

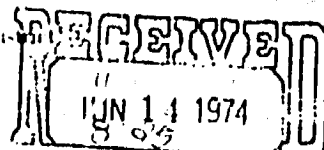
1187-2

1. Considered 7-17, 1974
2. Name of Applicant LAWRENCE & VELMA MARKUS
3. Post Office Address CROOKSTON, NEBRASKA
4. Amount of water claimed 2.2
5. Source of water supply GROUND WATER
6. Water to be used for IRRIGATION
Acres to be irrigated 156
7. Water to be diverted and used in TODD County
about 3W 12S miles of MISSION
8. Proof of Publication Received 1st
Not Received _____
9. Application Approved _____
Subject to _____
Not Approved _____
Action deferred _____
10. Remarks:

1187.2

Map No. 1011-2 Water Division No. 2 Kevapaha River
(Blanks to be Filled by the Engineer for the W. R. C.)

(Thanks to the Editor by the Engineer for the W. R. C.)



APPLICATION FOR PERMIT

STATE WATER RIGHTS COM.
PIERRE, SOUTH DAKOTA

To Appropriate Water within the State of South Dakota

(NOTE - Draw a line through items not applicable)

1. Name of Applicant Lawrence and Velma Markus ^{transferred to: John & Cathy Markus}
 Post-office address EE Crookston, State NE 69212
 If a corporation show date and place of incorporation NA
 2. Method of accomplishing work (contract, employment of others, or by direct labor) direct labor
 3. Name of diversion work Markus Irrigation Project #1
 4. Amount of water claimed (cubic feet per second) 2.2 cfs
 5. Source of water supply well
 6. Location of point of diversion 1856' N 45° W of SE corner of Sec 36 T37N R30W
 7. Annual period or periods during which water is to be used May 1 to November 1 County Todd
 8. Use to be made of water, (irrigation, industrial, municipal, commercial, recreation, etc.) irrigation
 9. For irrigation use, Total number of acres to be irrigated 156

List below each forty-acre subdivision, or lot, or fraction thereof and show number of acres to be irrigated in, or by, the

Land Description	No. Acres Int.	Land Description	No. Acres Int.
NW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec 36	40		
NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec 36	39		
EW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec 36	39		
SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec 36	36		

Attach sheet if more space is needed

10. Time required to complete construction of water supply system 5 years. Additional time required to complete application of water to the proposed beneficial use 3 years.
11. Choice of newspaper for Notice of Intent to Appropriate Water publication Todd County Tribune, Mission, SD
12. Principal Features of the Proposed Water Supply System:
- A. Works proposed to divert water from its natural source:
- well with turbine pump**
- B. Works proposed to transport water to place of use:
- closed conduit**
- C. Works proposed to apply water to beneficial use:
- center pivot irrigation system**

Estimated Total Cost \$40,000

Attachments: Attach Form 2-V if diversion from a well or dugout, or if storage of water is proposed. Attach maps. (See instructions concerning preparation.)

S. ALP OF SOUTH DAKOTA

County of Brooklyn

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

Subscribed and sworn to before me this 5th day of June 19. 24

Notary Public (or other qualified officer)

WATER RIGHT APPLICATION APPROVAL

The Water Resources Commission hereby approves Water Right Application No. 1187-2
LAWRENCE & VELMA MARKUS CROOKSTON
 (Applicant) (Post Office Address)
NEBRASKA 69212 With the following modifications:
 (State)

The irrigation well approved under this Permit is located near domestic wells which may obtain water from the same aquifer. The irrigation well owner, under this Permit, shall control his irrigation withdrawals so there is not a reduction of needed water supplies in existing domestic wells.

Date of first receipt of application JUNE 14, 19 74
 Date of return to applicant for correction, amendments or changes required JUNE 17, 19 74
 Date of receipt of corrected application JUNE 25, 19 74
 Approved JULY 17, 19 74, Recorded in Book 13 Page 51

WATER RIGHT PERMIT NO. 1187-2

The Water Resources Commission hereby grants and issues this Water Right Permit No. 1187-2 authorizing the construction of the water use system and the putting of water to beneficial use as stated in the Application and as modified in the Water Right Application approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is JUNE 14, 19 74
2. The equivalent of at least one-fifth of the work above specified is to be completed on or before JANUARY 17, 19 77
3. The whole of said work is to be completed on or before JULY 17, 19 79
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is JULY 17, 19 82
5. The water appropriated shall be used for the purpose of IRRIGATION

6. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be injuriously affected by this appropriation.

7. The amount of the appropriation herein granted shall not exceed 2.2 cubic feet per second; neither shall it exceed the capacity of the above described water supply system, nor shall it exceed the amount of water needed for beneficial uses served, and if for the irrigation purposes said appropriation must be limited to not more than 3 acre feet per acre per year and be limited to not more than one-seventieth (1/70) of one cubic foot of water per second of time for each acre of land to which water is actually and beneficially applied for irrigation on or before JULY 17, 19 82; said water to be used during the following described annual period: MAY 1 TO NOVEMBER 1

Witness my hand this 4TH day of SEPTEMBER, 19 74

WATER RESOURCES COMMISSION

By:

Donald D. Dineen
 Chief Engineer, Executive Officer

Certificate of Construction Issued _____, 19 ____

Water License Issued _____, 19 ____

12. Principal Features of the Proposed Water Supply System (continued.)

D. Well Information or Estimates

(1) Drill Hole, Diameter 30", Depth 250'
 (2) Casing, Type steel Diameter 12' Thickness 1/2"
 (wood, concrete, steel, etc.)
 (3) Perforated Screen.
 Type slotted, Diameter 10", Length 30'
 (4) Gravel Pack, Thickness 9", Length of gravel pack 40'

E. Dugout Information or Estimates.

(1) Surface dimensions NA, Depth _____

F. Fill out for Either a Well or a Dugout.

(1) Water Bearing Materials. (Please attach a copy to test well log if available.)

Character of Water bearing materials 0-4' top soil; 4'-80' sand; 80-120' sandstone mixed with sand; 120-160' coarse sand; 160-200' medium sand; 200-250' sandstone mixed with sand; 250+ redrock

Depth to top of water bearing material 100'

Depth to bottom of water bearing material 250'

Thickness of water bearing material 150'

Depth to water (ground surface to water level) 110'

(2) Distance to nearest existing household or livestock watering wells.

On same owner's property no other wells. On property owned by others 160 rds.

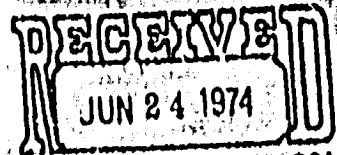
G. Water Storage Dams.

If the proposed water use system contains one or more water storage dams, please show in the space below, the height, maximum water depth, surface area and storage capacity of each storage dam. The location of each water storage dam should be shown on the water right map.

NA


 Signature of Applicant

June 5, 1974



STATE WATER RIGHTS COMM.
PIERRE, SOUTH DAKOTA

Mr. Lawrence J. Markus
Crookston, NE 69212

Dear Mr. Markus:

The original copy of your water analysis report for sample 74-286 was mailed to you on May 20. We have now received your WI-1 forms and some soils information.

The quality of water in this well is designated by the encircled red cross on the back cover of Extension Circular 654 enclosed for your use. This is very good quality water and there should be no chemical or chemical-physical problems developed with this soil on which you intend to use this water.

However, there is a serious hazard of soil loss and erosion from the use of the lands which you designated on your WI-1 for irrigation. There is at any time that this land is exposed or left bare of cover it is subject to serious water and wind erosion as you very well know. Therefore, I recommend very strongly that this land be used only for pasture and hay crops and that you attempt to keep some kind of cover on the land surface even while you are establishing this stand of hay or pasture. This can be done by subsurface tillage means which till the soil to a shallow depth and you create a decent seed bed for grass and legume seeds. If the land is then irrigated adequately and fertilized to maintain a good cover, there should be no reason why this will not produce satisfactory hay and pasture crops for a sustained period of time.

The WI-1 form, a copy of the analysis, and a copy of this letter are being sent to the State Conservation Commission.

Sincerely,

Lawrence O. Fine
Water Quality Lab

LOF:lil

Enclosure

CC: State Conservation Commission
Kenneth Stephens, Todd County Agent
Darrel Pahl



Conservation
Commission
Form WI #1

STATE CONSERVATION COMMISSION
SUPPORTING INFORMATION
FOR APPROPRIATION OF GROUND WATER IN ACCORDANCE
WITH SDCL 46-6-3 AS AMENDED
(This Form Required for Proposed Well Irrigation Only)

FOR COMMISSION USE ONLY

Irrigation System: _____

Water Quality: _____

Soils Capability: _____

Approved: 4/24/74

Disapproved: _____

NAME: Lawrence J. Markers

ADDRESS: Chadston Neb. 69212

COUNTY: Todd County

LEGAL DESCRIPTION

1. WELL LOCATION: Center of SE 1/4 of 36 T 37 R 30

2. AREA TO BE IRRIGATED: SE 1/4 of 36 T 37 R 30 NW

TYPE OF IRRIGATION

3. GRAVITY _____ SPRINKLER (Indicate Type): Center Pivot

4. CROPS TO BE IRRIGATED: Pasture & Hay crops

LAND CAPABILITY FOR IRRIGATION

5. PERCENTAGE OF SLOPE: Hell Creek fine sandy loam - 2.5%

6. PHYSICAL SOILS CLASSIFICATION FOR IRRIGATION: Not assigned as yet by Soil Conservation Service soil scientists

WATER QUALITY (TO BE COMPLETED BY COMMISSION)

7. SAMPLE NO.: 74-286

8. SALINITY: EC = 363 (Medium - low)

9. SODIUM: SAR = 0.20 Low

I do hereby certify that a chemical analysis of the ground water to be
acquired for irrigation from South Dakota State University and;

the land capability for irrigation information has been acquired from

Soil Conservation Service - Mission S.D.

and;

that the legal description for the location of the well and land to be
irrigated is true and correct.

Deane M. Martin

Subscribed and sworn before me this

5th day of June 1924.

Glenn Evenden

Notary Public

(Title)

REPORT OF ANALYSIS
Water Quality Laboratory
Water Resources Research Institute
South Dakota State University
Brookings, South Dakota 57006

Submitted by: Lawrence Markus
 Address: Crookston, Nebraska
69212

Date Rec'd May 15, 1974
 Sample No. 74-286
 Identification Well-150'
S24, Sec. 36, T 37N, R 30W

WATER ANALYSIS

Calcium (Ca)	63	ppm*	3.15	me/l**
Magnesium (Mg)	12	ppm	0.98	me/l
Sodium (Na)	7	ppm	0.29	me/l
Potassium (K)	7	ppm	0.18	me/l
Sulfate (SO ₄)	2	ppm	0.04	me/l
Nitrate (as N)		ppm		me/l
Chloride (Cl)	4	ppm	0.10	me/l
Bicarbonate (HCO ₃)	220	ppm	3.60	me/l
Carbonate (CO ₃)		ppm		me/l
Iron (Fe)		ppm		me/l
Fluoride (F)		ppm		me/l
Hardness (EDTA as CaCO ₃)		ppm		g.p.g.***
Alkalinity (Methyl Orange)	180	ppm (as CaCO ₃)		
Alkalinity (Phenolphthalein)	0	ppm (as CaCO ₃)		
Electrical Conductivity	363	micromhos per cm at 25° C.		
Sodium Adsorption Ratio	0.20			
Sodium	6.30	% of cations		
Residual sodium carbonate	0.00	me/l		
pH	7.63			
Others:				

*ppm=parts per million

***g.p.g.=grains per gallon

**me/l=milliequivalents per liter

COMMENTS: Total cations 4.60 me/l
 Total anions 3.74 me/l

By: Shirley Mitten

Service Performed	Amount Due
Irrigation analysis	\$6.00 PAID

Make checks payable to: Water Quality Laboratory

Cut along dotted line and return the lower portion with payment

Sample No. 74-286

Amount Enclosed \$

Signed

Publish first publication, on or before July 4, 19 74NOTICE
INTENT TO APPROPRIATE WATER

Pierre, South Dakota 57501

~~July~~ June 25, 19 74

Notice is hereby given that Lawrence and Velma Markus
 whose post office address is Crookston, Nebraska, South Dakota have made an application in accordance
 with the provisions of the water laws of South Dakota for a permit to appropriate for beneficial use
2.2 cubic feet of water per second of time from the ground water through the
Markus Irrigation Project #1, the point of diversion of which is to be located in the _____

SE 1/4, SE 1/4of Section 36, Twp. 37N, Range 30W. Said water to be used for the purpose

of providing irrigation on the following described land:

SE 1/4, Section 36, T37N, R30W

This application No. 1187-2 will be considered by the **WATER RIGHTS COMMISSION** at their office at
 Pierre upon the 17th day of July, 19 74, at 2:30 P. M. All interested
 persons may appear and be heard.

WATER RIGHTS COMMISSION

By:

BURTON P. JONES, Water Rights Specialist

BPJ/bv

cc: Lawrence Markus, Crookston, Nebraska 69212

No. 1157-2

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Todd) ss.

I, Margaret Sigert hereby
certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the Todd Co. Tribune

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the

City of Mission

County of Todd and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

July 4, 1974
July 11, 1974

Margaret Sigert
(Signature)

Officer - Newspaper
(Title)

7-15-74
(Date Signed)

NOTICE OF INTENT TO APPROPRIATE WATER

Notice is hereby given that Lawrence and Velma Markus whose post office address is Crookston, Nebraska, have made an application in accordance with the provisions of the water laws of South Dakota for a permit to appropriate for beneficial use 2.2 cubic feet of water per second of time from ground water through the Markus Irrigation Project No. 1, the point of diversion of which is to be located in the SE¹/4, SE¹/4 of Section 36, Twp. 37N, Range 30W. Said water to be used for the purpose of providing irrigation on the following described land:

SE¹/4, Section 36, T37N, R30W.

This application No. 1187-2 will be considered by the Water Rights Commission at their office at Pierre upon the 17th day of July, 1974, at 2:30 p.m. All interested persons may appear and be heard.

Water Rights Commission
By: Burton F. Jones,
Water Rights Specialist

-TEN-

Publ. July 4 and 11.

RECEIVED
JUL 18 1974

STATE WATER RIGHTS COMM
PIERRE, SOUTH DAKOTA

RECEIVED
SEP 10 1974
Department of Natural Resource Development

W/R No. 1187-2

WATER RIGHTS COMMISSION
Office Building Number 2, Pierre, South Dakota 57501
Phone 605/224-3151

September 5, 1974

Lawrence Markus
Crookston, Nebraska 69212

Dear Mr. Markus:

Enclosed herewith is your Water Right Permit No. 1187-2 as approved by the Water Rights Commission, authorizing you to construct your water diversion system and apply the water to beneficial use, not exceeding the limits as specified in said Water Right Permit No. 1187-2.

Also enclosed is Form No. 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Water Rights Commission when you have completed the system and/or have put the water to beneficial use. The Commission can then schedule an inspection so that your Certificate of Construction and/or your Water License may be issued to you, thus completing your acquisition of a water right.

Sincerely,

DONALD DRISCOLL, Chief Engineer
WATER RIGHTS COMMISSION

BEJ/hw/DD

P.S. This is to inform you that the Office of the Solicitor, United States Department of Interior in a letter dated July 12, 1974 contends that the State of South Dakota lacks jurisdiction with respect to the issuance of permits to use water within the exterior boundaries of an Indian reservation.

FORM 20



NO. 1187-2

NOTICE OF TRANSFER OF WATER PERMIT

TO: Water Rights
Foss Building
Pierre, SD 57501

Date: X November 23, 1979

This is to notify you that the title to the lands described as follows:

SE $\frac{1}{4}$ Section 36, T37N, R30W

formerly owned by Lawrence Markus, Crookston, NE

has been transferred to John and Cathy Markus, X

together with any rights to the beneficial use of water thereon as evidenced by

Water Right Permit No. 1187-2 as provided for in SDCL 46-5-32 and 46-5-33.

You are therefore hereby requested to file this "Notice of Transfer of Water Permit" in its appropriate file at the Office of the Board of Water Management as evidence of the change of ownership.

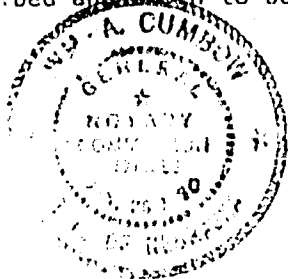
(A fee of Two Dollars and Fifty Cents (\$2.50) is hereto attached to cover filing fees as required under SDCL 46-2-13.

NEBRASKA
STATE OF ~~NEBRASKA~~)
County of Cherry) ss.

I, John Markus and Cathy Markus being first duly sworn on my oath depose and say:
That my relation to the above described undertaking is that of Owner, that I have read the above foregoing statement, and I know of my own personal knowledge that the information herein stated is true.

John Markus
Cathy Markus
(Signed)

Subscribed and sworn to before me this 23rd Day of November, 19 79.



A. CUMBO
(Notary Public)

RECEIPT

WATER RIGHTS COMMISSION

State of South Dakota

No 4 7149

PIERRE, December 11, 1979

RECEIVED OF John & Cathy Markus, RR, Crookston Neb. 69212

the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit to Appropriate Water No. _____ (examination, processing, recording and filing) _____		
Fee for inspecting Construction, and issuing Cert. of Construction No. _____		
Fee for inspecting Beneficial Use, and issuing Water License No. _____		
Fee for issuing Location Certificate-Dry Draw, No. _____		
Fee for filing a transfer of Permit No. 1187-2		2 50
Fee for certified copy of _____		
Fee for Print copy of map _____		
Fee for Certifying _____		
Fee for _____ (any other work as provided by law)		
TOTAL		2 50

WATER RIGHTS COMMISSION

By John Hatch
Chief Engineer, Executive Officer
JOHN HATCH lw

SOUTH DAKOTA Department of
Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

WATER RIGHTS DIVISION
Phone (505) 773-3352

No. 1949-2

1187-2
1547-2

July 23, 1986

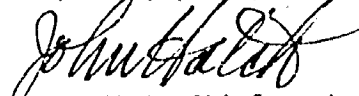
John or Cathy Markus
HC 76, Box 33
Crookston NE 69212

Dear Mr. & Mrs. Markus:

Enclosed herewith is, Water License No. 1949-2. This is the final water right document completing your process of obtaining a water right.

As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water.

Very truly yours,



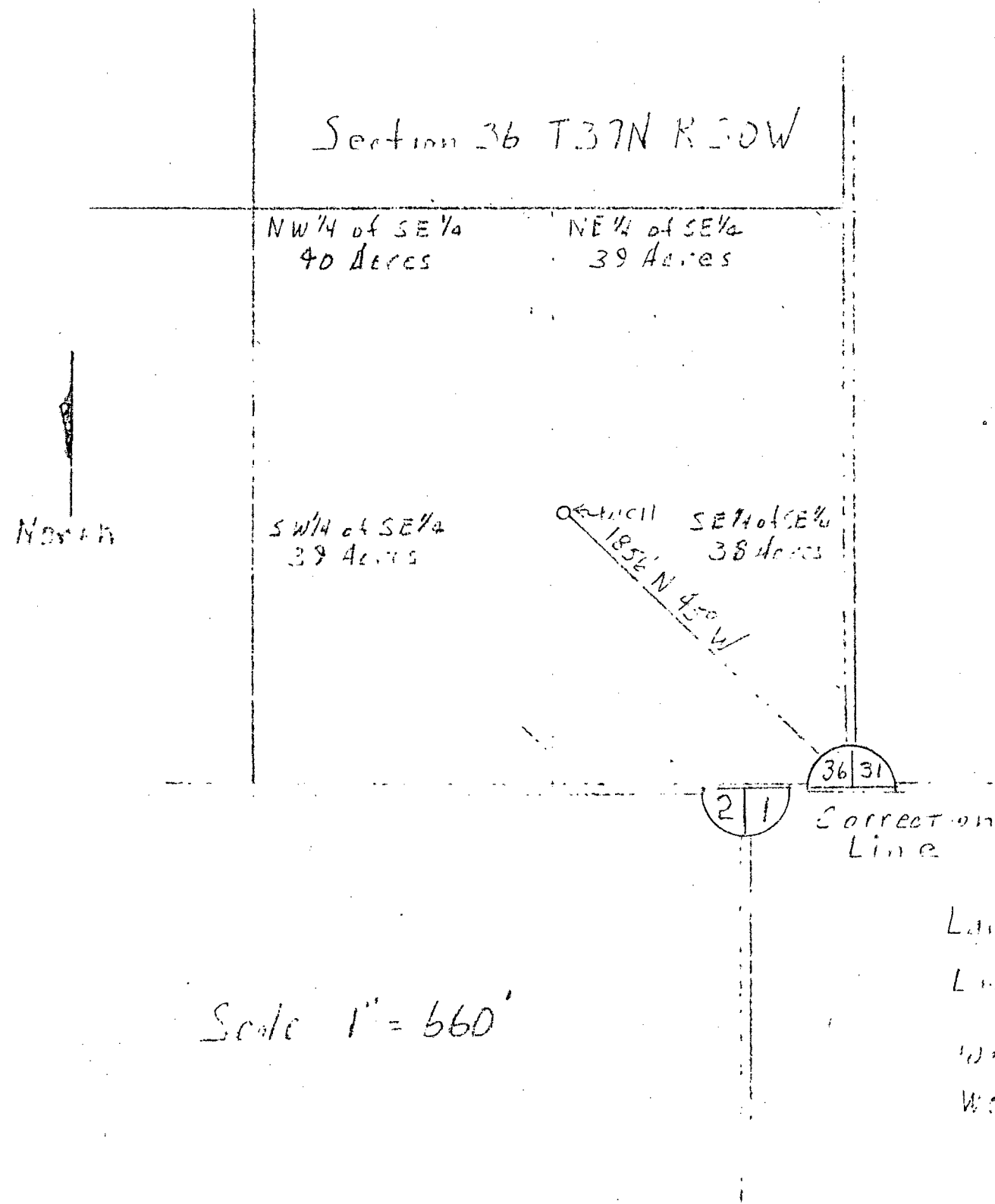
JOHN HATCH, Chief Engineer
Water Rights Division

JH:ks

Enclosures

Applicable portions of Water Permits No. 1187-2 and 1547-2 have been incorporated into this Water License No. 1949-2.

WNR-817 3/83
Transmittal of Water License



Lawrence Markus

Irrigation Project # 1

Brookston Nebraska

Todd County

Land Descriptions

Acres in land

NW 1/4 of SE 1/4 Sec 36 T37 R30	40
NE 1/4 of SE 1/4 Sec 36 T37 R30	39
SW 1/4 of SE 1/4 Sec 36 T37 R30	39
SE 1/4 of SE 1/4 Sec 36 T37 R30	38
Total Acres	156

Land Owners

Lawrence & Norma Markus

with 2.2 cfs

Well Log

1258' at base of SE 1/4

at Sec 36 T37N R30W

Surveyor's Certificate

I John Wierma Astronomer
this map the lines of the survey are
record of the land of

Lawrence Markus

Brookston Nebraska

Drawn by

6-11-74

John Wierma

RE: 116

brookston, Nebraska

MAP NO 1011-2 (APPL NO 1187-2)