w/ attachments)	25 - 38
5.	June 16, 1992	Letter to John Hatch from Daniel Bjerke (submitting application)	39
6.	June 16, 1992	Purchase Order No. 257660 from Rapid City	40-42
7.	June 16, 1992	Application No. 2234-2 filed by Rapid City (w/ Form 2A, Exhibit 1and Exhibit 2)	43-47
8.	June 16, 1992	Invoice No.20411 to Rapid City from Karen Schlaak	48
9.	July 8, 1996	Receipt for Application Filing Fee	49
10.	July 20, 1992	Letter to Mark Rath from Leo Eisel and Gary Witt (w/ tables)	50 - 56
11.	August 7, 1992	Letter to Del Broz and Mark Rath from Daniel Bjerke requesting continuing application	57
12.	August 14, 1992	Letter to Mark Rath from Leo Eisel and Gary Witt (w/ attachments)	58 - 68

<u>Entry</u>	<u>Date</u>	<u>Document</u>	<u>Pages</u>
13.	February 10, 1993	Letter to Daniel Bjerke from Mark Rath on findings from inspection (w/ applications to correct)	69 - 77
14.	March 22, 1995	Letter to Daniel Bjerke from Leo Eisel regarding transferable amount from Eisenbraun property	78
15.	March 22, 1995	Letter to Mark Rath from Daniel Bjerke requesting continuing application process	79
16.	April 27, 1995	Letter to Del Brosz and Mark Rath from Leo Eisel (w/ attached tables)	80 - 88
17.	May 12, 1995	Report on Water Permit Application No. 2234-2 prepared by Mark Rath	89 - 92
18.	May 19, 1995	Recommendation of Chief Engineer to Defer Application	93
19.	July 18, 1995	Revised Recommendation of the Chief Engineer	94 - 95
20.	July 26, 1995	Letter to Rapid City Journal from Eric Gronlund to publish notice of hearing	96
21.	July 26, 1995	Letter to Daniel Bjerke from Eric Gronlund on publishing notice of hearing (w/ notice of hearing)	97 - 99
22.	July 27, 1995	Letter to Jerry Hammerquist from Eric Gronlund	100
23.	July 27, 1995	Letter to Bruce Laymon from Eric Gronlund	101
24.	July 27, 1995	Letter to Jerry Marsh from Eric Gronlund	102
25.	July 31, 1995	Fax cover sheet to Lori Frohman of Rapid City Journal from Karen Schlaak on corrections to notice of hearing	103 - 105
26.	August 10, 1995	File Documentation of Karen Schlaak's on publishing date error	106
27.	August 17, 1995	First Transmittal of the Notice of Hearing from the Rapid City Journal	107
28.	September 13, 1995	Affidavit of Publication from the Rapid City Journal	108

<u>Entry</u>	<u>Date</u>	<u>Document</u>	<u>Pages</u>
29.	September 25, 1995	Petition protesting water permit application	109 - 111
30.	September 25, 1995	Notice from John Hatch on hearing time before Water Management Board (w/ parties list and certificate)	112 - 114
31.	September 29, 1995	Request for Continuance by by Robert Jackson, attorney for Rapid City (w/ parties)	115 - 116
32.	November 6, 1995	Notice Rescheduling Hearing before Water Management Board (w/ parties list and certificate)	117 - 119
33.	December 5, 1995	Request for Continuance by Jerry Hammerquist on behalf Rapid Valley Water Conservancy District	120
34.	December 5, 1996	Letter to Diane Best from Bob Jackson agreeing to Petitioners Request	121
35.	December 8, 1995	Notice from John Hatch on Continuance of Hearing (w/ parties list and certificate)	122 - 124
36.	January 12, 1996	Notice Rescheduling Hearing before Water Management Board (w/ parties list and certificate)	125 - 127
37.	January 19, 1996	Return of January 12 th notice to Ham Ranch	128 - 130
38.	March 13, 1996	Notice on Preparation of Findings of Fact, Conclusions of Law and Final Decision (w/ parties list and certificate)	131 - 134
39.	April 19, 1996	Division Response to Findings of Fact, Conclusions of Law and Final Decision	135 - 137
40.	May 6, 1996	Letter to Diane Best from Joseph Butler	138 - 139
41.	May 20, 1996	Memorandum to Parties from John Guhin on reopening hearing (w/ certificate)	140 - 143
42.	May 23, 1996	Letter to Rodney Freeman, Jr. from Joseph Butler	144
43.	May 31, 1996	Letter to Rodney Freeman, Jr. from Diane Best	145 - 147
44.	June 10, 1996	Order of Rodney Freeman (an enclosure of Guhin's June	148

<u>Entry</u>	<u>Date</u>	<u>Document</u>	<u>Pages</u>
		18, 1996, memorandum)	
45.	June 18, 1996	Memorandum to Parties from John Guhin (w/ certificate)	149 - 151
46.	June 24, 1996	Findings of Fact, Conclusions of Law and Final Decision	152 - 159
47.	June 26, 1996	Notice of Adoption of Findings of Fact, Conclusions of Law and Final Decision (w/ parties list and certificate)	160 - 162
48.	July 3, 1996	Certificate resending out June 26th Notice to Tom Odom	163 - 164
49.	July 23, 1996	Letter to Clerk of Courts from Joseph Butler on Notice of Appeal	165
50.	July 23, 1996	Order for Transcript (w/ certificate)	166 - 168
51.	July 23, 1996	Notice of Appeal (w/ certificate and copy of findings)	169 - 179
52.	July 23, 1996	Statement of Issues on Appeal (w/ certificate)	180 - 182

STATE OF SOUTH DAKOTA

)

IN CIRCUIT COURT

: SS

COUNTY OF PENNINGTON

)

SEVENTH JUDICIAL COURT

(Civ. 96 - 619)

IN THE MATTER OF
CITY OF RAPID CITY'S
WATER PERMIT
APPLICATION NO. 2234-2

)

)

)

)

ALPHABETIC
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<u>Entry</u>	<u>Date</u>	<u>Document</u>	<u>Pages</u>
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3.	July 3, 1996	Certificate resending out June 26th Notice to Tom Odom	163 - 164
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6.	August 10, 1995	File Documentation of Karen Schlaak's on publishing date error	106
7.	June 24, 1996	Findings of Fact, Conclusions of Law and Final Decision	152 - 159
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18.	April 27, 1995	Letter to Del Brosz and Mark Rath from Leo Eisel (w/ attached tables)	80 - 88
19.	June 4, 1992	Letter to Del Brosz and Mark Rath from Leo Eisel and Gary Will (w/ table on transferable portion from Eisenbraun property)	18 - 23
20.	August 7, 1992	Letter to Del Broz and Mark Rath from Daniel Bjerke requesting continuing application	57
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24.	July 27, 1995	Letter to Jerry Marsh from Eric Gronlund	102
25.	June 16, 1992	Letter to John Hatch from Daniel Bjerke (submitting application)	39
26.	March 22, 1995	Letter to Mark Rath from Daniel Bjerke requesting continuing application process	79
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<u>Entry</u>	<u>Date</u>	<u>Document</u>	<u>Pages</u>
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29.	July 26, 1995	Letter to Rapid City Journal from Eric Gronlund to publish notice of hearing	96
30.	May 31, 1996	Letter to Rodney Freeman, Jr. from Diane Best	145 - 147
31.	May 23, 1996	Letter to Rodney Freeman, Jr. from Joseph Butler	144
32.	June 18, 1996	Memorandum to Parties from John Guhin (w/ certificate)	149 - 151
33.	May 20, 1996	Memorandum to Parties from John Guhin on reopening hearing (w/ certificate)	140 - 143
34.	December 8, 1995	Notice from John Hatch on Continuance of Hearing (w/ parties list and certificate)	122 - 124
35.	September 25, 1995	Notice from John Hatch on hearing time before Water Management Board (w/ parties list and certificate)	112 - 114
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<u>Entry</u>	<u>Date</u>	<u>Document</u>	<u>Pages</u>
43.	September 25, 1995	Petition protesting water permit application	109 - 111
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46.	May 19, 1995	Recommendation of Chief Engineer to Defer Application	93
47.	May 12, 1995	Report on Water Permit Application No. 2234-2 prepared by Mark Rath	89 - 92
48.	September 29, 1995	Request for Continuance by by Robert Jackson, attorney for Rapid City (w/ parties)	115 - 116
49.	December 5, 1995	Request for Continuance by Jerry Hammerquist on behalf Rapid Valley Water Conservancy District	120
50.	January 19, 1996	Return of January 12 th notice to Ham Ranch	128 - 130
51.	July 18, 1995	Revised Recommendation of the Chief Engineer	94 - 95
52.	July 23, 1996	Statement of Issues on Appeal (w/ certificate)	180 - 182



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

August 21, 1996

NOTICE

TO: Robert R. Jackson, City Attorney
City of Rapid City
300 Sixth Street
Rapid City, SD 57701

Joseph M. Butler
Bangs McCullen Law Firm
P.O. Box 2670
Rapid City, SD 57709-2670

FROM: John Hatch, Chief Engineer
Water Rights Program *for*
(605) 773-3352

SUBJECT: In the Matter of City of Rapid City's Water Permit Application Nos. 2234-2, 2316-2,
and 2317-2, City of Rapid City

Consistent with SDCL 1-26-33, a certified copy of the agency record for the above entitled matters are being transmitted to the Seventh Judicial Circuit Court. As of the date of this mailing, the court reporter has not filed the transcripts of the hearing with this agency. A chronological and alphabetical index of the agency record is also being transmitted to the court. A copy of each index is enclosed.

enclosures

c: John Guhin, Deputy Attorney General
Diane Best, Assistant Attorney General

CERTIFICATION

I hereby certify that on August 21, 1996, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated August 21, 1996, along with a copy of the chronological and alphabetical index of the agency record, regarding In the Matter of City of Rapid City's Water Permit Application Nos. 2234-2, 2316-2, and 2317-2, City of Rapid City, addressed as stated below:

Robert R. Jackson, City Attorney, City of Rapid City, 300 Sixth Street, Rapid City, SD 57701.

Joseph M. Butler, Bangs McCullen Law Firm, P.O. Box 2670, Rapid City, SD 57709-2670.

A copy of the above described Notice and attachments were sent Inter-office to:

John Guhin, Deputy Attorney General, Capitol Building.

Diane Best, Assistant Attorney General, Capitol Building.


Cheryl F. Frost
Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 26th day of August, 1996




Notary Public

JOHN HATCH, Notary Public
My Commission Expires
April 1, 2001

STATE OF SOUTH DAKOTA:
SS
COUNTY OF PENNINGTON :

IN CIRCUIT COURT
SEVENTH JUDICIAL CIRCUIT

JERRY HAMMERQUIST and
MARSH HERFORD RANCH, INC.,

Civil No. 96-619

Appellants,

vs.

ORDER DISMISSING APPEAL

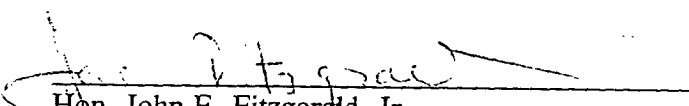
STATE OF SOUTH DAKOTA
ACTING AS THE WATER
MANAGEMENT BOARD OF THE
DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES,

Respondent.

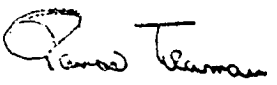
Upon motion of the Appellants, the above-entitled appeal be and hereby is in all things
dismissed.

Dated this 13th day of August, 1996.

BY THE COURT:


Hon. John E. Fitzgerald, Jr.
Circuit Court Judge

ATTEST:
Clerk of Courts

By: 
Deputy

(SEAL)

Pennington County, S.D.
FILED
IN CIRCUIT COURT

SEP 17 1996

Ranae Truman, Clerk of Courts
By:  Deputy



Bangs, McCullen, Butler, Foye & Simmons, L.L.P.

818 St. Joe Street
Mailing Address P.O. Box 2670
Rapid City, South Dakota 57709-2670
605-343-1040
Telecopier 605-343-1503



Joseph M. Butler
Thomas H. Foye
Thomas E. Simmons
Charles L. Riter
Allen G. Nelson
James P. Hurley
Michael M. Hickey
Terry L. Hofer
Patrick Duffy
Rod Schlauger *
Daniel F. Duffy
Jeffrey G. Hurd
Veronica L. Bowen
John H. Reforth

George A. Bangs (1943-1995)
W.A. McCullen (1943-1987)

* Also admitted in Minnesota,
Nebraska and North Dakota

September 12, 1996

Hon. John E. Fitzgerald, Jr.
Circuit Court Judge
P.O. Box 230
Rapid City, SD 57709

Re: Hammerquist, et al. v. State of South Dakota Acting as the Water
Management Board of the Dept. of Environment and Natural Resources
Civil Nos. 96-619; 96-620; and 96-621

Dear Judge Fitzgerald:

Enclosed is a Motion to Dismiss Appeal and proposed Order Dismissing Appeal in the three above-referenced cases. If the documents meet your approval, please sign the Orders and deliver the documents to the Clerk for filing with a request that certified copies of the Order be sent to me.

Please call if you have any questions.

Sincerely,

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

Joseph M. Butler

jmb:sw

Enclosures

cc: Jerry Hammerquist
Jerry Marsh
Bob Jackson
Water Management
Board
Bernita Loucks
Rodney Freeman
Joel Rickenbach

John P. Guhin
Diane Best
Dan Bjerke
Dwayne Rollag
Francis Brink
Marian Gunderson
Leo Holzbauer

STATE OF SOUTH DAKOTA:
SS
COUNTY OF PENNINGTON :

IN CIRCUIT COURT
SEVENTH JUDICIAL CIRCUIT

JERRY HAMMERQUIST and
MARSH HERFORD RANCH, INC.,

Appellants,

vs.

STATE OF SOUTH DAKOTA
ACTING AS THE WATER
MANAGEMENT BOARD OF THE
DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES,

Respondent.

Civil No. 96-620

MOTION TO DISMISS APPEAL

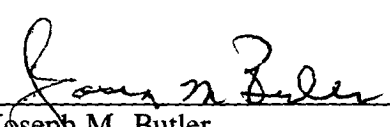
The Appellants hereby move the Court for an Order dismissing the appeal in the above captioned action.

The undersigned has conferred with the attorney for the Respondent and she concurs in this dismissal.

Dated this 12th day of September, 1996.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

By:


Joseph M. Butler

Attorneys for Appellants

818 St. Joe St.; P.O. Box 2670

Rapid City, SD 57709

(605) 343-1040

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, by certified mail, in envelopes addressed to said addressees, to wit:

John P. Guhin
Deputy Attorney General
Office of Attorney General
500 East Capitol
Pierre, SD 57501-5070

Diane Best
Assistant Attorney General
Office of Attorney General
500 East Capitol
Pierre, SD 57501-5070

Bob Jackson
City Attorney
300 6th Street
Rapid City, SD 57701

Dan Bjerke
City of Rapid City
300 6th Street
Rapid City, SD 57701

Water Management Board
Department of Environment
and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

Dwayne Rollag
Chairman, Water Management Bd.
320 Lincoln Lane South
Brookings, SD 57006

Francis Brink
1214 S. Wells Street
Aberdeen, SD 57401

Bernita Loucks
219 42nd Street
Rapid City, SD 57702

Marian Gunderson
811 West 3rd
Yankton, SD 57078

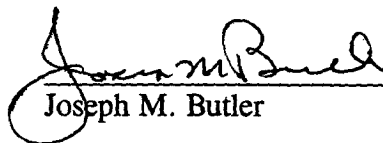
Rodney Freeman
P.O. Box 176
Huron, SD 57350

Leo Holzbauer
R.R. 1, Box 170
Waggoner, SD 57380-9681

Joel Rickenbach
P.O. Box 97
Oelrichs, SD 57763

which are the last addresses of the addressees known to the subscriber.

Dated this 12th day of September, 1996.



Handwritten signature of Joseph M. Butler in cursive script, positioned above a horizontal line.

Joseph M. Butler

STATE OF SOUTH DAKOTA:
SS
COUNTY OF PENNINGTON :

IN CIRCUIT COURT
SEVENTH JUDICIAL CIRCUIT

JERRY HAMMERQUIST and)
MARSH HERFORD RANCH, INC.,)
Appellants,)

Civil No. 96-619

vs.)

MOTION TO DISMISS APPEAL

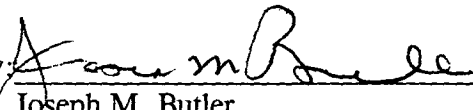
STATE OF SOUTH DAKOTA)
ACTING AS THE WATER)
MANAGEMENT BOARD OF THE)
DEPARTMENT OF ENVIRONMENT)
AND NATURAL RESOURCES,)
Respondent.)

The Appellants hereby move the Court for an Order dismissing the appeal in the above captioned action.

The undersigned has conferred with the attorney for the Respondent and she concurs in this dismissal.

Dated this 12th day of September, 1996.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

By: 

Joseph M. Butler
Attorneys for Appellants
818 St. Joe St.; P.O. Box 2670
Rapid City, SD 57709
(605) 343-1040

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The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, by certified mail, in envelopes addressed to said addressees, to wit:

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Pierre, SD 57501-5070

Diane Best
Assistant Attorney General
Office of Attorney General
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Pierre, SD 57501-5070

Bob Jackson
City Attorney
300 6th Street
Rapid City, SD 57701

Dan Bjerke
City of Rapid City
300 6th Street
Rapid City, SD 57701

Water Management Board
Department of Environment
and Natural Resources
Joe Foss Building
523 East Capitol
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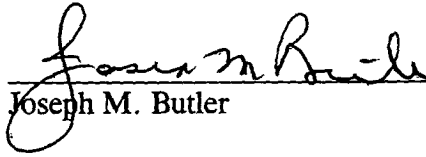
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Leo Holzbauer
R.R. 1, Box 170
Waggoner, SD 57380-9681

Joel Rickenbach
P.O. Box 97
Oelrichs, SD 57763

which are the last addresses of the addressees known to the subscriber.

Dated this 12th day of September, 1996.



Joseph M. Butler



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

November 5, 1998

Daniel L Bjerke
City of Rapid City
300 6th St
Rapid City SD 57701-2724

Dear Mr. Bjerke:

The investigation of the City of Rapid City's water use systems was conducted on September 9, 1998, by Mark Rath, staff engineer. The investigation included the extent of application of water to beneficial use, as developed under each permit. The final water right documents, the Water Licenses, can now be issued. Below is a list of the permits that were investigated.

Permit No.	amount	source	
2136-2	0.78 cfs	Rapid Creek	Sioux Park
2138-2	12.38 cfs	Rapid Creek	Water Treatment Plant
* 2274-2	0.78 cfs	Rapid Creek	Water Treatment Plant
2156-2	1.11 cfs	Madison Formation	SW ¼ SE ¼ Sec 16-T1N-R7E
transfer the use of a portion of Rapid Creek flows			formerly known as
2142-2	0.62 cfs	Murphy Ditch	Tyler property
2199-2	0.05 cfs	Murphy Ditch	Pelle property
2201-2	0.13 cfs	Murphy Ditch	Long property
2217-2	0.33 cfs	South Side Ditch	Keller property
2218-2	2.16 cfs	South Side Ditch	Stromer property
2234-2	0.79 cfs	South Side Ditch	Eisenbraun property
2249-2	1.19 cfs	South Side Ditch	Weber property
2296-2	2.85 cfs	South Side Ditch	Jundt property
2316-2	0.81 cfs	Murphy Ditch	Morris property
2317-2	0.84 cfs	Hawthorne Ditch	Morris property
2360-2	0.37 cfs	South Side Ditch	Soetaert property
2397-2	0.59 cfs	South Side Ditch	Eisenbraun property
2399-2	0.75 cfs	Murphy & Little Giant Ditch	Wileman property

* license fee already submitted

Statutes require that we charge \$50.00 fee for the investigation and issuance of the each Water License. Upon receipt of the \$800.00 fee (16 permits x \$50) we will process the Water Licenses.

Please sent fee to: Dept. of Environment & Natural Resources, Water Rights Program, 523 E. Capitol, Pierre, SD 57501-3181. If you have questions, please contact us.

Sincerely,

Karen Schlaak
Water Rights Program
605 773-3352

RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

NO 415959

Pierre, December 9, 19 98

RECEIVED OF City of Rapid City, 300 6th St., Rapid City, SD 57701-2724
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. _____ to Appropriate Water, to construct
and to put water to beneficial use _____

Fee for Application for Permit No. _____ to Appropriate Water, for Future
Use _____

Fee to retain Future Use Permit No. _____ after period of seven years.

Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water
License No. 2234-2

Fee for Filing Transfer Form _____

Fee for Filing Extension Request _____

Fee for _____

(Any Other Work Provided by Law)

Total

50 00

50 00

By

Chief Engineer

John H. Hated (Signature)

Permit No. 2234-2
Cheyenne River - Water District

Report Of Examination Of Works

TO: Chief Engineer, Water Rights Program, DENR, Foss Bldg., Pierre, SD 57501

On, September 9, 1998, I made a thorough examination of the water use system constructed by City of Rapid City of 300 6th St, Rapid City SD holder of Permit No. 2234-2, bearing the priority of May 3, 1880 authorizing the diversion of 0.79 cu. ft. per second and an annual appropriation of 131.6 acre-feet if taken at Rapid City's municipal diversion points or 67.7 acre-feet if stored in Pactola Reservoir of the natural flow waters of surface water from Rapid Creek for municipal, industrial, commercial, common distribution system, rural water system, suburban housing, and domestic purposes, in Pennington County.

I have to report on the conditions of the same as follows:

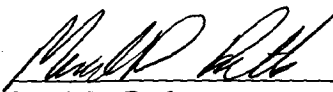
A. Works used to divert the water:

Pumps at the water treatment plant, Jackson Springs Gallery Sioux (aka Girl Scout) Gallery, Meadowbrook Gallery and storage in Pactola Reservoir.

The system is in the following condition good. The points of diversion are located in the SE1/4 NE1/4 Section 3 (Rapid City Water Treatment Plant); SW1/4 SW1/4 Section 3 (Sioux Park Gallery); SE1/4 NE1/4 Section 9 (Meadowbrook Gallery); NW1/4 SE1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E and NW1/4 SW1/4 Section 2 T1N-R5E (Pactola Reservoir). Pactola Reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. The permit holder is entitled to divert and convey to the place of use 0.79 cu. ft. per second of water and an annual appropriation of 131.6 acre-feet if taken at Rapid City's municipal diversion points or 67.7 acre-feet if stored in Pactola Reservoir which is to be used for municipal, industrial, commercial, common distribution system, rural water system, suburban housing, and domestic purposes. Water has been put to beneficial use to the maximum extent and the license should be issued for 0.79 cfs and an annual appropriation of 131.6 acre-feet if taken at Rapid City's municipal diversion points or 67.7 acre-feet if stored in Pactola Reservoir

Applicable permit qualifications have been complied with: yes

Exceptions to compliance are: none



Mark D. Rath
Natural Resources Engineer
DENR, Water Rights Program

9/29/98

Date

REPORT ON INSPECTION OF PERMIT NO. 2234-2

DATE OF INSPECTION: September 9, 1998

Contact Person & Address: John Wagner, 300 6th St, Rapid City SD 57701

DIVERSION POINT LEGAL LOCATIONS: are in the SE1/4 NE1/4 Section 3 (Rapid City Water Treatment Plant); SW1/4 SW1/4 Section 3 (Sioux Park a.k.a. Girl Scout Gallery); SE1/4 NE1/4 Section 9 (Meadowbrook Gallery); NW1/4 SE1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E and NW1/4 SW1/4 Section 2 T1N-R5E (Pactola Reservoir). Pactola Reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E.

WATER SUPPLY Source: Rapid Creek

WATER TREATMENT PLANT

Pump\ Motor:

- | | |
|---------------------------------------|-----------------------------------|
| 1) Pump Make <u>Peerless</u> | 2) Model <u>258595</u> |
| 3) Capacity <u>5600</u> GPM | 4) Motor Make <u>GE</u> |
| 5) Model No. <u>5K405DP7011B FR2G</u> | 6) Horsepower rating <u>75</u> hp |

- | | |
|----------------------------------|------------------------------------|
| 1) Pump Make <u>Layne Bowler</u> | 2) Model <u>14MSL</u> |
| 3) Capacity <u>2780</u> GPM | 4) Motor Make <u>US Electrical</u> |
| 5) Model No. <u>326UP</u> | 6) Horsepower rating <u>30</u> hp |

- | | |
|-------------------------------|------------------------------------|
| 1) Pump Make <u>Vertiline</u> | 2) Model <u>27908</u> |
| 3) Capacity <u>5560</u> GPM | 4) Motor Make <u>US Electrical</u> |
| 5) Model No. <u>445UPY</u> | 6) Horsepower rating <u>60</u> hp |

- | | |
|----------------------------------|-----------------------------------|
| 1) Pump Make <u>Layne Bowler</u> | 2) Model <u>85522</u> |
| 3) Capacity <u>5875</u> GPM | 4) Motor Make <u>Louis Allis</u> |
| 5) Model No. <u>COG5B</u> | 6) Horsepower rating <u>60</u> hp |

- | | |
|-------------------------------|------------------------------------|
| 1) Pump Make <u>Vertiline</u> | 2) Model <u>27989</u> |
| 3) Capacity <u>8000</u> GPM | 4) Motor Make <u>US Electrical</u> |
| 5) Model No. <u>CFU</u> | 6) Horsepower rating <u>100</u> hp |

SIOUX PARK (a.k.a. Girl Scout) GALLERY

Pump\ Motor:

- | | |
|---------------------------------|------------------------------------|
| 1) Pump Make <u>Worthington</u> | 2) Model <u>12H13501</u> |
| 3) Capacity <u>1400</u> GPM | 4) Motor Make <u>US Electrical</u> |
| 5) Model No. <u>324UP</u> | 6) Horsepower rating <u>25</u> hp |

- | | |
|---------------------------------|------------------------------------|
| 1) Pump Make <u>Worthington</u> | 2) Model <u>12H13501</u> |
| 3) Capacity <u>1400</u> GPM | 4) Motor Make <u>US Electrical</u> |
| 5) Model No. <u>324UP</u> | 6) Horsepower rating <u>25</u> hp |

MEADOWBROOK GALLERY

Pump\ Motor:

- | | |
|---------------------------------|------------------------------------|
| 1) Pump Make <u>Worthington</u> | 2) Model <u>10QHA0</u> |
| 3) Capacity <u>1525</u> GPM | 4) Motor Make <u>US Electrical</u> |
| 5) Model No. <u>2743715</u> | 6) Horsepower rating <u>15</u> hp |

- | | |
|---------------------------------|------------------------------------|
| 1) Pump Make <u>Worthington</u> | 2) Model <u>10QHA0</u> |
| 3) Capacity <u>1475</u> GPM | 4) Motor Make <u>US Electrical</u> |
| 5) Model No. <u>2745675</u> | 6) Horsepower rating <u>15</u> hp |

- | | |
|---------------------------------|------------------------------------|
| 1) Pump Make <u>Worthington</u> | 2) Model <u>10QHA0</u> |
| 3) Capacity <u>1525</u> GPM | 4) Motor Make <u>US Electrical</u> |
| 5) Model No. <u>2744261</u> | 6) Horsepower rating <u>15</u> hp |

JACKSON SPRINGS GALLERY

Pump\ Motor:

- | | |
|-------------------------------------|-----------------------------------|
| 1) Pump Make <u>Fairbanks-Morse</u> | 2) Model <u>T4B242990A</u> |
| 3) Capacity <u>1390</u> GPM | 4) Motor Make <u>GE</u> |
| 5) Model No. <u>5K6258XH1A</u> | 6) Horsepower rating <u>75</u> hp |

Pump\ Motor:

- | | |
|-------------------------------------|------------------------------------|
| 1) Pump Make <u>Fairbanks-Morse</u> | 2) Model <u>T4B242992A</u> |
| 3) Capacity <u>2085</u> GPM | 4) Motor Make <u>GE</u> |
| 5) Model No. <u>5K6268XH1A</u> | 6) Horsepower rating <u>125</u> hp |

Pump\ Motor:

- | | |
|-------------------------------------|------------------------------------|
| 1) Pump Make <u>Fairbanks-Morse</u> | 2) Model <u>T4B242991A</u> |
| 3) Capacity <u>2085</u> GPM | 4) Motor Make <u>GE</u> |
| 5) Model No. <u>5K6258XH1A</u> | 6) Horsepower rating <u>125</u> hp |

PACTOLA RESERVOIR : This is a US Bureau of Reclamation dam with 55, 972 acre-feet of active storage

DISTRIBUTION LINES OR CANALS:

Municipal distribution system

PERMIT QUALIFICATIONS AND REGULATIONS:

- 1) Special qualifications to permit being abided by yes
- 2) All structures, wells and lands on map yes

COMMENTS: #

STATE OF SOUTH DAKOTA

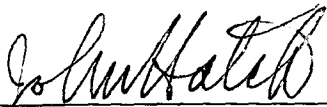
WATER LICENSE NO. 2234-2

(1) The City of Rapid City, 300 6th St, Rapid City SD 57701 made Application No. 2234-2, June 16, 1992 for a water permit to divert 0.79 cubic feet of water per second (cfs) from Rapid Creek with an annual volume limitation of 131.6 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 67.7 acre-feet, if stored in Pactola Reservoir, Pennington County, South Dakota for municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic purposes. Permit No. 2234-2, with a priority date of May 3, 1880 (established by South Side Ditch) was approved May 1, 1996 and issued to the City of Rapid City for diversion of water with construction of the described water supply system and the application to beneficial use of said water completed.

(2) It is certified that the City of Rapid City has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 0.79 cfs from Rapid Creek with an annual volume limitation of 131.6 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 67.7 acre-feet, if stored in Pactola Reservoir for beneficial use. The location of the diversion points are: SE ¼ NE ¼ Section 3 (Rapid City Water Treatment Plant); SW ¼ SW ¼ Section 3 (Sioux Park Gallery); SE ¼ NE ¼ Section 9 (Meadowbrook Gallery); NW ¼ SE ¼ Section 8 (Jackson Springs Gallery); all in T1N-R7E and NW ¼ SW ¼ Section 2-T1N-R5E (Pactola Reservoir). Pactola Reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E.

(3) The City of Rapid City has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

(4) Pursuant to South Dakota Water Law 46-5-30.1 the City of Rapid City, 300 6th St, Rapid City SD 57701 the holder and/or owner of Water Right No. 2234-2 is issued a license to appropriate water, the right to use 0.79 cfs from Rapid Creek with an annual volume limitation of 131.6 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 67.7 acre-feet, if stored in Pactola Reservoir with a priority date of May 3, 1880 (established by South Side Ditch) from the locations specified in (2) of this license for municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic purposes. This license is subject to any limitations or qualifications listed in Water Right No. 2234-2 and subject to South Dakota State Law.



JOHN HATCH, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JAN 15 1999

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

JAN 15 1999

Daniel L Bjerke
City of Rapid City
300 6th St
Rapid City SD 57701-2724

Dear Mr. Bjerke:

Enclosed are the Water Licenses and receipts for the investigation and issuance of the water licenses. These water licenses are the final document which complete the process of obtaining a water right.

As long as the City of Rapid City uses the water beneficially, as stated in the water licenses, State Water Law provides that the City has a continuing right to use the water.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
605 773-3352

ks

enclosures



2234-2
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

September 30, 2005

INTERNAL MEMORANDUM

TO: Garland Erbele, Chief Engineer
DENR Water Rights Program

FROM: Donald E. Stroup *Donald E. Stroup*
Natural Resources Project Engineer
DENR Water Rights Program

SUBJECT: Rapid City – Rapid Valley Water Rights Transfers

A total of 16.75 cubic feet per second (cfs) of water has been transferred from Rapid Valley irrigation ditches to Rapid City, SD. The amounts of flow transferred and acres retired by ditch are:

<u>Ditch</u>	<u>Flow (cfs)</u>	<u>Acres</u>
Murphy	4.12	325
Little Giant	0.99	26
South Side	10.80	1001.8
Hawthorne	0.84	46

The locations of the land retired from irrigation are shown on the Rapid City-Rapid Valley Water Rights Transfers Map. Following is a list summarizing the water transfers from Rapid Valley irrigators to Rapid City:

- 2399-2: Retired 52-acres and 0.75-cfs of Wileman property from future irrigation, 26-acres and 0.33-cfs from Murphy Ditch and 26-acres and 0.42-cfs from Little Giant Ditch. Land located in the NE¼ Section 24 T1N R8E and water via Murphy Ditch at the same location.
- 2316-2: Retired 64-acres and 0.81-cfs of Morris property from future irrigation via Murphy Ditch. Land located in the SE¼ Section 9 T1N R8E and water via Murphy Ditch at the same location.
- 2201-1: Retired 10-acres and 0.13-cfs of Long property from future irrigation via Murphy Ditch. Land located in the center of Section 14 T1N R8E and water via Murphy Ditch at the same location.
- 2199-2: Retired 4-acres and 0.05-cfs of Pelle property from future irrigation via Murphy Ditch. Land located in the NW¼ Section 19 T1N R9E and water via Murphy Ditch at the same location.
- 2142-2: Retired 49-acres and 0.62-cfs of Tyler property from future irrigation via Murphy Ditch. Land located in the NW¼ and SW¼ Section 19 T1N R9E and water via Murphy Ditch at the same location.

- 2469-2** Retired 27-acres and 0.34-cfs of Murphy property from future irrigation via Murphy Ditch. Land located in the NW¼ and SW¼ Section 14 T1N R8E and water via Murphy Ditch at the same location.
- 2512-2** Retired 145-acres and 1.84-cfs of Schroeder property from future irrigation via Murphy Ditch. Land located in Section 19 T1N R9E and water via Murphy Ditch at the same location.
- 2513-2** Retired 74.9-acres and 0.84-cfs of Steen property from future irrigation via South Side Ditch. Land located in the NE¼ Section 25, and SW¼ and SE¼ Section 24 T1N R8E and water via South Side Ditch in Section 25 T1N R8E. The turnout for the supplying lateral has a turn screw gate that is functional.
- 2234-2** Retired 70-acres and 0.79-cfs of Eisenbraun property from future irrigation via South Side Ditch. Land located in the NE¼ Section 26 T1N R8E and water via South Side Ditch at the same location. The turnout for the supplying lateral is into a buried pipeline capped with a plastic bucket.
- 2411-2** Retired 3.6-acres and 0.04-cfs of Eisenbraun property from future irrigation via South Side Ditch. Land located in the NE¼ Section 26 T1N R8E and water via South Side Ditch at the same location. The turnout for the supplying lateral is into a buried pipeline capped with a plastic bucket.
- 2397-2** Retired 59.3-acres and 0.59-cfs of Eisenbraun property from future irrigation via South Side Ditch. Land located in the NE¼ Section 26 T1N R8E and water via South Side Ditch at the same location. The turnout for the supplying lateral is into a buried pipeline capped with a plastic bucket.
- 2468-2** Retired 34.8-acres and 0.57-cfs of Howie property from future irrigation via Little Giant Ditch water delivered via Murphy Ditch. Land located in the SW¼ Section 19 and NW¼ Section 30 T1N R9E and water via Murphy Ditch in the NE¼ Section 19 T1N R9E. The turnout for the supplying lateral is blocked by a silted-in board.
- 2249-2** Retired 105.5-acres and 1.19-cfs of Weber property from future irrigation via South Side Ditch. Land located in the NW¼ and SW¼ Section 30 T1N R9E and water via South Side Ditch in the SW¼ Section 30 T1N R9E.
- 2296-2** Retired 253.4-acres and 2.85-cfs of Jundt property from future irrigation via South Side Ditch. Land located in Section 33 T1N R9E and water via South Side Ditch in the NE¼ Section 33 T1N R9E. The turnout for the supplying lateral is not blocked and ditch and lateral do not appear to be maintained.
- 2360-2** Retired 32.6-acres and 0.37-cfs of Soetaert property from future irrigation via South Side Ditch. Land located in the E½ Section 33 T1N R9E and water via South Side Ditch in the NE¼ Section 33 T1N R9E. The turnout for the supplying lateral is not blocked and ditch and lateral do not appear to be maintained.
- 2415-2** Retired 146-acres and 1.64-cfs of Howie property from future irrigation via South Side Ditch. Land located in the NE¼ and SE¼ Section 32 T1N R9E and water via South Side Ditch in the NE¼ Section 32 T1N R9E. The turnout for the supplying lateral is not blocked and ditch and lateral do not appear to be maintained.

- 2217-2** Retired 29.2-acres and 0.33-cfs of Keller property from future irrigation via South Side Ditch. Land located in the SE¼ Section 29 T1N R9E and water via South Side Ditch in the NE¼ Section 32 T1N R9E. The turnout for the supplying lateral is not blocked and ditch and lateral do not appear to be maintained.
- 2218-2** Retired 192.5-acres and 2.16-cfs of Stromer property from future irrigation via South Side Ditch. Land located in the NW¼, SW¼ , and SE¼ of Section 29 T1N R9E and water via South Side Ditch in the SW¼ Section 29 T1N R9E. The turnout for the supplying lateral is not blocked and ditch and lateral do not appear to be maintained.
- 2317-2** Retired 46-acres and 0.84-cfs of Morris property from future irrigation via Hawthorne Ditch. Land located in the center of Section 9 T1N R8E and water via Hawthorne Ditch in the NE¼ Section 9 T1N R8E. Hawthorne Ditch is now piped underground through the area where the turnout for the supplying lateral was and the new Elk Vale Road by-pass, a school, and Western Electric have been constructed where the lateral previous ran. There is no evidence of a lateral at the location.

cc: Individual Files

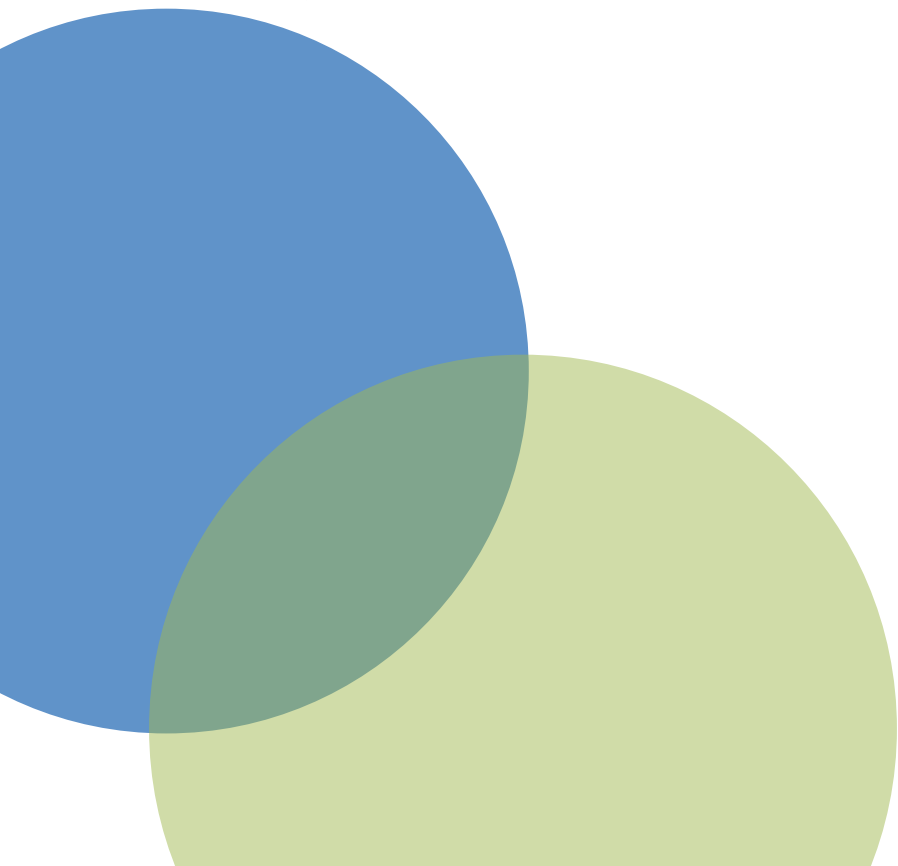
DOCUMENTATION OF
IRRIGATION DIVERSION POINT ABANDONMENT
FOR CITY OF RAPID CITY
PROJECT NO. 12-2034, CIP NO. 50922

Topical Report RSI-2317

prepared for

City of Rapid City
Public Works Department
Water Division
300 6th Street
Rapid City, SD 57701

January 2016



RESPEC

DOCUMENTATION OF
IRRIGATION DIVERSION POINT ABANDONMENT
FOR CITY OF RAPID CITY
PROJECT NO. 12-2034, CIP NO. 50922

Topical Report RSI-2317

by

Peter P. Rausch
Curtis D. Anderson
Adam J. Rutz
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RESPEC
3824 Jet Drive
Rapid City, South Dakota 57703

prepared for

City of Rapid City
Public Works Department
Water Division
300 6th Street
Rapid City, SD 57701

January 2016

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1.0 BACKGROUND

The City of Rapid City has obtained the water permits from several irrigators served by Rapid Creek in the Rapid Valley area. According to the South Dakota Department of Environment and Natural Resources (SD DENR) Water Rights Division, the holder of a transferred permit shall permanently render inoperable the structural means of diverting water to land that is no longer subject to the water permit. The City of Rapid City has record of transfers and has now completed abandonment of the aforementioned diversion structures. The abandonment of the structures was performed by the City of Rapid City and reviewed by SD DENR personnel. This report documents the permits transferred, the diversion points associated with those permits, and the abandonment of those diversion points.

2.0 DATA SOURCES

Six sources were used to identify the diversion structures (turnouts) to be disabled. The first is the South Dakota Water Rights Program online permit database that is operated by the SD DENR [2012]. This database includes water rights documentation for each of the Rapid Valley irrigation ditches, identifies all permit transfers, and has documentation for individual water rights permits.

The second source is the Rapid Valley Water Management Study, which was completed in 1990 by the U.S. Bureau of Reclamation for ditches that have storage in Deerfield Reservoir, including the South Side, Cyclone, Little Giant, and Hawthorne irrigation ditches [U.S. Bureau of Reclamation, 1990]. The Murphy Ditch was excluded from the Rapid Valley Water Management Study because its water right is for natural Rapid Creek flows and, therefore, contractually has no storage in Deerfield Reservoir managed by the Bureau of Reclamation. The documentation from the study includes photographs of irrigation turnouts; associated notes; and irrigation ditch maps with turnout locations, photograph locations, and irrigated acreages.

The third source is an undocumented study conducted by the City of Rapid City in 2008. This study includes photographs of irrigation turnouts, associated notes, and maps that include data pertinent to water rights transferred to the city. The last three sources include parcel delineation and owner information from RapidMap [City of Rapid City and Pennington County, 2014], field investigations, and direct communication with irrigation ditch personnel and landowners.

Searches were conducted within the SD DENR Water Rights Program database to identify the water rights transferred to the City of Rapid City. Permit documentation associated with these transfers was downloaded. The water rights flow rate, acreage, location, previous owner, and approval date were identified for each transfer and this information is provided in Table 2-1.

By combining the information from Table 2-1 with the data from the RapidMap geodatabase, the parcels associated with each transfer were identified. Then, structure location maps from the Rapid Valley Water Management Study were used to identify the locations of turnouts requiring disablement. These locations were field-verified with help from ditch personnel and were recorded with Global Positioning System (GPS). Verified structure locations were digitized with ArcGIS mapping software.

Table 2-1. Information for Water Rights Transferred to the City of Rapid City

Permit No.	Ditch(s)	Previous Owner	Acres	Flow (cfs) ^(a)	Section	Township	Range	Quarter	Transfer Date
2655-2	Cyclone	Lamb	58	0.83	22	1N	8E	SW NW, NW NW	12/1/2010
2317-2	Hawthorne	Morris	46	0.84	9	1N	8E	SW NE, SE NW, NE SW, NW SE	5/1/1996
2399-2	Little Giant and Murphy	Wileman	52	0.75	24	1N	8E	E NE	5/7/1998
2468-2	Little Giant via Murphy	Howie	34.8	0.57	19; 30	1N	9E	W SW; NW NW	12/5/2001
2142-2	Murphy	Tyler	49	0.62	19	1N	9E	W NW, NW SW	5/1/1991
2199-2	Murphy	Pelle	4	0.05	19	1N	9E	NW NW	5/7/1992
2201-2	Murphy	Long	10	0.13	14	1N	8E	C	5/7/1992
2316-2	Murphy	Morris	64	0.81	9	1N	8E	W SE	5/1/1996
2469-2	Murphy	Murphy	27	0.34	14	1N	8E	S NW, N SW	12/5/2001
2512-2	Murphy	Schroeder	145	1.84	19	1N	9E	E NW, NE SW, SW SE, N SE, S NE	12/3/2003
2217-2	South Side	Keller	29.2	0.33	29	1N	9E	SE SE	7/22/1992
2218-2	South Side	Stromer	192.5	2.16	29	1N	9E	SW	7/22/1992
2234-2	South Side	Eisenbraun	70	0.79	26	1N	8E	E NE	5/1/1996
2249-2	South Side	Weber	105.5	1.19	30	1N	9E	E NW, NW SW, E SW	5/5/1993
2296-2	South Side	Jundt	253.4	2.85	28; 33	1N	9E	SW, SW SE; NW, W NE, NW SE, N SW	1/6/1994
2360-2	South Side	Soetaert	32.6	0.37	33	1N	9E	W NW	7/10/1996
2397-2	South Side	Eisenbraun	59.3	0.59	26	1N	8E	W NE	2/25/1998
2411-2	South Side	Eisenbraun	3.6	0.04	26	1N	8E	N NE	10/1/1998
2415-2	South Side	Howie	146	1.64	32	1N	9E	NE, N SE	12/2/1998
2513-2	South Side	Steen	74.9	0.84	24; 25	1N	8E	W SE; SW NE	12/3/2003

(a) cfs = cubic feet per second

3.0 IRRIGATION DITCH SUMMARIES

The information gathered for turnouts to parcels with water rights transferred from irrigation use to the City of Rapid City is described by permit number in the following sections. The information includes each turnout location, access, and disablement information. All maps can be found in Appendix A.

All references to compacted backfill or compacted embankment were completed according to City of Rapid City Specifications Section 14-Embankment. Rapid City Specifications are located at www.rcgov.org under Departments – Public Works – Engineering Services – Standard Specifications & Details 2007.

3.1 CYCLONE DITCH

A single Cyclone Ditch water right has been transferred to the City of Rapid City with a single associated turnout. Table 3-1 describes the turnout location and Figure A-1 maps the vicinity. The following section describes the turnout details.

Table 3-1. Cyclone Ditch Turnout Information

Turnout	Longitude	Latitude	Adjacent Landowner
2655-2	-103.151	44.034	David Lamb

3.1.1 Permit 2655-2

This permit is for 58 acres and 0.85 cubic feet per second (cfs) transferred from Mr. David Lamb.

3.1.1.1 Turnout

The single turnout for this permit was an open ditch cut through the bank of Cyclone Ditch. Water was directed down the turnout ditch by boarding up a steel flume immediately downstream in the Cyclone Ditch.

3.1.1.2 Access

The turnout was located adjacent to property owned by the Rapid City Area School District No. 51-4 (PIN 3822100004). Direct access to the site is along an over 1-mile, two-track road that runs through fields on property owned by Mr. David Lamb. It is accessible by a private driveway at 4555 Reservoir Road, south of East Highway 44.

3.1.1.3 Disablement

The flume has been removed, the turnout ditch filled, and the ditch reshaped by the landowner as illustrated in Figure 3-1.



Figure 3-1. The Turnout Ditch (Left Arrow) and Former Location of Flume (Right Arrow) Associated With Permit 2655-2. Cyclone Ditch Runs From Foreground to Background Through Large Concrete Pipe.

3.2 HAWTHORNE DITCH

A single Hawthorne Ditch water right has been transferred to the City of Rapid City with a single associated turnout. Table 3-2 provides the turnout location and Figure A-2 maps the vicinity. The following section describes the turnout details.

Table 3-2. Hawthorne Ditch Turnout Information

Turnout	Longitude	Latitude	Current Landowner
2317-2	-103.162	44.064	N/A

3.2.1 Permit 2317-2

This permit is for 46 acres and 0.84 cfs transferred from Mr. Morris.

3.2.1.1 Turnout

The supplying lateral and turnout for this permit no longer exist. An internal memorandum of SD DENR dated September 30, 2005, states “Hawthorne Ditch is now piped underground through the area where the turnout for the supplying lateral was and the new Elk Vale Road bypass, a school, and (the West River Electric Association building) have been constructed where the lateral previously ran. There is no evidence of a lateral at the location” [Stroup, 2005]. This statement was field-verified.

3.2.1.2 Access

The approximate, former location of the turnout is along East Highway 44 near the Elk Vale Road bypass.

3.2.1.3 Disablement

The turnout was previously disabled.

3.3 MURPHY DITCH

Eight Murphy Ditch water rights have been transferred to the City of Rapid City, and 11 associated turnout locations are described in Table 3-3 in order from upstream to downstream. Two vicinity maps of the turnouts are illustrated by Figures A-3 and A-4. The following sections describe each of the Murphy Ditch turnout locations by permit. The ditch has a 20-foot easement on either side for access and maintenance.

Table 3-3. Murphy Ditch Turnout Information

Turnout	Longitude	Latitude	Adjacent Landowner
2316-2	-103.158	44.059	Yasmeen Dream
2469-2 A	-103.128	44.049	Dennis Murphy
2469-2 B	-103.127	44.049	Dennis Murphy
2201-2	-103.121	44.047	Ramona Buchholz
2399-2 A	-103.097	44.038	Michelle Minnerath
2399-2 B	-103.091	44.037	Penn. Co. ROW
2468-2	-103.091	44.031	SD DOT
2142-2 and 2199-2	-103.089	44.037	Randall Albers or Melvin Ross
2512-2 A	-103.083	44.035	Rapid City
2512-2 B	-103.077	44.034	Rapid City
2512-2 C	-103.070	44.031	Rapid City ROW

3.3.1 Permit 2316-2

This permit is for 64 acres and 0.81 cfs transferred from Mr. Morris.

3.3.1.1 Turnout

A single turnout was associated with this permit. A wooden flume within the Murphy Ditch was used to check water up to a 12-inch-diameter corrugated metal pipe (CMP). The flume throat was 8 feet long, 4 feet 8 inches wide, and 4 feet 2 inches tall. The CMP was sedimented in and remained in segments. Figure 3-2 is a photograph of the flume and Figure 3-3 is a photograph of the CMP opening.



Figure 3-2. Wooden Flume Used as a Check for Permit 2316-2.



Figure 3-3. Opening to 12-Inch-Diameter Corrugated Metal Pipe Turnout for Permit 2316-2.

3.3.1.2 Access

The flume and pipe were adjacent to property owned by Yasmeen Dream that is accessible from Lytle Lane off of East Highway 44.

3.3.1.3 Disablement

The following are the procedures the City of Rapid City used in disabling the Permit 2316-2 turnout:

- Removed the wooden flume and all associated concrete from Murphy Ditch
- Removed the upstream CMP section from the ditch embankment
- Backfilled with compacted embankment material where items were removed
- Reshaped the ditch banks through the project area to match the cross section of existing banks outside of the project area

Figure 3-4 and Figure 3-5 document removal of the turnout.



Figure 3-4. Removal of Turnout associated with Permit 2316-2. Date 3/20/2014



Figure 3-5. Removal of Turnout associated with Permit 2316-2. Date 3/20/2014

3.3.2 Permit 2469-2

This permit is for 27 acres and 0.34 cfs transferred from Ms. Arlene Murphy.

3.3.2.1 Turnouts

Two turnouts were associated with this permit, and they were located at either end of an inverted siphon through which the Murphy Ditch passes. Both turnouts were approximately 10-inch-diameter plastic pipes through the ditch bank. The upstream pipe (Turnout A) was mostly buried and is shown in Figure 3-6. The downstream pipe (Turnout B) was exposed, as illustrated in Figure 3-7.



Figure 3-6. Pipe Turnout A for Permit 2469-2.

3.3.2.2 Access

Both turnouts were adjacent to property owned by Dennis Murphy (PIN 3814105010), and the sites are accessible from a private driveway at 5670 East Highway 44. Direct access to both turnouts was through fields along a two-track path. Access to the Turnout B site requires crossing an existing drainage or can alternatively be accessed by a two-track path off the end of Springfield Road.



Figure 3-7. Pipe Turnout B for Permit 2469-2.

3.3.2.3 *Disablingment*

The following are the procedures the City of Rapid City used in disabling the Permit 2469-2 turnouts

- Removed both pipe turnouts from the ditch embankment
- Backfilled with compacted embankment material to match the existing bank cross section

Figures 3-8 and Figure 3-9 document removal of the turnouts.



Figure 3-8. Removal of Turnout A Associated With Permit 2469-2. Date 4/22/2014



Figure 3-9. Removal of Turnout B Associated With Permit 2469-2. Date 4/22/2014.

3.3.3 Permit 2201-2

This permit is for 10 acres and 0.13 cfs transferred from Mr. Long.

3.3.3.1 Turnout

The old turnout ditch for this permit was identified, but the turnout had been removed. No evidence of a turnout could be identified on the ditch side of the bank, as illustrated in Figure 3-10. The remains of wooden structures, possibly related to the turnout, were found nearby, as shown in Figure 3-11.

3.3.3.2 Access

The site is adjacent to property owned by Ms. Ramona Buchholz (PIN 3814326004) and is located directly west of Apple Tree Road. It is accessible from East Highway 44.

3.3.3.3 Disablement

The structure was previously disabled.



Figure 3-10. Photograph Taken From in the Murphy Ditch Running Right to Left (Bank in Foreground Is Likely Former Turnout Location for Permit 2201-2).



Figure 3-11. Wooden Remains Found Near the Site for Permit 2201-2.

3.3.4 Permit 2399-2

This permit is for 52 acres and 0.75 cfs transferred from Mr. Wesley Wileman.

3.3.4.1 *Turnouts*

Two turnout locations were associated with this permit. Turnout A had been removed but was not properly backfilled, as illustrated in Figure 3-12. A meeting on site with Mr. Jeep Williams, watermaster for Murphy Ditch, in April 2014 verified that the backfill at that site has been repaired since the photograph was taken. Turnout B was a 12-inch steel canal gate, as shown in Figure 3-13.

3.3.4.2 *Access*

The Turnout A site is adjacent to property owned by Ms. Michelle Minnerath (PIN 3824200002) and is north of Morris Lane. Direct access to the location is through a field with no defined path. Turnout B was located in the west ditch of Radar Hill Road.



Figure 3-12. Backfill Material at the Former Location of Turnout A for Permit 2399-2. This area has since had material added to the bank.



Figure 3-13. Turnout B for Permit 2399-2 (The 12-Inch Steel Canal Gate was Located on the Far Bank Adjacent to the Concrete Culvert, and Murphy Ditch Runs Right to Left).

3.3.4.3 *Disablement*

The following are the procedures the City of Rapid City used in disabling the Permit 2399-2 turnouts:

- Turnout A was previously disabled
- Turnout B
 - Removed the canal gate from Murphy Ditch
 - Removed a portion of the pipe from the ditch bank and backfilled with compacted embankment material to match the existing bank cross section

Figure 3-14 and Figure 3-15 document removal of Turnout B.



Figure 3-14. Removal of Turnout B for Permit 2399-2 Located on Murphy Ditch on Radar Road.
Date 4/22/2014



Figure 3-15. Removal of Turnout B for Permit 2399-2 Located on Murphy Ditch on Radar Road.
Date 4/22/2014

3.3.5 Permit 2468-2

This permit is for 34.8 acres and 0.57 cfs transferred from Mr. Gordon Howie.

3.3.5.1 *Turnouts*

A single turnout for this permit was once located on a lateral ditch. The turnout ditch was identified, as shown in Figure 3-16, but no turnout structure exists.



Figure 3-16. Disabled Turnout Ditch for Permit 2468-2 Running From the Foreground to the Background Along the East Side of Radar Hill Road (The Lateral Ditch Is in the Left Foreground, Turning Left at the Visible Tree Root).

3.3.5.2 *Access*

The site is located on property owned by the South Dakota Department of Transportation (SD DOT) on the east side of Radar Hill Road, south of East Highway 44 (PIN 3824427001).

3.3.5.3 *Disablement*

The structure was previously disabled.

3.3.6 Permits 2142-2 and 2199-2

Permit 2142-2 is for 49 acres and 0.62 cfs transferred from Mr. Tyler. Permit 2199-2 is for 4 acres and 0.05 cfs transferred from Mr. Pelle.

3.3.6.1 Turnout

A single turnout location was used for these two permits. Upon inspection, the turnout ditch was identified and a short, disconnected segment of a 12-inch-diameter CMP was found lying in the ditch at the site, but an existing turnout structure was not evident. The concrete check structure for the turnout has been removed and sits on the ditch bank at the location illustrated in Figure 3-17.



Figure 3-17. Former Location of the Turnout for Permits 2142-2 and 2199-2 (The Concrete Check Structure and a Disconnected Corrugated Metal Pipe Segment Sit on the Far Bank, and Murphy Ditch Flows Right to Left).

3.3.6.2 Access

The site is adjacent to property owned by Mr. Randall Albers (PIN 3919100002) along Morris Lane. Direct access to the site is through the Albers property or the neighboring property owned by Melvin Ross (PIN 391900001), or from the top side of the Murphy Ditch through Mr. Jerry Olson's property.

3.3.6.3 Disablement

The structure was previously disabled and no further action was required, as per a meeting with SD DENR personnel in April 2014.

3.3.7 Permit 2512-2

This permit is for 145 acres and 1.84 cfs transferred from Ms. Marilyn Schroeder.

3.3.7.1 Turnouts

Three turnouts were associated with this permit. Turnout A was a 10-inch-diameter plastic pipe through the ditch bank but was capped and buried, as shown in Figure 3-18. Turnout B was a clay pipe 12-inches in diameter and 20 feet long through the ditch bank. The downstream end of this pipe was previously buried. Figure 3-19 is a photograph of a plywood headgate used for Turnout B. Turnout C was a 24-inch steel canal gate secured in a concrete junction box, as shown in Figure 3-20. The junction box is on a lateral ditch and is shared with an identical gate for a separate, active permit.



Figure 3-18. Pipe Used for Turnout A of Permit 2512-2 (Red Arrow).

3.3.7.2 Access

Turnouts A and B were located adjacent to property owned by the City of Rapid City (PIN 3919200001). Turnout C was located in the west right-of-way for Airport Road.

3.3.7.3 Disablement

The following are the procedures the City of Rapid City used in disabling the Permit 2512-2 turnouts:

- Turnout A was previously disabled and no further action was required per discussion with the Murphy Ditch watermaster and SD DENR personnel in April 2014.
- Turnout B was previously disabled and no further action was required per discussion with the Murphy Ditch watermaster and SD DENR personnel in April 2014.

- Turnout C
 - Removed the canal gate and disabled the pipe with a Class M-5 concrete plug.

Figure 3-21 and Figure 3-22 document disablement of the Turnout C structure.



Figure 3-19. Plywood Headgate for Turnout B of Permit 2512-2.



Figure 3-20. Junction Box With 24-Inch Canal Gate for Turnout C of Permit 2512-2 (Turnout C Shown With Red Arrow, Leading South).



Figure 3-21. Removal of Turnout C for Permit 2512-2 Located on Murphy Ditch on the East Side of Airport Road. Date 4/22/2014



Figure 3-22. Removal of Turnout C for Permit 2512-2 Located on Murphy Ditch on the East Side of Airport Road Going South to the Airport. Date 4/22/2014.

3.4 SOUTH SIDE DITCH

Ten South Side Ditch water rights have been transferred to the City of Rapid City, and 13 associated turnout locations were identified by using maps from the Rapid Valley Water Management Study [U.S. Bureau of Reclamation, 1990] and field investigations. The locations are described in Table 3-4 from upstream to downstream. Two vicinity maps of the turnouts are provided by Figures A-5 and A-6.

Table 3-4. South Side Ditch Turnout Information

Turnout	Longitude	Latitude	Adjacent Landowner
2234-2, 2397-2 & 2411-2	-103.115	44.017	Reinhold Eisenbraun (south) Randy Christensen (north)
2513-2	-103.100	44.018	City of Rapid City
2249-2 A	-103.095	44.017	City of Rapid City
2249-2 B	-103.091	44.015	City of Rapid City
2249-2 C	-103.091	44.015	City of Rapid City
2249-2 D	-103.084	44.011	City of Rapid City
2218-2	-103.071	44.010	Merlin Stromer
2415-2 A	-103.065	44.008	Matt Bowen
2415-2 B	-103.061	44.006	Matt Bowen
2415-2 C	-103.059	44.006	Matt Bowen
2415-2 D	-103.056	44.006	Matt Bowen
2217-2	-103.056	44.011	Leonard V. Keller Trust
2296-2 and 2360-2	-103.05	44.007	Donald Jundt

3.4.1 Permits 2234-2, 2397-2, and 2411-2

Permit 2234-2 is for 70 acres and 0.79 cfs, Permit 2397-2 is for 59.3 acres and 0.59 cfs, and Permit 2411-2 is for 3.6 acres and 0.04 cfs, all transferred from Mr. Reinhold Eisenbraun.

3.4.1.1 Turnouts

One turnout structure could be found in the described vicinity of these permits, located in Section 26, 1N 8E. The ditch was walked for approximately 1/2 mile to the west and the only turnout found is shown in Figure 3-23.

3.4.1.2 Access

The turnout for Permit 2234-2 is accessed off of Highway 44 by turning south on Anderson Rd. and continuing south past Southside Dr. approximately 3/8 mile to South Side Ditch. The site is approximately 1/4 mile west. The land north of the ditch, including the structure, is owned by Mr. Randy Christensen, and the land south of the ditch is owned by Mr. Eisenbraun.

3.4.1.3 Disablement

The structure was previously disabled, and no further action was required by SD DENR personnel.



Figure 3-23. Turnout for Permit 2234-2. Note the headwall sticking out of the snow just upstream from the culvert crossing on the left or north side of the ditch (red arrow). The ditch behind the headwall has been filled in.

3.4.2 Permit 2513-2

This permit is for 74.9 acres and 0.84 cfs transferred from Mr. Steen.

3.4.2.1 Turnouts

One turnout was associated with Permit 2513-2. The turnout was located straight south of the Rapid City Water Treatment Plant near the middle of section 25 on South Side Ditch. The turnout inlet structure was concrete with a 15-inch canal gate and PVC pipe going under the north bank to a weir box. On the north side of the weir box, 15-inch PVC pipe ran from the box to a vertical PVC air vent and then continued north. Figures 3-24, 3-25, and 3-26 show the structures associated with Permit 2513-2.



Figure 3-24. Inlet Structure, Weir Box, and Air Vent Associated With Turnout 2513-2.



Figure 3-25. Inlet Structure, Weir Box, and Air Vent Associated With Turnout 2513-2.



Figure 3-26. Inside the Weir Box for Turnout 2513-2. Note center wall weir and PVC pipe exiting the box.

3.4.2.2 Access

The site is located on land owned by the City of Rapid City and occupied by Mr. Bud Steen. The site may be accessed by turning off Highway 44 on Anderson Rd., then turning east on Southside Dr. to the treatment plant, then south on Redemption Road at the west edge of the treatment plant. At South Side Ditch, the site is located just east of the road.

3.4.2.3 Disablement

The following are the procedures the City of Rapid City used in disabling the turnout associated with Permit 2513-2:

- Cut existing turnout pipe 5 feet north from air vent
- Removed the air vent, inlet structure, and appurtenances.
- Backfilled with compacted embankment material

Figure 3-27 documents disablement of the structure.



Figure 3-27. Removal of Turnout for Permit 2513-2. Headgate removed, measurement box filled with dirt and pipeline air vent removed. Date: 10/29/2015

3.4.3 Permit 2249-2

This permit is for 105.5 acres and 1.19 cfs transferred from Mr. Weber.

3.4.3.1 *Turnouts*

Four turnouts were associated with Permit 2249-2. Turnout A was located 1,500 feet downstream from the Permit 2513-2 turnout site and consisted of a steel-framed headgate and concrete headwall. The structure is shown in Figure 3-28.

Turnout B was located upstream from a culvert crossing, shown in Figure 3-29. This culvert was used as a check structure for Turnout B and is located just west of the line between Section 25, 1N 8E and Section 30, 1N 9E. Figure 3-30 shows the outlet end of the Turnout B pipe.

Turnout C consisted of a wooden structure on the north bank of South Side Ditch, just upstream from a second culvert crossing, shown in Figure 3-31. The Turnout C site is shown in Figure 3-32 and located just east of the line between Section 25, 1N 8E and Section 30, 1N 9E.

Turnout D was located in the SW1/4 of Section 30 T1N R9E and consisted of a steel frame canal gate and division box. The gate is shown in Figure 3-33 and the division box is shown in Figure 3-34.



Figure 3-28. Turnout A structure Associated with Permit 2249-2.



Figure 3-29. Culvert Crossing Used as a Check for Turnout B Associated with Permit 2249-2.



Figure 3-30. Outlet end of Turnout B pipe (Red Arrow). (Looking South, Towards South Side Ditch).



Figure 3-31. Second Culvert Crossing, Used as Check for Turnout C Associated With Permit 2249-2.



Figure 3-32. Wooden Structure (Red Arrow) for Turnout C Associated With Permit 2249-2. This structure is immediately upstream of the culvert crossing in Figure 3-31, on the north bank.



Figure 3-33. Metal Framed Canal Gate of Turnout D Associated With Permit 2249-2.



Figure 3-34. Turnout D Division Box Associated With Permit 2249-2. Date 10/30/2015.

3.4.3.2 Access

The turnout sites may be accessed by turning south from Highway 44 on Anderson Rd., then east on Southside Dr. to the treatment plant. The sites are adjacent to property owned by the City of Rapid City, southeast from the treatment plant.

3.4.3.3 Disablement

The following are the procedures the City of Rapid City used in disabling turnouts A, B, C, and D associated with Permit 2249-2:

- Turnout A
 - Removed turnout head gate
 - Placed concrete plug in turnout pipe
 - Filled turnout ditch with compacted material
- Turnout B
 - Removed pipe and structure
 - Backfilled with compacted embankment material to match existing ditch cross section
- Turnout C
 - Removed the wooden structure
 - Backfilled with compacted embankment material to match existing ditch cross section
- Turnout B
 - Removed the steel framed canal gate and structure
 - Backfilled with compacted embankment material to match the existing ditch cross section

Figures 3-35 through Figure 3-40 document the disablement of these four turnouts.



Figure 3-35. Turnout A Associated with Permit 2249-2. Headgate removed, turnout pipe filled with concrete, and outlet filled in. Date 10/29/2015



Figure 3-36. Turnout B Associated with Permit 2249-2. The old turnout structure has been removed. Date 10/29/2015.



Figure 3-37. Turnout C Associated With Permit 2249-2. Removed turnout structure. Date 10/29/2015.



Figure 3-38. Turnout D Associated With Permit 2249-2, removed by the City. Date 10/30/2015



Figure 3-39. Turnout D Associated With Permit 2249-2. Turnout being backfilled. Date 10/30/2015.



Figure 3-40. Turnout D Associated With Permit 2249-2. Photo of the division box being removed and backfilled by the City. Date 10/30/2015.

3.4.4 Permit 2218-2

This permit is for 192.5 acres and 2.16 cfs transferred from Mr. Merlin Stromer.

3.4.4.1 Turnouts

One turnout was associated with Permit 2218-2. The turnout consisted of a pipe inlet, a metal valve well, and an air vent immediately downstream of the valve well, shown in Figure 3-41.

3.4.4.2 Access

The turnout site for Permit 2218-2 is located turning south on Airport Road from Highway 44 and travelling about 0.7 miles to the driveway into Mr. Merlin Stromer's property, then another 0.3 miles south through the Stromer property to South Side Ditch.

3.4.4.3 Disablement

A discussion with Mr. Merlin Stromer in April of 2014 was that after Mr. Stromer sold his water rights to the city, he hired a contractor to disable the turnout. No water can be or has been delivered through the turnout since the water right transfer. Discussion with SD DENR was that this would satisfy abandonment requirements and the turnout would not be disturbed since it has been disabled.



Figure 3-41. Turnout for Permit 2218-2. This turnout has been disabled and will not be disturbed.

3.4.5 Permit 2415-2

This permit is for 146 acres and 1.64 cfs transferred from Mr. Gordon Howie.

3.4.5.1 Turnouts

Four turnouts were associated with Permit 2415-2, designated Turnout A through Turnout D (upstream to downstream on the South Side Ditch). Turnout A consisted of a gate structure composed of timber and is shown in Figure 3-42. A wooden flume was used as a check structure for Turnout A, located approximately 35 feet downstream and shown in Figure 3-43.

Turnout B was also a gate structure composed of timbers. As shown in Figure 3-44, a wooden flume was located next to Turnout B (Turnout B indicated by red arrow) and was used as a check structure.

Turnout C consisted of a wooden gate structure supported by concrete abutments. Figure 3-45 displays Turnout C (red arrow) along with a wooden weir check structure located downstream from Turnout C. The ditch from Turnout C led to a 24-inch-diameter concrete pipe that was used to convey diverted water, shown in Figure 3-46.

Turnout D consisted of a concrete flume/check structure, shown in Figure 3-47. The structure included outlets on both the north and south walls, with timbers used to convey diverted water from the structure. Figures 3-48 and 3-49 show the north and south outlets, respectively.



Figure 3-42. Turnout A for Permit 2415-2. The turnout is composed of timber.



Figure 3-43. Wooden Flume Used as a Check for Turnout A of Permit 2415-2.



Figure 3-44. Turnout B (Red Arrow) and the Flume Associated with Permit 2415-2.



Figure 3-45. Turnout C (Red Arrow) and the Wooden Weir Associated With Permit 2415-2.



Figure 3-46. Turnout C and the 24-Inch-Diameter Concrete Pipe (Red Arrow) Associated With Permit 2415-2.



Figure 3-47. Concrete Flume/Check Structure for Turnout D Associated With Permit 2415-2 (Looking Downstream).



Figure 3-48. North Flume/Check Structure Wall and Outlet for Turnout D Associated With Permit 2415-2.



Figure 3-49. South Flume/Check Structure Wall and Outlet for Turnout D Associated With Permit 2415-2.

3.4.5.2 Access

Turnouts A through D are adjacent to property owned by Mr. Matt Bowen (PINs 3932100003 and 3932200001). The sites are accessed by travelling approximately 1/2 mile south on Bradsky Road from Highway 44 to a private drive just north of the South Side Ditch crossing.

- The Turnout A and Turnout B sites are accessed by travelling west on the private drive for approximately 1/2 mile from Bradsky Road, crossing South Side Ditch, then leaving the private drive and following South Side Ditch along its south bank.
- The Turnout C and Turnout D sites are accessed from the private drive on the north bank of South Side Ditch, approximately 1/2 mile and 1/4 mile west of Bradsky Road, respectively.

3.4.5.3 Disablement

The following are the procedures the City of Rapid City used in disabling the four turnouts associated with Permit 2415-2.

- Turnout A
 - o Removed the timber turnout and the wooden flume structure
 - o Backfilled with compacted embankment material to match existing ditch cross section

- Turnout B
 - o Removed the timber turnout and the wooden flume structure
 - o Backfilled with compacted embankment material to match existing ditch cross section
- Turnout C
 - o Removed the wooden gate turnout structure, concrete abutments, and wooden weir check structure from South Side Ditch
 - o Backfilled ditch banks with compacted embankment material to match existing ditch cross section
 - o Backfilled existing turnout ditch from South Side Ditch to existing concrete pipe with compacted material to match existing adjacent grade
- Turnout D
 - o Removed the concrete inlets and wooden turnouts from the north and south banks.
 - o Backfilled with compacted embankment material to match existing ditch cross section.

Figures 3-50 through 3-57 document the disablement of the structures associated with the four turnouts.



Figure 3-50. Removal of Turnout A associated with Permit 2415-2. Date 7/30/2015



Figure 3-51. Turnout A Wooden Flume Structure Associated With Permit 2415-2, removed. Date 7/30/2015



Figure 3-52. Turnout B Associated With Permit 2415-2. Timber Turnout Removed. Date 7/30/2015.



Figure 3-53. Turnout B Associated With Permit 2415-2. Wooden Flume Structure Removed. Date 7/30/2015.



Figure 3-54. Turnout C Associated With Permit 2415-2 Timber Gate Turnout Structure, Concrete Abutments, and Timber Weir Check Structure Removed. Date 7/30/2015.



Figure 3-55. Turnout C Associated With Permit 2415-2. Turnout ditch filled in. Date 7/30/2015.



Figure 3-56. Turnout D Associated With Permit 2415-2. Headgate removed and concrete plug put in place for south turnout. Date 7/30/2015



Figure 3-57. Turnout D Associated With Permit 2415-2. Headgate removed and concrete plug put in place for north turnout. Date 7/30/2015.

3.4.6 Permit 2217-2

This permit is for 29.2 acres and 0.33 cfs transferred from Mr. Leonard Keller.

3.4.6.1 *Turnouts*

No turnouts associated with this permit were located.

3.4.6.2 *Access*

The site is along Back Country Trail off of Bradsky Road.

3.4.6.3 *Disablement*

This turnout was previously disabled.

3.4.7 Permit 2296-2 and Permit 2360-2

Permit 2296-2 is for 253.4 acres and 2.85 cfs transferred from Mr. Donald Jundt. Permit 2360-2 is for 32.6 acres and 0.37 cfs transferred from Mr. Soetaert.

3.4.7.1 Turnouts

The turnout structure associated with transferred Permit 2296-2 and transferred Permit 2360-2, shown in Figure 3-58, also serves the active Permit 2526-2 for 0.71 cfs currently serving 50 acres of irrigated land owned by Mr. Donald Jundt. The turnout will not be disabled.



Figure 3-58. Turnout Associated With Permit 2296-2 and Permit 2360-2, Currently Serving an Active Permit for 50 Acres Irrigated by Mr. Donald Jundt.

3.4.7.2 Access

The turnout for Permit 2296-2 and Permit 2360-2 is located approximately 1/2 mile south of Highway 44 on the east side of Bradsky Road at the South Side Ditch. All associated structures are on property owned by Mr. Donald Jundt.

3.4.7.3 Disablement

No disablement was required.

4.0 PERMITS AND REGULATIONS

4.1 CLEAN WATER ACT SECTION 404 PERMIT

According to the U.S. Army Corps of Engineers [2007]:

“Under Section 404(f)(1)(C) of the CWA (see also 33 CFR 323.4(a)(3) and 40 CFR 232.3(c)(3)), discharges of dredged or fill material associated with construction or maintenance of irrigation ditches, or the maintenance (but not construction) of drainage ditches, are not prohibited by or otherwise subject to regulation under Section 404 of the CWA (i.e., these activities are exempt from the need to obtain a Section 404 Permit from the Department of the Army (DA)). Discharges of dredged or fill material associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant to and functionally related to irrigation ditches are included in the exemption for irrigation ditches.”

A 404 Permit was not required.

4.2 CLEAN WATER ACT SECTION 402 PERMIT

According to the South Dakota Department of Environment and Natural Resources [2010] Section 2.2.2:

“Storm water discharges from operators disturbing less than one acre that are part of a larger common plan of development or sale that, combined, disturb one or more acres.”

The combination of ground area disturbed by the combination of all disablements associated with this project did not exceed 1 acre.

A 402 Permit was not required.

4.3 FLOODPLAIN DEVELOPMENT PERMITS

After reviewing both the Pennington County and Rapid City Flood Insurance Rate Maps, it was determined that none of the disablement sites lie within the 100-year floodplain.

Floodplain permits were not required.

4.4 HISTORIC PRESERVATION

As required by State Preservation Law (South Dakota Codified Law (SDCL) 1-19A-11.1), the Office of History was given notice and an opportunity to investigate and comment on this proposed project. The Office of History concluded that the irrigation ditches in Rapid Valley are listed on neither the State nor the National Register of Historic Places. Additionally, because federal funding will not be used for this proposed project, Section 106 of the National Historic Preservation Act did not apply.

5.0 REFERENCES

City of Rapid City and Pennington County, 2012. *RapidMap*, retrieved September 19, 2012, from <http://www.rcgov.org/GIS/rapidmap.html>

South Dakota Department of Environment and Natural Resources, 2012. *South Dakota Water Rights*, retrieved September 19, 2012, from <http://denr.sd.gov/des/wr/dbwrsearch.aspx>

South Dakota Department of Environment and Natural Resources, 2010. *General Permit for Storm Water Discharges Associated With Construction Activities*, prepared by the South Dakota Department of Environment and Natural Resources, Pierre, SD.

Stroup, D. E., 2005. *Rapid City – Rapid Valley Water Rights Transfers*, internal memorandum from D. E. Stroup, South Dakota Department of Environment and Natural Resources, Water Rights Program, Pierre, SD, to G. Eberle, South Dakota Department of Environment and Natural Resources, Water Rights Program, Pierre, SD, September 30.

U.S. Army Corps of Engineers, 1990. *Exemptions for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches under Section 404 of Clean Water Act*, Regulatory Guidance Letter, prepared by U.S. Army Corps of Engineers, Washington, DC, July 4.

U.S. Bureau of Reclamation, 1990. *Rapid Valley Water Management Study*, prepared by U.S. Bureau of Reclamation, Newell, South Dakota.

APPENDIX A

TURNOUT VICINITY MAPS

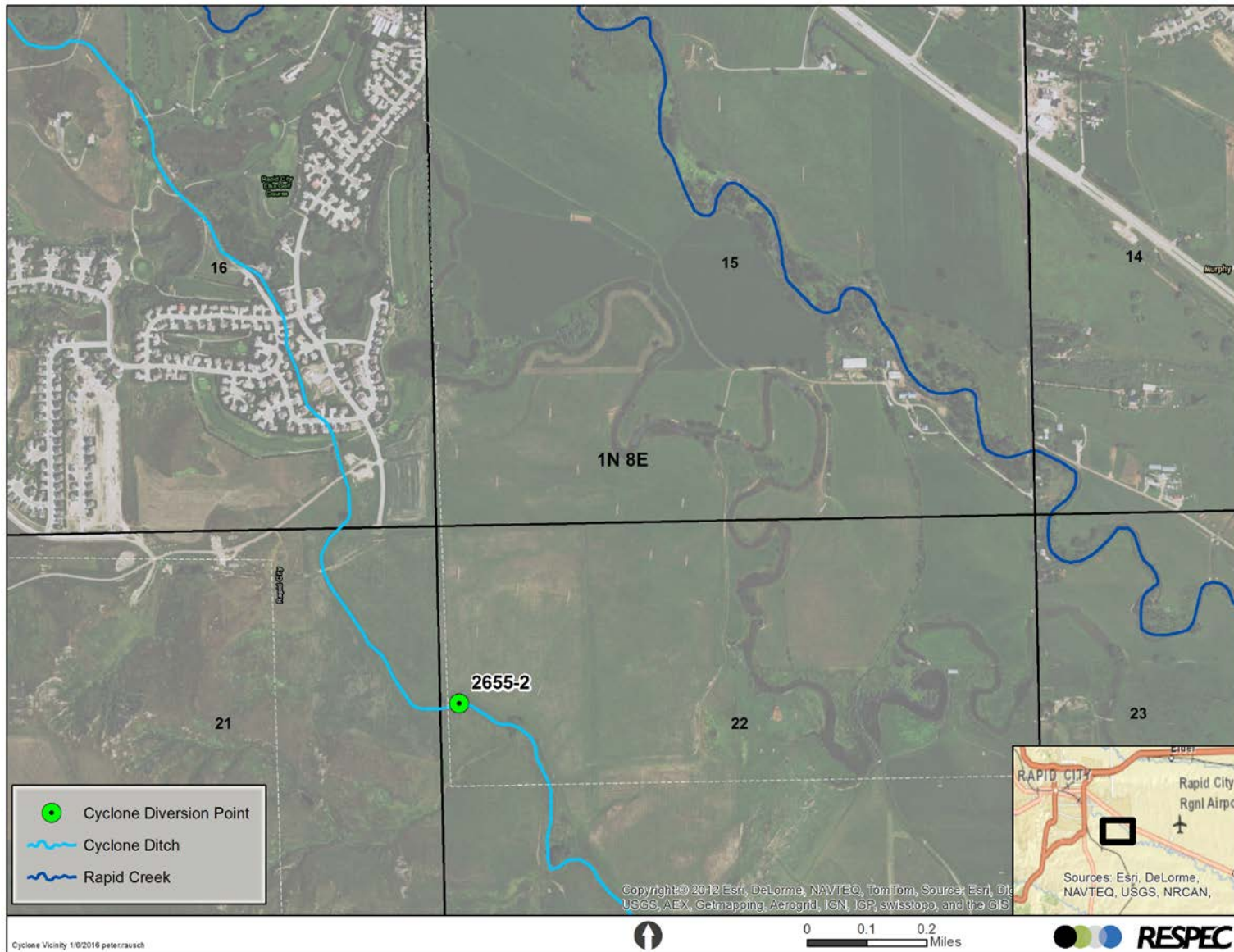


Figure A-1. Cyclone Ditch Turnout Vicinity Map.



Figure A-2. Hawthorne Ditch Turnout Vicinity Map.

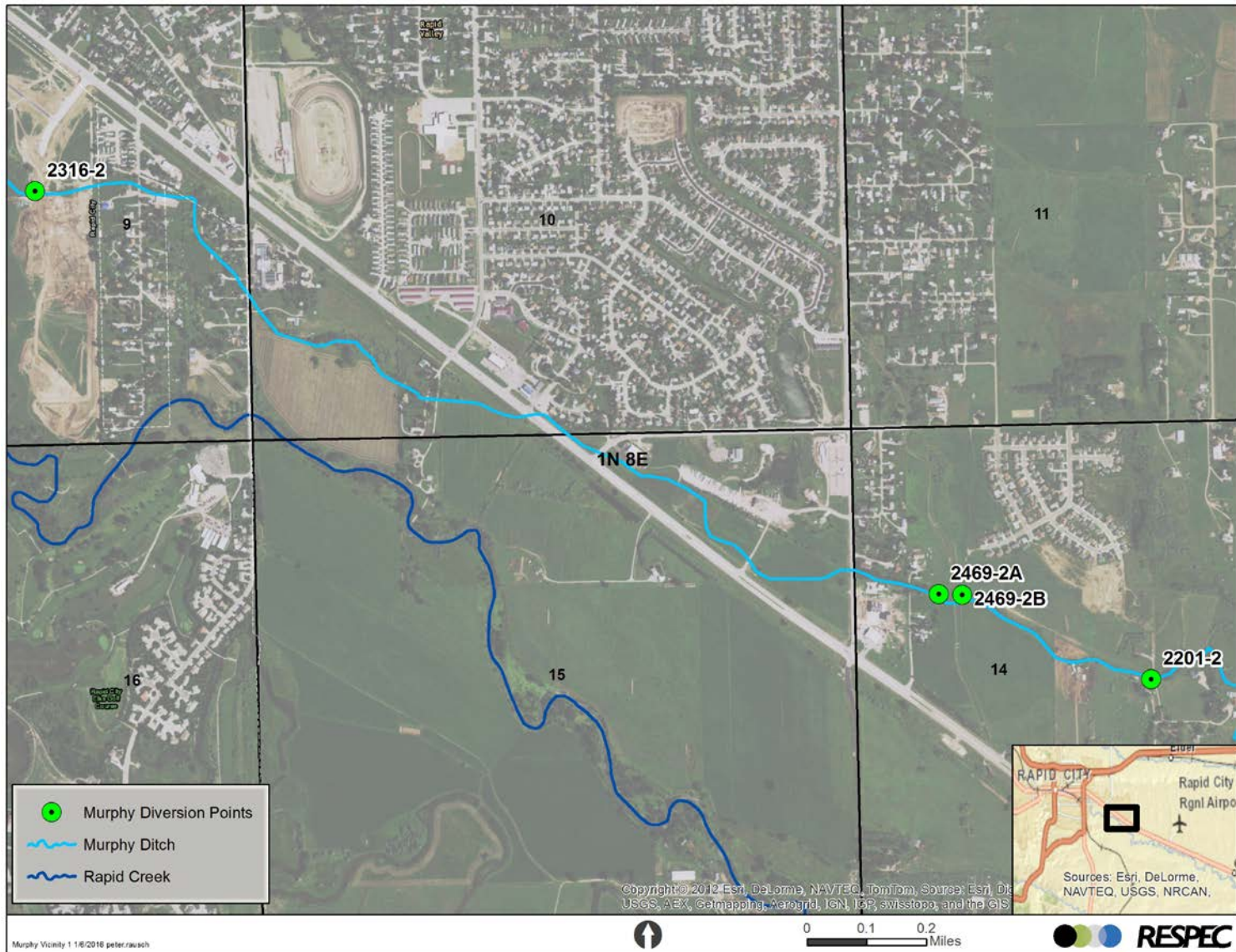
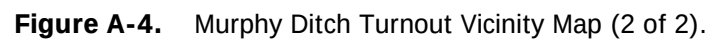


Figure A-3. Murphy Ditch Turnout Vicinity Map (1 of 2).



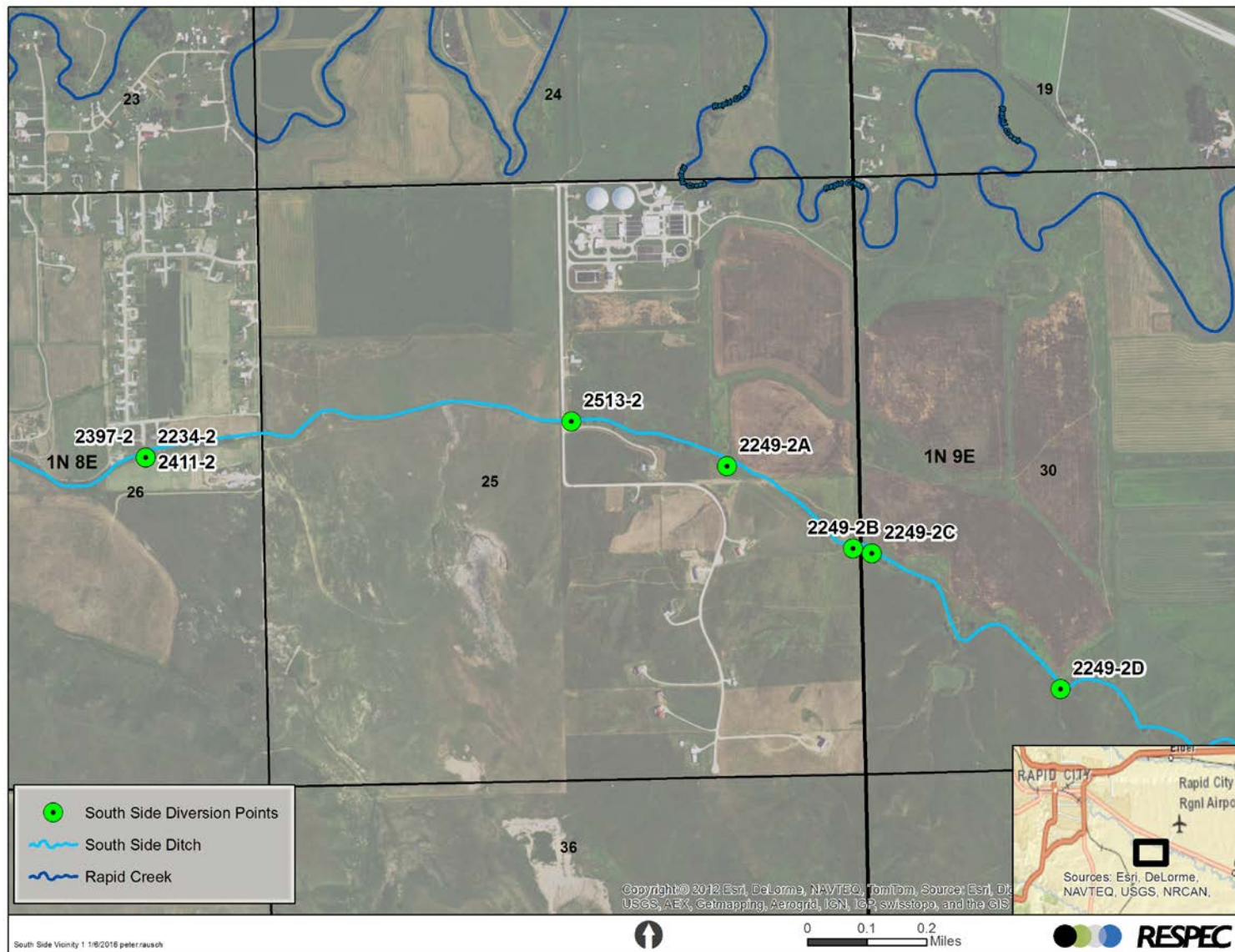


Figure A-5. South Side Ditch Turnout Vicinity Map (1 of 2).

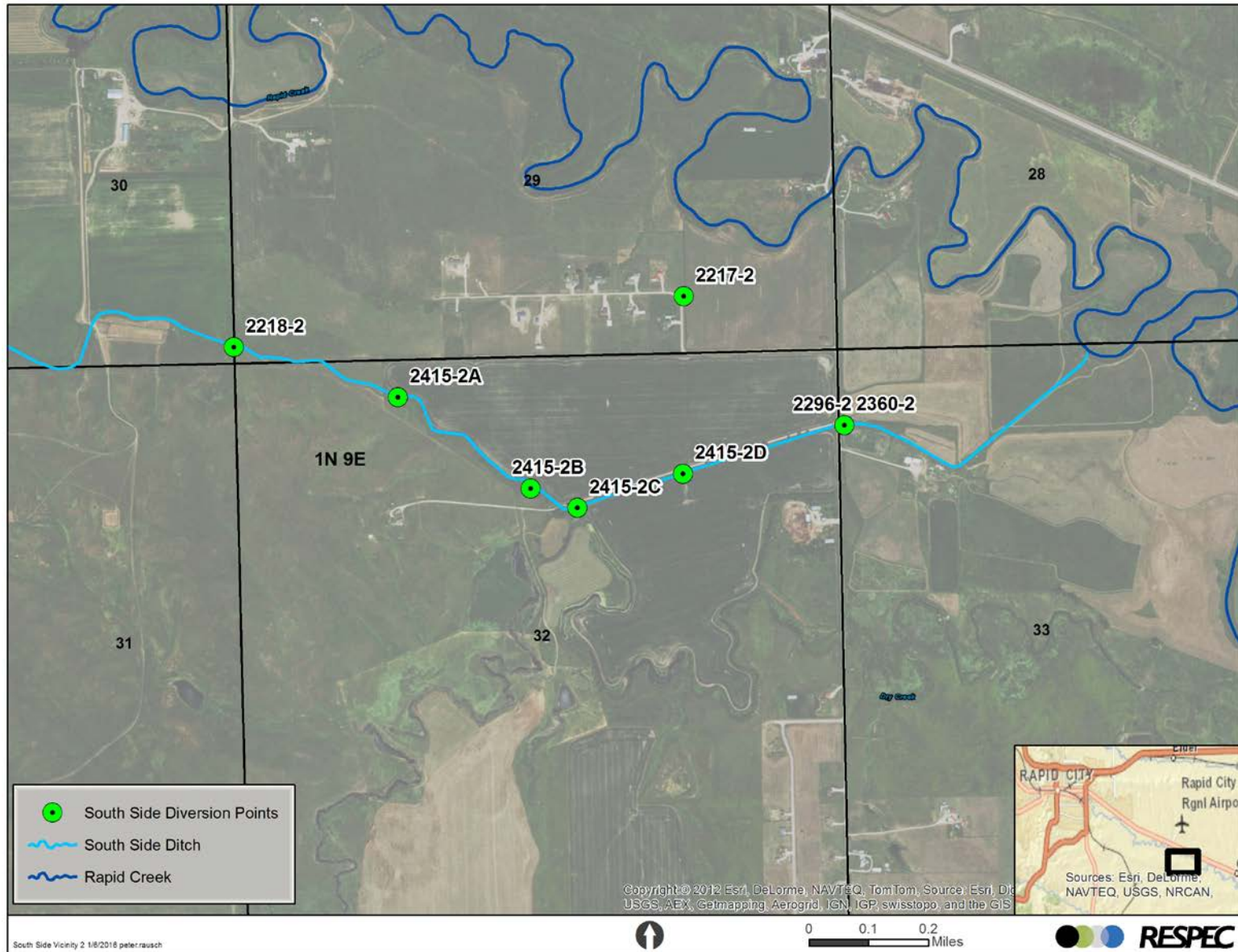


Figure A-6. South Side Ditch Turnout Vicinity Map (2 of 2)