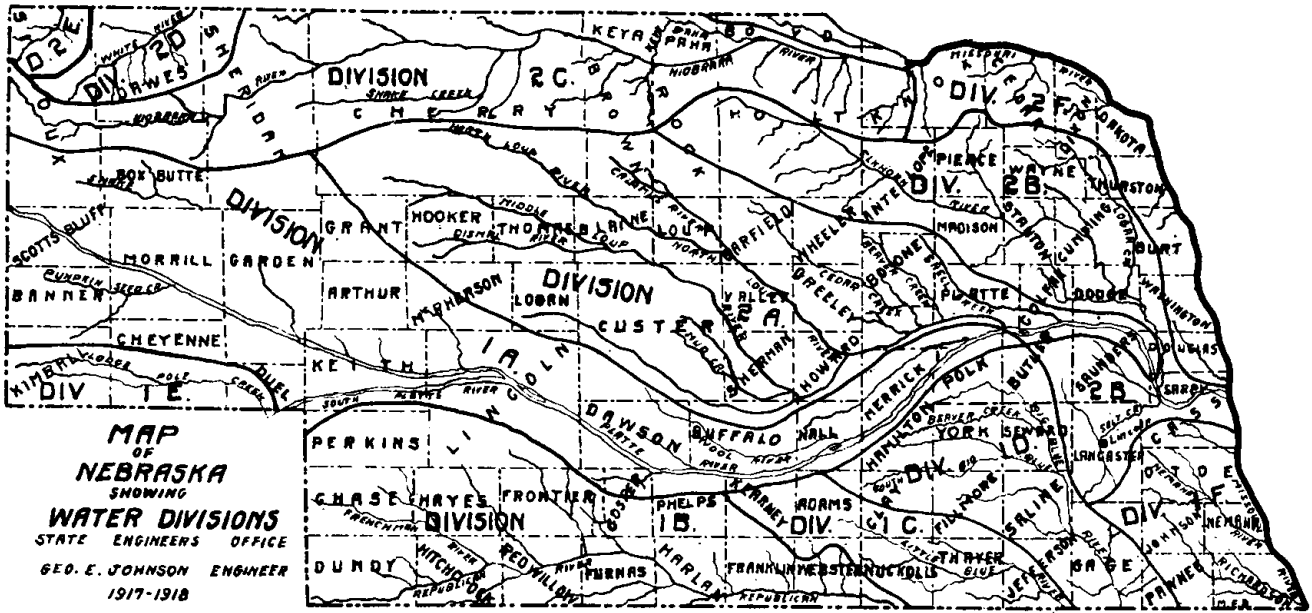
REPORT OF
STATE ENGINEER
NEBRASKA
1917-1918

JOHNSON


MAP
OF
NEBRASKA
SHOWING
WATER DIVISIONS
STATE ENGINEERS OFFICE
GEO. E. JOHNSON ENGINEER
1917-1918
DIV. 2D
DIVISION 2C.
DIV. 2F.
DIV. 2B.
DIVISION
DIVISION
DIVISION 2A.
DIV. 1E.
DIVISION
DIV. 1D.
DIV. 1C.
DIV. 1B.
DIV.
DAWES
BOX BUTTE
SCOTTS BLUFF
MORRILL
GARDEN
BANNER
CHEYENNE
KIMBALL
GRANT
HOOKER
THOMAS
ARTHUR
McPHERSON
LOGAN
KEITH
PERKINS
CHASE
HAYES
FRONTIER
DUNDY
CUSTER
DAWSON
BUFFALO
HALL
HAMILTON
MERRICK
POLK
YORK
SEWARD
LANCASTER
PHELPS
ADAMS
KEARNEY
FILLMORE
SALINE
JEFFERSON
GAGE
JOHNSON
NEMAHA
PAWNEE
RICHARDSON
PIERCE
WAYNE
THURSTON
MADISON
STANTON
CUMMING
BURT
WASHINGTON
DOUGLAS
SARPY
CASS
OTOE
BUTLER
SAUNDERS
DODGE
PLATTE
COLFAX
BOONE
GREELEY
VALLEY
SHERMAN
HOWARD
WHEELER
GARFIELD
LOUP
BLAINE
ROCK
KEYA PAHA
BOYD
HOLT
KNOX
CEDAR
DIXON
WAYNE
DAKOTA
WHITE RIVER
NIOBRARA RIVER
SNAKE CREEK
BEAVER CREEK
MIDDLE LOUP RIVER
NORTH LOUP RIVER
CALAMUS RIVER
DEWEY CREEK
CEDAR CREEK
PURDY CREEK
SHERMAN RIVER
SOUTH PLATTE RIVER
SOUTH PLATTE
DUEL CREEK
POLE CREEK
LODGE POLE CREEK
PLATTE RIVER
BEAVER CREEK
SALT CREEK
BLUE RIVER
LITTLE BLUE
THAYER
FRANKLIN
WEBSTER
NUCKOLLS
CLAY
FURNAS
HARLAN
REPUBLICAN
RED WILLOW
HITCHCOCK
FRENCHMAN
MISSOURI RIVER

TWELFTH BIENNIAL REPORT

OF THE

State Board of Irrigation
Highways and Drainage

TO THE

GOVERNOR OF NEBRASKA

1917-1918

GEO. E. JOHNSON, State Engineer

KLINE PUBLISHING COMPANY
Lincoln, Nebraska

OFFICE OF STATE BOARD OF IRRIGATION, HIGHWAYS AND DRAINAGE

To Keith Neville, Governor of Nebraska:

Sir:—I have the honor to submit herewith the following report of the work of this office during the past two years.

Yours very respectfully,

GEO. E. JOHNSON.
State Engineer

Lincoln, Nebraska, November 1, 1918.

LIST OF OFFICERS OF STATE BOARD OF IRRIGATION, HIGHWAYS AND DRAINAGE OF NEBRASKA.

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WILLIS E. REED.....Attorney General
G. L. SHUMWAY.....Commissioner of Public Lands and Buildings

Office Force

Geo. E. Johnson.....State Engineer
E. H. Morey.....Deputy State Engineer
A. S. Mirick.....Superintendent of Highway Construction
M. F. Black.....Chief Draftsman
W. J. McEathron.....Field Engineer
C. M. Miller.....Field Engineer
J. R. Mullin.....Field Engineer
R. O .Green.....Field Engineer
W. H. Larson.....Field Engineer
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A. W. Woods.....Draftsman
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James B. McKee.....Draftsman
Margaret Noble.....Draftsman
Gladys Ralston.....Draftsman
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Jas. A. Knapp.....Draftsman
A. E. Anderson.....Draftsman
Will Johnson.....Draftsman
Thad Epps.....Draftsman
R. Adams.....Draftsman
John R. Barton.....Clerk in Drafting Room
Luise Schultz.....Accountant, Road Dep't
Ruby M. Neville.....Clerk and Stenographer, Road Dep't
Kathryn I. Ward.....Stenographer and Statistician, Irrigation Dep't
Mable Forke.....Stenographer

Amy Brandhorst.....Clerk and Stenographer
A. W. Moffitt.....State Aid Bridge Inspector
F. L. Heckman .....State Aid Bridge Inspector

Water Superintendents

R. H. Willis .....Water Division No. 1, Bridgeport, Nebr.
Page T. Francis.....Water Division No. 2, Crawford, Nebr.

Water Commissioners

C. A. Liljenstople .....Scottsbluff, Nebraska
W. F. Chaloupka .....Bridgeport, Nebraska
E. H. Hartman .....Lewellen, Nebraska
Rob't Osborne .....Harrisburg, Nebraska
Geo. M. Rannie .....North Platte, Nebraska
W. T. Young .....Kimball, Nebraska
Floyd Bailey .....Culbertson, Nebraska
C. S. Radcliffe .....Sidney, Nebraska
John Cook .....Agate, Nebraska
Wm. Willis .....Hayes Springs, Nebraska
Jas. Spearman .....Crawford, Nebraska
M. J. Gayhart .....Montrose, Nebraska

HYDROGRAPHERS

T. C. Palmer.....Bridgeport, Nebraska
Wade Flynn .....Bridgeport, Nebraska

WATER DIVISIONS AND WATER DISTRICTS

Section 6780 of Cobbey's Annotated Statutes: Irrigation and Water Power—Water Divisions:

"The State of Nebraska is hereby divided into water divisions, denominated Water Division No. 1 and Water Division No. 2, respectively."

Section 6781—Boundaries of Division One:

"Water Division No. 1 shall consist of all the lands of the state drained by the Platte River; and also all other lands lying south of the Platte and South Platte rivers, that may be watered from other superficial or subterranean streams not tributary to said Platte River."

Section 6782—Boundaries of Disvision Two:

"Water Division No. 2 shall consist of all lands that may be watered from the Loup, White, Niobrara and Elkhorn rivers, and their tributaries and all other lands of the state not included in any other water division."

For convenience in the adjudication of claims and in the distribution of water, these divisions have been subdivided into twelve water divisions denominated 1-A, 1-B, 1-C, 1-D, 1-E, 1-F, 2-A, 2-B, 2-C, 2-D, 2-E, 2-F, as shown on the accompanying map.

WATER DIVISION 1-A

Dis. No.	1	C. A. Liljenstople	Scotts Bluffs County
Dis. No.	2	W. F. Chaloupka	Morrill County
Dis. No.	3	E. H. Hartman	Garden County
Dis. No.	4	Rob't Osborne	Banner County
Dis. No.	8-9	Geo. M. Rannie	Lincoln, Dawson & Buffalo

WATER DIVISION 1-B

Dis. No.	10	Floyd Bailey	Chase, Dundy, Hayes, Hitchcock and Red Willow

WATER DIVISION 1-E

Dis. No.	6	W. T. Young	Kimball County
Dis. No.	7	C. S. Radcliffe	Cheyenne, Deuel and southern part of Keith

WATER DIVISION 2-C

Dis. No.	3	John Cook	Southern part of Sioux
Dis. No.	4	Wm. Willis	Southern part of Dawes

WATER DIVISION 2-D

Dis. No.	1	Jas. Spearman	Northern part of Dawes

WATER DIVISION 2-E

Dis. No.	2	M. J. Gayhart	Northern part of Sioux

MR. JOHNSON'S RECOMMENDATIONS

To the Honorable State Board of Irrigation, Highways and Drainage:

Gentlemen:—During the past Biennial the gaging of streams has been under the direct supervision of Water Superintendent District No. 1, and the result of gaging and river investigation are set forth in the report filed by Mr. Willis.

With reference to gaging ditches and the distribution of water, I would recommend that our laws be amended so as to compel all ditches using water to install recording meters in the rating flume of each headgate.

I would like to call your special attention to the report filed by Dr. Condra on Road Material. This report shows considerable work and is one of the most valuable bulletins on road building.

The 1917 Session of the Legislature appropriated $640,000.00 to meet the first three years' appropriation of the Federal Road Fund, and authorized the State Board of Irrigation, Highways and Drainage to proceed with road construction. In co-operation with the County Officials we have laid out a system of roads connecting all of the county seats. All of the counties in the state have requested State and Federal Funds for the construction of these roads with the exception of Keith, Cheyenne, Keya Paha and Thurston counties. As provided by law we have divided the state into nineteen project districts consisting of four or five counties in each project district. We have surveyed 1,600 miles of road and have awarded contracts on 215 miles at an aggregate cost of one-half million dollars.

We now have plans prepared for 752 miles to cost approximately $1,657,000. The details of these projects are set forth in tabulated form in this report. Approximately 5,000 miles are designated in our State Road System, and at least 75% of this mileage has not been maintained by the County since the roads were designated.

There are 63% of the people in the state living directly on the road selected,—75% living on or within five miles of the State Highway System, and with this large amount of traffic it is necessary that the 1919 Session of Legislature provide some means for an adequate sum to maintain the entire State Road System. It is useless to expect the counties to maintain these roads out of the County Road Fund as the County Highways Commissioners are not able to properly maintain the other roads in the County with the small funds on hand.

Respectfully submbitted,

GEO. E. JOHNSON,
State Engineer.

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REPORT OF SUPERINTENDENT WATER DIVISION NO. 1

To The Honorable State Board of Irrigation, Highways and Drainage:
State Engineer—Secretary:

I have the honor of submitting a report of the work performed during the past two years as superintendent of Water Division No. 1.

CO-OPERATION

Early in the spring of 1917 managers of all irrigation projects were invited to co-operate with the State Board of Irrigation, Highways and Drainage in a plan to report gage heights, to take current meter measurements and keep discharge records, etc., of the flow of their respective canals. It appeared possible under this plan that more satisfactory results could be obtained harmoniously than under the authority of Section 3441, 1913 Statutes of Nebraska.

Postal cards and Record Books were mailed to all projects excepting a few very small canals. Not all projects however made reports, although more complied with our request in 1918 than in 1917, as is shown elsewhere in this report. Mitchell and Tri-State Headgate keepers telephoned gage heights to River Observer J. D. Fugate at Henry, who entered the same on postcards and mailed them daily to Superintendent.

It was a part of the plan to credit all projects with water wasted back to the stream and regret very much that we are unable to publish daily discharge of waste water. The Tri State Canal wasted water back to river at three points, Toohey, Mitchell and Red Willow. No daily gage height reports were made for Toohey and Mitchell. Red Willow's discharge is reported and the Tri State Canal given credit for water wasted to river. The Enterprise and Winters Creek Canals intercepts water from several seep streams, discharge records of which is lacking.

It is not only intresting to know how much water is actually going on the land, but good business. In the future we hope closer cooperation can be had on this part of our plan, however greater cooperation was attained during the season of 1918 and the results as a whole was very attained during the season of 1918 and the results as a whole were very

DISTRIBUTION

The discharge of the North Platte and Platte rivers from Henry to Kearney in 1917 and 1918, shown elsewhere in this report, was much above the amount needed, consequently no canals on those streams were closed.

The Lodge Pole Creek has practically no variation in its flow, except floods from storms which are of short duration. The distribution of the waters of this stream was satisfactorily handled by Clayton Radcliffe, Water Commissioner.

The Frenchman River in my opinion is slightly over appropriated The last two seasons the demand on this stream exceeded the supply which I believe has been the condition for a number of years. Water Commissioner F. F. Bailey was kept very busy dividing the water of those two rivers the past season.

Blue Creek, a tributary of the North Platte in Garden County, discharges about 80 sec. feet throughout the irrigation season. Water Commissioner Ed Hartman has given this stream considerable time the past two seasons dividing the waters among the appropriators. Every drop of Blue Creek is beneficially used by the water users. The discharge of the five canals diverting water from this stream is shown elsewhere in this report.

HYDROGRAPHY

Two hydrographers were employed during the season of 1917 and 1918 between Kearney and Henry on the Platte, North and South Platte Rivers and tributaries, including all canals and seep streams. The following number of gagings were made:

Season	River	Canals	Seeps & Tributaries
1917	197	144	75
1918	188	503	197

The primary object of measuring these particular streams is to supply the water superintendent with daily data sufficiently accurate to enable him to apportion intelligently the waters among the various users of his district, also to carry on a special investigation of the return flow in the North Platte River and seepage in the valley.

The current meter notes of over 1300 stream gagings were first computed by the gager and then checked in the superintendent's office with mechanical computers.

Gage heights were reported daily to the superintendent of Division No. 1 for the 1918 season by Water Commissioners on five canals, representing 7,560 acres and by ditch riders on twenty canals, representing 233,558 acres in accordance with Section 3441, Nebraska 1913 Statutes.

Based on acreage reports filed, the following irrigable areas were provided for in the water delivery schedules for the season of 1917 and 1918:

Diverted from River—	1917—Acres	1918—Acres
East of Bridgeport	72,520	78,796
West of Bridgeport	180,530	221,400
Diverted from Tributaries—		
East of Bridgeport	43,400	35,199
West of Bridgeport	4,690	5,054
Total	**296,690**	**344,840**

A few projects of considerable size failed to file acreage reports that received water. Had there been a shortage of water those canals would have been among the first to be closed as no account had been taken to provide them with water. Project managers should protect the water users under his project by sending the acreage reports to the State Engineer's office each spring. The Platte River will get low again as it has in the past during the months of July and August.

If water delivery was based on appropriations as originally granted it would require 2,700 second feet more water than when delivery is based on acreage reports on the North Platte River alone. Three of the earliest appropriators have grants totaling 47,250 acres who have irrigated for the last few seasons 25,340 acres, based on their alreage reports.

The following is the delivery schedules in Division 1-A used for the seasons of 1917 and 1918:

WATER DELIVERY SCHEDULE—DIVISION NO. 1-A

This schedule will govern the distribution of the natural flow of the Platte, North and South Platte Rivers and the tributaries during periods of scarcity, by the water commissioners.

Natural flow includes all waters flowing in this water shed except storage water, under control and released for use under contracts filed in the office of the State Board of Irrigation, Highways and Drainage.

For the season of 1917 based upon correct acreage reports filed prior to August 20, 1917.

Name of Ditch	No.	Stream	River East	River West	Trib. East	Trib. West
Power	A 1472	North Platte				
Ramshorn	A 1465	Sheep Cr. Seep				46.
Power	A 1452	North Platte				
Atkins Ditch	A 1450	North Platte				
Atkins Ditch	A 1449	Private Drain			3.	
Liebhardt's Lateral	A 1448	North Platte		2.		
Winters Creek	A 1446	Winters Crk Draw				
Kings Canal	A 1440	Lawrence Fork			2.	
French Ditch	A 1433	North Platte		3.		
Dobson Ditch	A 1432	Red Willow Seep		2.		
Stone Irr. Co.	A 1402	North Platte	1.			
Sheep Cr. Lat. Co.	A 1398	Sheep Cr. Seep				
Plum. C. Ditch & Res.	A 1344	Plum Creek			1.	
John Bratt Ditch	A 1336	White Horse			6.	
Shramek Cr.	A 1295	Lit. Spr. Cr.			1.	
Roberts Ditch	A 1241	Spotted Tail				1.
Peterson Ditch	A 1240	Otter			1.	
Hagerty Ditch	A 1238	Dugout			1.	
Coon Cr. Ditch	A 1225	Coon Creek			1.	
Gatch Ditch	A 1220	Spring Cr. Trib.				1.
Dobson's Lateral	A 1181	North Platte		2.		
Sheep Cr. Lateral	A 1176	Sheep Creek				4.
Kilpatrick Res. No. 2	A 1159	Snake Creek			22.	
French Ditch	A 1149	North Platte	11.			
Clear Crk Ext.	A 1111	Clear Creek			1.	
Power	A 1104	Snake Creek				
Randall Bros. Ditch	A 1100	Lawrence Fork			2.	
Brown Ditch	A 1072	Spotted Tail				2.
Seeley Irr. Ditch	A 1052	Pumpkinseed Cr.			1.	
Cedar Creek Ditch	A 1051	Cedar Creek				
Keystone Ditch	A 1003	White Tail			10.	
Spring Cr. No. 1	A 1002	Spr'g Cr. Trib. N. P.			1.	

Name of Ditch	No.	Stream	River East	River West	Trib. East	Trib. West
Jackson Ext.	A 1000	Horse Creek				1.
State Line	A 994	Horse Creek				
Gilmore	A 983	Horse Creek				3.
Power	A 868					
Meglemre Ext.	A 853	Greenwood Creek				
Keystone Ditch	A 843	White Tail			5.	
Interstate	A 768	North Platte		1171.		
Stewart Res.	A 743	Spotted Tail				2.
Simon Res.	A 711	Pumpkinseed			1.31	
Peter's Ditch	D 913	Pumpkinseed			3.	
Keystone Canal	A 662b	White Tail			46.	
Little Springs Ditch	A 659	Little Springs Cr.			1.	
Paisley Irr. Dis. D.	A 515	Blue Creek			16.	
Crigler Ext.	A 486	Lawrence Fork			1.	
Brogan Bros. Ditch	A 410	Spring Branch			2.	
State Line Ditch	A 407	Horse Creek				6.
Western Irr. Ditch	A 393	South Platte			178.	
Cerial Irr. Ditch	A 357	South Platte	10.			
Meyer Canal	A 263	South Platte	1.			
Steamboat Ditch	A 186	North Platte		7.		
Theis Ditch	A 160	Golden Creek			3.	
Coon Creek Ditch	A 69	Coon Creek			1.	
Finch Ditch	D 964	Clear Creek			1.	
Elmore Creek	A 41	Snake Creek				
Holcomb Ditch	A 1	North Platte			12.	
Reed Ditch	D 751	White Tail			1.	
Mathews Ditch	D 750	Mathews Creek			1.	
Alfalfa Ditch	D 738	North Platte	46.			
Signal Bluff	D 807	North Platte	21.			
Miller & Warren	D 805	South Platte			26.	
Cozad Irr. Canal	D 626	Platte	198.			
Spohn Ditch	D 691	North Platte	13.			
Foster Keystone Canal	D 730	White Tail			6.	
Six Mile Ditch	D 680	Platte	25.			
Gothenburg	D 645b	Platte	240.			
Farmers & Merchants	D 622	Platte	109.			
Spring Cr. Ditch	D 724	Spring Creek				
Midland Canal	D 789	North Platte	12.			
Oasis Ditch	D 567	Snake Creek				
Doran Canal	D 850	Lawrence Fork			1.	
Round House Rock	D 884	Pumpkinseed Creek			2.	
Last Chance	D 883	Pumpkinseed Creek			8.	
Meeker Ditch	D 788	Blue Creek			31.	
Iowa Irr. & Imp. Canal	D 786	Blue Creek			1.	
Paxton & Hershey	D 653	North Platte	112.			
Blue Creek Canal	D 785	Blue Creek			30.	
Birdwood Ditch	D 646	Birdwood			71.	
Hooper Ditch	D 781	Blue Creek			13.	
Holloway & Phelps Can.	D 727	White Tail			2.	
Clear Creek Canal	D 754	Clear Creek			12.	
Short Line	D 946	North Platte		41.		
Ramshorn	D 945	North Platte		34.		
Meredith & Ammer D'ch	D 876	Pumpkin Seed			15.	
Schuetz Springs Can.	D 881	Schuetz Spring				
Kah Ditch	D 944	North Platte		5.		
E. S. Crigler Ditch	D 861	Lawrence Fork			1.	
Empire Canal	D 858	North Platte		29.		
Patrick Ditch	D 725	Sand Creek			2.	
Cascade	D 1052	Otter Creek			3.	
Mutual	D 843	Pumpkin Seed			3.	
Holcomb	D 636	Pawnee			8.	
Sheridan & Whitson	D 710	North Platte	4.			
Court House Rock	D 840	Pumpkin Seed			17.	
Myers & Phelps Can.	D 709	North Platte	2.			
Logan	D 902	Pumpkin Seed			2.	
Gothenburg	D 645a	Platte	51.			
Finn Bros. Ditch	D 836	Springs			4.	
Spring Creek Ditch	D 704	Spring Creek Trib. to White Tail			2.	
Union Irr. & W. P. Co.	D 763	Blue Creek			22.	
Radcliffe Ditch No. 3	D 1034c	Cedar Creek			1.	
Belmont Canal	D 828	North Platte		205.		
E. Lonergan Ditch	D 699	Lonergan Creek			8.	

Name of Ditch	No.	Stream	River East	River West	Trib. East	Trib West
Soehl Canal	D 697a	Lonergan Creek			3.	
Soehl Canal	D 697b	Lonergan Creek			3.	
Castle Rock	D 921	North Platte		86.		
Winters Creek	D 932	North Platte		86.		
Clear Creek Ditch	D 748	Clear Creek			3.	
Radcliffe Ditch No. 2	D 1034b	Cedar Creek			1.	
North Platte Canal	D 635	North Platte	168.			
Farmers Dist. Canal	D 938	North Platte		906.		
Nelson & Radcliffe	D 1034a	Cedar Creek			3.	
Power	D 995	Wood River				
Power	D 993	Wood River				
Power	D 994	Wood River				
O'Hollaren	A 1473	Seepage				
Union Pacific R. R.	A 1472	North Platte				
Ramshorn Ditch Co.	A 1465	Sheep Creek				46.
Airdale Canal No. 1	A 1458	Pumpkin Seed				
Atkins	A 1450	North Platte				
Atkins	A 1449	North Platte			3.	
Liebhardt Lateral	A 1448	North Platte		3.		
King's Canal	A 1440	Lawrence Forks			2.	
Dobson Lateral	A 1436	Platte R. & R. W. C.		.30		
French Ditch	A 1433	North Platte		3.		
Dobson Ditch	A 1432	Red Willow Seepage		3.		
Sheep Cr. Lateral Co.	A 1403	Draw Trib. Co. Sheep Cr.				
Stone Irrigation Can.	A 1401	North Platte	1.			
Sheep Creek Lateral Co.	A 1398	Sheep Creek				
Airdale R'h & Cat'e Co.	A 1380	Pumpkin Seed			.50	
Pumpkin Cr. Dit. & Res.	A 1344	Plum Creek			.60	
Jno. Bratt Ditch	A 1316	White Horse Creek			5.50	
Roberts Ditch	A 1241	Spotted Tail Creek				1.50
Peterson Ditch	A 1240	Otter Creek			.60	
Hagerty Ditch	A 1238	Dugout Creek			1.	
Kimbough Canal	A 1227	Wood River			.60	
Coon Creek Ditch	A 1225	Coon Creek			2.	
Gatch Ditch	A 1220	Spring Creek Trib. to N. P.				1.
Dobson Lateral	A 1181	North Platte		2.		
Sheep Cr. Lateral	A 1176	Sheep Creek				5.
Kilpatrick Res. No. a	A 1159	Snake Creek			22.	
The Eggers Ext.	A 1154	Blue Creek			.50	
French Ditch	A 1149	North Platte River		11.		
Airdale Canal No. 2	A 1133	Pumpkin Seed			1.50	
Tri-State Land Co. Can.	A 1125	Spotted Tail Creek				Seep
Kilpatrick Res. No. 1	A 1104	Snake Creek			Resvr	
Randall Bros. Ditch	A 1100	Lawrence Fork			2.50	
Brown Ditch	A 1072	Spotted Tail Creek				2.30
Keystone	A 1003	White Tail Creek			9.	
Spring Cr. No. 1	A 1002	Spring Creek Trib. to North Platte			1.	
West Keystone	A 1001	White Tail Creek			2.	
Jackson Extension	A 1000	Horse Creek				1.
Gilmore Ditch	A 983	Horse Creek				2.
Sunflower Ditch No. 2	A 879	Owl Creek				1.1
Sunflower D'h Ex. No. 1	A 881	Owl Creek				.5
Union Pacific R. R. Co.	A 868	Spring Creek			4.	
Mulloy Ditch	A 865	Dugout Cr. SW Low.			.11	
Keystone Ditch	A 843	White Tail Creek			5.50	
Cord Ditch	A 778	Huntington Springs				.5
Sunflower Ditch	A 770	Owl Creek				1.
Interstate Canal	A 768	North Platte		1243.		
Stewart Reservoirs	A 743	Spotted Tail Creek				2.5
Reservoirs Nos. 1-2-3	A 711	Pumpkin Seed				
Airdale Canal No. 2	A 699	Pumpkin Seed			Resvr	
Riverdale Canal No. 1	A 698	Pumpkin Seed			5.30	
Harper Ditch	A 669	Lawrence Fork			.66	
Keystone Canal	A 662b	White Tail Creek			46.	
Little Spring Ditch	A 659	Spring Cr. (Little)			.50	
Paisley Ditch	A 515	Blue Creek			1.	
Sunflower Ditch	A 411	Owl Creek				.8
Brogan Bros. Ditch	A 410	Spring Branch			1.	
State Line Ditch	A 407	Horse Creek				7.
Western Irr. Ditch	A 393	South Platte River			142.	
LaMore Ditch	A 327	North Platte River	10.			
Meyer Canal	A 283	South Platte River	1.			

Name of Ditch	No.	Stream	River East	River West	Trib. East	Trib. West
Thies Ditch	A 160	Golden Creek			2.50	
Peters Ditch	D 973	Pumpkin Seed Cr.			2.57	
Coon Creek Ditch	A 69	Coon Creek			2.50	
Finch Ditch	D 964	Clear Creek			1.50	
Holcomb Ditch	A 1	North Platte River	12.			
Mathews Canal	D 750	Mathews Creek			1.	
Miller Ditch	D 740	Skunk Creek			2.50	
Alfalfa Irr. Dis. Can.	D 658	North Platte	59.			
Home Irr. Ditch	D 736	South Platte			2.50	
Signal Bluff Ditch	D 807	North Platte	20.			
Miller & Warren	D 805	South Platte			26.	
Cozad Irr. Canal	D 626	Platte River	227.			
Lyons Irr. Canal	D 803	North Platte	33.			
Paisley Ditch	D 800	Blue Creek			12.	
Spohn Ditch	D 801	North Platte	12.			
Foster Keystone Canal	D 730	North Platte			6.	
Six Mile Ditch	D 660	Platte River	23.			
Beerline Canal	D 887	North Platte	30.			
Oshkosh Ditch	D 797	North Platte	38.97			
Gothenburg L. & P. Co.	D 645b	Platte River	224.			
Dawson County	D 622	Platte River	117.92			
Spring Creek Ditch	D 724	Spring Creek				
Midland Canal	D 789	North Platte	12.			
Doran Canal	D 850	Lawrence Fork			1.	
Round House Rock D'ch	D 884	Pumpkin Seed			2.	
Suburban Canal	D 662	North Platte	98.			
Last Ditch	D 883	Pumpkin Seed			8.	
Graf Ditch	D 658	Blue Creek			30.	
Hooper Ditch	D 786	Blue Creek			1.	
Paxton & Hershey Can.	D 653	North Platte River		112.		
Blue Cr. Irr. Canal	D 785	Blue Creek			40.50	
Nine Mile Irr. Dist. D.	D 925	North Platte River		200.		
Hooper Ditch	D 781	Blue Creek			9.50	
Holloway & Philps Dit.	D 717	White Tail Creek			2.50	
Clear Creek Canal	D 754	Clear Creek			12.	
Redington Ditch	D 803	Lawrence Fork			.2	
Soehl Canal	D 697b	Lonergan Creek			3.	
Ramshorn Ditch	D 945	North Platte		30.		
Cooper Ditch	D 872	Dugout Cr SW Low.			1.	
Schuetz Spring Can.	D 881	Schuetz Springs				
Nelson Ditch	D 845	Greenwood Creek			2.5	
Kah Ditch	D 944	North Platte		4.		
Spring Branch Ditch	D 862	Lawrence Forks			1.	
E. S. Crigler Ditch	D 861	Lawrence Forks			.6	
Empile Canal	D 858	North Platte		30.		
Patrick Ditch	D 725	Sand Creek			2.3	
Trinnier Canal	D 849	Greenwood Creek			4.5	
Mutual Ditch	D 843	Pumpkin Creek			2.5	
Holcomb's Ditch	D 636	Pawnee Creek			8.0	
Sheridan & Wilson D.	D 710	North Platte	4.			
Court House Rock D.	D 840	Pumpkin Seed Cr.			16.	
Gothenburg P. & L. Co.	D 645a	Platte River	71.			
Finn Bros. Ditch	D 836	Sprgs., Sec. 28-18-49			.5	
Central Canal	D 926	North Platte		32.		
Spring Cr. Ditch	D 704	Spring Creek Trib. to White Tail			1.5	
Union Irr. & W. P. Can.	D 763	Blue Creek			15.	
Radcliffe Dit. No. 3	D 1034c	Cedar Creek			.8	
Belmont Canal	D 828	North Platte		204.		
Soehl Canal	D 697a	Lonergan Creek			2.5	
Logan Ditch	D 821	North Platte		2.5		
E. Learoyne	D 659	Lonergan Creek			8.	
Castle Rock Canal	D 927	North Platte		84.		
Enterprise	D 920	North Platte		101.6		
Winters Cr. Canal	D 952	North Platte		61.		
Clear Cr. Ditch	D 952	Clear Creek			3.	
Minatare Canal	D 919	North Platte		133.4		
Farmers Canal	D 918	North Platte		905.		
Radcliffe Ditch No. 2	D 1034b	Cedar Creek			1.	
Kearney W. & E. Plant	D 1023	Platte River	22.			
Nelson & Radcliffe D.	D 1031a	Cedar Creek			3.	
Power	D 995	Wood River				
Power	D 993	Wood River				
Power	D 994	Wood River				

When the supply of water begins to fall below the total amount required by this schedule, canals will be closed by water commissioners beginning with the top of this list.

The following is the delivery schedule of storage water under contracts with the United States Government:

Name	July	August	September	Date
Interstate				
Farmers Irr. Dist.	713	713/500	500/300	Ends September 1
Gering	151	151/110	110/65	Ends September 15
Central	18	18/12	00/00	Ends September 1
Chimney Rock	47	47/33	33/27	Ends September 15
Belmont	169	169/81	00/00	Ends September 1
Browns	85	83/70	70/50	Ends October 1
Beerline	14	14/8	00/00	Ends September 1
Dawson Co. Irr. Co.			5000 Acre Ft.	

PUBLICITY

Bulletins were prepared three times a week during the season of 1917 and twice a week throughout the season of 1918 giving the discharge of the North Platte, South Platte and Platte Rivers at fifteen stations, including the Pathfinder Reservoir. These were sent to a mailing list of fifty, including newspapers, county commissioners, secretaries of irrigation projects, commercial clubs and many others.

On the 15th and 30th of each month during the irrigation season of 1918, a bulletin was mailed to the secretaries of Paisley, Union, Blue Creek District, Graf and Hooper ditches, showing the daily discharge of each Canal and the amount flowing to the river at the mouth of Blue Creek. Each project received this bulletin showing the daily discharge of all the ditches on Blue Creek. This could be done weekly for all the irrigation projects if the managers would cause gage heights to be sent in daily to the superintendent.

Many managers of small projects claim that it is not practical to report daily gage heights. They do not employ ditch riders and do not visit their headgates more than three or four times a month. Many ditch riders cannot record correctly the gage heights. Now and then we find ditches who report incorrect gage heights, evidently for a purpose. There are ditch riders who will report gage heights without going to the gage, simply make a guess. To overcome these conditions, automatic gages should be installed at the rating flume of every canal and in some cases at several places along the canal. Reliable records of the amount of water used cannot be had unless this is done. The time is near when every second foot of water will have to be accounted for. No project should be permitted to have excess water when crops elsewhere are burning and this excess will save them.

Name	Total Valuation		Total Valuation		Amount Raised	
	1917	1918	1917	1918	1917	1918
Platte Val. Irr. Dist.....	12993	12368	649650	.....	5198.20	4947.52
Suburban Irr. Dist.....	8660	8660	86600	86600	3464.00	3518.00
Keith & Lincoln Co. D.	6444	6444	118612	118528	7871.80	7779.20

Name	Levy—General		Int. on Bonds	
	1917	1918	1917	1918
Platte Valley Irr. Dist.....	8	8	.....	.....
Suburban Irr. Dist.....	40	45	.....	.....
Keith & Lincoln County Dist.....	85	85	65	65

RECOMMENDATIONS

Water commissioner's salary must be increased to five dollars per day or the department will be unable to get men with ability and interest sufficient to get satisfactory results.

The installation of automatic gages should be required by statute.

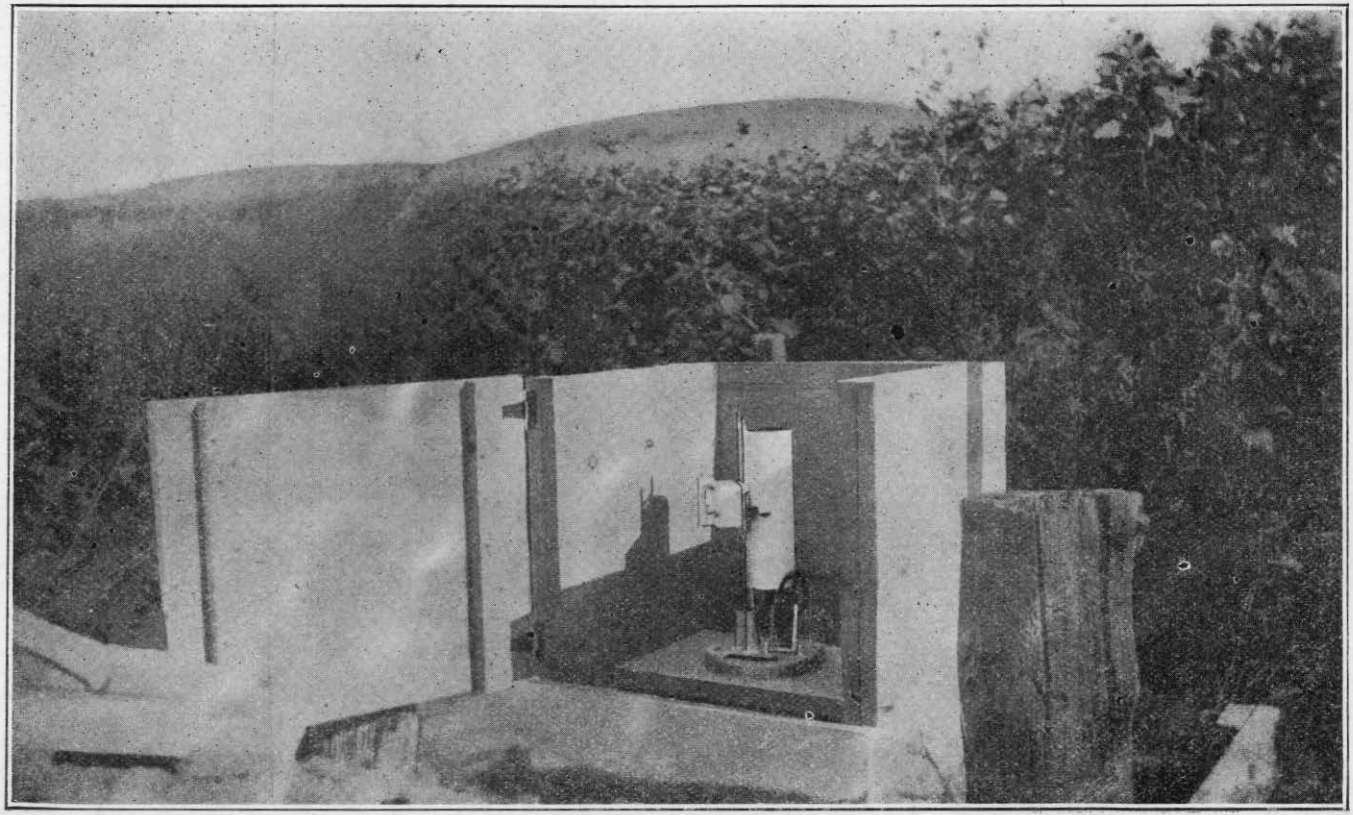
Observers should be paid higher salary and more conscientious and accurate work be required of them.

The department should continue to employ two hydrographers in Water Division No. 1.

Managers of canals on the Republican and Frenchman Rivers should be required to put in rating flumes. The state should rate them so the water commissioner can intelligently divide the waters expeditously, more accurately and with greater degree of fairness to the water users.

Respectfully submitted,

ROB'T. H. WILLIS,
Supt. W. D. No. 1.



Automatic Gauge Height Recorder

ANNUAL REPORT OF OPERATION AND MAINTENANCE NORTH PLATTE (INTERSTATE) PROJECT

SEASON OF 1917

1. The Operation and Maintenance and the system operated for the year was practically the same as that for last year.

2. The climatic conditions for the season were abnormal. The wniter of 1916 and 1917 was cold and long, and the range stock brought in on the project for wintering had to be fed so much longer than usual that a general shortage of feed for the Spring and Summer work resulted over the entire valley. The Spring opened about the first of April and the weather was fairly favorable for work up to about the 19th of May when a series of hard and driving rains with occasional streaks of hail set in and lasted for about two weeks. During that time approximately 5 inches of rain fell over the project. This series of rains delayed the Spring work for about three weeks. and it also packed the ground so hard that it became necessary to work a good deal of the ground over again and what could not be worked over was left in a condition conducive to heavy evaporation. This rainy spell which ended about June 4th was followed with a severe drouth for the balance of the year. The total precipitation for the year was 11.75 and almost one-half of this fell during the two weeks from May 19th to June 4th. The last killing frost in the Spring was on May 11th with a minimum temperature of 25° and the first in the Fall was on October 18th with a minimum of 19° which made a total of 160 days between the killing frosts, as compared with 121 days for 1916 and 137 days for 1915. The minimum temperature for the year was -22° and the maximum 100°. The wind movement was about normal. and did but very little damage to the canal banks, but it did considerable damage to the laterals along plowed fields by completely filling them in places with tumble weeds and drift sand. Also the rainy weather in May together with the lalte start of water into the small laterals seemed to be the cause of an unusually heavy and rapid growth of weeds which had to be cut or cleaned out during the Summer.

3. **Water Delivery.** Water was first turned into the Main Canal on April 23, for the filling of the reservoirs, Lake Alice and Lake Minatare, before the opening of the irrigation season. The canal discharge varied from 600 to 800 second feet from the beginning up to the middle of June and practically all of this was run into the reservoirs. There was no demand for water into the laterals before May 25 and but very little before June 15. Then the orders for water commenced coming in fast and the canal discharge was increased accordingly up to 1200 second ft. by June 17 when the break in the canal occurred at mile 79.2 near Dry Spotted Tail.

This break was caused by the negligence of one ditch rider who failed to adjust one of the check gates to take care of the raise in the

canal as he had been instructed to do. At the time of the break, the water in the canal at that point was 0.3 ft. higher than the previous high water mark, so it is believed that a gopher hole at or near the high water line of the canal started the break. By the 20th, this break was repaired and the canal again filled up to 1200 second feet and the discharge gradually increased to 1400 by June 23, to 1500 by June 27, to 1550 by Jul y10, to 1600 by July 20, and to a maximum of 16300 second feet by the end of July. This maximum of 1630 second feet was carried all through August, and then the discharge was gradually decreased to 950 second feet by the end of September which was the close of the irrigation season. After that about 800 second feet was run into the reservoirs from October 1st to the 15th when the canal gates were closed for the season. The Low Line Canal was operated from June 11th to September 30th. The canal discharge commenced with 25 second feet on June 11 and increased to 100 by the 18th, to 300 by the 26th and to a maximum of 325 by July 14 and maintained at that to August 15. From then there was a gradual decrease in the canal discharge from 325 to 70 second feet by the end of September when the gates were closed for the season.

4. **Distribution.** The total amount of water diverted from the river into the Interstate Canal for the season was 425,078 acre feet of which 44,534 acre feet were delivered to the North Platte Canal & Colonization Company for the irrigation of 105 farms containing approximately 9,350 acres of crop and 177,472 acre feet to the Interstate Unit for the irrigation of 1,274 farms containing approximately 83,203 acres in crop. This total of 177,472 acre feet was delivered as follows: 712 acre feet in May; 26,630 in June; 53,523 in July; 57,130 in August; and 39,477 in September. Of the September delivery, 2,460 acre feet were delivered for irrigation of Winter wheat and rye, and for which only 35c per acre foot or one-half of the regular charge was made in accordance with the petition for same by some of the water users and granted by the Department on August 29th. The average amount of water was 2.13 acre feet per acre as compared with 2.17 for 1916 and 1.38 for 1915.

5. **Method of Delivery.** The method of water delivery for the season was the same as for the past four years, namely, to deliver on demand early and late in the season when the supply exceeded the demand, and on rotation the balance of the time. For this season the schedule delivery was as follows:

MAIN CANAL SYSTEM.

Supply on demand up to June 17th. (Break June 17 to 20).
Rotation 4 on -4 off June 20th to July 2nd 1.75 S. F. per 80 acres.
Rotation 3 on -4 off July 2nd to July 9th 1.75 S. F. per 80 acres.
Rotation 3 on -4 off July 9th to August 7, 1.50 S. F. per 80 acres.
Rotation 4 on -4 off Aug. 7th to Aug. 31st 1.75 S. F. per 80 acres.
Supply on demand September 1st to September 30th.

LOW LINE SYSTEM.

Supply on demand up to July 1st. No limit of head.
Supply on demand up to July 1st to July 22nd 1.75 to 2.0 S. F.
Rotation 4 on and - off July 22 to Aug. 10 2.0 S. F.
Supply on demand Aug. 10th to Aug. 15th 2.0 S. F.
Supply on demand Aug. 15th to Sept. 30th No limit.

6. **Duty of Water.** There was no special work done by the O. & M. organization for the determination of the duty of water for the various crops, but the water records show that there were;

192 Water Users that did not use over 1.0 A. Feet per acre.
698 Water Users used from 1.1 to 2.0 A. Feet per acre
339 Water Users used from 2.1 to 3.0 A. Feet per acre
45 Water Users used from 3.1 to 4.0 A. Feet per acre
10 Water Users used over 4.0 A. Feet

1284

7. **Losses.** The per cent of Seepage and evaporation losses in the canal system was a little less this year than for the past two years as may be seen from the following table:

	1917	1916	1915
Main canal 95 miles	14%	17%	18%
Lateral Districts 1st and 2nd	22	27	25
Total	25%	29%	27%
High line canal and laterals	23%	31%	31%
Low line canal and laterals	53	56	85
Third Lateral District—Total	43	52	46
Grand Total	40%	44%	45%

8. **Seepage.** There was a general raise in the water table all over the project during the summer and a corresponding increase in the seeped areas. There were 886 acres relieved from water charges for 1917 on account of seepage as compared with 811 for 1916.

9. **Drainage.** The drainage work for the reclamation of seeped areas on the project was continued throughout the working season with two draglines and one trench-machine. One dragline was used in the first part of the year in the Winters Creek, and later in the Nine Mile Draw the other dragline was used in the Upper Sheep Creek; and the trench-machine was used in the spring at Winters Creek and later in Sheep Creek. A total of 1.52 miles of tile drain and 4. 48 of open drain were constructed during the year, making a total to date of 12.6 miles of tile and 23.4 of open drain.

10. FARM OPERATIONS.

Crops. The cropped area for the season of 1917 including the area seeded to alfalfa without a nurse crop was 83,203 acres. The following table gives a comparison of the crop results for the years 1910 to 1917 inclusive

Year	No. of Farms	Area in crop	Average value of crops Per Acre	Per Farm
1910	688	42,362	6.47	$ 398.57
1911	759	44,736	8.67	557.80
1912	777	50,252	10.38	650.34
1913	908	56,829	13.85	864.12
1914	944	60,532	14.95	943.01
1915	1095	70,007	18.55	1154.17
1916	1189	75,620	21.85	1375.75
1917	1274	83,203	41.92	2657.46

The table at the end of this report gives the acreage, yields, and value of each crop on the project for the season.

The alfalfa hay yield of 1.7 tons per acre is less than the average for the past few years. This was due partly to the late start in irrigation and the severe drouth thruout the summer; partly due to two or three hail storms that took the first crop on a portion of the Second and on about one-half of the Third Lateral Districts; and also partly due to the grasshoppers which took a big percentage of the third crop. The quality of the hay was very good, and the prices have averaged from $15 to $20 per ton which is higher than ever before in this valley. Practically all the hay was either used on the farm or sold to local stock feeders.

The cereal crops were fair. The corn crop was fair. There were many yields reported at from 40 to 45 bushels, and most of the corn matured fairly well.

The potato crop was the best that has been had on this project. The maximum yield reported was 700 bushels and the average 232 as compared with a maximum of 400 and an average of 158 bushels for 1916. The market for potatoes has been good and the price has varied between 75c and $1.00 per bushel.

About the only new crop of importance this year was that of beans. There were 2304 acres of this crop as compared with 229 acres for 1916. The maximum yield was 22 and the average 6.2 bushels.

This year, on account of the demand made last spring for increased food production, some farming was done by the government forces on all the government camp reserves where there was any irrigable land available for farming. And the following are the results for each for the season.

GOVERNMENT FARMS:

1. Colby's Camp Reserve—Sheep Creek.

			Total per	Acre
Corn	22 acres	800 bu.	$1200.00	
Corn Fodder	22 acres	13 T.	208.00	
Potatoes	3 acres	1000 bu.	800.00	
Total	25 acres		$2208.00	$88.32
		Farm Cost	772.00	30.88
		Profit	$1436.00	$57.44

Total amount of water used 10 acre ft.

2. Hemby's Camp Reserve—Dutch Flats.

Alfalfa Hay	36 acres	78 T.	$1326.00	
Beans	½ acres	1 bu.	6.00	
Corn	4 acres	180 bu.	270.00	
Oats	25½ acres	1158 bu.	810.60	
Potatoes	5 acres	1830 bu.	1464.00	
Total	71 acres		$3876.60	$54.60
		Farm Cost	1485.00	20.91
		Profit	$2391.60	$33.69

Total amount of water used 152 acre ft.

3. Waitman's Camp Reserve—Sunflower.

Alfalfa Hay	28 acres	30 T.	$ 510.00	
Beans	3 acres	12 bu.	72.00	
Corn	10 acres	440 bu.	660.00	
Oats	9 acres	343 bu.	240.10	
Potatoes	6 acres	1400 bu.	1120.00	
Total	56 acres		$2602.10	$46.47
		Farm Cost	1242.00	22.18
		Profit	$1360.10	$24.29

Total amount of water used 122 acre ft.

4. McDaniel's Camp Reserve—Wild Horse (Daily Subforeman).

Alfalfa Hay	16.5 acres	30 T.	$ 510.00	
Alfalfa Seeding	11 acres	good stand		
Beans	6 acres	30 bu.	180.00	
Corn	acres	880 bu.	1320.00	
Oats	11.5 acres	440 bu.	308.00	
Potatoes	5 acres	1000 bu.	800.00	
Total	61 acres		$3118.00	$51.11
		Cost of Farming	2550.00	41.80
		Profit	$ 568.00	$32.15

Total amount of water used 180 acre ft.

5. **McDaniel's Camp Reserve—Red Willow (Crismond Subforeman)**

Oats	26 acres cut for hay	26 T.	$ 96.00	$ 3.70
Alfalfa	26 acres good stand			
Total	26 acres		$ 96.00	$ 3.70
		Cost of Farming	932.00	35.85
		Loss	$836.00	32.15

Total amount of water used 77 acres ft.

SUMMARY.

	Crop Area	Cost	Crop Value
Sheep Creek	25 A.	$ 772.00	$2208.00
Dutch Flats	71 A.	1485.00	3876.60
Sunflower	56 A.	1242.00	2602.10
Camp 6	61 A.	2550.00	3118.00
Camp 7	26 A.	932.00	96.00
Total	239 acres	$6981.00	$11900.70

Total net profit—$4919.70 or $20.59 per acre cropped.

Total amount of water used—550 or 2.30 acre ft. per acre.

On the Sheep Creek farm the corn was planted on seepy sod ground. To hasten the maturing of this corn it was "topped" and the result was that the corn matured in very good shape and in addition to same 13 ton of corn tops were obtained which made excellent feed for the horses.

On the Red Willow Farm the ground is very rough and sandy. Twenty-six acres were broken up leveled and seeded to alfalfa with oats as a nurse crop. The oats did not amount to much but a good stand of alfalfa was secured.

11. **Live Stock.** The 1917 stock census shows the following summarp of stock on the project in comparison with same for former years:

Year	Horses	Cattle	Sheep	Hogs	Fowles	B Hives
1917	6,800	9,380	1,000	16,550	56,015	517
1916	6,398	8,080	1,401	25,123	59,249	764
1915	5,910	6,941	2,254	24,928	46,971	630
1914	4,618	3,190	605	22,143	43,898	476
1913	3,785	2,966	5,000	14,286	37,620	315
1912	3,329	2,179	2,000	9,123	3,000	80
1911	2,722	1,866	2,000	7,000	2,000	50

Of the cattle listed above there were 3,345 milch cows in 1917 as compared with 3,040 in 1916, 2,218 in 1915, 1,521 in 1914, and 1,326 in 1913.

12. **Feeding Stock.**

Year	Sheep	Cattle	Horses
1917	80,000	5,400	500
1916	83,500	4,600	500
1915	83,000	3,000	500
1914	75,000	4,700	700
1913	63,000	3,000	
1912	55,000		
1911	25,000		

13. **Hogs.** There seems to have been a falling off in the hog industry during the year. The above shows only 16,550 hogs on the Project in 1917 as compared with 25,123 for 1916 and 24,928 for 1915. The shipments for the year were also less, for the average monthly shipments up to the first of October was 41.0 cars as compared with 42.6 for 1916. The cash returns per month were, however, much greater the average being $105,014 per month as compared with $69,674 for 1916 and $41,399 for 1915. There were 25 hog cholera outbreaks during the year and approximately one hundred pigs lost from same as compared with 66 otubreaks and two hundred and fifty pigs lost in 1916. This hog report of shipments and also of losses was obtained from Mr. C. S. Jones, animal husbandryman, and covers the entire valley, but it is estimated that about 55 per cent of it belongs to the Interstate Project.

14. **Crop Report Cards.** At the last annual meeting it was suggested to get the crop reports by mailing out cards, and in accordance with this suggestion about 200 cards were mailed out, but only 26 or 13 per cent came back filled out. In 1916 and 1915 about the same number of cards were mailed out, and although no accurate count was made of the ones returned, it is estimated that only about 10 or 12 per cent of the cards were returned.

15. **Maintenance.** The maintenance work this year consisted in repairing the paving on the Lake Minatare Dam, cleaning the canals and laterals, renewing lateral wooden structures, repairing breaks, and miscellaneous repairs to canals, laterals, structures and rip-rap. Also in guarding the most vital points on the project.

In the repair of breaks, that of June 17th was the most serious one. It took a grading outfit with one grader and twelve wagons two days time to repair it and cost $1,416. The following is an itemized list of the breaks on the whole canal system for the season that cost over $25 in repairs:

Date	Canal	Location	Repairs finshed	Cost	Cause
June 17	M. C.	Mile 79.2	June 20	$1416	Gopher hole
June 30	L. L. C.	Near Wild Horse	June 30	45	Gopher hole
July 2	H. L. C.	Near Brown Flume	July 3	120	Gopher hole
July 3	Lat. No. 34	East of Camp	July 4	30	Gopher hole
July 24	Lat. No. 10	East Elliott Sy.	July 25	95	Gopher hole
July 26	Lat. No. 10	West Elliott Sy.	July 26	30	Gopher hole
July 26	L. L. C.	Near Nine Mile	July 27	75	Gopher hole
July 31	Lat. No. 15	Drop 5 went out	Aug. 1	25	Gopher hole
Aug. 21	L. L. S.	Flume 5 settled	Aug. 22	30	One pier S.
Sep. 12	R. S. C.	At Winter Creek	Sep. 15	500	Unknown
Oct. 2	M. C.	Mile 81.4	Oct. 3	468	Gopher hole
				$2834	

In addition to the above there were three bad sloughs in the M. C. at Rawhide that seriously threatened to result in breaks but which were headed off by building brush mattresses over them. The first one occurred at Mile 30 on August 19th and cost $100.00 the second one occurred on the same day at Mile 29.3 and cost $154 and the third was a continuation of the one at Mile 29.3 on the 7th day of September and cost approximately $600.

The lateral cleaning for the year was exceptionally heavy and this can be accounted for as follows, first on the account of the scarcity of help and the early freezing up of the ground in the fall of 1916 practically all the lateral cleaning was left until spring, second, the hard winds during the winter and early spring filled up many of the laterals with tumble weeds and drift sand more than ever before; and third, the rains in the spring and the late start of water in the small laterals caused the weeds to grow up so badly that many laterals had to be cleaned just on account of the new crop of weeds.

16. **Wooden Structures.** Most of the wooden structures on the 1st and 2nd lateral districts placed in the years of 1907 to 1910 inclusive have deterioted deyond repair, and the work of replacing these with concrete has continued for the past three years. During this past year not as many structures were renewed as had been hoped for because of the labor difficulties. The total number of renewals for the year was 108 turnouts, 115 weirs, 52 checks, 36 drops, 21 culverts, 4 bridges and 7 miscellaneous structures. There still remains approximately 800 turnouts, 700 weirs, 300 checks, 200 lateral headgates, 400 drops, besides some culverts and bridges to be renewed; and the renewal of these ought to be completed within the next two or three years.

On the Third Lateral District some of the first structures placed in 1910 on laterals 26 and 27 were also made of untreated lumber and these too are so badly decayed that it may be necessary to renew them

in the next two or three years. But all the wooden structures placed in the Third Lateral District since that time have been made of lumber treated with carbolineum or R. R. Oil. These treated structures, some of which have been placed for seven years are still in such good condition that no decay in the lumber is noticeable.

17. **Concrete Structures.** The concrete structures are practically all in good condition as when first made. The only deterioration that has been noticed on any of them is some wear on the floor of the water cushion on a few of the drops, also on the baffle posts on the Lake Minatare outlet.

18. **Metal Flumes.** The metal flumes as stated in last year's report are all more or less affected by rust. In October 1916, four flumes were painted with one coat of water gas tar and one coat of coal gas tar had this paint after one season's wear is still in good condition and shows no sign of peeling off as has been our previous experience with all other paints at the end of the first season. The cost of this paint laid down was 11½c per gallon, and the total cost per square foot of surface painted was 11c. It therefore appears to be both the best and cheapest paint for metal flumes that has been tried on this project.

19. **Gophers.** The gopher trouble this year was about the same as in the past, although considerable trapping was done both by the canal riders and by the farmer boys. During the season approximately 5,000 gophers were trapped by the O. & M. forces, 3,800 by the canal and 1,200 by special trappers. In addition to this the farmer boys trapped approximately 41,900 for which the Water Users Association paid a bounty of 10c each. The reduction of gophers is apparent in some places, but taking the project as a whole it seems that it may be necessary to adopt some more effectice and systematic method for reducing this pest to a possible minimum.

20. **Construction.** The new work performed during the year by the O. & M. and by the drainage organization but not included in the O. & M. charges, and approximate cost for the year of same, is about as follows:

1. Cottonwood wasteway at mile 1.4 on the M. C.	$ 3,500
2. Sand Point Drop at mile 10.3 on the M. C.	2,007
3. Winter Creek Lake outlet works	5,000
4. Lateral 27 Siphon (½ of cost to be charged to O. & M.)	8,000
5. Drains (1.5 miles of drain and 4.5 miles open drain)	29,000
6. Lateral extensions two miles	100
7. Lateral structures for new land, 65 weirs, 5 turnouts, 10 checks, 4 culverts and flume	1,536
Total	**$49,143**

The Cottonwood wasteway was built for two purposes, first, to provide for a sand sluice near the upper end of the M. C. and second, to provide for additional wasteway facilities. The Sand Point concrete drop was necessary for the protection of the outlet of the Sand Point wasteway on account of the gradual erosion of the natural soft rock over which the waste water fell. The Winter Creek lake outlet works is for the purpose of utilizing the natural basin known as the Winter Creek Lake for storage purposes. The capacity of this reservoir will be 3,000 acre ft. The lateral 27 siphon is for the replacement of lateral 27 flume which was so badly deteriorated as to require extensive repairs and which was also of insufficient capacity. The drains constructed were for the reclamation of lands that had become unfit for cultivation by reason of seepage. The lateral extensions and structures were mostly for the new lands in the Third Lateral District.

21. **Operation and Maintenance** Cost. The actual O. & M. costs for the season of 1917 in comparison with the estimate for same and also the cost for 1916 is shown in the following table:

	1916 Cost	1917 Estimated	Cost Actual
Pathfinder	7,841.82	8,000	9,977.42
1st Division M. C.	27,217.11	28,500	33,469.86
2nd Division M. C.	7,454.18	8,000	20,715.78
1st & 2nd Lateral Districts	42,096.34	43,500	42,970.48
3rd Lateral District	33,786.38	35,000	42,861.25
Total	118,396.03	123,000	149,994.80

The above table shows a considerable increase in the actual for 1917 over that for 1916 and also over the estiate for 1917. The large increase on the 2nd Div. M. C. was largely due to the greater amount of work done than usual on the canal during the months October, November and December, when approximately $10,000 were spent on improving the canal section and strengthening the banks and also to the two breaks during the summer which cost about $2,000.

The increased cost on the whole system is due principally to the following two reasons

First, after the war broke out last spring it was deemed advisable to guard the most important structures on the project, and hence the Pathfinder dam, Whalen dam, Spring Canyon flume, Rawhide siphon, and the Minatare dam have been guarded since about the first of April at an approximate cost of $11,000;

Second. The labor conditions were so acute during the entire year that in order to get help it was necessary to advance the wages for all classes of labor. The wages for common labor were advanced from 28 to 40c per hour; hired teams from 25 to 30c per hour; ditch-riders $10 per month and in addition thereto a 5 or 10 per cent bonus by special act of congress; and so on for sub-foreman, mechanics and others. Likewise the cost of materials and supplies increased at about the same ratio. On a whole it is estimated that the cost of labor, materials and supplies increased on an average of about 25 per cent during the year, and on this basis the increased O. & M. cost would be approximately $20,000 due to this cause for the year. With these allowances the O. & M. cost for the year would be a little less than for last year.

22. **Collections.** The O. & M. accruals for the season of 1917 according to the acreage under W. R. A. to the water delivery and also to other sources are as follows:

Project lands under W. R. A.	$123,350.00
Project lands water rentals @ $1.25 per A ft.	635.00
N. P. C. & C. Co. by special contract (17837 A ft @ 40c	7,134.80
Total for Interstate Unit	$131,119.80

Of the above the first item is subject to 5 per cent discount if paid before March 1, 1918.

In addition to the above the accruals for Pathfinder storage water to private irrigation districts are:

Beerline Irrigation Canal Co.	$ 40.00
Brown Creek Irrigation Canal Co.	250.00
Central Irrigation District	50.00
Chimney Rock Irrigation Co. & W. P. Co.	133.33
Gering Irrigation District	400.00
Farmers Irrigation District	2000.00
Bridgeport Irrigation District	307.69
Goshen Land Co.	363.64
Pleasant Valley Lateral Association	123.08
	$3,667.74
Grand Total	$134,787.54

23. **Settlement and Developement.**

The general conditions of the settlers has improved very much during the year. This improved condition is due largely to the following reasons: a fair crop and exceptionally good prices; a general increase in the livestock industry; improved conditions of credit and an increasingly co-operative attitude between the settler and the reclamation service.

The following tables show to some extent the general progress in improvements during the past four years:

Improvements made	1917	1916	1915	1914
Potato cellar built	77			
Houses built	75	91	45	86
Barns built	57	96	60	41
Granaries built	33	25	13	22
Miscellaneous buildings	47	35	25	25
Buildings enlarged	38	54	40	39
District Schools built	6	4	5	2
Centralized Schools built	1	0	2	0
Churches built	3	1	1	2
Automobiles purchased	220	160	50	58

The following tables give the number of farms with different values of crops and improvements for the past four years:

Number of farms with improvement valued from	YEAR 1917	1916	1915	1914
$ 0 to $249	$250	$233	$188	$165
250 to 499	200	171	175	131
500 to 999	324	304	298	264
1000 and up	500	481	434	384
Total	$1274	$1189	$1095	$944
$ 0 to $499	$124	$310	$355	$350
500 to 999	160	321	291	276
1000 to 1499	180	163	168	156
1500 to 1999	145	111	76	69
2000 and up	665	284	205	113
Total	$1274	$1189	$1095	$994

24. **Land Transfers.** During the year there were approximately 102 farms sold or traded on the project. The average price of these land sales was $72.00 per acre of irrigable land, or approximately $5857 per farm. The maximum was $150.00 per acre or $12,000.00 for and 80 acre farm on the Dutch Flats. About one-half of these land transfers have been to farmers who are already owning land on the the mileage and the cost records furnished by the watermasters for the project, but having large families wish to increase their holdings so they can afford to keep their children home as much as possible.

25. **Watermasters' Automobile Costs.** The following table gives the mileage and the cost records furnished by the Watermasters for the operation of their Ford touring cars:

	Hemby	Waitman	McDaniel
Gasoline	$131.60	$124.26	$195.27
Oil	14.25	22.76	14.05
Tire and other repairs	175.90	88.15	67.80
	.....	95.86	147.21
Depreciation 2½c per mile	190.95	190.38	244.13
Total	$512.70	$521.41	$668.46
Average cost per mile	.06.7c	.06.8c	.06.8c
Mileage	7,638 miles	7,615 miles	9,765 miles
Average cost per month	42.73	43.62	55.71

26. The O. & M. organization for the year was practically the same as that for last year which was given at considerable detail in last year's report.

CROP	Area acres	Unit of yield	Yields				Values		
			Total	Average	Per acre		Per unit of yield	Total	Per acre
					Max.	Min.			
Alfalfa hay	34,374	Ton	58,656	1.7	3.5	0	17.00	997,152.00	29.00
Alfalfa seed	40	Bu.	51	1.3	1.6	0	10.00	510.00	12.75
Barley	3,052	Bu.	94,868	31.0	69.0	0	1.20	113,841.60	37.30
Beans	2,034	Bu.	14,224	6.2	22.0	0	6.00	85,344.00	37.04
Beets, sugar and tops	9,357	Ton	99,790	10.7	18.0	0	7.50	748,425.00	79.99
Stock beets	42	Ton	444	10.6	25.0	0	5.00	2,220.00	53.85
Cabbage	12	Ton	60	5.0	10.0	0	20.00	1,200.00	100.00
Corn	6,051	Bu.	117,008	19.3	75.0	0	1.50	175,512.00	29.01
Corn fodder	763	Ton	1,191	1.6	15.0	0	2.00	2,382.00	3.12
Garden	254	.....	.....	.....	.....	0	.....	25,400.00	100.00
Hay (other)	1,015	Ton	853	0.8	2.0	0	12.00	10,236.00	10.08
Millet seed	309	Bu.	2,799	8.0	29.0	0	1.50	4,198.50	13.59
Oats	10,173	Bu.	243,764	24.0	77.0	0	.70	170,634.80	16.77
Onions	17	Bu.	1,695	100.0	500.0	0	2.25	3,813.75	224.34
Pasture Alfalfa	3,116	.....	.....	.....	.....	0	15.00	46,740.00	15.00
Pasture (other)	830	.....	.....	.....	.....	0	5.00	4,150.00	5.00
Potatoes	4,833	Bu.	1,119,626	231.7	700.0	0	.80	895,700.80	185.33
Rye	471	Bu.	3,434	7.3	17.5	0	1.50	5,151.00	10.94
Squash	25	Ton	151	6.0	12.0	0	15.00	2,265.00	90.60
Wheat	3,128	Bu.	47,467	15.2	58.0	0	1.80	85,440.60	27.31
Miscellaneous	594	.....	.....	.....	.....	0	.....	4,742.00	7.98
Total cropped	80,760	Total and average						3,385,059.05	41.92
Alfalfa seeding with nurse crop	6,503								
Alfalfa seeding without nurse crop	1,777								
Fall seeding (wheat)	666								
Total other purposes	2,443								
Grand total Irrigated	83,203								

Areas	Acres	No. farms	Per cent of Proj.
Total irrigable area farms reported	102,745	1,274	92
Total irrigated area farms reported	83,203	1,274	74
Under Water Right Application	82,523	1,264	73
Under Rental Contract	680	10	1
Total cropped area farms reported	80,760	1,274	72

NORTH PLATTE VALLEY WATER USERS' ASSOCIATION
TREASURER'S REPORT

Scottsbluff, Nebraska, January 1, 1918.

I submit herewith to the stockholders of the North Platte Valley Water Users' Association, the following report as Treasurer for the year 1917, beginning January 1, 1917, and ending December 31, 1917:

RECEIPTS

Balance January 1, 1917		$835.97
Less checks outstanding on that date		100.47
Leaving cash on hand		$735.50
Received from all assessments as follows:		
Assessment No. 1	$ 47.99	
Assessment No. 2	143.97	
Assessment No. 3	206.66	
Assessment No. 4	175.71	
Assessment No. 5	117.14	
Assessment No. 6	117.14	
Assessment No. 7	175.71	
Assessment No. 8	119.50	
Assessment No. 9	190.35	
Assessment No. 10	199.02	
Assessment No. 11	464.47	
Assessment No. 12	9,025.71	
Total		$10,989.37
		$11,724.87
Received rent from Enterprise Irrigation District		42.50
Interest on Daily Balance		35.96
Interest on Certificate of Deposit		40.00
Special Deposit (for mailing list)		5.00
Special Deposit for W'r Users' Record furnished Reg. Deeds		23.40
Total		$11,871.73

EXPENDITURES

Total checks paid during the year	$7,063.12	
Certificates of Deposits amounting to	4,500.00	
Outstanding checks December 31, 1917	83.02	
	$11,646.14	
Total of paid and unpaid checks		$11,646.14
Cash balance January 1, 1918		225.59

Respectfully submitted,

(Signed) B. J. SEGER, Treas.

N. P. V. W. U. S. A.

NORTH PLATTE VALLEY WATER USERS' ASSOCIATION
REPORT OF THE SECRETARY

Secretary's Itemized Report

I submit herewith the Secretary's report for the year 1917:

RECEIPTS

Balance January 1, 1917	$ 835.97	
Less checks outstanding on that date	100.47	
Leaving cash on hand		$ 735.50
Received from all assessments	$10,989.37	
Received for rent	42.50	
Received for interest	75.96	
Received for special deposit	28.40	$11,136.23
		$11,871.73

EXPENDITURES

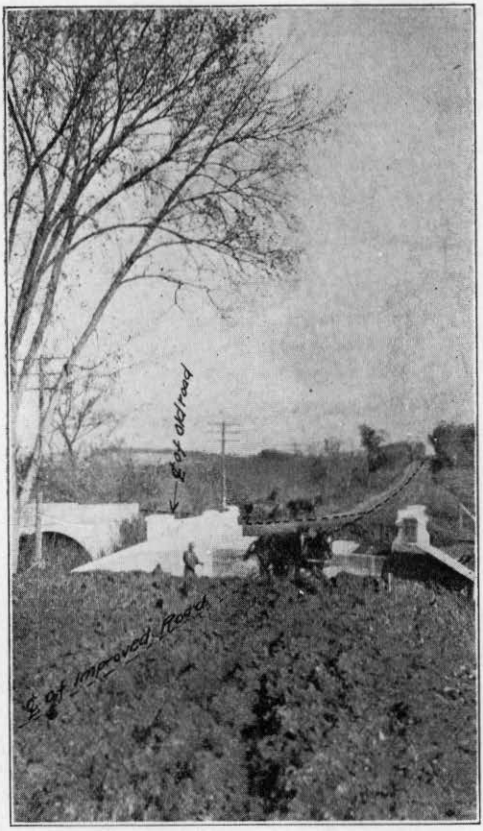
Total checks paid during the year	$ 7,063.12
Total checks outstanding January 1, 1918	83.02
Certificates of deposit	4,500.00
Total	$11,646.14
Our cash balance January 1, 1918	225.59

ITEMIZED ACCOUNT OF EXPENDITURES

Paid for gopher bounty	$4,189.85
Salary of Secretary-Treasurer	1,450.00
Salary paid to members of Board of Directors	500.75
Office rent	285.00
Auditing books by auditing committee	6.85
Postage	138.09
Office supplies	124.24
Postoffice box rent, $1.50 rental for chairs, $1.50	3.00
Inspection trips by members of the board	90.50
Refund to water users	19.68
Taxes	45.00
Delegate expenses to irrigation meetings	153.96
Telephone rent and phone tolls	43.97
Election expense	32.35
Committee meeting on gopher bounty business	8.05
Abstract work	5.00
Moving expense from old office	5.00
Telegram	.50
Lettering sign at foot of stairs	1.70
Hall rent	10.00
Paid for typing mailing list	5.00
Electric lights	7.65
Printing	20.00
Total	$7,146.14

Respectfully submitted,

(Signed) B. J. SEGER, Secretary.



Straightening a Road. Federal and State Aid Project No. 2, Otoe County

I wish to report further than $60.00 more interest was earned on deposits for the year 1917 than is shown in the item of interest in the above report. A certificate of deposit for $3,000, matured the latter part of December, but was not collected in time to show on the report. The total amount of interest earned for the past year amounted to $135.96. We now hav e$3,500.00 on certificate of deposit drawing 4% interest and a cash balance now in the treasury of $1,285.59 or a total of $4,785.59 to begin the year's business.

The item for postage is larger than last pear, but we have on hand $34.94 worth of stamps and stamped envelopes, which would make the amount paid out for 1917 but a few dollars more than the previous year.

The item of supplies for office is larger than last year, but the large item of the expense is for paper, most of which was used in making last year's report, and the cost of paper is about double what it was a year ago. We have on hand 12 reams of paper worth about $11.00, also a supply of warrants sufficient to last several years.

There were 1,344 receipts issued and mailed or delivered for association charges paid during the year 1917. There were 276 water users delinquent July 1st, these were practically all collected during the months of July and August. The largest amount collected in one month was $3,812.62, during the month of June.

There were 1,112 warrants issued last year, most of which was in payment of gopher bounty. As reported above, $4,189.85 was paid out for gopher bounty the past pear. We have been paying bounty on gohpers for three and a half years and have paid out a total of $13,851.65 for bounty. Many members of the association think that there are more gophers than ever on the project, and but very little trapping has been done as yet in the Third district as compared with the trapping that has been done in the Fist and Second lateral districts. It would seem therefore that a more effective plan should be adopted another year for the extermination of the gopher.

A Project Agricultural agent is needed in addition to a County Agent, for the reason that about half of the project lands are in other counties. A County Agent and Project Agent could work out the problems together that thep would have to deal with in the valley. There would be plenty of work for both for in addition to the gopher problem, we have the grasshopper situation to deal with. The loss to the farmer last year from the gopher and grasshopper together, was enormous, and the greater part of this loss no doubt might have been saved if we had had the help and direction of the Agricultural Agent. An Agricultural Agent would be of material help to the farmer in many ways aside from those mentioned, and it is the opinion of your Secretary that the money you pay out for a thoroughly competent Agricultural Agent, would be returned to you many times through the saving effected by such an agent.

A total or sixty-five subscriptions for stock in the association were filed and recorded, making the total membership now 1,291 and a total of 112,013 shares. There were 236 water right applications filed and recorded and approximately 25 applications for patent were made in the office.

There were 500 letters written relating to the business of the office and four circular letters addressed to stockholders, were mailed during the year.

The Secretary printed and made into booklet form, 500 copies of the combined report of Paul Rothi, Irrigation Manager, and the Secretary-Treasurer. This report contained 32 pages or a total of 16,000 sheets of paper required to make the books. An effort was made to distribute these reports through the directors and the stockholders were notified by letter that a copy of the report could be obtained from the nearest director or from the office. We still have on hand 250 copies of 1916 reports. I would therefore recommend that if the report for 1917 is printed that but 250 copies be made.

The Board of Directors held 14 meetings during the year. There were 12 resolutions adopted by the board, two of the resolutions requested the setting apart of twenty acres of land in Section 26 T. 24 R. 57, and twenty acres in Section 17 T. 23, R. 56, for consolidated schools and for community centers. Two inspection trips were made by the board, one April 10, 1917, from Mitchell over the main canal to Whalen Dam, then back over the South Side Project. A stop was made at Ft. Laramie for the purpose of looking over the "Cole" land to ascertain what damages if any, he had sustained by reason of the Government's wasteway. The other trip was made during the month of October for the purpose of looking over the damage done during the past season to the main canal by cutting of the banks at different places.

Mr. C. F. Blanchard, Statistician of the Reclamation Service, visited the Project and met with the board at its meeting held May 2. Mr. Blanchard was making investigations relative to food conditions on this and other projects with a view of making suggestions along the line of increased acreage of food products.

Mr. A. P. Davis, Director and Chief Engineer of the U. S. R. S., met with the board at its meeting of September 5, to talk over with the board the feasibility of canal enlargement. It was the consensus of opinion that it would be a hard matter to get Congress to make appropriations for work of this kind at this time. Taken as a whole the project is in a more prosperous condition than a year ago.

Respectfully submitted,

B. J. SEGER, Secretary.

REPORT OF OPERATION AND MAINTENANCE OF THE FARMERS' IRRIGATION DISTRICT

Weather Observatoins. Severe, windy weather prevailed during January and February, and March was cold and stormy. The spring was unusually backward, being cold and wet, also accompanied with considerable wind. The fore part of the year was dry and windy, filling the laterals with an unusually large amount of wind-blown soil. A cold, wet spring delayed farming operations considerably and occasioned many floods in the river and small freshets in the cross-drainage extending through the irrigation project. The summer was hot and dry ,followed by a dry fall with a very early severe frost, and that followed by warm weather and mild weather up to the end of the year.

Operation. The irrigation season of 1918 began on May 6th and closed on September 30th. During the month of May there were 11,100 acre feet of water diverted from the river and about one-half of that was used on the land. Water was turned out of the canal on the 17th and 18th of May due to large quantities of sand lodging in the canal just below the dam. The river was in flood during the entire month of June and water was diverted into the canal until the 22nd of the month, when the canal below the dam had loaded with sand to such an extent as to make it impossible to get more than 550 cubic feet of water into the canal even though the river was in flood. Water was turned out of the canal on the 22nd and about 50 teams put to work scraping sand and water was again turned into the canal on June 27th. The canal continued in operation until the 8th day of July when the dam broke, washing out a large section of sheet piling under the dam and allowing the river to flow underneath and immediately lowing the water level of the river about 5 feet. Immediately following the breach in the dam, steps were taken to open the old headgates for the reason that the water stood about 2½ feet higher there than at the new headgates, or needle dam. A large force of teams and men were put on the canal scraping out sand, and water was turned into the canal on the 11th of July, the river continuing to fall very rapidly, and on the 21st of the month, had fallen to such an extent as to make it impossible to get more than 300 cubic feet of water per second into the canal through the old gates. On the 22nd of July, work was begun on the building of a temporary dam near the old headgates, and on the 27th of the month work was begun on the filling of the breach under the needle dam with rock shipped from Sunrise, Wyo. Both pieces of work were prosecuted day and night by a force of about 60 men at each place. A spur track was constructed from the C. ,B. & Q. R. R. to the dam and a pile trestle constructed across the canal. A narrow gauge track was constructed on top of the dam and extending beyond the first breach. The rock was shipped from Sunrise, Wyo., to the dam in standard gauge cars and unloaded from these cars into narrow gauge dump cars by steam driven derricks and hand mucking. By August

7th, the filling had progressed far enough to bring the water to the top of the dam.

Water was held at this stage and about 900 second feet of water in the canal until August 12th, when another weak place made its appearance and broke another large hole under the dam near the north shore, letting the entire river pass under the dam. The breach reduced the water in the canal to 470 second feet. A night force was put on again and rock rushed to the dam as rapidly as possible, and by August 18th the break was so far repaired as to bring the water in the canal up to 806 cubic feet per second, which filled the requirements at that time and allowed about 200 cubic feet per second to be washed at the sluiceway. The work of placing rock at the dam was continued until October 1st, after which time the work was continued on the spreading of rock which had been placed and the building of sand sluices at the dam. The sand sluices consisted of 3 11 ft. gates drawing water from the bottom of the dam, also the construction of a concrete wall 4 feet high in front of the canal gates and a set of 6-15in.x15in. sand sluices in front of the canal gates, all of which is designed to protect the canal against further loading with sand.

The rock apron at the dam is 60 feet wide on the lower or down stream side of the dam, and 25 feet wide on the up stream side and all of it about 4 feet in thickness. During 1917 there were 220 cars of rock placed which filled the breach under the dam, nearly completed the rock filling above and about three-fourths completed the rock apron below the dam. It is proposed to complete the apron during the month of March, 1918, which will requqire about 180 carloads of rock. The rock aprons will require a total of 400 carloads of rock and 6 carloads of cement and one carload of steel for reinforcing.

Holes were put through the concrete floor of the original needle dam and there was found a cavity underneath this slab of from 2 to 14 feet in depth and extending over about one-half of the dam. This cavity has been filled with rock and concrete. The estimated cost of repairs and remodeling of the needle dam is $73,550.00, and the cost herewith shows the amount expended to December 31, 1917, which cost, however, does not include any payment to the C., B. & Q. R. R. for building railway track and trestle nor any payment to the United States for use of equipment and materials furnished.

The water diverted from the river into the canal is shown by the following table:

May	11,100 acre feet
June	19,058 acre feet
July	19,669 acre feet
August	20,669 acre feet
September	50,633 acre feet
Total	**121,129 acre feet**

There was about 65% of the water diverted, delivered to the lands, making about 79,000 acre feet applied on about 50,000 acres of crop, or about 1.3 acre feet per acre on the average.

Canal and Lateral Maintenance. The drp weather and heavy winds filled a great many miles of laterals full of dirt, necessitating their cleaning in the spring before any water could be put through them. Also the very wet spring made this cleaning extremely expensive for the reason thatt it was practically the same as scraping mud from the laterals.

A small break occurred at the headgate of Lateral 2165 on July 5th. This break put the lower end of the district out of water for about 36 hours. The largest flood of record occurred on Red Willow Creek on June 30th, washing out portions of the canal banks for a distance of about one-fourth mile and breaking a large hole through both banks near the Red Willow Creek Culvert.

Russian thistles or tumble weeds are a source of considerablbe trouble and expense in operation and maintenance work. Canal and lateral banks appear to present ideal conditions for their growth, and the entire force was kept busy for about ten days in the spring burning these weeds, and even after they are all burned from the canal and lateral rights of way, they continue to blow in from adjoining fields and are a source of annoyance and danger to operation and maintenance the entire irrigation season. The burning of these weeds is also attended with considerable danger since the spring season is usually one of high winds and fire is apt to be carried to the timber structures in canals and laterals and buildings on adjoining property.

Drainage. A record has been kept of the seepage areas within the district, and the following table shows the areas that have been rendered nonproductive on account of seepage for each of the pears:

1913	1,490 acres
1914	2,610 acres
1915	3,805 acres
1916	5,600 acres
1917	6,000 acres

The seepage became such a menace that it became necessary to take some action toward the prevention of further spread of the damage and to relieve some of the areas already damaged. Early in the year a contract was entered into with the United States for the construction of a main drainage line in Nine Mile Canon which, when completed will relieve and reclaim a very large area of seeped lands in this canon as well as give an outlet for all of the seepage and waste waters in this water shed. The United States is to construct the drain and the Irrigation District is to repay to the United States 40% of the cost of the main drain from the river to the Irrigation District's canal in Nine Mile Canon. The portion of the cost of the drain to be paid by the district is to be paid for in ten annual installments.

The Red Willow Drainage District was formed for the purpose of constructing drains covering an area of about 2,000 acres of seeped land northeast of Bayard, and a contract was entered into between the Drainage District and the Irrigation District whereby the Irrigation District is to repay the Drainage District, the cost of construction of their drains and the Drainage District is to furnish the necessary right of way without any cost to the Irrigation District. The repayment is to be made annually and equal to the amount of the general fund taxes levied upon the seeped lands within the Drainage District. The drains within this district are about one-half completed and already have accomplished considerable good.

A contract was entered into with Frank McCarter a drainage contractor of Bayard, whereby he was to cut certain plow ditches designated by the Irrigation District, and was to take his pay in warrants of the district in four annual installments, ¾ in 1917, ¼ each of the following years until payment was completed. Also a number of small contracts were made with individuals whereby they were to construct the necessary drains and to receive payment for the cost thereof in annual installments equqal to the general fund taxes on the lands that were seeped and reclaimed.

During the year there will be about 44 miles of plow channel drains constructed, being 9 feet wide on top and from 3 to 4 feet deep. The cost report herewith shows the amount expended for drainage during the pear 1917.

Irrigation System. The system at present comprises the following: Ninety-six miles of main canal, 235 miles of laterals, and 44 miles of drains.

The structures are as follows:

MAIN CANAL

Steel bridges	12
Timber bridges	56
Concrete checks	9
Timber checks	14
Steel and concrete headgates	80
Timber headgates	46
Concrete culverts	12
Tile pipe culverts	21
Timber and concrete headgates	11
Total structures for main canal	261

LATERALS AND DRAINS

Concrete bridges	9
Steel pipe bridges	188
Vitrified tile pipe bridges	25
Wooden bridges 2 to 6 ft. long	49
Wooden bridges 7 to 40 ft. long	98

Concrete checks	41
Wooden checks	307
Concrete drops	417
Wooden drops	442
Concrete underdrains	6
Tile pipe under drains	1
Steel pipe under drains	2
Timber headgates 1 ft. wide	313
Timber headgates 2 ft. wide	658
Timber headgates 3 ft. wide	21
Timber headgates wider than 3 ft	6
Steel and concrete headgates	171
Concrete outlets with timber gates	6
Timber flumes	18
Concrete chute drops	4
Total lateral and drain structures	2782
Grand total structures	3043

From a study of the above tables it will be seen that there are 116 timber structures in the main canal and 1912 timber structures in the laterals and drains making a grand total of 2,028 timber structures in the entire irrigation district, and a total of 3,043 structures of all kinds in the irrigation system. These structures were built during the period 1907 to 1913 and have begun to deteriorate very rapidly. A large portion of the timber drops and headgates in the eastern portion of the irrigation district are so rotten that they may be kicked to pieces with a persons foot.

Organization. The organization during the year 1917 was as follows: A district board consisting of three members, a secretary, treasurer, attorney, engineer and manager and a general superintendent. There were 19 day ditch riders and 5 night ditch riders. The proposed organization for the year 1918 is as follows:

A ditch board consisting of three members, secretarp, treasurer, attorney, engineer and manager, three division foreman, 19 day ditch riders and 5 night riders. The only change in the organization from 1917 to 1918 is the elimination of the general superintendent and the appointing of three division foreman, who will have charge of the operation and maintenance work in their division. The irrigation district having been divided into three divisions.

In the cost report herewith the cost for improvements represents very largely the money that has been expended for the replacement of timber structures by steel and concrete, which, during the year 1917, amounted to $15,244.29.

The following is an explanation of the cost features, this explanation is followed by the cost statement for the year 1917.

General Expense. This account includes the following: Salary and expense of the board of directors, salary and expense of the attorney,

all railroad fares and expenses of other employes. Office expense, printing, judgments and all of the expense in connection with the United States taking over the district.

Administration. This account includes the salary of the manager, superintendents, secretary, treasurer and during January February and March included the regular salary of attorney.

Camp. This account includes all of the expenses in connection with the operation of the camps, such as groceries, meats, horse feed, moving and setting up camp, labor of cooks and helpers, camp supplies and cost of camp equipment, tents, stoves, etc. Also the purchase price of materials and supplies sold to the employes at the camps such as tobacco, blankets and orders on the stores.

Temporary Dam. This account includes all of the expense in connection with the building of the sand dam in the river.

Repairing Needle Dam. This account includes all of the expense in connection with the repairing of the needle dam such as freight on rock, railway track and labor placing rock at the dam, cost of concrete work remodeling the dam and building sand sluices and filling under old dam.

Canal Cleaning at Headgates. This feature includes all of the expense of scrapping sand from the canal at the dam after the break occurred on July 8, the cost of building and operating the dredges, the operation of the other pumps, and the opening of the old gates and the channel from the river to the canal. Also includes all of the expenses of the teams engaged in the scrapping of the sand, government teams, sugar company teams and our own hired teams.

Miscellaneous Equipment. Amount expended for equipment during the year, tools, machinery, camp equipment, etc.

Maintenance is the upkeep of the various features and operation is salary of ditch riders and gate tenders, watchmen, etc., and improvements is the cost of new work or the replacing of timber structures with concrete and steel. Improvement on drains is the cost of new drains constructed this year except about $12,000.00 not paid to Frank McCarter but to be paid in three annual installments.

Camp Credits. These are credits to the camp operation such as deductions from men's time for board and horse feed.

COST STATEMENT OF FARMERS' IRRIGATION DISTRICT 1917

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Total
General expense	1579.19	472.41	665.67	132.67	927.57	640.64	824.03	548.60	659.78	1955.64	311.39	447.52	10165.31
Administration	800.00	700.00	725.23	675.00	675.00	675.00	675.00	675.00	675.00	675.00	400.00	400.00	7750.00
Camp	322.42	173.59	625.67	1163.36	546.00	860.99	4381.41	4692.12	1188.79	1363.10	1508.25	1844.54	18211.41
Temporary dam							7315.74	3719.50	790.83	378.05		370.00	12574.12
Repairing Needle dam							6181.86	9290.69	10137.18	12160.86	3265.32	3752.97	44788.88
Canal cleaning at headgates							3789.91	470.53	105.85	21.75			4388.04
Miscellaneous equipment							1524.75	30.00	69.65	1010.74	247.00	.65	2635.79
Diversion dam maintenance		418.72	363.00	294.32		1243.30			88.20				2407.54
Diversion dam operation	100.00				265.32			215.33	545.00				1125.65
Diversion dam improvements													
Main canal maintenance	534.07	74.90	663.31	2417.04	973.18	1460.09	1455.27	617.54	2673.31	828.14	447.16	832.05	12996.06
Main canal operation					546.79	1388.50	306.75	1335.00	1084.65	78.81			4740.70
Main canal improvements			97.51	196.22	18.00				27.00	5.00	5342.58	58.94	5745.25
Laterals maintenance	82.98	7.75	756.92	2629.75	4864.92	1576.19	2775.28	1555.00	901.12	2819.18	6389.34	726.42	25084.85
Laterals operation	30.00			50.50	152.00	902.50	919.95	1104.00	1205.05	587.25		2.50	4953.75
Laterals improvements			190.25	2655.57	1064.93	1791.97	487.80	319.10	50.55	1662.04		1276.83	9499.04
Wasteways maintenance			52.31	30.00	96.10	391.05	551.90	622.39	237.18	664.25	32.98		2678.16
Wasteways operation													
Wasteways improvements													
Buildings maintenance			19.02		5.90	158.92			34.81				218.65
Buildings operation													
Buildings improvements			107.75										107.75
Drainage maintenance			2.70		99.40	537.30	12.00		3.00	16.00	7.50	137.50	815.40
Drainage operation													
Drainage improvements				418.00	794.75	218.00	728.05	2233.36	3984.81	1506.23	515.60	1527.13	11925.91
Rights of way									251.00	4.15	225.00	2001.00	2481.15
Camp credits	81.10	48.00	120.65	755.46	782.17	767.15	2431.60	2985.10	717.64	849.33	1094.45	908.44	11541.09
Net cash expended	3387.50	1799.66	4655.54	13567.72	10247.67	11077.30	27973.35	22443.06	23744.12	24886.86	17597.67	12743.62	161944.37

The following balance sheet shows financial condition of the district on December 31 1917:

BALANCE SHEET December 31, 1917

LILABILITIES

Bonds payable	$2,203,000.00	
United States	465,500.00	
Current Liabilities		$2,668,500.00
Warrants Outstanding	200,703.14	
Accrued Interest on Bonds	35,550.25	
Frank McCarter	9,509.58	
		245,762.97
Reserve for Maintenance and Operation		278,104.24
Reserce for Bond Interest		261,113.27
Miscellaneous Receipts		311.55
Water Rentals		35.50
		$3,453,827.53

ASSETS AND EXPENSES

Property and Equipment:		
Irrigation System	$2,514,100.00	
Improvement	58,887.23	
Real Estate	2,678.07	
Rights of way	1,382.69	
Miscellaneous Equipment	5,763.90	
Office Equipment	404.15	
		$2,583,216.04
Expenses:		
Camp	4,445.98	
Canal cleaning (head gates)	4,388.04	
Drainage	1,163.44	
Repairing Needle Dam	40,971.31	
Temporary Dam	12,204.12	
		$ 63,182.89
Cash and Accounts Receivable:		
Cash in Bank	9,248.85	
District Treasurer	1,997.08	
Bills receivable	36.00	
		$ 11,281.93
Maintenance and Operation		133,295.85
Tax Levy for Maintenance and Operation		221,085.40
Tax Levy for Bond Interest		320,600.42
Interest on Bonds		121,165.00
		$3,453,827.53

The irrigation district is permitted to issue warrants for only 90 per cent of the levy and these warrants are discounted 4 or 5 per cent, making about 85 or 86 per cent of the general fund levy that is actually cash to the district. This means that while the tax payer is paying 100 cents on the dollar on his taxes, the district only gets 85 or 86 per cent for use in operation and maintenance and other district expenses.

Suggestions for Betterment of the District as a Whole.

If the farmers' irrigation district is to be a success finally there must be better team work of the land owners within the district. Each one should feel that it is to the best interest of the district to boost and work for the betterment of the project, in so doing each will add to his own interests as well as doing a public service to the community as a whole.

The electors or the farmers of the district should get away from the idea that the district is a corporation owned by eastern capitalists, for this is your project, and its success means your success, in fact the district should be strictly a community affair.

In order to place the district in good financial condition, and keep it in that condition, it is necessary that the taxes be paid promptly each year before becoming delinquent. If they are allowed to become delinquent, you are the looser, the district warrants will not be paid promptly, and when the district is in that condition it is very difficult to get anyone to finance the district, and for the next two or three years the matter of financing the district will be serious whether the war continues or not. By "financing" is meant, the furnishing of cash and taking our warrants or notes as security. The problem is to find a bank or loan company that will buy the warrants of the district for cash; which last pear amounted to $165,975.66; and loan to the district large sums of money in case of necessity as was done during the past year.

By allowing some one to buy up the delinquent taxes of the district you are simply putting off the evil day for there must be a pay day some time, and the longer the payment is defered the greater are the interest charges to the individual and to the district.

If all of the taxes of the district were paid before becoming delinquent, the warrants would sell at par instead of at a discount, thereby saving six to eight thousand dollars per year in interest and discount. If the warrants did not run for more than a year they would be considered an attractive investment and would bring a price very near par value.

There is no doubt about the qquality of the land within the district, nor is there any question as to the productivity of the soil, and under normal conditions, an abundant supply of water is available. Under these conditions it is possible for the farmers' irrigation district to become one of the best and most prosperous of the valley.

There should be a more careful use of irrigation water throughout the season, avoiding waste wherever possible. The careless use of water has a direct detrimental effect upon the water logging or seeping of lower lands as well as increasing the cost for operation and maintenance of the irrigation system.

There should be more trees planted on the farms. There are a large number of farms within the district with no sign of the least kind of shrub or tree; due to some extent that a large number of the farms are farmed by tenants and a smaller number owned by non-residents. A few trees about the buildings not only afford protection against the cold winds but beautify and add value to the farm. There is no doubt that a large planting of trees would have a very beneficial effect upon the high winds incident to this locality.

Very respectfully submitted,

F. C. Magruder, manager
B. J. Seger, secretary.

DRAINAGE

The Legislature of 1913 passed the following law, relative to drainage:

"All plans for proposed drainage districts shall be approved by the State Board before any contract is let or begun. The State Board, or its representative, shall have authority to order any changes they may see fit in said plans, and require the drainage district to conform thereto; and shall at all times, during the construction, have the right to inspect said work, and make recommendations pertaining to the same. Upon request of any interested party or parties of the proposed drainage district, the State Board may prepare for them plans and specifications for any proposed drainage work at actual cost of doing same."

DRAINAGE DISTRICTS:

	County	Plans Approved
Burt & Washington Co., Drainage Dist		
Yanike Drainage Ditch, Butler		
Drainage District No. 2, Dakota		April 18, 1914
Butler County Drainage Dist. No. 2, Butler		July 26, 1917
Wakefield Drainage District, Dixon, Wayne, Thurston		Jan. 18, 1917
Elkhorn Valley Drainage Dist., Douglas		
Geneva & West Blue Drainage Dist., Fillmore		
Drainage District No. 1, Frontier		March 31, 1915
Drainage District No. 1, Otoe and Johnson		Oct. 31, 1914
Drainage District No. 1, Merrick Co.		Feb. 17, 1917
Minatare Drainage District, Morrill		
Drainage District No. 3, Nemaha		July 6, 1916
Nuckolls Drainage District		
Holdrege Drainage District, Platte		
Drainage District No. 1, Richardson		
Drainage District No. 4, Richardson		April 13, 1916
Western Sarpy Drainage District, Sarpy		Nov. 15, 1917
Scottsbluff Drainage District No. 1, Scotts Bluff		Feb. 28, 1918
Pender Drainage District, Thurston		Feb. 21, 1918
Butler County Drainage Dist. No. 1, Butler		Aug. 9, 1918

Wakefield Drainage District. This district lies in the northeastern part of the state in Dixon, Wayne and Thurston counties, and comprises a watershed area of 350,000 acres, discharging directly into the north and south branch of Logan Creek and its tributaries.

The land is rolling farm land and the sudden concentration of water from side hills collects quickly and causes serious overflows.

The channel of Logan Creek is very crooked and varies from 60 to 100 feet on the top and about 15 feet deep. The slope of the valley towards this is about 3 feet per mile.

Numerous cut-offs were made on Logan Creek to straighten the channel; a system of laterals has been carried to completion and has resulted in underdrawing the low lands and making them productive.

The total estimate of the project is about $80,000 but the benefits in reclamation alone are double of this value. The work on this drainage district was delayed for some time owing to Indian lands in the district, and as taxing these lands was impossible until proper sanction had been made by congress.

Plans and specification for the district were approved January 18, 1917.

Drainage District No. 2.—Dakota County. This district was formed early in 1913 and preliminary surveys were made in the winter but actual construction did not take place until the summer of 1916, due to legal obstacles that presided.

The project contained two drainage units, one comprising Elk Creek area, and the other Pigeon Creek area.

Elk Creek rises in the west part of the county and flows easterly to the vicinity of Jackson, and thence southeasterly to an outlet of the Omaha Creek.

During flood stages Elk Creek over-flowed its bank and not only damaged the property in Jackson but also the adjacent farm lands along its bank, rendering most of the bottom lands only suitable for hay and pasture purposes. A cut-off was planned and carried into completion and now the waters of Elk Creek are diverted and sent by the shortest distance into the Jackson Lake, a part of the flood plane of the Missouri river. The Pollard Campbell Contracting Company of Omaha were the contractors and carried same through to completion in 1917.

The Pigeon Creek Drainage area improvement was started about the same time but on account of the nature of the surrounding country, a floating dredge was required. Pigeon Creek flows from the west and empties into the old Elk Creek channel, but in its meandering course was not confined to any channel but scattered over an area varying from 100 ft. to 1,000 ft. A floating dredge was installed and work completed in the fall of 1916. The contractors were Horton & Mosely of Chicago.

Frontier County Drainage District No. 1. This district was formed in 1914 for the purpose of diverting and concentrating the waters of Medicine Creek in Frontier county, Nebraska. This creek has a watershed of 400 square miles at the south line of this district and is very crooked, badly obstructed with logs and debris and some beaver dams, consequently with a sudden down pour, floods occur in the valley. The

valley on either side of Medicine creek is lower than the banks of the stream and when during and after over-flows small lakes occur.

By the construction of the ditch the waters were diverted and a flood-way created that relieved the congested conditions and also made ample provisions for drainage after the flood plane has passed. The cost of the work was $6,000 and was completed in 1917. W. E. Doty of David City was the contractor.

IRRIGATION

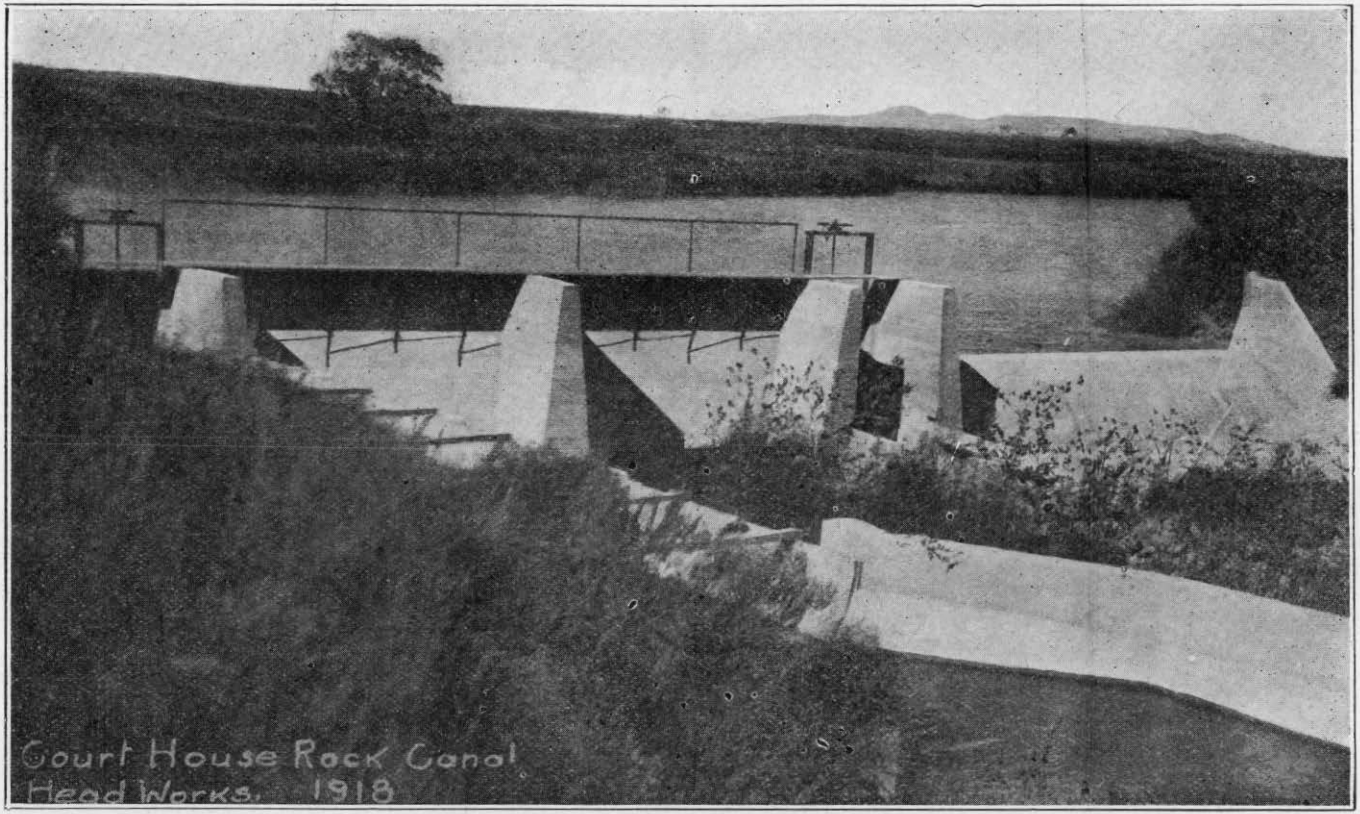
There was very little water used for irrigation during the year 1915, owing to the excessive rain fall; however, this condition was reversed in 1916, and all of the land under ditches used a considerable amount of water. There was enough water for all of the ditches at all times, excepting seven days in July.

IRRIGATION LEGISLATION

The first law relative to irrigation was passed by the legislature of the state in 1877. This law enabled corporations formed to construct and operate canals for irrigation and other purposes to acquire rights of way; and declared such works internal improvements.

The Saint Raynor law, the first general irrigation law, was passed in 1889. It provided for the appropriation of r unning waters for useful or beneficial purposes by posting a notice at the point of diversion, a copy of the notice to be filed with the county clerk of the county in which the diversion was located, and construction to be begun within 60 days and prosecuted diligently and uniterruptedly to completeion. The law provided that irrigation works should be exempt from taxation; that the same land shauld not be covered by more than one ditch or lateral without the owner's consent; that irrigation works were internal improvements; that water from one stream should not be turned into another stream; that rights of way could be condemned for irrigation purposes; that excessive amounts of water should not be used and that the waters approp;riated should be distributed in certain ways. Under this law there was no way of knowing the value of a right except by going into court, and a right was always open to attack.

The people of the western portion of the state wished to have some state control over water rights, and in 1891, an irrigation convention was held at Lincoln, and drafted a bill. This bill was introduced in the legislature that wintel but was defeated. Another bill almost identical with the first was introduced in the legislature in 1893, but was defeated with an amendment to the Saint Raynor law allowing water rights to be filed on streams 20 feet or over in width, and permitting water, under certain conditions, to e turned from one stream into another. The members of the legislature from the eastern portion of the state feared that the passage of an irrigation code would be looked upon as an advertisement to the outside world that the rainfall in the state was not sufficient to produce crops, and that this would have a tendency to check settlement. The complete failure of all crops because of the drought in 1894, caused the qquestion of adopting an irrigation code to be made a campaign issue that fall. The legislature in 1895 passed an irrigation



Court House Rock Canal Head Works 1918

code modeled after the Wyoming code, and also an irrigation- district law modeled after the Wright Irrigation district law of California. The irrigation code created a state board of irrigation, consisting of the governor, the attorney general and the commissioner of public lands, the governor being ex-officio president of the board, and divided the state into two water districts.

The law provided that at the first meeting of the state oard it should elect a secretary, who should be a hydralic engineer of theoretical knowledge and practical skill and experience, and an under secretary for each of the water divisions, and that it could employ an assistant secretary and such other assistants as might be necessary. The board either directly or through its secretary or under secretaries, was charged with the measurement of all streams in the state; the determination of priorities and amounts of all claims initiated prior to the passage of the law, and the issuance of certificates of appropriation for claims found valid, the distribution of all waters appropriated; the receiving, recording and considering of all future applications for permits to appropriate water; the granted of permits, if there was any unappropriated water in the streams and the appropriation asked for would not in any other way be detrimental to the public welfare; and the issuance of certificates of appropriation when satisfied that the applications had been perfected according to law.

This law besides granting the board certain police powers and fixing penalties, defined standards of measurement; dedicated the water of the state to public use; fixed the date of priority of applications and the order of preference in using water for different purposes; granted the right of eminent domain for irrigation works; exempted irrigation works from taxation; and provided for mutual irrigation companies.

In 1895 to 1911 a number of minor changes were made in the irrigation code, most of which were for the purpose of assisting the state board in its administrative work. At the sessions of the legislature in 1911 and 1913, practically the entire code was revised and re-enacted, with amendments. Among some of the more important changes made were the following:

The "State Board of Irrigation" was changed to the "State Board of Irrigation, Highways and Drainage;" the oard was charged with the duty of examinging into the condition of all water appropriations and of holding hearings and cancelling rights where the water had not een used for beneficial purposes for more than three years; the maximum amount of water that a tract could receive was limited to 3 acre-feet per acre per year; irrigation works were declared common carriers and the rates for water were to be determined by the state railway commission; and the list of all lands to be irrigated were required to be filed with the superintednent of each water division April 1 of each year.

The Irrigation District law has been amended from time to time since its passage in 1895. The main provisions at present are as follows:

A majority of the electors who also own or hold by leasehold a majority of the lands in the district susceptible or irrigation from a common system of works may petition the county commissioners of the county in which the land, or the greater portion of it lies, asking that an irrigation district be created including all the land. A copy of the plans, etc., submitted to the county commissioners must be filed with the state engineer, who must examine them and submit a report to the board of county commissioners at the meeting set for the hearing of the petition. If the petition, either in its original form or in the amended form, is approved by the board of county commissioners, the board divides the proposed district into three divisions, and calls an electon to vote upon the organization of an irrigaion district, and to elect a director foi each division, if the vote is favorable to organization. If upon canvassing the vote the county commissioners find a majority favorable to organization, the district is declared organized, and the directors elected meet and organize. The board of directors has control of the affairs of the district in a general way and is authorized to make surveys, acquire rights of way, and to secure lands, water or other property by purchase or condemnation. All surveys, maps, plans and estimates must be made under the direction of a competent engineer and sent to the state engineer, who shall file a report upon them with the board of directors. Having determined the amount of money required, the board of directors calls a special election to vote on the question of issuing bonds, and if a majority of the votes are in favor of issuing bonds, a special proceeding is begun in the district court to have the bonds examined, approved and confirmed. If the bonds are confirmed they are sent, together with a history of the district, to the auditor of public accounts for registration if he finds the law has been conformed with in all respects. When registered, the bonds may be sold at 95 per cent of their face value, or if not sold, can be used to pay for property or for construction at their par value. The bonds and interest are paid from the revenues derived from an annual assessment upon the real estate in the district. They bear interest at 6 per cent, and unless otherwise provided by a majority vote at the time of issuance, a certain per cent is payable each year, beginning with the expiration of the eleventh year. This per cent cannot be less than 5 at the end of the eleventh year. After the eleventh year the minimum increases 1 per cent a year through the eighteenth year, and is 15 per cent in the nineteenth year. All the bonds must be paid upon the expiration of the twentieth year. The secretary of the board of directors certifies to the county clerk the amount of money needed each year for the payment of interest, bonds and for the operation and maintenance, and the taxes are collected by the county treasurer at the same time that other county taxes are collected.

The administration of the irrigation laws of the state is in the hands of the state board of irrigation highways and drainage the executive member of which is the state engineer. The state is divided into two districts each in charge of a water superintendent and each district is divided into divisions in charge of water commissioners, who report to the superintendent.

Information concerning water rights can be obtained by inspecting the records of the state board and by consulting the state engineer. The irrigation laws have been published in pamphlet form, and copies may be obtained by addressing the state enginer.

RULES OF PROCEDURE

Adopted by

STATE BOARD OF IRRIGATION, HIGHWAYS AND DRAINAGE

Governing Matters Coming Before the Department

CLAIMS

Section 6795, Cobbey's Annotated Statutes of Nebraska for 1911, reads as follows (Same—Determination of priorities.) It shall be the duty of the State Board to make proper arrangements for the determination of priorities of right to use the public waters of the state, and determine the same. The method of determining the priority and amount of appropriation shall be fixed by the said board."

Filing of Claim Affidavit:—

1. Claimants of the right to the use of public waters of the State of Nebraska for irrigation, power, or other useful purposes, who base their claims upon the law of 1877, upon the law of 1889, or by actual and beneficial use, shall file in the office of the State Engineer, a claim affidavit, which shall be made upon a blank, prepared bp the State Engineer, furnished by him free of cost, and filed by him under date of its receipt at his office.

2. This claim shall give the location of the diversion works, the land through which the canal runs, specifically describe the land irrigated, if for irrigation purposes the location of all dams, flumes, headgates, canals, power house, etc., if for power or other purposes.

The claim shall also set forth the date of beginning construction work, the date of completion, and the time of the application of the water to the beneficial use for which it is claimed.

3. Upon the filing of any such claim affidavit, the State Engineer shall fix a time and place for the holding of a hearing.

Notices:—

Notice of hearing shall be served in the following manner:

1. The State Engineer shall prepare an official notice, setting forth the time and place of the hearing, together with a general description of the rights claimed and calling upon all interested parties to appear and protect their rights, to be inserted in a local paper of general circulation in the county in which the diversion works or plant of claimant is located, and also in some newspaper of general circulation in the tate published at the State Capitol, which notice shall run for four consecutive weeks in said papers at the expense of the claimant.

2. The State Engineer shall send by registered mail a duly certified copy of the above notice to each water user in the watershed, in which the claim is located, as their names and addresses appear on the records in the State Engineer's office, at least thirty days before the date of said hearing, together with a copy of these rules.

3. Letters so addressed, shall be registered, according to the rules of the postoffice department, with a request for a return card, which card when returned, shall be preserved with the papers in such case.

Hearing:—

1. A hearing shall be held for the purpose of receiving testimony offered by parties in interest in support of and adverse to the rights claimed and shall be presided over by the State Engineer, or one of his assistants, as he may designate, who shall keep a complete record of the proceedings thereof.

2. All evidence shall be submitted in typewritten or printed form. If oral, it shall be taken down and transcribed at the expense of the claimant or contestant offering the same.

3. Claimants may appear in person or by attorney; but appearance must be made at time and place specified for hearing.

4. If any party to the proceedings shall desire to take the testimony of witnesses residing outside the state, or whose attendance cannot be secured at any of the time and places fixed by the State Engineer, the testimony of such witnesses may be taken by deposition in the same manner and upon the same notice as that required for the taking of the depositions in cases pending in the District Court.

5. The State Engineer shall have the power to limit the time for the completion of the taking of the testimony.

6. When the taking of such testimony shall be completed, or the time fixed for the completion thereof shall have expired, the State Engineer shall fix the time for hearing argument upon the evidence taken, and permit interested parties to file briefs.

Opinion:—

1. Upon the receipt of the written testimony, taken at the hearing and any other investigations that the State Engineer may deem necessary to make, and briefs, if presented, there shall be rendered an opinion of facts and of law based upon the evidence presented.

2. Upon the rendition of a decision, the State Engineer shall forward a duly authorized copy of the same by registered mail to all interested parties or their attorneys making an appearance of record in said hearing, as their names and addresses appear upon the records in the State Engineer's office, together with a copy of these rules. Return registry cards shall be requested and filed with papers in such cases.

Rehearings and Contests:—

1. Any person deeming himself aggrieved by any decision may at any time within thirty days after receipt of such decision file with the State Engineer a petition for a rehearing. Said petition shall set forth the grounds relied upon for a rehearing and be duly verified.

2. In case sufficient reasons are found in the petition provided for above to grant a rehearing the petitioner will be notified of the same by the State Engineer.

3. Notices of holding of rehearings shall be given by mail to interested parties or their attorneys appearing of record.

4. The said rehearing shall be held at a time and place designated, and interested parties may file briefs and oral argument may be made and limited to a reasonable time. In general, rules governing the original hearing shall apply to rehearing.

5. A contest against a claimant shall not be heard until after the rendition of a decision on the claim.

APPLICATIONS

Any application made in accordance with the Irrigation Laws of the State of Nebraska to appropriate any of the public waters of the state shall be acted upon in the following manner:

Blanks:—

1. Applications shall be made on blanks furnished by the State Engineer's office free of charge.

2. All questions shall be fully and carefully answered.

3. A careful drawing on township plat, showing all streams with their names, canals and other improvements should be made; if for irrigation, land to be irrigated must be carefully shaded.

4. If application for permit to irrigate, owners of land should acknowledge their consent to have their lands watered through the allowance of the proposed application before a notary.

Filing Fees:—

1. IRRIGATION—$5 for each 1,000 acres irrigated or fraction thereof.

2. STORAGE—$5 for each 5,000 acre feet or fraction thereof stored.

3. POWER—$5 for each 50 theoretical horsepower or fraction thereof.

Rule on determining theoretical horsepower: The amount of theoretical water horse power upon which fees shall be paid under the provisions of Section 6918 of Cobbeys Annotated Statutes of Nebraska for 1911 shall be computed by multiplying the maximum amount of water claimed or diverted expressed in cubic feet per second by the average total fall utilized expressed in feet, and dividing the product by 8.8.

Filings:—

Upon receipt at the State Engineer's office of an application accompanied by the proper filing fee, the application shall be filed under date received and duly recorded.

Corrections:—

1. Thirty days shall be given after date of filing for the State Engineer to examine an application and if any defect is found therein, to return the same to the applicant for correction with the endorsement of the State Engineer upon the same, as to the correction desired.

2. If application is returned, corrected within thirty day limit, it shall take priority of original filing.

Action Taken:—

1. The State Board, through the State Engineer, shall approve or dismiss the application according to the results of his investigation of the same as set forth by law.

2. The State Engineer shall return to the applicant by registered mail his application, with the endorsement of the State Engineer thereon ,accompanied with a copy of these rules. Registry receipts shall be requested and filed with papers in above case.

3. Upon the receipt of an approved application by the applicant, the applicant shall be duly authorized to begin work of construction.

Work:—

(Prosecution of Construction.) Within six months after the approval of any application for water for irrigation, power or other useful purpose under this act by the State Board of Irrigation the person or persons, corporation or association making such application shall commence the excavation or construction of the works in which it is intended to divert the water, also the actual construction of any water power plant and reservoir or reservoirs for storage in connection therewith, and shall vigorously, diligently and uninterruptedly prosecute such work to completion unless temporarily interrupted by some unavoidable and natural cause, and a failure to comply with this section shall work a forfeiture of the appropriation and all rights thereunder.

Provided further that the cost of promotion and engineering work shall not be considered as a part of the cost of construction, and that the progress of the construction work shall be such that one-tenth of the total work shall have been completed within one year from the date of approval of the application. The applicant shall at the end of six months after the allowance of his application furnished to the State Board a detailed report of the total amount of work necessary to complete the project, which report shall conform to the requirements of the State Engineer, together with satisfactory evidence that the work of construction has been begun.

Provided, also that the construction of all work required in connection with the proposed project shall be prosecuted in the manner above described and with such a force as shall assure the average rate of constructional progress necessary to complete such work or works within the time stipulated in the approval of such application, notwithstanding the ordinary delay and casualties that must be expected and provided against, to assure the completion of the project within a time certain.

Provided further, that in the case of an application for an appropriation granted for the development of water power, it shall be the duty of such grantee, on or before the 10th day of each month after the date fixed for the commencement of such work to report under oath to the State Board of Irrigation the actual amount of money expended upon such power development during the preceding calender month for right of way and land, labor, salaries, material and machinery, not including construction, equipment delivered upon the ground, and said report shall be made in form, detail and manner prescribed by said Board. A failure to carry on the construction of either an irrigation or water power project as outlined above or in the case of a water power development, to fail to file the above reports within the time required, shall work a forfeiture of the appropriation and all rights thereunder and the State Board shall cancel said appropriation within thirty days of such failure. failure.

Provided further, the State Engineer or his assistants shall have free access to all records, books, and papers of any irrigation or water power company and have the right to go upon the right of way and land of any said company, and shall inspect said works to see that it is being done according to plans and specifications approved by the State Engineer's office and shall also keep a record of the cost of construction work where the same is deemed advisable for physical valuation purposes.

Maps:—

Section 6808 of Cobbeys Annotated Statutes for 1911 reads as follows: **(Map—Plat—Penalty.) Upon approval and allowance of an appli-**

cation, the applicant shall file in the office of the State Board of Irrigation, Highways and Drainage, within six months thereafter, a map or plat, which map or plat shall be made to conform to the rules and regulations of said Board as to material, size and coloring, and upon a scale of not less than two inches to the mile. Such map or plat shall show the source from which the proposed appropriation is to be taken, and all proposed dams, dykes, reservoirs, canals, power houses and any other structures for the purpose of storing, conveying or using water for any purpose whatsoever under the irrigation law of this state, and their true courses or positions in connection with the boundary lines and corners of lands which they occupy, and when lands are listed for irrigation, such lands must be shown in government subdivisions, or fractions thereof, as the case may be, and no rights be deemed to have been acquired until this section of the statutes shall have been complied with, and a failure to comply with this section shall work a forfeiture of the appropriation and all rights thereunder.

2. (1) All maps filed to comply with the above law, must be on tracing cloth 14 inches wide and 16 inches long, with one inch margin on the top, bottom and right hand end, and a 3 inch margin on the left hand end for binding. Where the whole area cannot be shown on one sheet, additional sheets must be used, each sheet representing a township, until the whole area is covered.

(2) Short ditches and small areas must be made on a scale of 4, 6 or 8 inches to the mile, where, by using such scale, the area of the map will not exceed 12 inches square. In all other cases, where this cannot be done and where larger areas are to be shown, a scale of to inches to the mile is to be used.

(3) The position of the headgate must be indicated by some tie to a government section or quarter section corner, giving the course and distance therefrom. The course of the ditch or canal must also be shown.

(4) At intersections of section lines the distance from the nearest government corner to the center line of the ditch must be given in feet and where the land reclaimed is fractional, the fractional area to be irrigated, of each quarter-quarter section must be marked on plat in acres.

(5) The center line of the proposed canal must be in red. Any other canals and all streams and drains must be in medium blue. The area proposed to be irrigated must be carefully shaded in light red. If topography is shown by contour lines, such lines must be in burnt sienna. All other matter, such as hatching, land lines, lettering, figures, etc., must be in black.

(6) All maps must be made from actual measurements on the ground and properly certified by some competent engineer or surveyor.

(7) The presumption of the law is, that after a permit is allowed, it will reqquire not more than six months to make the proper surveys, get the necessary information and construct and file required map.

(8) The following certificates must be printed upon the first sheet properly filled out and signed.

State of Nebraska

.....County

ss.

I hereby certify that the survey of..... was made under my direction and is accurately represented on this map consisting of..... sheets.

.....

Engineer (or Surveyor)

Dated..... 19.....

State of Nebraska

.....County

ss.

I hereby certify that this may consisting of..... sheets was made with my full knowledge and consent and at my request and correctly shows the location and course of the distributing works, the source from which the appropriation is taken, and the legal subdivisions of the land upon which the water appropriated is to be applied, as shown by Application No....., filed in the office of the State Board of Irrigation on the.....days of .....

Dated.....19.....

(9) If the appropriation is for any purpose other than irrigation, this certificate must be so worded as to agree with the facts.

(10) At the time an application is filed, a preliminary map is to be made upon the township plats accompanying the blanks furnished by this office, and which is made a part of the application, and the applicant should follow out the foregoing instructions as to color and shading and such other matter as is possible to gather and place upon a preliminary map. This map must contain sufficient data upon which to base an opinion in handling the application."

Contests and Hearings:—

1. Any person deeming himself aggrieved by any decision may at any time within thirty days after the receipt of such decision, file with the State Engineer a petition for a hearing. Said petittion shall set forth the grounds relied upon for such hearing and must be duly verfied.

2. In case sufficient reasons are found in the petition, provided for above, to grant a hearing, the time and place for holding the same shall be set and notices of the same shall be given interested parties by reg-

istered mail by the State Engineer thirty days in advance of the holding of said hearing.

3. Interested parties may file with the State Engineer a brief, and also appear in person to introduce evidence and make oral argument.

4. A duly verified copy of a final decision shall be sent to all interested parties making an appearance, by registered mail by the State Engineer.

5. After the allowance of an application, contests may be brought by any interested party to show that the application has not faithfully complied with the Irrigation Laws of this state, or that the proposed project is a detriment to the public welfare.

6. An applicant feeling himself aggrieved by the opinion rendered by the State Board in the hearing had, may institute proceeding in the Supreme Court of Nebraska to reverse, vacate or modify the order complained of the procedure to obtain such reversal vacation or modification of any such decision or order made and adopted upon which a hearing has been had before said Board, shall be governed by the same provisions now in force with reference to appeals and error proceedings from the district court to the Supreme Court of Nebraska. The evidence presented before the Board as reported by its official stenographer and reduced to writing, shall be duly certified to by said stenographer and the chairman of the State Board as the true bill of eceptions, which, together with the pleadings and filings duly certified in said case under the seal of the State Board shall constitute the complete record, and the evidence upon which the case shall be presented to the appellate court, provided, however, that the time for appeal from the orders and rulings of said Board to the Supreme Court shall be limited to sixty days.

DAMS

Plans and specifications of dams and petitions for approval of same.

(Dam: reservoir.) Any person, corporation or association hereafter intending to construct any dam for reservoir purrposes or cross the channel of any running stream, shall before beginning such construction, submit the plan of the same to the State Board of Irrigation, Highways and drainage for their examination and approval and no dam shall be constructed until the same shall have been approved by such board. Any person constructing such a dam across the channel of any running stream without having obtained the consent and approval of the State Board therefor shall be guilty of a misdemeanor and upon conviction thereof shall be fined in any sum not exceeeding $100 and stand committed until the fines and costs are paid and for every day that such dam so unlawfully constructed is maintained it shall be considered as a

new offense and as a new violation of the provision hereof and it shall be the duty of the secretary of the State Board to cause the provisions of this act to be strictly enforced.

Drawings:—

The drawings representing the plan of a proposed dam should be made with a good quality of India ink upon sheets of tracing cloth 14 inches wide and 16 inches long with a 3 inch margin on the left hand end for binding (but extra lengths not to exceed 30 inches are allowable if necessary) as many such sheets to be used as requirements demand. These drawings must be numbered and given a proper title. They must include:

1. A map of the site showing the position of the dam the meanders of the stream and the flow line boundaries of the reservoir all properly connected to land lines and government corners also the surface area of the reservoir and the cubic contents in acre feet.

2. A cross section of the stream where the dam is to be built, showing the surface of the ground in profile with a sufficient number of soundings to indicate the underlying formation, the elevation of the dam and spillway, the surface of the impounded water and such openings or conduits through the dam as are contemplated.

3. A sketch of the dam in plan, or as viewed from above, outlining the top and slope lines of the dam the water line spillways, side walls, buttresses, etc.

4. Cross sections of the dam at several points such as will show the mechanical construction of the different parts.

5. Specifications must accompany the drawings, explaining them and setting forth the material to be used and the methods of construction in clear, plain and unmistakable terms.

6. Drawing must be certified to by some competent engineer and also by applicant with a certificate of the general form of the one set forth under maps of application.

Petition for Approval:—

Following is a general form of petition for approval of plans which can be varied according to requirements. This petition should show whether the petitioner is an individual a partnership or a corporation and by what authority the waters of the State of Nebraska are appropriated.

BEFORE THE STATE BOARD OF IRRIGATION HIGHWAYS AND DRAINAGE

In the matter of the Petition for Approval of plans for the Construction of a proposed dam under application No ..... made by..... .... to appropriate the waters of the State of Nebraska for.....

To the Honorable State Board of Irrigation ,Highways and Drainage:

Comes now your petitioner.....and states:

1. That he is the original applicant for the appropriation of water from.....in the .....¼.....¼..... of Section..... T.....¼ N., R..... ....¼..... in County, Nebraska, under Application No..... ....., filed in your office .....19..... ....., and approved.....19.....

2. That in order to carry out, perfect and consummate the object of said appropriation, it is necessary to construct a dam across said .....to a height of more than ten feet, and according to the laws of the State of Nebraska, in such cases made and provided a plan of such proposed dam must be sumbitted to the State Board for their examination and approval, which approval must be obtained before such proposed dam can be constructed.

3. That your petitioner has employed engineers to make proper soundings and other measurements at the site of the proposed dam and to make plans and specifications for the proper construction of the same, which specifications are submitted herewith with plans marked: Sheet No. 1, General Map; Sheet No. 2, Cross Section of dam site, showing borings; Sheet No. 3, General drawings of dam; Sheet No. 4, Details of Dam with cross sections; Sheet No. 5, Details and location of power house; each of said sheets being also marked " ...." and each of said sheets with the specifications being made a part of this petition.

Wherefore your petitioner prays that said plans and specifications as above described and as submitted herewith be approved and that such order be made by this Board as shall be just and equitable to this petitioner.

State of Nebraska,
ss.
.....County

.....being first duly sworn upon his oath says that he is the original applicant for an appropriation of water under Application No.....and that the matters and facts set forth in the foregoing petition are true as he verily believes.

.....

Subscribed in my presence and sworn to before me this .....
.....day of ....19.....

.....

Notary Public.

In cases where the petitioner is a corporation and in cases where transfers have been made the following forms of statements are suggested but in all cases the facts must be shown and the petition verified to correspond:

"Comes now your petitioner.....
and states that it is a corporation duly organized and existing under and by virtue of the laws of the State of Nebraska being organized for the purpose of....."

"That on the.....day of.....
filed in your office Application No....., for a permit to appropriate the waters of the State of Nebraska, which application was on the .....day of .....approved by this Board.

"That on the.....day of.....said
.....assigned to this petitioner all of his rights and privileges under said permit, and that this petitioner then undertook to fulfill the conditions necessary to complete the appropriation contemplated under said permit."

Where the petitioner is a partnership, the statement should read:

"Come now your petitioners.....
and state that they are a partnership doing business under the name and style of....."

Action:—

1. Upon receipt of plans of a dam and petition for approval of the same, they shall be filed under date of arrival and the plans shall be given an official number for filing purposes.

2. The State Engineer may require more complete data than that shown upon plans and specifications or may require changes in the same as in his judgment is best and shall have the right to return plans and specifications for corrections.

3. If at the discretion of the State Engineer or upon request of any person he deem it necessary a personal inspection shall be made of the proposed dam site.

4. The State Engineer shall first act on the plans and specifications for a dam which action shall be subject to the approval of the State Board.

5. In approving plans of a dam of any kind the right is always reserved by the State Engineer to inspect said work while being built

and order any changes he may deem necessary. Also after a dam is built, he may order changes or repairs as he may deem proper for public safety.

Contests and Hearings:—

1. Any person deeming himself aggrieved by any decision may at any time within thirty days after the receipt of such decision file with the State Engineer a petition for a hearing. Said petition shall set forth the grounds relied upon for such hearing and must be duly verified.

2. In case sufficient reasons are found in the petition provided for above to grant a hearing, the time and place for holding the same shall be set, and notices of the same shall be given interested parties by registered mail by the State Engineer fifteen days in advance of the holding of said hearing.

3. Interested parties may file with the State Engineer a brief and also appear in person to introduce evidence and make oral argument.

4. A duly verified copy of a final decision shall be sent to all interested parties by registered mail by the State Engineer.

5. After the approval of dam plans contests may be brought by any interested party to show that the applicant has not faithfully complied with the Irrigation Laws of the State or that the proposed dam is a detriment to the public welfare.

Fees:—

1. For examination of plans for any proposed dam, fifty cents for each foot in height and actual expenses while visiting and examining the site thereof.

2. The height of a dam shall be measured from the deepest part of the foundations to the crest or top of the dam.

3. Piling of any sort shall be considered as part of the foundations.

PETITIONS

Petitions for extension of time in which to complete work:

Following is a general form of petition for extension of time which can be varied according to requirements. This petition should state whether the petitioner is an individual, a partnership or a corporation and by what authority the waters of the State of Nebraska are appropriated and all transfers of title if any.

Form for Petition for Extension of Time:

BEFORE THE STATE BOARD OF IRRIGATION, HIGHWAYS AND DRAINAGE

In the Matter of the petition for an extension of time in which to complete work under Application No..... made by .....
.....for a permit to appropriate the waters of the State of Nebraska.

To the Honorable State Board of Irrigation, Highways and Drainage:

Comes now your petitioner..... and states:

1. That he is the original applicant for an appropriation of water from.....in the.....¼.....¼ of Section....., T..... .....N, R....., in.....
.....County, Nebraska, under application No.....
filed in your office..... .....and approved.....

2. Your petitioner represents that he has used due diligence in the prosecution of the work of construction required to complete the ditch, and other work by the time required. (State reasons for cause of delay, which reasons must constitute good and sufficient grounds upon which to base an extension of time.)

3. Your petitioner represents that notwithstanding the foregoing hindrances and embarrassments, the causes of delay are now removed, and he is now ready, willing and able to complete said work of construction and the application of water by..... .....
19.....

Wherefore your petitioner prays that the time for completing said canal under said permit granted under Application No.....
be extended for a period of at least.....
from and after.....or until....., 19.....,
and the date for the application of water to beneficial use be fixed not earlier than....., 19....., and that such order be made by this Board as shall be just and equitable to this petitioner.

State of Nebraska, ...County, ss.
.....being first duly sworn on his oath states that he is the original applicant under Application No..... for the appropriation of waters of the State of Nebraska; that he has read the above and foregoing petition and knows the contents thereof and that the facts therein set forth are true, as he verily believes.

Subscribed in my presence and sworn to before me this.....
..... day of....., 19.....

.....

Notary Public.

1. Upon receipt at the State Engineer's Office, the petition shall be filed under date of arrival and shall be acted upon by the State Board through the State Engineer.

Hearing:—

1. Any person deeming himself aggrieved by any decision may at any time within thirty days after the receipt of such decision file with the State Engineer a petition for a hearing. Said petition shall set forth the grounds relied upon for such hearing and must be duly verified.

2. In case sufficient reasons are found in the petition provided for above to grant a hearing, the time and place for holding the same shall be set, and notices of the same given interested parties by registered mail by the State Engineer thirty days in advance of the holding of said hearing.

3. Interested parties may file with the State Engineer a brief and also appear in person to introduce evidence and make oral argument.

4. A duly verified copy of a final decision shall be sent to all interested parties by registered mail by the State Engineer.

Fee:—

A filing fee of fifty cents shall be charged for filing of above petition.

CONTESTS

General Rules:—

1. Any party desiring to contest a claim shall file with the State Engineer a written notice of contest and petition setting forth the grounds therefor, together with a verified proof of service of notice and petition upon the opposite party. Within fifteen days from the date of service of said notice and petition, the contestee shall file with the State Engineer his answer thereto, if any he desires to make, together with a verified proof of service of a copy of said answer upon the contestant, who shall then have ten days from the date of service of same in which to file with the said Engineer a reply; provided, however, that the State Engineer may extend the time for answer and reply upon good cause shown.

2. Where the contestee is a non-resident or cannot be found within the state, then the said contestant shall file with the State Engineer in lieu of said verified proof of service of notice of contest and petition, an affidavit setting forth the fact, that service cannot be made in the state, whereupon the State Engineer shall designate some newspaper published at the county seat of the county within which the original notice of appropriation was filed, in which newspaper shall be published for four consecutive weeks, a notice setting forth the following facts.

(a) That such contest has been instituted, together with the name and address of the contestant or his attorney of record; (b) the name of the chaimant and the name of the stream from which the contested appropriation is claimed, together with the location of the point of diversion of such appropriation; (c) that a notice of contest and petition stating the grounds therefor are on file with the State Engineer; (d) the date upon or before which the answer must be filed by the contestee, which date shall not be earlier than ten days from the last date of publication of notice.

3. On or before the date set for the filing of the contestee's answer, said non-resident or absent contestee shall file the same with the State Engineer, together with a verified proof of service of a copy thereof upon the contestant or his attorney of record.

4. The said petition stating grounds of contest and answer thereto shall be verified.

5. Service upon corporations may be made upon the same officers and in the same manner as provided in the case of a summons issued by a court of law.

6. Proof of publication of the above notice shall be filed with the State Engineer on or before the date set for the filing of the contestee's answer.

7. When the issues have thus been made up, the State Engineer shall set a date and place for taking testimony and the hearing of the cause and each party thereto shall be notified thereof by registered mail.

8. At the time and place designated for hearing, each party shall produce his evidence, the contestant opening and closing.

9. Continuances may be granted at the discretion of the State Engineer to either party at or before the time for hearing upon good cause shown.

10. The testimony offered may be oral or by deposition. If oral, it should be taken down by a stenographer and transcribed at the expense of the party offering the same, except in case of cross examination, the expense of which shall be borne by the opposite party the stenographer to receive legal rate per folio therefor, payable at the time such evidence is offered. Depositions submitted must have been taken in accordance with the rules in a court of law.

11. Copies of decisions in matters of contests shall be mailed to parties in interest.

12. If the postoffice address of any person is unknown, then the decision shall be mailed to said claimant in care of the County Clerk of the county within which the claim is located.

Rehearing:—

1. Any person deeming himself aggrieved by any decision, may at any time within thirty days after receipt of such decision file with the State Engineer a petition for a rehearing. Said petition shall set forth the grounds relied upon for a rehearing and be duly verified.

2. In case sufficient reasons are found in the petition provided for above to grant rehearing, the petitioner shall be notified of the same by the State Engineer.

3. Interested parties may file with the State Engineer a brief and also appear in person to introduce evidence and make oral argument.

4. In general the case shall be made up and be controlled by the rules governing contests.

CLAIMS AND APPLICATIONS GRANTED AND PENDING

The following tables give a complete list of all claims and applications for water, which have been granted by the State Board of Irrigation, Highways and Drainage, and which have never been cancelled; also all applications and claims now pending.

In these tables, the claims and applications have been arranged in each water division by streams in alphabetical order, and the appropriations on each stretm are arranged in order of their priority on that stream.

Those having docket numbers are claims made covering rights acquired under the law prior to April 4, 1895, and those having application numbers are applications for permits to appropriate water made under the law of 1895.

(In the following tables Docket and Appropriation Nos. are marked with an asterisk (*) where claims are pending before the Department. Dockets and applications marked with two asterisks (**) are subject to cancellation).

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-A

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Akers Draw Supple D 301..	Enterprise Irrig. Dist.	Scotts Bluff..	Nelson Draw Seep	Seep	10.00	13	23	57	Scotts Bl'ff	March	28	1889		1290
Ash Creek	Vance, Roscoe	Lewellen	Vance Ditch	Irrig.	1.14	27	16	42	Deuel	June	14	1890	765	.....
Ash Creek	Gillard, George	Lewellen	Gillard Ditch	Irrig.	1.43	3	16	42	Deuel	Dec.	31	1890	812	.....
Ash Creek	McCormick, C.	Lewellen	McCormick	Irrig.	.....	16	16	42	Deuel				1011*	.....
Beaver Lake	Baldrigre, A. F.	Alliance	Beaver	Irrig.	170.00	16	20	44	Garden	Aug.	6	1910	.....	1018
Birdwood Cr'k..	Eq. Farm & S. Imp. Co...	North Platte	Birdwood Ditch	Irrig.	100.00	35	15	53	Lincoln	Oct.	21	1893	646	.....
Birdwood Cr'k..	Eq. Farm & S. Imp. Co...	North Platte	W. Side Birdw'd Ditch	Irrig.	8.57	22	15	35	Lincoln	Jan.	16	1894	652	.....
Birdwood Cr'k..	Beauchamp, W. K.	Sutherland ..	Beauchamp Ditch	Irrig.	3.00	15	15	33	Lincoln	Sept.	19	1894	677	.....
Birdw'd Cr.,E.B.	McCabe, N.	North Platte	McCabe Ditch	Irrig.	5.00	3	16	33	Lincoln	March	1	1901	.....	602
Blue Creek	Union Irr. & W. P. Co.	Lewellen	Union Irr. & W. P. Canal	Irrig.	24.64	18	16	42	Deuel	May	16	1890	763	.....
Blue Creek	Iowa Irr. & Imp. Co.	Lewellen	Hooper Ditch	Irrig.	12.86	6	16	42	Deuel	Sept.	7	1893	781	.....
Blue Creek	Blue Creek Irr. Dist.	Lewellen	Blue Creek Canal	Irrig.	107.29	33	17	42	Deuel	Dec.	27	1893	785	.....
Blue Creek	Meeker Ditch Co.	Lewellen	Graf Ditch	Irrig.	61.42	19	16	42	Deuel	April	2	1894	788	.....
Blue Creek	Winterer, Jacob H.	Lewellen	High Line Ditch	Irrig.	20.00	21	17	42	Deuel	Sept.	27	1894	795	.....
Blue Creek	Paisley Irr. District	Lewellen	West Side Ditch	Irrig.	21.00	28	17	42	Deuel	Nov.	20	1894	800	.....
Blue Creek	Paisley Irr. District	Lewellen	Paisley Irrig. Ditch	Irrig.	4.00	33	17	42	Deuel	July	14	1899	.....	515
Blue Creek	Slesser, David	Oshkosh	Fair View	Power	62.60	4	18	45	Garden	July	18	1910	.....	1009**
Blue Creek	Eggers, J. E.	Lewellen	The Eggers Extension	Irrig.	.42	33	17	42	Garden	Jan.	4	1912	.....	1154
Blue & Crescent Lake	Roberts, Chas. F., Orr., John H., Geo. B.	Lewellen	Blue & Crescent Lake Canal	Irrig.		20	20	44	Garden	Aug.	20	1917	.....	1496*
Bronco Lake	McCorkle, N. A.	Alliance	Bronco Lake Ditch	Irrig.	10.28	6	24	48	Box Butte	Oct.	8	1917	.....	1501
Brown's Cr'k	Haxby, Geo. H.	Bridgeport ..	Hackberry Ditch	Irrig.	.43	19	20	48	Cheyenne ..	July	17	1903	.....	717
Buckhorn Spgs..	Maddox, P. P.	Keystone	.....	Irrig.	2.28	8	14	36	Keith	Oct.	3	1908	.....	918
Buffalo Ck. W..	Henry, Absalom	Cozad	Henry Canal	Irrig.	.07	23	11	23	Dawson	July	2	1900	.....	570

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-A (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Buffalo Cr.	Savins, Richard T.	Lexington	Savins Ditch	Irrig.	2.28	22	10	21	Dawson	Aug.	18	1917	.....	1495
Camp Creek	Wehn, J. W.	Alliance	Camp Creek Ditch	Irrig.	1.43	13	18	49	Cheyenne	March	16	1892	866	.....
Cedar Creek	Radcliffe, Mack	Sidney	Nelson & Radcliffe D.	Irrig.	2.77	28	18	48	Cheyenne	June	1	1882	1034a	.....
Cedar Creek	Radcliffe, Mack	Sidney	Radcliffe Ditch No. 2.	Irrig.	1.23	34	18	48	Cheyenne	July	1	1885	1034b	.....
Cedar Creek	Radcliffe, Mack	Sidney	Radcliffe Ditch No. 3.	Irrig.	.76	27	18	48	Cheyenne	Feb.	14	1890	1034c	.....
Cedar Creek	Banderet, Frank	Paxton	Cedar Creek Ditch	Irrig.	1.57	17	14	35	Keith	Jan.	3	1911	.....	1051
Cedar Creek	Belmont Irr. C.&W. P. Co.	Bridgeport	Cedar Creek Feeder	Irrig.	5.00	23	18	48	Morrill	Jan.	7	1915	.....	1397
Clear Creek	Hooper, D. C.	Lewellen	Clear Creek Ditch	Irrig.	2.86	32	16	41	Keith	July	1	1888	748	.....
Clear Creek	Clear Creek Irr. Co.	Lewellen	Clear Creek Canal	Irrig.	14.57	29	16	41	Keith	May	30	1893	754	.....
Clear Creek	Green, Nelson A.	Lewellen	Clear Creek Ditch	Irrig.	1.14	32	16	41	Keith	May	30	1893	756	.....
Clear Creek	Green, Nelson A.	Lewellen	Green Ditch	Irrig.	1.14	29	16	41	Keith	June	1	1893	745	.....
Clear Creek	Scott, G. T., Williams, E. C.	Lewellen	Scott & Williams D.	Irrig.	1.00	28	16	41	Keith	May	18	1894	747	.....
Clear Creek	Barber, Frank H.	North Platte	Finch Ditch	Irrig.	1.43	4	15	41	Keith	June	30	1895	964	.....
Clear Creek	Clear Creek Irr. Co.	Lewellen	Clear Creek Extension	Irrig.	1.14	31	16	41	Garden	July	5	1911	.....	1111
Cold Water Cr.	Lisco Irr. Dist.	Lisco	Cold Water Ditch	Irrig.	4.29	26	18	46	Deuel	Sept.	28	1894	796	.....
Coon Creek	Winterer, Wm. H.	Keystone	Coon Creek Ditch	Irrig.	.71	34	15	37	Keith	July	3	1895	.....	69
Coon Creek	Winterer, Wm. H.	Keystone	Coon Creek Ditch	Irrig.	1.42	34	15	37	Keith	Sept.	16	1912	.....	1225
Dougout Creek S. W. Lower.	Hagerty, Michaael H.	Broadwater	Cooper Ditch	Irrig.	.86	4	19	48	Cheyenne	Aug.	15	1892	872	.....
S. W. Lower.	Mulloy, Francis C.	Irving	Mulloy Ditch	Irrig.	1.00	27	27	48	Cheyenne	July	18	1907	.....	805
S. W. Lower.	Hubbard, Henry	Broadwater	Hubbard Ditch	Irrig.	.29	4	19	48	Morrill	June	23	1910	.....	1605
Dougout Cr.	Hagerty, M. H.	Broadwater	Hagerty Ditch	Irrig.	1.00	4	19	48	Morrill	Oct.	26	1912	.....	1238
Fremont Cr.	Eq. Farm & S. Imp. Co.	North Platte	Fremont Creek Ditch	Irrig.	9.29	15	13	30	Lincoln	Jan.	31	1894	686	.....
Golden Creek	Thies, M. J.	Ogallala	Theis Ditch	Irrig.	2.71	25	15	39	Keith	Sept.	17	1895	.....	160
Greenw'd Cr	Coulter, D. M. & H. M.	Lovel'd, Col.	Coulter Ditch	Irrig.	4.00	15	18	50	Cheyenne	Feb.	3	1890	830	.....
Greenw'd Cr.	Trinnier, J. E.	Redington	Trinnier Canal	Irrig.	6.29	28	18	50	Cheyenne	April	6	1891	849	.....
Greenw'd Cr.	Nelson, C. C. and Trinnier, J. E.	Redington	Nelson Canal	Irrig.	3.00	33	18	50	Cheyenne	April	1	1892	845	.....

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-A (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Greenw'd Cr.	Capron, A. M., Lamb, J.	Redington	Capron & Lamb Ditch	Irrig.	2.00	15	18	50	Cheyenne	Jan.	1	1893	890	.....
Greenw'd Cr.	North & Robinson Co.	Bridgeport	Meglemre Ditch	Irrig.	.59	10	18	50	Cheyenne	May	6	1896	.....	294
Greenw'd Cr.	Trott, Jas. S.	Bridgeport	Dean Ditch	Irrig.	8.86	10	18	50	Cheyenne	Dec.	5	1906	.....	844
Greenw'd Cr.	Meglemre, Sarah A.	Longm't, Col	Meglemre Extension	Irrig.	1.50	10	18	50	Cheyenne	March	11	1907	.....	853
Greenw'd Cr.	North, Robinson, Dean Co.	Bridgeport		Irrig.		10	18	50	Morrill	Dec.	14	1910	.....	1045*
Horse Creek	Mihan, John	Morrill	State Line Ditch	Irrig.	1.42	33	23	58	Scotts Bl'ff	Sept.	10	1897	.....	407
Horse Creek	Braziel, P., Marsh, G.	Caldwell	Marsh & Braziel D.	Irrig.	7.19	4	22	60	Wyoming	Nov.	24	1908	.....	921
Horse Creek	Gilmore, F. D.	Caldwell	Gilmore Ditch	Irrig.	9.00	33	23	58	Scotts Bl'ff	Feb.	21	1910	.....	983
Horse Creek	Mihan, John	Morrill	State Line Ditch	Irrig.	2.00	33	23	58	Scotts Bl'ff	April	21	1910	.....	994
Horse Creek	Jackson, Joel	Morrill	Jackson Extension	Irrig.	1.00	27	23	58	Scotts Bl'ff	May	19	1910	.....	1000
Horse Creek	Marsh, Braziel	Caldwell	Marsh-Braziel Ex.	Irrig.	13.00	4	22	60	Wyoming	Sept.	18	1911	.....	1126
Horse&Owl Cks.	Pizer, H. J.	Mitchell	Horse Creek Ditch	Irrig.	.86	34	23	58	Scotts Bl'ff	Feb.	29	1904	.....	742
Huntington Spg	Cord, Fred	Hull	Cord Ditch	Irrig.	1.43	9	20	58	Scotts Bl'ff	Dec.	23	1904	.....	778
Jess Lake	Stearns, F. E.	Morrill	Jess Lake Pipe line	Drain		25	26	44	Scotts Bl'ff	Oct.	18	1917	.....	1502*
Kiowa Creek	Currie, Edwin A.	Mitchell	Currie Ditch	Irrig.	9.14	13	21	57	Scotts Bl'ff	March	23	1892	938	.....
Kiowa Creek	Kellums, J. H.	Caldwell	Kellums Ditch	Irrig.	2.43	11	22	58	Scotts Bl'ff	Oct.	18	1901	.....	641
Kiowa Creek	Lowry, Ellis	Mitchell	Lowry Canal	Irrig.	.52	31	22	57	Scotts Bl'ff	March	25	1904	.....	746
Kiowa Creek	Kellums, J. H.	Caldwell	Kellums Ditch No. 2	Irrig.	.57	1	22	58	Scotts Bl'ff	Nov.	29	1907	.....	880
Lawrence Fork	Lindburg, Fred R.	Bridgeport		Irrig.	.50	28	18	52	Cheyenne	Dec.	31	1886	825	.....
Lawrence Fork	Gilman, Byron, Crigler, E. S.	Redington	Redington Ditch	Irrig.	.57	36	19	52	Cheyenne	Oct.	9	1889	820	.....**
Lawrence Fork	Lindburg, Fred R.	Bridgeport	E. S. Crigler Ditch	Irrig.	.57	1	18	52	Cheyenne	Sept.	11	1891	861	.....
Lawrence Fork	Niehus, J. W.	Redington	Spring Branch Ditch	Irrig.	1.00	11	18	52	Cheyenne	Oct.	23	1891	862	.....
Lawrence Fork	Redington, H. V.	Redington	Redington Ditch	Irrig.	.50	11	18	52	Cheyenne	May	1	1893	893	.....
Lawrence Fork	King, W. O.	Kearney	Doran Canal	Irrig.	1.14	15	18	52	Cheyenne	June	1	1894	850	.....
Lawrence Fork	Niehus, J. W.	Redington	Spring Branch Ext.	Irrig.	.57	1	18	52	Cheyenne	Oct.	13	1898	.....	476
Lawrence Fork	Lindberg, Fred	Bridgeport	Crigler Extension	Irrig.	1.43	1	18	52	Cheyenne	Nov.	25	1898	.....	486
Lawrence Fork	Niehus, Henry	Redington	Niehus Ditch	Irrig.	.86	11	18	52	Cheyenne	March	23	1900	.....	550
Lawrence Fork	Niehus, J. W.	Redington	Harper Ditch	Irrig.	1.43	11	18	52	Cheyenne	May	27	1902	.....	669
Lawrence Fork	Harper, John W.	Sidney	Bicket Ditch	Irrig.	.57	11	18	52	Cheyenne	May	27	1902	.....	670
Lawrence Fork	Randall Bros.	Redington	Randall Bros. Ditch	Irrig.	2.57	21	18	52	Cheyenne	May	15	1911	.....	1100
Lawrence Fork	King, Wm. O.	Kearney	King's Canal	Irrig.	4.00	15	18	52	Buffalo	Dec.	8	1915	.....	1440

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Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Lonergan Cr.	Soehl, Herman A.	Lemoyne	Soehl Canal	Irrig.	2.00	17	15	39	Keith	May	10	1889	697a	.....
Lonergan Cr.	Jacobs, Lee	Lemoyne	E. Lonergan Ditch	Irrig.	9.14	17	15	39	Keith	May	25	1889	699	.....
Lonergan Cr.	Soehl, Herman A.	Lemoyne	Soehl Canal	Irrig.	.86	17	15	39	Keith	April	27	1893	697b	.....
Lonergan Cr.	Stansberry, Elvina	Lemoyne	Haney Ditch	Irrig.	1.14	17	15	39	Keith	July	1	1893	719	.....
Matthews Cr.	Mathews, Benj. G.	Keystone	Mathews Canal	Irrig.	1.14	28	15	37	Keith	April	1	1895	750	.....
Middle Cr.	Bartling, Henry	Redington	Bartling Ditch	Irrig.	.29	28	18	51	Cheyenne	July	31	1894	870	.....
Middle Cr.	Bartling, Henry	Redington	Bartling Ditch No. 2	Irrig.	.29	28	18	51	Cheyenne	June	1	1894	891	.....
Nine Mile Can.	Nine Mile Irr. District	Bayard	Nine Mile Seep Canal	Seep.	.79	10	21	53	Morrill	Dec.	6	1893	.....	1431
North Platte R.	Platte Valley Irr. Dis.	Hershey	North Platte Canal	Irrig.	300.00	13	14	34	Lincoln	May	31	1884	635	.....
North Platte R.	Farmers Irr. Dis.	Scottsbluff	Farmers' Canal	Irrig.	1142.86	3	23	58	Scotts Bl'ff	Sept.	16	1887	918	.....
North Platte R.	Minatare Mut. C. & I. Co.	Minatare	Minatare Ditch	Irrig.	249.43	32	22	54	Scotts Bl'ff	Jan.	14	1888	919	.....
North Platte R.	Winters Creek Canal	Scottsbluff	Winter Creek Canal	Irrig.	124.29	17	22	55	Scotts Bl'ff	Oct.	18	1888	952	.....
North Platte R.	Enterprise Irrig. Dist.	Scottsbluff	Enterprise Ditch	Irrig.	173.71	27	23	57	Scotts Bl'ff	March	28	1889	920	.....
North Platte R.	Castle Rock Irrig. Dis.	McGrew	Castle Rock Irr. Can.	Irrig.	82.57	4	21	54	Scotts Bl'ff	April	18	1889	921	.....
North Platte R.	Logan, Chas. E.	Bridgeport	Logan Ditch	Irrig.	5.71	19	20	50	Cheyenne	Oct.	17	1889	821	.....
North Platte R.	Bridgeport Irr. Dist.	Bridgeport	Belmont Canal	Irrig.	270.00	18	20	51	Cheyenne	Dec.	19	1889	828	.....
North Platte R.	Bridgeport Irr. Dist.	Bridgeport	Belmont Canal	Irrig.	115.71	18	20	51	Cheyenne	March	28	1907	.....	902
North Platte R.	Central Irr. Dist.	Gering	Central I. C. & W. P. Canal	Irrig.	36.00	27	22	55	Scotts Bl'ff	June	23	1890	926	.....
North Platte R.	Myers, T. A., et al	Ogallala	Myers & Phelps Can.	Irrig.	7.14	34	15	39	Keith	Sept.	11	1890	709	.....
North Platte R.	Sheridan, J. Wake Est. of	Paxton	Sheridan & Wilson D.	Irrig.	10.00	20	14	35	Keith	Oct.	9	1890	710	.....
North Platte R.	Chimney Rock Irr. Dist.	Chimney R'k	Chimney Rock Canal.	Irrig.	60.00	1	20	53	Cheyenne	Dec.	3	1890	844	.....
North Platte R.	Chimney Rock Irr. Dist.	Chimney R'k	Chimney Rock Canal.	Irrig.	.....	1	20	53	Morrill	Dec.	3	1890	1031	.....
North Platte R.	Empire Canal Co.	Bridgeport	Empire Canal	Irrig.	28.57	18	20	51	Cheyenne	June	25	1891	858	.....
North Platte R.	Jurgens, Otto, Adm. Est. D. Kah	Minatare	Kah Ditch	Irrig.	4.57	11	21	54	Scotts Bl'ff	Nov.	1	1891	944	.....
North Platte R.	Brown Creek Irr. Dist.	Bridgeport	Brown's Creek Canal.	Irrig.	188.71	29	20	50	Cheyenne	Jan.	20	1892	857	.....
North Platte R.	Brown Creek Irr. Dist.	Bridgeport	Brown's Cr. Irr. Can.	Irrig.	.....	20	20	50	Morrill	Jan.	20	1892	1033	.....
North Platte R.	Hale, Will A.	Gering	Homestead Ditch	Irrig.	11.43	21	22	55	Scotts Bl'ff	June	29	1892	941	.....
North Platte R.	Alliance Irr. Dist.	Bridgeport	Alliance Canal	Irrig.	100.00	5	20	52	Cheyenne	Dec.	26	1892	874	.....
North Platte R.	Alliance Irr. Dist.	Bayard	Alliance Irr. C.&W.P.	Irrig.	.....	5	20	52	Morrill	.....	.....	.....	1035	.....
North Platte R.	Clark, Henry T.	Bridgeport	H. T. Clarke Canal	Irrig.	9.43	22	20	51	Cheyenne	Feb.	2	1893	875	.....
North Platte R.	Ramshorn Ditch Co.	Morrill	Ramshorn Ditch	Irrig.	45.71	13	23	58	Scotts Bl'ff	March	20	1893	945	.....

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North Platte R.	Short Line Irr. Dist.	Bayard	Short Line Canal	Irrig.	65.57	25	21	53	Scotts Bl'ff	May	1	1893	946	
North Platte R.	Lisco Irr. Dist.	Lisco	Lisco Ditch	Irrig.	32.86	14	18	47	Cheyenne	July	1	1893	856	
North Platte R.	Nine Mile Irr. Dist.	Bayard	Nine Mile Canal	Irrig.	200.00	18	21	53	Scotts Bl'ff	Dec.	6	1893	925	
North Platte R.	David A. Baum and Dan W. Gaines	Omaha	Cody & Dillon Irr. Ca	Irrig.	127.00	9	14	31	Lincoln	Dec.	29	1893	649	
North Platte R.	Keith & Lincoln Co. Irr. District	Sutherland	S. & P. L. & I. Canal	Irrig.	186.00	18	14	36	Keith	Feb.	2	1894	722	
North Platte R.	Paxton & Hershey Water Co.	Hershey	Paxton & Hershey Ca	Irrig.	130.00	18	14	33	Lincoln	Feb.	12	1894	653	
North Platte R.	North River Irr. Co.	Lisco	Bower Ditch	Irrig.	21.37	6	17	45	Deuel	March	27	1894	787	
North Platte R.	Suburban Irr. Dist.	North Platte	Suburban Canal	Irrig.	183.00	12	14	33	Lincoln	May	22	1894	662	
North Platte R.	South Side I. & L. Co.	North Platte	South Side I. & L. Ca	Irrig.	270.00	14	14	34	Lincoln	June	6	1894	667	**
North Platte R.	Roberts, C. F.	Oshkosh	Midland Canal	Irrig.	12.00	2	16	44	Deuel	June	9	1894	789	
North Platte R.	Keith, Morrill C.	North Platte	Keith Canal	Irrig.	71.00	36	14	30	Lincoln	July	7	1894	657	**
North Platte R.	Maycock, Joseph	Morrill	Rooster Ditch	Irrig.	5.71	10	23	58	Scotts Bl'ff	July	29	1894	950	**
North Platte R.	Smith, Augustus	North Platte	Smith Canal	Irrig.	20.00	36	14	30	Lincoln	Aug.	9	1894	676	
North Platte R.	Countryman, Chas.	Lewellen	Overland I. Canal	Irrig.	20.00	1	16	44	Deuel	Aug.	14	1894	791	
North Platte R.	Hannah Irr. Canal Co.	Lisco	Hannah Irr. Canal	Irrig.	5.71	24	18	47	Cheyenne	Sept.	24	1894	886	
North Platte R.	Oshkosh Irr. Dist.	Oshkosh	Oshkosh Canal	Irrig.	40.00	33	17	44	Deuel	Oct.	5	1894	797	
North Platte R.	Beerline Canal Co.	Broadwater	Beerline Canal	Irrig.	30.00	24	19	49	Cheyenne	Oct.	13	1894	887	
North Platte R.	Spohn, Wm.	Oshkosh	Spohn Ditch	Irrig.	13.14	13	17	45	Deuel	Dec.	6	1894	801	
North Platte R.	Rush Cr. Irr. Canal Co.	Lisco	Rush Creek Irr. Can	Irrig.	9.64	2	17	46	Deuel	Dec.	11	1894	802	
North Platte R.	Lyons Irr. Dist.	Oshkosh	Lyons Irr. Canal	Irrig.	42.14	30	17	44	Deuel	Dec.	22	1894	803	
North Platte R.	Orr, Geo. B., et al	Lewellen	Orr & Vance Canal	Irrig.	2.93	29	16	42	Deuel	Dec.	24	1894	811	
North Platte R.	Williams, E. C., et al	Lewellen	Robbins & Williams Canal	Irrig.	26.57	35	16	42	Deuel	Jan.	4	1895	804	
North Platte R.	Gyger, J. C.	Oshkosh	Gyger Ditch	Irrig.	10.86	10	16	44	Deuel	Jan.	5	1895	806	
North Platte R.	Dikeman, S. F.	North Platte	Dikeman Canal	Irrig.	30.00	9	14	32	Lincoln	Jan.	14	1895	684	
North Platte R.	Western Land & Cattle Co. & W. R. Taylor	Omaha	Signal Bluff Ditch	Irrig.	30.13	16	16	43	Deuel	Jan.	16	1895	807	
North Platte R.	Jacobs, Lee	Ogallala	Hay Land Canal	Irrig.	5.71	29	15	39	Keith	Jan.	19	1895	732	
North Platte R.	E. Hubbart	North Platte	Hubbart & Hall Ditch	Irrig.	65.70	20	14	30	Lincoln	March	3	1895	691	
North Platte R.	Theis, Perry J.	Ogallala	Fernstrom & Nissen	Irrig.	4.00	25	15	39	Keith	March	23	1895	737	
North Platte R.	Alfalfa Irr. Dist.	Ogallala	Alfalfa Ir. Dis. Canal	Irrig.	100.00	1	15	42	Keith	March	25	1895	738	
North Platte R.	Bushnell, H. J. & E. N.	Oshkosh	Bushnell Bros. Ditch	Irrig.	7.14	12	16	44	Deuel	March	27	1895	809	
North Platte R.	Johnson, E. A.	Brady	Johnson Ditch	Irrig.		10	12	27	Lincoln				654*	

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						S	T	R	County	Month	D	Yr.		
North Platte (Otto Creek)..	Peterson, E. J.	Lemoyne	Holcomb Ditch	Irrig.	15.49	5	15	40	Keith	June	4	1895		1
North Platte R.	Steamboat Ditch Co.	Gering	Steamboat Ditch	Irrig.	15.00	4	21	54	Scotts Bl'ff	Oct.	22	1895		186
North Platte R.	North River Irr. Dist	Lisco	North R. Irr. Canal	Irrig.	168.29	14	18	47	Cheyenne	Feb.	24	1896		243
North Platte R.	Remick Duer Co.	Lisco	Lees Creek	Irrig.	20.00	34	19	48	Cheyenne	July	18	1896		327
North Platte R.	Steamboat Ditch Co.	Gering	Steamboat Ditch	Irrig.		4	21	54	Scotts Bl'ff	July	22	1896		350
North Platte R.	Tetreault, Amedee	Bridgeport	Tetreault Ditch No. 2	Irrig.	3.43	1	19	50	Cheyenne	Aug.	15	1896		353**
North Platte R.	The Gering Irr. Dis.	Gering	Gering Canal	Irrig.	208.62	4	23	58	Scotts Bl'ff	March	15	1897		365
North Platte R.	Schermerhorn, A. D.	Omaha	Schermerhorn Canal	Irrig.	29.71	16	20	51	Cheyenne	Oct.	25	1897		418
North Platte R.	Frank, Wm.	Grand Is'ld	Columbia Canal	Irrig.	600.00	3	23	58	Scotts Bl'ff	April	14	1902		660
North Platte R.	Farmers Irr. District	Mitchell	Interstate Canal	Irrig.		19	29	83	State Wyo.	Sept.	19	1904		768
North Platte R.	Liebhardt Bros.	Denver	Empire Extension	Irrig.	1.00	18	20	51	Cheyenne	July	20	1907		866
North Platte R.	Lisco Irr. Dis.	Lisco	Lisco Ditch	Irrig.	3.00	14	18	47	Garden	April	6	1910		991
North Platte R.	French, John E.	Henry	French Ditch	Irrig.	11.00	9	23	60	Wyoming	Dec.	21	1911		1149
North Platte R.	Dobson, W. A.	Davenp't, Ia.	Dobson's Lateral	Irrig.	3.14	5	20	52	Morrill	Feb.	28	1912		1181
North Platte R.	Stone, Myron K.	Lisco	Stone Irr. Canal	Irrig.	1.00	28	18	46	Morrill	Jan.	19	1915		1401
North Platte R.	French, John E.	Henry	French Ditch	Irrig.	3.14	5	20	52	Morrill	Sept.	11	1915		1433
North Platte R.	Dobson, W. A.	Davenp't, Ia.	Dobson's Lateral	Irrig.	.57	12	20	51	Morrill	Nov.	3	1915		1436
North Platte R.	Liebhardt Bros.	Denver	Liebhardt Lateral	Irrig.	2.90	6	20	52	Morrill	March	1	1916		1448
North Platte R.	Atkins, A. W.	Bridgeport	Atkins	Irrig.	5.00	15	19	49	Morrill	March	27	1916		1449
North Platte R.	Atkins, A. W.	Bridgeport	Atkins	Irrig.	5.00	15	19	49	Morrill	March	27	1916		1450
North Platte R.	Intermountain Railway Light & Power Co.	Colo. Spgs.	Gering Hydro El. Pl.	Power	250.00	28	22	55	Scotts Bl'ff	April	5	1916		1452**
North Platte R.	Mann, John H.	Bridgeport	Wastewater Ditch	Irrig.	2.30	30	21	50	Morrill	June	2	1916		1455**
North Platte R.	Union Pacific Ry Co.	Omaha	Locomotive water sup.	Power	100.00	29	14	30	Keith	Jan.	19	1917		1472
North Platte R.	McCaffree, F. S.	Scottsbluff	Tri-City Power Sys.	Power	500.00	3	23	58	Scotts Bl'ff	Oct.	5	1917		1499*
North Platte R. (Seep. D 925)..	O'Halloran, Jas. O.	Bayard	O'Halloran Ditch	Seep.	1.07	28	21	52	Morrill	Dec.	6	1893		1473
Spring Ck., trib. to N. Platte....	Union Pacific Ry Co.	Omaha	Frazier Lake	Ice	4.00	35	14	30	Lincoln	Sept.	6	1907		868
Spring Ck., trib. to N. Platte....	Keystone Irr. Co.	Keystone	Spring Cr. No. 1	Irrig.	1.13	19	15	37	Keith	May	27	1910		1002
Spring Ck., trib. to N. Platte....	Gatch, Chas. E.	Melbeta	Gatch Ditch	Irrig.	.93	25	21	54	Scotts Bl'ff	Aug.	21	1912		1220
Barrow Pit, trib to N. Platte....	Taylor, A. O.	Minatare	Borrow Pit Ditch	Irrig.	.29	19	21	52	Scotts Bl'ff	April	23	1904		751
Otter Creek	Fairchild, Louis F.	Lemoyne	Cascade Ditch	Irrig.	3.30	4	15	40	Keith	April	1	1891	1032	

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						S	T	R	County	Month	D	Yr.			
Otter Cr. & No. Platte R.	Peterson, E. J.	Lemoyne	Holcomb Ditch	Irrig.	15.49	5	15	40	Keith	June	4	1895		1	
Otter Creek	Nissen, Pete & Co.	Belmar	Otter Canal	Irrig.	11.00	5	15	40	Keith	May	24	1912		1198	
Otter Creek	Peterson, E. J.	Lemoyne	Peterson Ditch	Irrig.	1.32	5	15	40	Keith	Nov.	6	1912		1240	
Owl Creek	Kellums, John H.	Caldwell	Sunflower Ditch	Irrig.	.79	12	22	58	Scotts Bl'ff	Sept.	17	1897		411	
Owl Creek	Kellums, John H.	Caldwell	Sunflower Ditch	Irrig.	1.14	12	22	58	Scotts Bl'ff	Oct.	10	1904		770	
Owl Creek	Kellums, John H.	Caldwell	Sunflower Ditch No. 2	Irrig.	1.14	12	22	58	Scotts Bl'ff	Nov.	29	1907		879	
Owl Creek	Kellums, John H.	Caldwell	Sunflower Ditch Extension No. 1	Irrig.	.57	12	22	58	Scotts Bl'ff	Nov.	29	1907		881	
Pawnee Creek	Kent & Burke Co.	Omaha	Holcomb's Ditch	Irrig.	8.00	13	13	28	Lincoln	Oct.	18	1800	636		
Pawnee Creek	Murphy, E. D.	Brady Isl	Murphy's Ditch	Irrig.	8.57	29	13	27	Lincoln	June	9	1894	669		
Pawnee Creek	Plumer, Wm. H.	Maxwell	Plumer Ditch	Irrig.	10.00	19	13	27	Lincoln	June	15	1894	672		
Platte River	Kearney Water & Electric Power Co.	Kearney	Kearney Water & Elec. Power Plant	Power Irrig.	140.00 22.00	3	8	16	Buffalo	Sept.	10	1882	1023		
Platte River	Gothenburg L. & P. Co.	Gothenburg	Gothenburg P. & L. C.	I. & P.	200.00	29	12	26	Lincoln	July	5	1890	645a		
Platte River	Farmers D. & C. Co.	Brady Isl	Far. D. & C. Co. D.	Irrig.	280.00	17	13	29	Lincoln	June	2	1894	666		**
Platte River	Farmers' Irr. Co.	Lexington	Farmers Irr. Co.'s D.	Irrig.	114.00	25	10	23	Dawson	June	14	1894	621		
Platte River	Dawson County Irr. Co.	Lexington	Farmers & Merchants Canal	Irrig.	1142.86	18	10	23	Dawson	June	26	1894	622		
Platte River	Fowles, Russell H.	Maxwell	Maxwell Canal	Irrig.	27.14	29	13	28	Lincoln	July	5	1894	673		
Platte River	Appleford, Henry M.	Maxwell	Appleford Canal	Irrig.	10.00	15	13	29	Lincoln	July	7	1894	674		
Platte River	Sides, LeRoy	Lowell	LeRoy Sides Ditch	Irrig.	20.00	13	8	14	Kearney	July	23	1894	629		
Platte River	Platte River Irr. Co.	Lexington	Platte R. Irr. Canal	Irrig.	400.00	13	9	22	Dawson	Sept.	15	1894	624		
Platte River	Gothenburg L. & P. Co.	Gothenburg	Gothenburg P. & I. C.	Irrig.	240.00	29	12	26	Lincoln	Sept.	22	1894	645b		
Platte River	Farmers Mut. Irr. Co.	Kearney	Farmers Canal	Irrig.	180.00	12	6	16	Buffalo	Sept.	24	1894	234 235 628		** ** **
Platte River	McCullough, John	Maxwell	McCullough Ditch	Irrig.	30.00	35	13	28	Lincoln	Oct.	20	1894	679		
Platte River	Six Mile Ditch Co.	Gothenburg	Six Mile Ditch	Irrig.	40.00	11	11	26	Lincoln	Oct.	22	1894	680		
Platte River	Gothenburg South Side Irr. Co.	Gothenburg	Gothenburg So. Side Irr. Canal	Irrig.	357.14	30	12	26	Lincoln	Oct.	26	1894	681		
Platte River	Booker, H. C.	Gothenburg	Booker Canal	Irrig.	100.00	16	11	25	Dawson	Nov.	9	1894	625		
Platte River	Cozad Irr. Co.	Cozad	Cozad Irr. Canal	Irrig.	614.29	15	11	25	Dawson	Dec.	28	1894	626		
Platte River	South Side Irr. Co.	Cozad	Orchard & Alfalfa Irr. Ditch	Irrig.	300.00	9	10	24	Dawson	Jan.	23	1895	627		

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-A (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	Apr. No.
						S	T	R	County	Month	D	Yr.		
Platte River	Appleford, Henry M.	Maxwell	Appleford Canal	Irrig.	2.86	15	13	29	Lincoln	March	28	1895	690	
Platte River	Lexington South Side Irr. Co.	Lexington	Lexington South Side Ditch	Irrig.	58.00	8	9	22	Dawson	Sept.	28	1900		576
Plum Creek	Eggers, Thos.	Lewellen	Plum Cr. Ditch & Res.	Irrig.	1.14	23	16	42	Garden	Jan.	12	1914		1344
Pumpkin Seed	Wright, John S.	Harrisburg	Wright Ditch No. 1	Irrig.	2.00	5	19	54	Banner	Dec.	31	1882	904	
Pumpkin Seed	Kelley, Wm. J.	Harrisburg	Kelley Ditch	Irrig.	1.43	5	19	54	Banner	May	10	1886	915	
Pumpkin Seed	Zingg, Henry N.	Platte Cent'r	Heard's Ditches Nos. 1 and No. 2	Irrig.	1.29	14	19	54	Banner	June	1	1887	916	
Pumpkin Seed	Wright, John S.	Harrisburg	Wright Ditch No. 2	Irrig.	2.86	5	19	54	Banner	Dec.	31	1887	905	
Pumpkin Seed	Olson, Albert H.	Harrisburg	Logan Ditch	Irrig.	4.00	7	19	55	Banner	July	16	1890	902	
Pumpkin Seed	Court House Rock Irr. Co.	Bridgeport	Court House Irr. Can.	Irrig.	30.50	30	19	50	Cheyenne	Oct.	6	1890	840	
Pumpkin Seed	Court House Rock Irr. Co.	Bridgeport	Co't Ho'se Rk Ir. Can	Irrig.									1028*	
Pumpkin Seed	Trinnier, Mrs. Daisy	Denver, 2096 Emerson	Smith & Wheeler So. Ditch	Irrig.	1.57	26	19	51	Cheyenne	Oct.	16	1890	842	
Pumpkin Seed	Mutual Ditch Co.	Redington	Mutual Ditch	Irrig.	8.57	33	19	52	Cheyenne	Nov.	1	1890	843	
Pumpkin Seed	Waitman, P. P.	Redington	Waitman's Ditch	Irrig.	2.86	25	19	53	Banner	March	12	1891	847	
Pumpkin Seed	Endered, Chas. O., et al	Freeport	Endered Ditch	Irrig.	1.00	21	19	53	Banner	May	27	1891	903	
Pumpkin Seed	Sweet, C. A.	Omaha	Meredith & Ammer D.	Irrig.	18.86	23	19	50	Cheyenne	Feb.	20	1893	876	
Pumpkin Seed	Hampton, R. R. & W. D.	Harrisburg	Hampton Ditch	Irrig.	1.29	25	20	57	Banner	April	5	1893	906	
Pumpkin Seed	Finn, J. L.; Trott, Jas. S.	Bridgeport	Last Chance	Irrig.	8.00	27	19	50	Cheyenne	April	12	1894	883	
Pumpkin Seed	Loy, Mrs. E. P.	Bridgeport	Round House Rock D.	Irrig.	3.00	28	19	51	Cheyenne	May	29	1894	884	
Pumpkin Seed	Boyd, P. D.	Redington	Maxwell Irr. Ditch	Irrig.	.50	23	19	52	Cheyenne	June	30	1894	885	
Pumpkin Seed	Coulter, Warren	Bridgeport	Dunlap Ditch	Irrig.	.36	24	19	51	Cheyenne	March	1	1895	889	
Pumpkin Seed	Reddish, Fred	Bridgeport	Wm. M. Willard Ditch	Irrig.	1.43	25	19	51	Cheyenne	March	27	1895	888	
Pumpkin Seed	Quinn, E. M.	Bridgeport	Birdcage Ditch	Irrig.	1.00	19	19	51	Cheyenne	June	1	1895	892	
Pumpkin Seed	Trinnier, Mrs. Daisy	Denver, 2096 Emerson	Smith & Wheeler No. Ditch	Irrig.	.71	26	19	51	Cheyenne	June	1	1896	842	
Pumpkin Seed	Cluck, Millard	Harrisburg	Peters Ditch	Irrig.	2.57	34	20	56	Banner	July	1	1902	913	
Pumpkin Seed	Wisner, S. R., et al	Redington	Wisner Ditch	Irrig.		23	19	53	Banner				917*	
Pumpkin Seed	Airedale Ranch & Cattle Co.	Scottsbluff	Airedale Canal No. 1	Irrig.	5.52	2	19	55	Banner	Jan.	24	1903		698
Pumpkin Seed	Airedale Ranch & Cattle Co.	Scottsbluff	Airedale Canal No. 2	Irrig.	3.22	1	19	55	Banner	Jan.	24	1903		699
Pumpkin Seed	Simon, Lincoln G.	Sidney	Reservoirs Nos. 1, 2, 3	Irrig.	1.31	7	19	55	Banner	June	24	1903		711
Pumpkin Seed	Johnson, Theo.	Harrisburg		Irrig.	2.29	2	19	55	Banner	April	20	1906		819**

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-A (Continued)

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						S	T	R	County	Month	D	Yr.		
Pumpkin Seed	Beatty, D. E.	Harrisburg	Beatty Ditch	Irrig.	.84	8	19	55	Banner	Sept.	1	1906	.....	836**
Pumpkin Seed	Belden, Jno.	Bridgeport	Swanger	Irrig.	.43	29	19	50	Cheyenne	Feb.	28	1907	.....	851
Pumpkin Seed	Pierson, A. H.	Mitchell	Clearfield Canal	Irrig.	1.71	31	20	56	Banner	Jan.	23	1908	.....	888
Pumpkin Seed	Beatty, Daisy E.	Harrisburg	Beatty Canal	Irrig.	.19	5	19	55	Banner	June	2	1910	.....	1004**
Pumpkin Seed	Seeley, W. J.	Milford	Seeley Irr. Ditch	Irrig.	.57	28	19	52	Morrill	Jan.	19	1911	.....	1052
Pumpkin Seed	Airedale Ranch & Cattle Co.	Scottsbluff	Airedale Canal No. 2	Irrig.	1.57	1	19	55	Dawes	Oct.	26	1911	.....	1133
Pumpkin Seed	Airedale Ranch & Cattle Co.	Scottsbluff	Airedale Canal No. 1	Irrig.	.51	2	19	55	Banner	Sept.	4	1914	.....	1380
Pumpkin Seed	Airedale Ranch & Cattle Co.	Scottsbluff	Airdale Canal No. 1	Irrig.	10.00	3	19	55	Scotts Bl'ff	June	23	1916	.....	1458
Pumpkin Seed	Green, Thos. L.	Scottsbluff	Airedale Canal No. 3	Irrig.	4.41	2	19	55	Banner	March	15	1918	.....	1508
Red Willow (Seep.) A1181	Dobson, W. A.	Davenp't, Ia.	Dobson's Ditch	Seep.	2.00	12	20	51	Morrill	Feb.	28	1912	.....	1432
Red Willow (Seep.) D874	Alliance Irr. Dist.	Bridgeport	Alliance Irr. Canal	Seep.	60.00	6	20	51	Morrill	Dec.	26	1892	.....	1429
Sand Creek	Smith Bros.	Bremen, Ga.	Holcomb & Smith	Irrig.	7.00	10	15	40	Keith	May	20	1889	698	.....
Sand Creek	Dudley, W. H.	Churdan, Ia.	Patrick Ditch	Irrig.	2.43	3	15	40	Keith	May	31	1891	725	.....
Sand Creek	Nissen, Peter	Lemoyne	Nissen Ditch	Irrig.	3.07	10	15	40	Keith	March	18	1901	.....	606
Sand Creek	Maddox, P. P.; Sillasen, S. J.	Keystone	Sand Creek Ditch	Irrig.	15.70	9	14	36	Keith	Jan.	3	1910	.....	974
Seep. f'm Lake	Huffman, M. J.	Gering	Huffman's Ditch	Irrig.	6.43	26	21	54	Scotts Bl'ff	March	19	1909	.....	937
Schuetz Spgs	Scheutz, Louis	Bridgeport	Schuetz Spring Canal	Irrig.	.21	28	18	50	Cheyenne	May	10	1892	881	.....
Sheep Creek	Nichols, Yorick	Henry	Little Moon	Irrig.	1.00	10	24	58	Sioux	March	23	1904	.....	745
Sheep Creek	Covert, Pitt	Cheyenne, Wyo.	Nebraska Reservoir	Irrig.	3.57	36	27	58	Sioux	May	18	1907	.....	859
Sheep Creek	West Fork Ditch Co.	Empire	West Fork Ditch	Irrig.	5.14	1	26	58	Sioux	Sept.	21	1907	.....	871
Sheep Creek	Cunningham, H. B.	Empire	Lower Canal	Irrig.	.37	11	25	58	Sioux	Nov.	2	1907	.....	875
Sheep Creek	Speese, R. L.	Empire	Home Ranch Ditch	Irrig.	1.79	25	26	58	Sioux	Nov.	2	1907	.....	876
Sheep Creek	Speese, R. L.	Empire	Horse Pasture Res.	Irrig.	1.29	25	26	58	Sioux	Nov.	2	1907	.....	877

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-A (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Sheep Creek	Speese, R. L.	Empire	Horse Camp Res.	Irrig.	2.86	36	27	58	Sioux	Jan.	20	1908		885
Sheep Creek	Cunningham, H. B.	Empire	No. Two	Irrig.	2.50	2	25	58	Sioux	Feb.	24	1908		890
Sheep Creek	Sheep Creek Lateral Co.	Morrill	Sheep Creek Lateral	Irrig.	5.00	8	23	57	Scotts Bl'ff	Feb.	26	1912		1176
Sheep Cr. (Seepage) D945	Ramshorn Ditch Co.	Morrill		Seep.	45.57	19	23	57	Scotts Bl'ff	March	20	1893		1465
Sheep Cr. (Seepage) D945	Sheep Creek Lateral Co.	Morrill	Sheep Cr. Lat. Co. Can	Seep.	.92	8	23	57	Scotts Bl'ff	March	20	1893		1398
Sheep Creek	Hovey, Ethel L.	Empire	Favorable	Irrig.	.27	19	26	57	Sioux	Oct.	25	1907		873
Draw trib. to Sheep Creek	Sheep Creek Lateral Co.	Morrill	Sheep Cr. Lateral Co.	Seep.	.28	8	23	57	Scotts Bl'ff	March	20	1893		1403
Sheep Creek	Utter, Lewis E.	Morrill	Last Camp Res.	Stor f'r Irrig.	11.40	36	27	58	Scotts Bl'ff	Sept.	9	1918		1525
Skunk Creek	Knight, H. H.	Keystone	Miller Ditch	Irrig.	2.29	1	14	37	Keith	April	1	1895	740	
Skunk Creek	Maddox, P. P.	Keystone	Skunk Creek Ditch	Irrig.	5.00	6	14	36	Keith	Nov.	5	1909		968
Snake Creek	Kilpatrick Bros.	Beatrice	Oasis Ditch	Irrig.	54.86	6	24	51	Box Butte	June	6	1894	567	
Snake Creek	Kilpatrick Bros.	Beatrice	Elmore Canal	Irrig.	5.71	30	25	51	Box Butte	June	22	1895		41
Snake Creek	Kilpatrick Bros.	Beatrice	Kilpatrick Res. No. 1.	Irrig.	200.00	1	24	52	Box Butte	June	7	1911		1104
Snake Creek	Kilpatrick Bros.	Beatrice	Kilpatrick Res. No. 2.	Irrig.	200.00	6	24	51	Box Butte	Jan.	25	1912		1159
Snow Lake	Harry A. Beale	Lincoln	Pipe Line	Drain		22	25	44	Scotts Bl'ff	Oct.	19	1917		1503*
South Platte R.	Eaton, John J.	Brule	Eaton & McGrath D.	Irrig.	20.00	25	13	41	Keith	April	3	1894	755	
South Platte R.	Hollingsworth, A.	Ogallala	Hollingsworth Ditch	Irrig.	30.00	12	13	39	Keith	June	5	1894	723	
South Platte R.	Stebbens, Lucien	North Platte	Stebbins Canal	Irrig.	30.00	32	14	32	Lincoln	Dec.	17	1894	683	
South Platte R.	Searle, E. M.	Ogallala	Riverside Ditch	Irrig.	2.86	17	15	39	Keith	Dec.	22	1894	744	
South Platte R.	Miller & Kimball Can Co.	Big Sprgs	Miller & Warren	Irrig.	53.86	7	12	42	Deuel	Jan.	5	1895	805	
South Platte R.	Ryan, J. T.	Brule	Home Irr. Ditch	Irrig.	3.14	30	13	40	Keith	March	2	1895	736	
South Platte R.	Shireman, W. H.	Ogallala	So. Side Plano Ditch	Irrig.	1.43	17	13	39	Keith	April	27	1895	733	
South Platte R.	Kimball, W., et al	Big Sprgs	Big Springs Canal	Irrig.	8.93	35	13	42	Deuel	April	27	1895	810	
South Platte R.	Stafford, David	Paxton	Paxton Southern D.	Irrig.	1.43	2	15	36	Keith	Oct.	17	1895		184
South Platte R.	Lute & Sheridan	Ogallala	Lute & Sheridan D.	Irrig.	13.43	9	13	37	Keith	Feb.	17	1896		231
South Platte R.	Meyer, Henry	Brule	Meyer Canal	Irrig.	1.46	22	13	40	Keith	April	14	1896		283
South Platte R.	Tressler, Wesley	Ogallala	Cereal Irr. Ditch	Irrig.	4.86	16	13	39	Keith	July	10	1896		357
South Platte R.	Allen, Wm. F.	Omaha	Allen Ditch	Irrig.	6.58	24	13	40	Keith	Dec.	15	1896		370
South Platte R.	Western Irr. Dist.	Big Sprgs	Western Irr. Dis.	Irrig.	180.29	29	13	41	Deuel	June	14	1897		393
South Platte R.	Kimball, Walter	Big Sprgs	Kimball's Underflow	Irrig.	3.57	4	12	42	Deuel	Nov.	8	1898		482
South Platte R.	McConnell, Edw. B.	Hershey	McConnell So. Side D.	Irrig.	37.8	34	14	33	Lincoln	Sept.	25	1914		1382

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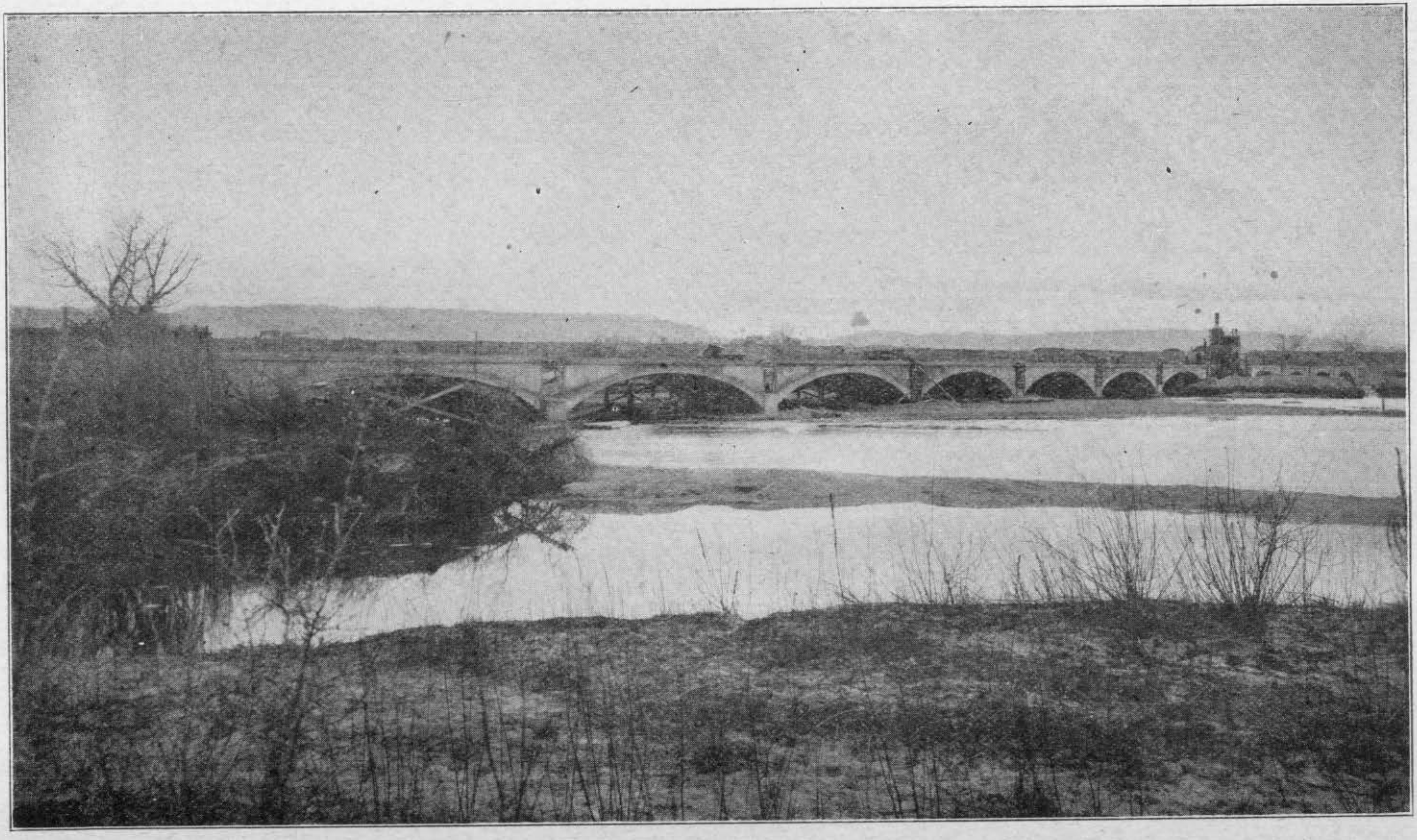
Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
South Platte R.	Brown, C. M.	Kearney	Tail Race Ditch	Irrig.	1.28	3	8	16	Buffalo	Jan.	16	1917	.....	1471
Spotted Tail Cr.	Stewart, H. G.	Mitchell		Irrig.	1.00	10	23	56	Scotts Bl'ff	May	2	1898	.....	449
Spotted Tail Cr.	Clarke, Jr., H. S.	Omaha	Stewart Reservoir	Irrig.	1.43	2	23	56	Scotts Bl'ff	March	2	1904	.....	743
Spotted Tail Cr.	Clarke, Jr., H. S.	Mitchell	Brown Ditch	Irrig.	2.28	2	23	56	Scotts Bl'ff	March	17	1911	.....	1072
Spotted Tail Cr.	Whitehead, Jas. T.	Omaha	Whitehead Power Pl.	Power	10.00	26	24	56	Sioux	Aug.	10	1912	.....	1215
Spotted Tail Cr.	Roberts, Samuel L.	Mitchell	Roberts Ditch	Irrig.	2.00	16	23	56	Scotts Bl'ff	Nov.	6	1912	.....	1241
Spring Branch	Brogan Bros.	Keystone	Brogan Bros. Ditch	Irrig.	.57	35	15	37	Keith	Sept.	24	1897	.....	410
Sprg. Br., trib. to Lawr. Fork	Harper, J. W. and Niehus, J. W.	Redington / Sidney	Harper Ditch No. 2	Irrig.	2.00	1	18	52	Cheyenne	June	16	1902	.....	674
Spring Creek	Peterson, E. J.	Lemoyne	Spring Creek Ditch	Irrig.	.57	12	15	40	Keith	June	18	1894	724	.....
Spring Creek	Freiday, Florian F.	Lexington	Freiday Canal	Irrig.	1.00	20	9	20	Dawson	Nov.	25	1910	.....	1040
Sprg. Cr., trib. to White Tail	Keystone Irr. Co.	Keystone	Spring Creek Ditch	Irrig.	1.57	19	15	37	Keith	June	21	1890	704	.....
Spring Cr., Lit.	Keystone Irr. Co.	Keystone	Little Spring Ditch	Irrig.	.57	29	15	37	Keith	April	1	1902	.....	659
Spring Cr., Lit.	Beatty, Wallace D.	Scottsbluff	Shramek Canal	Irrig.	1.50	22	22	55	Scotts Bl'ff	June	9	1913	.....	1295
Spring Cr., Lit.	Gilchrist, M. B.	Scottsbluff		Irrig.	.14	22	22	55	Scotts Bl'ff	July	29	1913	.....	1310
Spring Creek	McClenahan, E.	Scottsbluff	McClenahan Ex. Shramek Canal	Irrig.	.57	22	22	55	Scotts Bl'ff	July	30	1917	.....	1492
Spring Creek	Nelson, Martin	Scottsbluff	Ext. Shramek Can.	Irrig.	.14	22	22	55	Scotts Bl'ff	June	3	1918	.....	1515
Springs on Sec. 28, 18, 49	Finn Bros.	Dalton	Finn Bros.' Ditch	Irrig.	.50	28	18	49	Cheyenne	July	1	1890	836	.....
Sprgs & Slough	Cundall, Harry	Stratton	Cundall Ditch	Irrig.	.71	19	20	51	Morrill	Dec.	15	1911	.....	1148
Strm (no name)	Newberry, H.	North Platte	Newberry Ditch	Irrig.	1.14	22	14	32	Lincoln	Feb.	25	1895	688	.....
Willow Creek	Everett, R. L.	Harrisburg	Willow Springs Ditch No. 1	Irrig.	.57	16	19	56	Banner	Jan.	21	1902	.....	650
Willow Creek	Everett, R. L.	Harrisburg	Willow Springs Ditch No. 2	Irrig.	.86	16	19	56	Banner	Jan.	21	1902	.....	651
White Horse Cr	Lamplough, Isaac	North Platte	Lamplough's Lakes	Irrig.	2.86	8	14	30	Lincoln	Dec.	31	1883	658	.....
White Horse Cr	Bratt, Jno.	North Platte	Jno. Bratt Ditch	Irrig.	6.00	9	14	30	Lincoln	Aug.	25	1913	.....	1316
White Tail Cr.	McCarthy, John M.	Keystone	McCarthy Ditch	Irrig.	1.00	36	15	38	Keith	July	15	1890	749	.....

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-A (Concluded)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
White Tail Cr...	Keystone Irr. Co.	Keystone	Halloway & Phelps D..	Irrig.	4.00	36	15	38	Keith	June	1	1893	717	.....
White Tail Cr...	Leonard Bros.	Keystone	Little Dandy	Irrig.	2.00	22	15	38	Keith	Oct.	12	1894	727	.....
White Tail Cr...	Keystone Irr. Co.	Keystone	Foster Keystone Can..	Irrig.	18.36	36	15	38	Keith	Oct.	30	1894	730	.....
White Tail Cr...	Martin, Charlie O.	Keystone	Reed Ditch	Irrig.	.57	15	15	38	Keith	May	15	1895	751	.....
White Tail Cr...	McGinley, Geo.	Keystone		Irrig.	1.42	36	15	38	Keith	Oct.	29	1897	.....	420
White Tail Cr...	Keystone Irr. Co.	Keystone	Keystone Canal	Irrig.	51.71	26	15	38	Keith	April	26	1902	.....	662b
White Tail Cr...	Keystone Irr. Co.	Keystone	Keystone Ditch	Irrig.	4.30	26	15	38	Keith	Nov.	30	1906	.....	843
White Tail Cr...	Keystone Irr. Co.	Keystone	West Keystone	Irrig.	1.75	26	15	38	Keith	May	27	1910	.....	1001
White Tail Cr...	Keystone Irr. Co.	Keystone	Keystone	Irrig.	9.86	27	15	38	Keith	May	27	1910	.....	1005
Wind Springs ..	Lancomer, Geo. & Chas.	Gering	Wind Springs Canal..	Irrig.	1.43	12	24	55	Sioux	March	1	1892	954	.....
Wind Springs ..	Smith, Jas. S.	Mitchell	Smith's Ditch	Irrig.	2.86	12	24	55	Sioux	March	14	1910	.....	986
Winters Creek ..	Bouton, Chas. A.	Gering	Bouton's Ditch	Irrig.	1.00	3	22	54	Scotts Bl'ff	Aug.	17	1889	923	.....
Winters Creek ..	Shumway, G. L.	Scottsbluff		Power	.....	8	22	54	Scotts Bl'ff	Jan.	3	1911	.....	1050*
Winters Creek ..	Winters Creek Can. Co.	Scottsbluff	Winters Creek Canal..	Seep.	70.00	19	22	54	Scotts Bl'ff	Oct.	18	1888	.....	1446
Winter Creek	Hall, T. M.	Scottsbluff	Winter Cr. Power Co.	Power	.....	17	22	54	Scotts Bl'ff	May	13	1918	.....	1513*
Winter Cr., trib. to No. Platte..	Shields, Thos. & Barbour, W. M.	Scottsbluff	Winter Cr. Power Can	Power	100.00	8	22	54	Scotts Bl'ff	Dec.	22	1916	.....	1468
Winter Cr. Dr., Seepage	Enterprise Irr. Dist.	Scottsbluff	Winter Cr. Seep Ditch	Seep.	.....	8	22	54	Scotts Bl'ff	Aug.	4	1917	.....	1493*
Wood River	Ashburn, J. N.	Gibbon		Power	40.00	13	9	14	Buffalo	Nov.	1	1873	993	.....
Wood River	Shelton Mill. & G. Co.	Shelton		Power	40.00	1	9	13	Buffalo	Oct.	16	1873	994	.....
Wood River	Bearss, Guy S.	Kearney		Power	25.40	13	9	16	Buffalo	May	1	1881	995	.....
Wood River	Klein, J. J.	Kearney	White Bridge Park.....	Irrig.	.03	8	9	15	Buffalo	March	14	1900	.....	545a
Wood River	Klein, J. J.	Kearney	White Bridge Park.....	Power	10.00	8	9	15	Buffalo	March	14	1900	.....	545b
Wood River	Jacobson, C. A.	Riverdale	C. A. Jacobson Can....	Irrig.	.50	31	10	16	Buffalo	Nov.	10	1910	.....	1038
Wood River	Kimbrough, Cora	Shelton	Kimbrough Canal	Irrig.	4.0	36	10	13	Buffalo	Sept.	21	1912	.....	1227
Wood River	Quail, T. J.	Miller	Wood River	Irrig.	2.20	14	11	18	Buffalo	May	1	1913	.....	1286



Scottsluff State Aid Bridge

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-B

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Arickaree River	Jenkins, Chas. T.	Haigler	Haigler Res. & Irr. Co.	Irrig.	171	15	1	42	State ofCo	Jan.	21	1910		979
Big Cottonwood	Hansberry, J. T.	Bloom'gton	Bloomington Ditch	Irrig.	.50	25	2	16	Franklin	Dec.	31	1881	185	
Big Cottonwood	Siegel, Lewis A.	Bloom'gton	Bloomington Mill R.	Power	6.	25	2	16	Franklin	Nov.	23	1898		483
Buffalo Creek	Allen, Frank B., et al	Haigler	Allen & Larned Ditch	Irrig.	6.	18	1	40	Dundy	Oct.	16	1890	117	
Buffalo Creek	Porter, J. R. & Sons	Haigler	Porter & Sons Ditch	Irrig.	2.86	1	1	41	Dundy	Nov.	26	1890	171	
Buffalo Creek	Jenkins, Chas. T.	Haigler	Jenkins L. & L. S. Co. Ditch No. 1	Irrig.	4.29	18	1	40	Dundy	Dec.	12	1908		924
Buffalo Creek	Porter, L. & Inv. Co.	Haigler	J. R. Porter	Irrig.	3.32	1	1	41	Dundy	June	23	1913		1208
Brush Creek	Lofton, Frank S.	McCook	Brush Creek Res.	Stor.	3.50	3	2	29	Red Wil'w	June	1	1912		1201
Center Creek	Gregory, A. B. & P. C.	Franklin	Gregory Ditch	Irrig.	4.	1	1	15	Franklin	Aug.	11	1894	182	
Center Creek	Rose, C. H.	Franklin	Rose Ditch	Irrig.	.29	36	2	15	Franklin	Jan.	10	1902		648
Coates Creek	Burton, R. D.	Franklin		Irrig.	.37	33	2	14	Franklin	March	6	1899		501
Cook Creek	Haskell, W. G.	Alma	Cook Creek Canal	Irrig.	1.42	33	2	18	Harlan	July	21	1917		1491
Cook Creek	Shaffer, Frank	Alma	Shaffer Ditch	Irrig.	.108	33	2	18	Harlan	July	10	1918		1517
Cook Creek	Shaffer, Frank	Alma	Shaffer Ditch	Stor fr Irrig.	.108	33	2	18	Harlan	Aug.	24	1918		1522
Crooked Creek	Kaley, C. H.	Red Cloud	Fish Pond	Fish	1.	1	1	11	Webster	May	7	1902		665
Crooked Creek	Slawson, E. R.	Red Cloud	Slawson Ice Pond	Stor.	.75	1	1	11	Webster	Aug.	8	1912		1213
Driftwood Cr	Schmitz, J. A.	McCook	Schmitz Irr. Works	Irrig.	1.50	12	2	30	Red Wil'w	May	3	1913		1287
Driftwood Cr	Hesterworth, Jno. T.	McCook	Hesterworth Irr. Wks.	Irrig.	1.	14	2	30	Red Wil'w	Nov.	17	1913		1332
Driftwood Cr	Wasson, I. H. & Sons	McCook	Sylvan Dell	Irrig.	2.8	1	2	30	Red Wil'w	Dec.	6	1913		1340
Elk Creek	Murray, Esther	Arapahoe	Murray Irr. Wks.	Irrig.	2.85	11	4	23	Furnas	Aug.	13	1913		1315
Frenchman R.	Athey, H. E.	Wauneta	Wauneta Mills	Power	35.	11	5	36	Chase	July	31	1886	178	
Frenchman R.	Daschosifsky, G.	Lamar	Lamar Rolling Mill	Power	30.	18	6	40	Chase	Dec.	30	1887	1013	**
Frenchman R.	Estate of M. H. Yaw	Champion	Champion Mills	Power	28.3	21	6	39	Chase	Dec.	31	1887	179	
Frenchman R.	McGillen, W. J.	Imperial	Aberdeen Ditch	Irrig.	2.	3	5	38	Chase	July	1	1888	50a	
Frenchman R.	McGillen, W. J.	Imperial	Harlem Ditch	Irrig.	2.	1	5	38	Chase	July	1	1888	56	

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-B (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Frenchman Riv. and Stinking Water Cr.	Frenchman Val. Irr. Dist.	Culbertson	Culbertson I. & W. P. Canal	Irrig.	215.	31	5	3	Hayes	May	16	1890	24 25 29 30	
Frenchman Riv.	Kilpatrick Bros.	Beatrice	Champion W., P. & I. Ditch	Irrig.	48.46	23	6	40	Chase	Dec.	23	1890	47	
Frenchman Riv.	McGillen, W. J.	Imperial	Aberdeen Ditch	Irrig.	.50	3	5	38	Chase	Feb.	2	1891	50b	
Frenchman Riv.	Farmers Canal Co.	Culbertson	Farmers' Canal	Irrig.	10.	11	3	32	Hitchcock	Dec.	19	1893	10	
Frenchman Riv.	Fuller, C. D.	Imperial	Fuller Ditch	Irrig.	25.	4	5	36	Chase	June	12	1894	62	
Frenchman Riv.	Riverside Canal & Irr. Co.	Culbertson	Riverside Canal	Irrig.	12.	33	4	32	Hitchcock	July	28	1894	18	
Frenchman Riv.	Dissmore, Geo. A.	Des Moines	Frenchman Val. Can.	Irrig.	10.	32	5	33	Hayes	Aug.	23	1894	38	
Frenchman Riv.	Groesbach, Rose	Omaha	Gould Ditch	Irrig.	2.	1	5	38	Chase	Oct.	9	1894	67	
Frenchman Riv.	Grant, Allen	Imperial	Grant or Aberdeen D.	Irrig.	2.	3	5	38	Chase	Oct.	16	1894	68	
Frenchman Riv.	Maranville, E., et al	Champion	Maranville Ditch	Irrig.	6.	12	6	41	Chase	Dec.	8	1894	70 71	
Frenchman Riv.	Wise, J. S.	Palisade	Wise Ditch	Irrig.	2.	15	5	35	Hayes	Dec.	28	1894	42	
Frenchman Riv.	Woods, Jno. and Francis.	Wauneta	N. Side Gurnsey D.	Irrig.	5.	3	5	37	Chase	Jan.	14	1895	74	
Frenchman Riv.	Woods, Jno. and Francis.	Wauneta	S. Side Gurnsey D.	Irrig.	24.	10	5	37	Chase	Jan.	14	1895	75	
Frenchman Riv.	Inman, Norton	Champion	Inman Ditch	Irrig.	1.50	17	6	40	Chase	Feb.	28	1895	79	
Frenchman Riv.	Kilpatrick Bros. Co.	Beatrice	No. Side Irr. Ditch	Irrig.	.79	21	6	39	Chase	Feb.	25	1896		246
Frenchman Riv.	Shallenberger, P. H.	Imperial	Shallenberger Canal	Irrig.	1.77	25	6	39	Chase	Dec.	21	1897		423
Frenchman Riv.	Inman Ditch & Irr. Co.	Imperial	Inman Ditch	Irrig.	6.43	17	6	40	Chase	Feb.	10	1898		436
Frenchman Riv.	Hoke, J. A.	Champion	Creamery Ditch	Power	34.40	21	6	39	Chase	Dec.	12	1900		591
Frenchman Riv.	Follett & Krotter	Palisade	Follett & Krotter D.	Irrig.	4.29	35	5	34	Hayes	April	30	1903		705
Frenchman Riv.	Follett & Krotter	Palisade	Krotter Pow. Plant	Power	19.	35	5	34	Hayes	May	12	1903		708
Frenchman Riv.	Dissmore, Geo. A.	Des Moines	Goker Ditch Ext.	Irrig.	20.	8	4	33	Hitchcock	July	6	1903		714
Frenchman Riv.	Follett & Krotter	Palisade	Follett & Krotter	Irrig.	2.57	35	5	34	Hayes	Aug.	11	1903		720
Frenchman Riv.	Follett & Krotter	Palisade	Krotter Pow. Plant	Power	12.	35	5	34	Hayes	April	5	1904		748**
Frenchman Riv.	Hagerman, Wm.	Hamlet		Irrig.	.86	19	5	34	Hayes	March	11	1909		935
Frenchman Riv.	Krotter, F. C.	Palisade	Follett & Krotter D.	Irrig.	10.46	35	5	34	Hitchcock	Jan.	15	1910		975
Frenchman Riv.	Krotter, F. C.	Palisade	Krotter Pow. Plant	Power	55.	35	5	34	Hitchcock	Aug.	17	1910		1021
Frenchman Riv.	Krotter, F. C.	Palisade	Krotter Power Plant No. 3	Irrig.	2.42	35	5	34	Hayes	Dec.	15	1910		1047
Frenchman Riv.	Krotter, F. C.	Palisade	Krotter Power Plant No. 2	Irrig.	3.	35	5	34	Hayes	Dec.	15	1910		1046

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-B (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Frenchman Riv.	Hoke, J. A.	Champion	Hoke's Pow. & Pump Plant	Irrig.	2.28	21	6	39	Chase	May	1	1911		1094
Frenchman Riv.	Kilpatrick Bros.	Beatrice	Kilpatrick Res. No. 1	Stor.	60.	23	6	40	Chase	June	22	1911		1108
Frenchman Riv.	Sheridan, R. B.	McCook	Ex. Aberdeen Canal	Irrig.	1.57	2	5	38	Chase	July	29	1911		1117
Frenchman Riv.	Theobald & Athey	Wauneta	Wauneta M. & Elec. Pow. Plant	Power	75.	11	5	36	Chase	Nov.	16	1911		1136
Frenchman Riv.	Arteburn, E. E.	Lincoln	Arteburn Stor. Res.	S. & I.	160.	11	6	41	Chase	Nov.	28	1911		1142
Frenchman Riv.	Bishop, Stephen S.	Lincoln	Inman Storage Res.	Stor.	125.	17	6	40	Chase	Dec.	8	1911		1145
Frenchman Riv.	Oliver Bros.	Wauneta	Oliver Bros. Pow. Plt	Power	50.	7	5	35	Hayes	April	28	1913		1284
Frenchman Riv.	Oliver Bros.	Wauneta	Oliver Bros. Canal	Irrig.	3.20	7	5	35	Hayes	April	28	1913		1285*
Frenchman Riv.	Frenchman Val. Irr. Dist.	Culbertson	Harvey Res.	Stor.	300.	3	5	38	Chase	July	10	1913		1304
Frenchman Riv.	Krotter, F. C.	Palisade	Krotter Power Plant	Power	65.	35	5	34	Hayes	Dec.	2	1913		1339**
Frenchman Riv.	Village of Imperial, (Hill L. C., village clerk)	Imperial	Municipal W. & L. P.	Power	55.00	25	6	39	Chase	Feb.	7	1917		1474
Frenchman Riv.	Shallenberger, O. P.	Imperial	Lake Imperial	Stor fr Irrig.	4.57	25	6	39	Chase	May	14	1917		1487
Flood and surplus water f'm spillwy No. 10 of the canal of the Frenchman Val. Irr. district	Wacker, Geo.	Culbertson	Geo. Wacker & Son Ditch	Irrig.	.70	17	3	31	Hitchcock	Sept.	4	1918		1523
Horse Creek	Nesbit, J. M., et al	Parks	Horse Creek Ditch	Irrig.	1.86	23	1	39	Dundy	Aug.	31	1885	159 173	
Spring, trib to Horse Creek	Pringle, Esther L.	Parks	Pringle Ditch	Irrig.	.57	11	1	39	Dundy	Jan.	12	1897		364
Spring, trib to Horse Creek	Pringle, Geo. N.	Benkelman	Pringle Ditch	Irrig.	1.57	14	1	39	Dundy	May	11	1906		824
Indian Creek	Chamberlain, J. C.	Mt. Sterling, Ill.	Chamberlain Ditch	Irrig.	.06	18	2	36	Dundy	Oct.	4	1895		240
Indian Creek	Thompson & Van Sickel	Benkelman	Thompson&VanSickle	Irrig.	.93	8	2	37	Dundy	June	20	1895		237
Indian Creek	Kinsey, J. W., C. C.	Benkelman	Kinsey Ditch	Irrig.	.31	10	2	37	Dundy	June	20	1895		261
Indian Creek	Foster, Chas.	Max	Wilson Ditch	Irrig.	1.42	23	2	36	Dundy	June	22	1895		268

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-B (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Indian Creek	Stoneberg, Sanford	Max	Stoneberg Ditch	Irrig.	1.	2	2	37	Dundy	March	13	1911		1007
Kilpatrick Res. No. 1	Kilpatrick Bros. Co.	Beatrice	Kilpatrick Res. Ditch.	Irrig.	17.	30	6	39	Chase	Jan.	25	1912		1160
Medicine Cr.	Cambridge Milling Co.	Cambridge		Power	68.	29	4	25	Furnas	Dec.	31	1878	{92	
Medicine Cr.	Sanders, John L.	Stockville	Sanders Irr. Plant	Irrig.	1.43	27	7	27	Frontier	Feb.	8	1895	{93	
Medicine Cr.	Crete Mills	Crete	Curtis Lake	Power		32	8	28	Frontier				364*	
Medicine Cr.	Maywood Milling Co.	Maywood	Maywood Mill. Co.	Power	11.88	16	8	29	Frontier	May	4	1907		858
Mauer Springs	C. B. & Q. R. R.	Lincoln	Burlington Pipe Line	Irrig.	1.48	23	2	11	Chase	Nov.	28	1911		1143
Red Willow Cr.	Moore, Wm. H.	Indianola	Red Willow Mill	Power		16	3	28	Red W'l'w	Jan.	1	1886	181	**
Red Willow Cr.	Holland, L. J.	Indianola	L. J. Holland Ditch	Irrig.	35.	16	3	28	Red W'l'w	Jan.	23	1891	95	
Red Willow Cr.	Helm, John F.	McCook		Irrig.	2.	17	3	28	Red W'l'w	Feb.	18	1895	111	
Red Willow Cr.	Clark, A. R.	Indianola	Red Will'w Val. Mound	Irrig.	14.29	31	4	28	Red W'l'w	Feb.	27	1905		781
Red Willow Cr.	Helm, John F.	McCook	Helm Ditch	Irrig.	10.	8	3	28	Red W'l'w	Dec.	5	1910		1042
Red Willow Cr.	Masters, Chas.	Indianola	Master's Ditch	Irrig.	1.14	6	3	28	Red W'l'w	July	29	1912		1212
Red W'l'w Lak'	Cooper, Jas.	Wallace	Red Willow	Irrig.	2.	36	9	33	Lincoln	Dec.	20	1893	647	
Republican Riv.	Gearhart & Benson	Arapahoe	Arapahoe Star Mill	Power	196.	27	4	23	Furnas	July	24	1879	1029	
Republican Riv.	Carson, A.	McCook	Carson Ditch No. 1	Irrig.	1.43	27	3	30	Red W'l'w	July	1	1888	103	
Republican Riv.	Pioneer Irr. Co.	Haigler	Haigler L. & C. Co. D.	Irrig.	77.	2	1	43	Dundy	April	4	1890	1025	
Republican Riv.	Brown, W. A.	Haigler	Sand Point Ditch Co.	Irrig.	11.	11	1	42	Dundy	Sept.	25	1890	115	
Republican Riv.	Dundy County Irr. Co.	Benkelman	Dundy Co. Ditch	Irrig.	45.	24	1	39	Dundy	Nov.	22	1890	118	
Republican Riv.	Trites, W. H., et al	Culbertson	Trites-Davenport Can.	Irrig.	7.	20	3	31	Hitchcock	Dec.	18	1890	3	
Republican Riv.	Ferguson, W. H.	Lincoln	Meeker Canal	Irrig.	143.	15	3	31	Hitchcock	Dec.	22	1890	{4, 9	
Republican Riv.	Trenton Farmers Irr. As.	Trenton	Trenton Far. I. D.	Irrig.	32.	10	2	34	Hitchcock	Dec.	24	1890	{8, 7	
Republican Riv.	Carson, A.	McCook	Carson Ditch No. 2	Irrig.	18.	27	3	30	Red W'l'w	May	5	1891	5	
Republican Riv.	Neighbors, E. G.	Benkelman	Neighbors Ditch	Irrig.	2.86	24	1	39	Dundy	March	18	1891	133	
Republican Riv.	Cambridge & Arapahie Irr. & Imp. Co.	Arapahoe	C. & A. I. & I. Co. D.	Irrig.	170.	28	4	25	Furnas	Aug.	26	1891	89	
Republican Riv.	Republican Riv. Irr. Co.	Benkelman	Republican Riv. I. Co.	Irrig.	30.	29	1	38	Dundy	May	2	1892	{147 {148	

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-B (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Republican Riv.	Larned, W. H., et al	Haigler	White & Larned Ditch	Irrig.	3.	22	1	40	Dundy	April	29	1893	150	.....
Republican Riv.	Marr, Lorenzo	Culbertson	Marr Ditch	Irrig.	4.29	16	3	31	Hitchcock	Jan.	22	1894	11	.....
Republican Riv.	Anderson, Anders	Benkelman	Anders Anderson D.	Irrig.	2.	1	1	37	Dundy	Jan.	22	1894	151	.....
Republican Riv.	Groesbeck & Cannon	Max	Groesbeck Ditch	Irrig.	10.	10	1	37	Dundy	March	27	1894	153	.....
Republican Riv.	Thomas, A. J.	Haigler	Thomas Ditch	Irrig.	2.	24	1	40	Dundy	June	5	1894	154	.....
Republican Riv.	Ballard, Henry L.	Oxford	Ballard Ditch	Irrig.	8.	8	3	21	Furnas	June	9	1894	91	.....
Republican Riv.	Wilcox, F. S.	McCook	Wilcox Ditch	Irrig.	4.50	32	3	29	Red W'l'w	Oct.	4	1894	109	.....
Republican Riv.	Delaware-Hickman Ditch Co.	Benkelman	Delaware-Hickman D.	Irrig.	20.	17	1	37	Dundy	Jan.	7	1895	157	.....
Republican Riv.	Allen, E. M., et al	Arapahoe	Allen Irr. Ditch	Irrig.	14.	2	3	26	Red W'l'w	Jan.	26	1895	110	.....
Republican Riv.	Spooner, J. A.	Parks	Private Ditch	Irrig.	1.	25	1	40	Dundy	Oct.	7	1897	.....	413
Republican Riv.	Walsh, Patrick	McCook	Walsh Canal	Irrig.	11.	35	3	30	Red W'l'w	Jan.	31	1900	.....	537
Republican Riv.	Lee, J. L.	McCook	Harmon Ditch	Ice	10.	32	3	29	Red W'l'w	Jan.	22	1900	.....	535
Republican Riv.	Republican Riv. Irr. Co.	Benkelman	Rep. Riv. Irr. Canal	Irrig.	20.	29	1	38	Dundy	Aug.	22	1900	.....	577
Republican Riv.	Dickson, W. H. Holmes, H. R.	Denver	Haigler Res. No. 2	Irrig.	24.	27	1	41	Dundy	April	29	1910	.....	997
Republican Riv.	Campbell Ditch Co.	Stratton	Campbell Irr.	Irrig.	9.14	9	2	34	Hitchcock	July	13	1906	.....	828
Republican Riv.	Rogers, W. N.	McCook	Shadeland P'r Ditch	Irrig.	38.	26	3	29	Red W'l'w	Jan.	3	1911	.....	1049
Republican Riv.	McConnell Bros.	Trenton	McConnell Bros.' Irr. Canal	Irrig.	180.	10	2	34	Hitchcock	Jan.	23	1911	.....	1055
Republican Riv.	Hurst, J. C., et al	Trenton	H. D. Irr. Canal	Irrig.	7.	28	2	35	Hitchcock	March	2	1911	.....	1068
Republican Riv.	Cappel, Geo.	McCook	Geo. Cappell Ditch	Irrig.	1.57	19	3	30	Red W'l'w	May	1	1911	.....	1093
Republican Riv.	Rogers, W. M.	McCook	Shadeland P'k Ditch	Irrig.	7.	25	3	29	Red W'l'w	Sept.	28	1911	.....	1129
Republican Riv.	Anderson, C., et al	Benkelman	Cottonwood Ditch	Irrig.	3.35	6	1	38	Dundy	Feb.	19	1912	.....	1172
Republican Riv.	Rupert Ditch Co.	Culbertson	Rupert Ditch	Irrig.	20.	32	3	32	Red W'l'w	April	19	1912	.....	1192
Republican Riv.	Pringle, Geo. N.	Parks	Parks Ditch	Irrig.	17.	20	1	39	Dundy	June	18	1912	.....	1202
Republican Riv.	Republican R. Power Co.	Omaha	.....	Power	300.	15	1	9	Webster	Aug.	26	1912	.....	1221**
Rep. R. S. F'k.	Southern Nebr. Pow. Co.	Superior	Guthrie & Co.	Power	400.	34	1	7	Nuckolls	Sept.	1	1877	1036	.....
Republican Riv.	Kirtland, E. S.	Orleans	Orleans Milling & Elevator Co.	Power	.....	27	2	19	Harlan	.....	.....	.....	1043	.....
Rep. R. S. F'k.	Karr, J. W.	Benkelman	Karr's Ditch	Irrig.	2.	20	1	37	Dundy	July	28	1894	155	.....
Rep. R. S. F'k.	Riverside Ditch Co.	Benkelman	Riverside Ditch	Irrig.	13.	29	1	37	Dundy	Aug.	5	1894	156	.....
Rep. R. S. F'k.	McDonald, J. A.	Benkelman	McDonald Ditch	Irrig.	.79	36	1	38	Dundy	Nov.	13	1901	.....	644
Rep. R. S. F'k.	Bailey, W. J.	Oxford	W. J. Bailey	Irrig.	64.	6	3	21	Furnas	Sept.	8	1913	.....	1321
Republican Riv.	Bartlett, Wm. C.	Alma	Lake Disappointment	Stor.	5.	32	2	18	Harlan	Dec.	18	1915	.....	1442

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-B (Concluded)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Republican Riv.	Everson, P. M., and Mitchell, J. C.	Alma	The Everson Canal	Irrig.	1.07	13	2	18	Harlan	Dec.	18	1915	.....	1443
Rep. R. N. F'k.	Pringle, Geo. N.	Parks	The Parks Ditch	Irrig.	2.	20	1	39	Dundy	Dec.	31	1915	.....	1444
Rock Creek	Phelan, J. R., et al	Parks	Phelan Ditch	Irrig.	4.29	17	1	39	Dundy	Dec.	31	1883	138	.....
Rock Creek	Owens, J. S., et al	Parks	Owen's Ditch	Irrig.	.36	31	2	39	Dundy	June	20	1895	.....	265
Rock Creek	Campbell, R. R.	Parks	Rock Creek Ditch Co.	Irrig.	.33	13	2	40	Dundy	Dec.	18	1899	.....	526
Rock Creek	Benkelman Light Ass'n	Benkelman	Benkelman Light As.	Power	20.	8	1	39	Dundy	Nov.	30	1912	.....	1245
Sappa Creek	Zulauf, Geo. W.	Stamford	Stamford Mills	Power	.....	21	2	20	Harlan				997**	.....
Spring Creek	Carlon, J. C.	Benkelman	Benkelman Ditch	Irrig.	1.29	19	1	37	Dundy	Dec.	31	1896	.....	373
Stinking Water Creek	Kilpatrick Bros.	Beatrice	Chase Co. L. & L. S. Ditch No. 4	Irrig.	.91	14	7	38	Chase	June	27	1895	.....	56
Stinking Water Creek	Kilpatrick Bros.	Beatrice	Chase Co. L. & L. Can	Irrig.	2.86	10	7	38	Chase	March	10	1894	57	.....
Stinking Water Creek	McLain, Frank	Imperial	McLain Ditch	Irrig.	2.50	28	7	37	Chase	Sept.	24	1894	65	.....
Stinking Water Creek	Troutman, A. C.	Palisade	E. L. Light & Pow Co.	Power	30.	30	5	33	Hayes	June	30	1908	.....	907
Stinking Water Creek	Kilpatrick Bros.	Beatrice	Chase Co. L. & L. S. Ditch No. 3	Irrig.	1.71	14	7	38	Chase	Jan.	29	1895	78	.....
Stinking Water Creek	Kilpatrick Bros.	Beatrice	Chase Co. L. & L. S. Ditch No. 5	Irrig.	1.50	14	7	38	Chase	Jan.	29	1895	77	.....
Stinking Water Creek	Kilpatrick Bros.	Beatrice	Chase Co. L. & L. S. Ditch No. 6	Irrig.	2.	13	7	38	Chase	Jan.	28	1895	76	.....
Stinking Water Creek	Kilpatrick Bros.	Beatrice	Chase Co. L. & L. S. Ditch No. 7	Irrig.	4.57	36	7	37	Chase	Dec.	21	1894	{ 72 { 175	.....
Stinking Water Creek	Kilpatrick Bros.	Beatrice	Chase Co. L. & L. S. Ditch No. 1	Irrig.	.70	4	7	38	Chase	June	27	1895	.....	57
Stinky Water	Krotter, F. C.	Palisade	Palisade Pow. Plant	Power	72.00	25	5	34	Hitchcock	April	21	1917	.....	1484
Stinky Water	Krotter, F. C.	Palisade	Palisade Res.	Irrig.	150.00	25	5	34	Hitchcock	April	21	1917	.....	1485
Turkey Creek	Wilt & Polly	Naponee	.....	Power	.....	4	1	16	Franklin	Dec.	31	1874	183	.....

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-C

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Little Blue Riv.	Myers & Sidenburg	Oak	Oak Mill Race	Irrig. Power		16	3	5	Nuckolls				991*	
Little Blue Riv.	Larkin, M. E.	Hastings	Crystal Lake	Stor.	1.5	27	6	10	Adams	Aug.	17	1912		1219
Little Blue Riv.	Lyon, Geo. Jr.	Nelson	Lyons Little Blue Elec. Co.	Power	150.00	29	4	6	Nuckolls	April	26	1915		1410**
Little Blue Riv.	Lyon, Geo. Jr.	Nelson		Irrig.	4.	18	4	6	Nuckolls	April	26	1915		1411
Little Blue Riv.	Meyer Hydro Elec. Power Co.	Oak	Meyer-Hydro Elec. & Power Co.	Power	150.	16	3	5	Nuckolls	July	7	1916		1467
Little Blue Riv.	Lyon, Geo. Jr.	Nelson	Lyons Little Blue Elec. Co.	Power		29	4	6	Nuckolls	Aug.	10	1916		1462
Little Blue Riv.	Bozarth, W. L. and Carter, T. H.	Hebron	Hebron L. & P. Co.	Power	150.00	9	2	2w	Thayer	April	25	1917		1486

CLAIMS AND APPLICATIONS BY STREAME IN DIVISION 1-D

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Bear Creek	Wolfe, J. V.	Lincoln	Water Wks. Inst. for Feeble Minded	Irrig.	1.00	36	4	6e	Gage	May	20	1898		455
Beaver Creek	Wright, G. D.	York		Power	40.00	7	10	2w	York	Nov.	1	1878	963	..**
Blue Riv., Big	Holmesville, M. & P. Co.	Holmesville	Holmesville M & P Co	Power	500.00	29	3	7	Gage	April		1882	1021	
Blue Riv., Big	Boyes, Burdette	Seward		Power	200.00	19	9	4e	Seward	July	8	1910		1006
Blue Riv., Big	Holmesville, M. & P. Co.	Holmesville	Holmesville M & P Co	Power	500.00	29	3	7e	Gage	May	3	1911		1095
Blue Riv., Big	Jacobs, E.	Staplehurst	Jacob's Elec. Lt. Plt.	Power	41.00	26	12	2e	Seward	Nov.	13	1911		1135
Blue Riv., Big	Blue River Power Co.	Seward	Big Blue P. Plt No. 2	Power	100.00	32	9	3e	Seward	Jan.	3	1912		1153
Blue Riv., Big	Steinmeyer, Geo.	Holmesville	Hoag Power Plant	Power		12	4	5	Gage	Feb.	18	1913		1261**
Blue Riv., Big	Steinmeyer, Geo.	Holmesville	Barneston Pow. Plant	Power	500.00	13	1	7	Gage	Feb.	18	1913		1262
Blue Riv., Big	Boyes, Burdette	Seward	Blue Riv. P. Plt. No. 3	Power	100.00	5	8	4	Saline	March	13	1913		1285
Blue Riv., Big	Mares, Marketa	Wilber	Mares Irr. Canal	Irrig.	2.28	2	6	4	Saline	Aug.	12	1913		1314
Blue Riv., Big	C. B. & Q. R. R. Co.	Lincoln	C. B. & Q. ipe Line	Irrig.	.50	2	9	3	Seward	April	30	1914		1366
Blue Riv., Big	C. B. & Q. R. R. Co.	Lincoln	Pipe line at Wymore	Irrig.	.50	21	2	7	Gage	Dec.	24	1914		1394
Blue Riv., Big	C. B. & Q. R. R. Co.	Lincoln	Pipe line at Seward	Irrig.	.50	21	11	3	Seward	Dec.	24	1914		1395
Blue Riv., Big	Johnson, Jas. F.	Lincoln	Power Station No. 4.	Power	125.00	19	4	6e	Gage	June	7	1915		1416**
Blue Riv., Big	Johnson, Jas. F.	Lincoln	Power Station No. 2.	Power	100.00	1	5	4e	Gage	June	7	1915		1417**
Blue Riv., Big	Johnson, Jas. F.	Lincoln	Power Station No. 3.	Power	175.00	3	4	5e	Gage	July	7	1915		1422**
Blue Riv., Big	Johnson, Jas. F.	Lincoln	Power Station No. 6.	Power		13	1	7	Gage	Aug.	2	1915		1423**
Blue Riv., Big	Blue River Power Co.	Seward	Elec. Power Plant	Power		32	9	4	Seward	Aug.	14	1916		1463
Blue Riv., Big	Blue River Power Co.	Seward	Power Plant No. 5	Power	100.00	11	8	3e	Seward	Feb.	13	1917		1476
Blue Riv., Big	Babson, H. B.	Chicago	Shestak Power Plant	Power	200.00	35	7	4e	Gage	Feb.	6	1918		1506
Blue Riv., Big	Babson, H. B.	Chicago	Barneston L. & P. Co.			13	1	7	Gage	May	7	1918		1511*
Blue Riv., Big	Garbe, Frank F.	Grafton	Blue Park Dam	Power	667.00	1	8		Fillmore	Aug.	7	1917		1494
Blue Riv., Big	Blue River Power Co.	Seward	Blue Riv. P. Plt. No. 2	Power	100.00	32	9	3	Seward	Aug.	21	1918		1520
Blue Riv., Big	Blue River Power Co.	Seward	Blue Riv. P. Plt. No. 3	Power	100.00	5	8	4	Seward	Aug.	21	1918		1521
Turkey Creek	Lane, J. K.	Pleas't Hill		Power		4	7	3	Saline				990	..**
Turkey Creek	Lane, J. K.	Pleas't Hill	Lane's Model Ditch	Irrig.	.09	4	7	3	Saline	July	16	1895		81
Turkey Creek	Lane, J. K.	Pleas't Hill	Lane's Model Ditch	Irrig.					Saline	July	18	1895		84*

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-E

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate S	T	R	County	Date of Priority Month	D	Yr.	No. Docket	No. App.
Lodge Pole	Haase, Chas. / Giesekling, Herman	Kimball Ill / Altamant, Ill	Bay State Ditch	Irrig.	1.50	29	15	55	Kimball	Dec.	31	1876	347	
Lodge Pole	Johnson, Chas. W.	Potter	Adams & Tobin Ditch	Irrig.	1.14	35	14	50	Cheyenne	Oct.	1	1878	638	
Lodge Pole	Gunderson, A.	Potter	Gunderson Ditch	Irrig.	1.43	1	14	52	Cheyenne	June	1	1879	305	
Lodge Pole	Callahan, Chas.	Burlington, Wash.	Runge Ditch No. 1	Irrig.	1.71	20	14	50	Cheyenne	April	15	1880	339	
Lodge Pole	Callahan, Chas.	Burlington, Wash.	Runge Ditch No. 2	Irrig.	.50	20	14	50	Cheyenne	April	15	1882	338	
Lodge Pole	Perso, Otto	Dalton	Anderson Ditch No. 1	Irrig.	2.50	8	14	51	Cheyenne	June	30	1882	373	
Lodge Pole	Lodge Pole Land Co.	Kimball	Circle Arrow Ditch	Irrig.	3.71	29	15	55	Kimball	July	1	1882	346	
Lodge Pole	Pomeroy, E. V. S.	Sidney	Urbach Ditch	Irrig.	.86	15	14	51	Cheyenne	Sept.	1	1882	308	
Lodge Pole	DeGraw, Geo.	Sidney	Hale Ditch No. 3	Irrig.	.57	36	14	49	Cheyenne	April	30	1883	320	
Lodge Pole	DeGraw, Geo.	Sidney	Hale Ditch No. 4	Irrig.	.71	36	14	49	Cheyenne	April	30	1883	321	
Lodge Pole	DeGraw, Geo.	Sidney	Hale Ditch No. 5	Irrig.	.57	36	14	49	Cheyenne	April	30	1883	322	
Lodge Pole	Whitney, W. T.	Seattle, Was.	Low Whitney Ditch	Irrig.	.29	31	14	48	Cheyenne	May	1	1883	317	
Lodge Pole	Booth, Firth, Estate of	Sunol	Booth's Canal	Irrig.	4.29	29	14	47	Cheyenne	May	31	1883	309 / 310	
Lodge Pole	McAuliffe, F.	Chappel	McAuliffe Ditch	Irrig.	2.29	21	13	45	Deuel	Dec.	31	1884	814	
Lodge Pole	McKinney, J. J.	Kimball	Kinney Ditch No. 2	Irrig.	2.71	33	15	56	Kimball	Dec.	31	1884	348	
Lodge Pole	Libby, H. H.	Lodge Pole	Libby Ditch	Irrig.	2.00	36	14	47	Cheyenne	Dec.	31	1884	312	
Lodge Pole	Dickinson, F.	Lodge Pole		Irrig.	1.14	26	14	47	Cheyenne	Jan.	1	1885	969	
Lodge Pole	Howard, A. T.	Sunol	Howard Ditch	Irrig.	.86	31	14	47	Cheyenne	April	10	1885	336	
Lodge Pole	Krueger, Rich. & F. W.	Sidney	Krueger Ditch No. 3	Irrig.	1.14	32	14	48	Cheyenne	May	1	1885	323	
Lodge Pole	Wolf, H. D.	Chappel	Wolf Ditch	Irrig.	1.00	18	13	45	Deuel	Dec.	31	1885	813	
Lodge Pole	Lodge Pole Land Co.	Kimball	McIntosh Ditch	Irrig.	3.31	29	15	55	Kimball	April	16	1886	351	
Lodge Pole	Krueger, Rich. & F. W.	Sidney	Krueger Ditch No. 2	Irrig.	2.29	32	14	48	Cheyenne	Oct.	10	1886	324	
Lodge Pole	Borgquist, C. E.	Sidney	Borgquist Ditch	Irrig.	1.29	34	14	49	Cheyenne	April	30	1887	301	
Lodge Pole	Borgquist, C. E.	Sidney	Borgquist Ditch	Irrig.	.71	34	14	49	Cheyenne	April	30	1887	300	
Lodge Pole	Whitney, W. T.	Seattle, Was.	Upper Whitney Ditch	Irrig.	2.29	36	14	49	Cheyenne	May	1	1887	316	
Lodge Pole	McLaughlin, M.	Sidney	McLaughlin Ditch	Irrig.	1.00	25	14	48	Cheyenne	May	1	1887	966	
Lodge Pole	DeGraw, Geo.	Sidney	Hale Ditch No. 1	Irrig.	1.14	36	14	49	Cheyenne	July	1	1887	318	
Lodge Pole	Mitchell, J.	Sidney		Irrig.	.86	8	14	51	Cheyenne	Sept.	1	1887	304	
Lodge Pole	Craig, John	Lodge Pole	Tobin Ditch	Irrig.	2.29	28	14	47	Cheyenne	July	31	1888	330	
Lodge Pole	Keedrick, Mrs. Jessie	Cedar Ra'ds	Bordwell Ditch	Irrig.	1.43	35	14	49	Cheyenne	Aug.	1	1888	303	
Lodge Pole	Kinney, L. C.	Pine Bluffs, Wyo.	Premier Ditch	Irrig.	2.43	3	14	58	Kimball	April	11	1889	340	

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-E (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Lodge Pole	Kinney, S. A.	Pine Bluffs, Wyo.	Smeed Ditch	Irrig.	1.43	8	14	58	Kimball	April	12	1889	341	
Lodge Pole	Keedrick, Mrs. Jessie	Ced'r Rap Ia	Bordwell Ditch	Irrig.	.86	35	14	49	Cheyenne	April	27	1889	302	
Lodge Pole	Eubank, John	Kimball	Polly Ditch	Irrig.	.79	30	15	55	Kimball	May	6	1889	342	
Lodge Pole	Cook, Chas.	Pine Bluffs, Wyo.	Independent Ditch	Irrig.	3.14	7	14	58	Kimball	May	6	1889	343	
Lodge Pole	Faden, Elmer L.	Kimball		Irrig.	.43	30	15	55	Kimball	May	6	1889	344	
Lodge Pole	Kinney, J. J.	Kimball	Kinney Ditch	Irrig.	2.00	31	15	56	Kimball	May	14	1889	345	
Lodge Pole	Young, W. T.	Kimball	Young Ditch	Irrig.	.50	33	15	57	Kimball	May	28	1889	349	
Lodge Pole	Pyle, W. E.	Kimball	Ruttner Ditch	Irrig.	1.14	36	15	57	Kimball	June	4	1889	350	
Lodge Pole	Oberfelder, R. S.	Sidney	Oberfelder Ditch	Irrig.	.43	31	14	46	Cheyenne	June	10	1889	333	
Lodge Pole	DeGraw, Geo.	Sidney	Hale Ditch No. 2	Irrig.	.43	36	14	49	Cheyenne	June	26	1889	319	
Lodge Pole	Carter, J. G.	Lodge Pole	Bullock Ditch	Irrig.	9.14	3	13	46	Deuel	June	25	1889	296	
Lodge Pole	Persinger, A. B.	Lodge Pole	Persinger Ditch	Irrig.	4.57	33	14	46	Deuel	June	25	1889	297	
Lodge Pole	Kreuger, Rich'd & F. W.	Sidney	Krueger Ditch No. 1	Irrig.	3.00	29	14	48	Cheyenne	June	26	1889	325	
Lodge Pole	Lodge Pole Land Co.	Kimball	Brady Ditch	Irrig.	.71	29	15	55	Kimball	Aug.	16	1889	352	
Lodge Pole	Gross, Mary E.	Pine Bluffs, Wyo.	Hoover Ditch	Irrig.	1.43	12	14	59	Kimball	Sept.	4	1889	353	
Lodge Pole	Bentley, B. M.	Sidney	Ickes Ditch	Irrig.	2.50	28	14	50	Cheyenne	March	25	1891	329	
Lodge Pole	Johnson, Chas. W.	Potter	Adams Ditch	Irrig.	1.43	3	14	52	Cheyenne	July	1	1891	371	
Lodge Pole	Girrard, F. G. & R. F.	Kimball	Hurley, Lilly & Polly	Irrig.	2.57	26	15	56	Kimball	Oct.	1	1891	354	
Lodge Pole	Thornstensen, Nels	Sidney	Christensen Ditch	Irrig.	.57	7	14	51	Cheyenne	April	15	1893	366	
Lodge Pole	Thornstensen, Nels	Sidney	Christensen Dit. No. 1	Irrig.	.43	7	14	51	Cheyenne	April	15	1893	367	
Lodge Pole	Trognitz, Chas.	Sidney	Trognitz Canal	Irrig.	1.00	36	14	50	Cheyenne	June	1	1893	365	
Lodge Pole	Oberfelder, R. S.	Sidney	Oberfelder Ditch	Irrig.	2.00	31	14	46	Cheyenne	Dec.	30	1893	306	
Lodge Pole	Krueger, Richard	Sidney	Richard Krueger Dit.	Irrig.	1.00	29	14	48	Cheyenne	May	1	1894	968	
Lodge Pole	Anderson, J.	Sidney	Anderson Dit. No. 2	Irrig.	.57	10	14	51	Cheyenne	June	1	1894	372	
Lodge Pole	Johnson, Chas. W.	Sidney	Adams Ditch	Irrig.	1.43	10	14	52	Cheyenne	Sept.	1	1894	370	
Lodge Pole	Lyngholm, N. P.	Potter	Lyngholm Ditch	Irrig.	.36	14	14	51	Cheyenne	Nov.	1	1894	337	
Lodge Pole	Johnson, Chas. W.	Potter	Adams Ditch	Irrig.	.50	10	14	52	Cheyenne	Aug.	1	1895	369	
Lodge Pole	Dickinson, F.	Lodge Pole		Irrig.	2.29	33	14	47	Cheyenne	May	10	1896	967	
Lodge Pole	Burg, C. C.	Dix		Irrig.	.14	30	15	53	Kimball	March	3	1897		381
Lodge Pole	Persinger, A. B.	Lodge Pole	Bullock Canal	Irrig.	.57	4	13	46	Deuel	Feb.	16	1898		437
Lodge Pole	Forsling, Alf	Kimball	Maltese Cross	Irrig.	.21	36	15	57	Kimball	May	16	1898		454
Lodge Pole	Kinney, L. C.	Bushnell	Bushnell Ditch	Irrig.	3.00	2	14	57	Kimball	April	15	1899		504

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-E (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Lodge Pole	Wiegand, Henry G.	Chappell	Wiegand Canal	Irrig.	2.00	17	13	45	Deuel	May	31	1900		563
Lodge Pole	Brown, J. H.	Chappell	Neuman Can. No. 1, 2	Irrig.	1.89	36	13	45	Deuel	June	12	1900		565
Lodge Pole	McHatton, Jas. W.	Chappell	Wertz Bros. Ditch	Irrig.	2.83	12	13	46	Deuel	Feb.	14	1901		600
Lodge Pole	Neuman, A. G.	Chappell	Neuman Ditch	Irrgi.	1.29	26	13	45	Deuel	April	17	1901		611
Lodge Pole	Johnson, J. C	Chappell	Johnson Ditch	Irrig.	2.14	13	13	45	Deuel	April	17	1901		612
Lodge Pole	Lodge Pole L and Co.	Kimball	Bennett L. S. Res.	Irrig.	22.29	29	15	55	Kimball	March	13	1902		657
Lodge Pole	Nasland, J. A.	Chappell	Nasland Ditch	Irrig.	.90	1	12	45	Deuel	April	16	1902		661
Lodge Pole	Wood, Andrew J.	Amiret, Min.	Clausen So. Side Dit.	Irrig.	.57	27	15	54	Kimball	July	25	1902		683
Lodge Pole	Wood, Andrew J.	Amiret, Min.	Clausen No. Side Dit.	Irrig.	.57	26	15	54	Kimball	July	25	1902		684
Lodge Pole	Lodge Pole Land Co.	Kimball	Bennett L. S. Co.'s D.	Irrig.	1.87	29	15	55	Kimball	Oct.	2	1902		691
Lodge Pole	Forsling, Alf.	Kimball	Forsling Ditch	Irrig.	1.50	34	15	57	Kimball	April	24	1903		703
Lodge Pole	Forsling, C. A.	Kimball		Irrig.	1.83	33	15	56	Kimball	July	25	1903		718
Lodge Pole	Geeskling, Herman	Altamant, Ill.	Bickel Ditch	Irrig.	.93	30	15	55	Kimball	Aug.	3	1903		719
Lodge Pole	Pomeroy, E. V. S.	Sidney	Pomeroy Dit. No. 1	Irrig.	.57	15	14	51	Cheyenne	Aug.	20	1903		723
Lodge Pole	Faden, Elmer L.	Kimball		Irrig.	.14	30	15	55	Kimball	Sept.	9	1903		724
Lodge Pole	Geedes, E. W.	Kimball	Owasco Ditch	Irrig.	22.28	29	15	55	Kimball	Sept.	12	1903		725
Lodge Pole	Lodge Pole Land Co.	Kimball	Owasco Ditch	Irrig.	1.75	29	15	55	Kimball	Dec.	15	1903		734
Lodge Pole	Forsling, Alfred	Kimball	Forsling Ditch	Irrig.	.86	34	15	57	Kimball	Dec.	6	1905		806
Lodge Pole	Soderquist, Peter	Chappell	Smith	Irrig.	3.57	12	12	45	Deuel	Aug.	18	1906		850
Lodge Pole	Soderquist, Peter	Chappell	Ralton Irr. System	Irrig.	19.14	36	13	45	Deuel	Jan.	4	1907		847
Lodge Pole	Forsling, Clarence	Kimball	Yoder Extension	Irrig.	2.71	36	15	57	Kimball	April	9	1907		857
Lodge Pole	Walker, I. S.	Kimball	Walker Ditch	Irrig.	1.71	31	15	56	Kimball	Sept.	16	1907		869
Lodge Pole	Wilkinson, Mrs. John	Pine Bluffs, Wyo.	Tracy Ditch	Irrig.	.50	12	14	59	Kimball	Sept.	21	1907		870
Lodge Pole	Soderquist, Peter	Chappell	Ralton	Irrig.	12.40	36	13	45	Deuel	Dec.	4	1907		882
Lodge Pole	Kimball Irr. Dist.	Kimball	Kimball Storage	Irrig.	20,000 acre ft	36	15	57	Kimball	April	15	1908		897
Lodge Pole	Pyle, W. E.	Kimball	New Ruttner	Irrig.	.51	36	15	57	Kimball	Sept.	16	1903		727
Lodge Pole	Wilds, Turner	Chappell	Wild's Ditch	Irrig.	1.71	11	13	46	Deuel	June	2	1908		904
Lodge Pole	Ruttner, Carl	Sidney	Ruttner Canal	Irrig.	.50	30	14	47	Cheyenne	June	25	1908		906
Lodge Pole	Lodge Pole Land Co.	Kimball	Bennett Ditch No. 3.	Irrig.	1.00	29	15	54	Kimball	Feb.	17	1909		934
Lodge Pole	Maginnis, P.	Kimball	Maginnis Ice Pond	Stor.	3.00	26	15	56	Kimball	Sept.	19	1911		1127
Lodge Pole	Soderquist, Peter	Chappell	Soderquist Ditch	Irrig.	2.00	36	12	45	Deuel	Oct.	22	1912		1237
Lodge Pole	Wiegand, H. G.	Chappell	Wiegand Ditch No. 3.	Irrig.	1.28	16	13	45	Deuel	Sept.	10	1913		1322
Lodge Pole	Wiegand, H. G.	Chappell	Wiegand Ditch No. 2.	Irrig.	.42	16	13	45	Deuel	Sept.	10	1913		1323

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-E (Concluded)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Lodge Pole	Neuman, A. G.	Chappell	A. G. Neuman Ditch	Irrig.	6.00	26	13	45	Deuel	Jan.	5	1916		1445
Lodge Pole	Soderquist, Peter	Chappell	Soderquist Ditch	Irrig.	2.33	36	13	45	Deuel	June	29	1915		1420
Lodge Pole	Bentley, Bertha M.	Sidney	Bentley Ditch	Res.	1.00	34	14	50	Cheyenne	Feb.	14	1917		1478
Lodge Pole	Sudman, Mrs. Minnie	Chappell	Sudman Ditch	Irrig.	.78	22	13	45	Deuel	April	5	1917		1483
Spg. Cr. trib. to Lodge Pole	Oberfelder, R. S.	Sidney	Oberfelder Ditch	Irrig.	2.29	31	14	46	Cheyenne	May	29	1889	307	
Spg. Cr. trib. to Lodge Pole	Chambers, Chas. P.	Sidney	Private Ditch	Irrig.	.04	14	13	51	Cheyenne	March	19	1895	335	
S. Br. trib.L.P.	Libby, H. H.	Lodge Pole	Spring Branch Ditch	Irrig.	.29	36	14	47	Cheyenne	July	1	1901		623
Flood water f'm hill	Fifield, C. M.	Kimball	Fifield Ditch	Irrig.	.57	22	15	56	Kimball	April	27	1911		1091

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 1-F

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D.	Yr.		
Weeping Water	Gilmore, Chas. R.	Weeping Water	Gilmore Ditch	Ice	8.00	2	10	11	Cass	Aug.	5	1909		955

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-A

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Beaver River	Quackenbush, J. W.	Albion	Pioneer Ditch	Irrig.	3.57	22	20	6	Boone	Dec.	8	1894	287	
Beaver River	Long, Wm. M.	Genoa	Windmill Irr.	Irrig.	.14	14	17	4	Nance	March	31	1896		277
Beaver River	Albion Elec. L. & P. Co.	Albion	Albion E. L. & P.	Power	67.00	26	20	6	Boone	Oct.	3	1901		639
Beaver River	St Edward Elec. Co.	St Edward	St. Edward Elec. Co.	Power	134.00	27	19	5	Boone	Feb.	11	1911		1058
Beaver Creek	The Ravenna Mills	Ravenna	The Ravenna Mills	Power		8	12	14	Buffalo				1037*	
Beaver Creek	Albion Elec Light Co.	Albion	Albion Elec. Light Co.	Power	70.00	26	20	6	Boone	Feb.	20	1917		1480
Big Alkali Lake	Beale, Harry A.	Lincoln		Drain		27	31	28	Cherry	Feb.	28	1918		1507*
Cedar River	Neb. Irr. & Power Co.	Ord	Cedar River Canal	Irrig.	175.00	22	21	12	Wheeler	Sept.	14	1894	221	
Cedar River	Fullerton E. L. & P. Co.	Fullerton	Fullerton E. & P.	Power	200.00	12	16	6	Nance	Sept.	9	1901		636
Cedar River	Erickson Lake Co.	Lincoln	Erickson Lake Co.	Power	175.00	25	21	12	Wheeler	May	24	1915		1415
Cow Creek	Price, Ralph B.	Lewanna	Homestead Ditch	Irrig.	2.29	7	26	27	Cherry	July	14	1894	194	
Dane Creek	Koupal, Frank	Ord		Irrig.	.14	20	19	14	Valley	July	5	1912		1207
Goose Creek	Erickson, P. C. & J. M.	Brewster	Erickson Ditch	Irrig.	8.00	18	25	24	Brown	April	3	1895	209	**
Goose Creek	Giles, R. P. et al	Elsmere		Irrig.	10.00	2	25	25	Cherry	June	1	1895	187	
Goose Creek	Crook, F.	Giles	Crook Ditch	Irrig.	8.00	33	25	24	Brown	June	2	1896		345
Gracie Creek	Shoemaker, A. E.	Burwell	Gracie High Line	Irrig.	.29	29	23	17	Loup	July	9	1897		397
Lillian Creek	Lundy, Jas. W.	Doris	Lillian Cr. Canal	Irrig.	5.00	1	19	20	Custer	Oct.	14	1912		1233
Looking Glass Creek	Girrard, E. A. & F. H.	Monroe	Monroe Irr. Ditch	Irrig.	2.86	1	17	3	Platte	June	12	1894	289	
Loup River	Neb. Cen. Irr. Co.	Columbus	Columbus Developm't.	P. & I.	2700.00	27	17	4	Nance	June	10	1903		709
Loup River	Boggs, Chas T.	Lincoln	Schuyler Development	Power	2000.00	28	17	1	Platte	March	23	1912		1187**
Loup River	C. B. & Q. R. R. Co.	Lincoln	Pipe Line at Ravenna.	Irrig.	.50	9	12	14	Buffalo	Dec.	24	1914		1393
Loup R., N. Br.	N. Loup Irr. & Imp. Co.	No. Loup	North Loup Ditch	Irrig.	143.00	27	19	14	Valley	Sept.	30	1893	227 228 232	

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-A (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Loup R., N. Br.	Lee, J. R.	Brownlee	Lee Ditch	Irrig.	40.00	25	27	29	Cherry	Aug.	7	1894	188	..**
													189	..**
													356	..**
Loup R., N. Br.	Burwell Irr. Co.	Burwell	Burwell Irr. Ditch	Irrig.	110.00	27	21	17	Loup	Sept.	7	1894	224	..**
Loup R., N. Br.	Newton Irr. Dist.	Moulton	Newton Irr. Canal	Irrig.	115.14	35	23	21	Blaine	Feb.	5	1895	205	..**
Loup R., N. Br.	Erickson, P. C.	Brewster	Homestake Irr. Canal	Irrig.	51.43	27	23	22	Blaine	Sept.	10	1895		152**
Loup R., N. Br.	Tscuck Canal Co.	Taylor	Tzschuck Canal	Irrig.	242.86	30	22	19	Loup	June	5	1896		301**
Loup R., M. Br.	Conger, Jas. W.	Loup City	Sherman Co. Canal	Power	125.00	26	17	16	Valley	Fall of		1888	229a	
Loup R., M. Br.	Conger, Jas. W.			Irrig.	244.00	26	17	16	Valley	Aug.	13	1894	229b	
Loup R., M. Br.	Mid. Loup Val. Irr. Can.	Sargent	Middle Loup Val. I. C.	Irrig.	560.29	15	21	22	Blaine	June	6	1894	202	..**
Loup R., M. Br.	Douglas Grove Irr. Dist.	Comstock	Wescott Irr. Ditch	Irrig.	88.57	15	19	18	Custer	Aug.	8	1894	214	..**
Loup R., M. Br.	Thedford Irr. & P. Co.	Thedford	Thedford Ditch	Irrig.	43.00	4	23	29	Thomas	Aug.	25	1894	198	
Loup R., M. Br.	Purdum, J. W.	Thedford	Norway Irr. Ditch	Irrig.	2.86	31	24	29	Thomas	Sept.	8	1894	199	
													204**	
Loup R., M. Br.	Lillian P. D. & P. Co.	Gates	Lillian Prec. Ditch	Irrig.	140.00	30	21	21	Blaine	Oct.	19	1894	216**	
Loup R., M. Br.	Lundy, Jas. W.	Sargent	Lundy Mill & P. Plt.	Power		9	19	19	Custer				1024*	
Loup R., M. Br.	Freeman, Dr. A. B.	Chicago	Jewett Ditch	Irrig.	4.29	30	22	24	Blaine	Aug.	12	1895		113
Loup R., M. Br.	Harris, L. H.	Dunning	Harris Canal	Irrig.	5.71	16	22	25	Blaine	Feb.	21	1896		248**
Loup R., M. Br.	Patton, J. A.	Ord	Arcadia Canal	Irrig.	20.00	16	17	16	Valley	March	6	1896		262**
Loup R., M. Br.	Webster Irr. & Can. Co.	Comstock	Webster Canal	Irrig.	1.71	20	19	17	Custer	March	5	1898		442
Loup R., M. Br.	Longwood Irr. Can. Co.	Comstock	Longwood Irr. Can.	Irrig.	12.93	20	19	17	Custer	Feb.	21	1912		1175**
Loup R., M. Br.	Muhlback, Fred	Mullen	Mullen Grist & L. Plt.	Power	124.00	6	24	32	Hooker	March	12	1912		1185**
Loup R., M. Br.	St. Paul Elec. L. Wks.	St. Paul	St. Paul Elec. L. Wks.	Power	2000.00	3	14	10	Howard	Aug.	12	1912		1216**
Loup R., M. Br.	Lundy, Jas. W.	Sargent	Lundy M. & P. Plt.	Power	400.00	9	19	19	Custer	Sept.	16	1912		1224
Loup R., M. Br.	U. S. of America	Halsey	Nursery Ditch	Irrig.	1.00	3	22	26	Thomas	Sept.	16	1912		1226
Loup R., M. Br.	Lundy, Jas. W.	Doris	Mid. Loup Pow. Plt.	Power	500.00	36	20	21	Custer	Oct.	15	1912		1234
Loup R., M. Br.	Holmes, Eddy.	Nemo	Loup Val. Irr. Can.	Irrig.	.85	36	20	21	Custer	May	31	1913		1294
Loup R., M. Br.	Jundy, Jas. W.	Sargent	Lundy's Lake Canal	Irrig.	28.31	4	19	19	Custer	June	27	1913		1300
Loup R., M. Br.	Jundy, Jas. W.	Sargent	Lundy's Lake	Stor.	8.00	2	19	19	Custer	July	19	1913		1306
Loup R., M. Br.	Jundy, Jas. W.	Sargent	Lundy's Lake	Irrig.	6.34	4	19	19	Custer	July	19	1913		1307
Loup R., M. Br.	Jundy, Jas. W.	Sargent	Bill's Lake Canal	Irrig.	118.00	36	20	21	Custer	July	19	1913		1308
Loup R., M. Br.	Austin Irr. Ditch Co.	Loup City	Austin Irr. Ditch	Irrig.	50.00	32	13	14	Sherman	Nov.	6	1913		1330
Loup R., M. Br.	Central Power Co.	Gr. Island	Central Power Co.	Power	1000.00	30	13	12	Hall	July	14	1914		1373
Loup R., M. Br.	C. B. & Q. R. R. Co.	Lincoln	Pipe Line at Seneca	Irrig.	.50	18	24	30	Thomas	Dec.	28	1914		1396
Loup R., M. Br.	Tillson, W. Z.	Poole Siding	Tillson Ditch	Irrig.	15.57	29	12	15	Buffalo	Dec.	28	1894	236	

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-A (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Loup R., S. Br.	Boblitz, E. J.	Tuckerville	Boblitz Ditch	Irrig.	.50	10	14	21	Custer	Jan.	17	1895	219a**	
Loup R., S. Br.	Boblitz, E. J.	Tuckerville		Power	20.00	10	14	21	Custer	Jan.	17	1895	219b**	
Loup R., S. Br.	Callaway Mill Co.	Callaway		Power		2	15	23	Custer				988*	
Loup R., S. Br.	Brown, A. D.	Milldale	Brown Canal	Irrig.	.86	31	17	24	Custer	Feb.	23	1897		363
Loup R., S. Br.	Hartzell, B. F.	Logan	Hartzell's Ditch	Irrig.	.37	27	18	26	Logan	May	18	1897		390
Loup R., S. Br.	Flagg, W. J.	Miller	W. J. Flagg Ditch	Irrig.	5.71	11	12	18	Buffalo	April	15	1913		1275
Loup R., S. Br.	Central Power Co.	Gr'd Island	Grand Island Elec. Co.	Power	840.00	35	13	12	Howard	Jan.	18	1915		1400**
Loup R., S. Br.	Brittan, Fred	Arnold	Brittan Elec. Co.	Power		25	17	25	Custer	July	19	1916		1460
Muddy Creek	Penn, Chas.	Broken Bow	Penn's Ditch	Irrig.	.50	33	17	20	Custer	Aug.	14	1894	215	
Muddy Creek	Benson, Wm. C.	Litchfield	Litchfield Mills	Power		33	14	16	Sherman				999*	
Muddy Creek	Mason City Roller Mills and Light Plant Co.	Mason City	Mason City Roller Mill & L't Plant Co.	Power					Custer				1042*	**
Mira Creek	McClellan, M. E.	No. Loup	Mira Reservoir	Stor.	1.14	26	18	13	Valley	March	8	1912		1182
Mira Res.	McClellan, M. E.	No. Loup		Irrig.	1.32	26	18	13	Valley	Oct.	30	1912		1239
Mira Creek	Hutchins, W. T.	No. Loup	Hutchins Dam	Irrig.	.20	26	18	13	Valley	April	18	1916		1453
Oak Creek	Hatt, Hans N.	Dannebrog	Oak Cr. Irr. Plt No. 1	Irrig.	.57	2	13	11	Howard	July	12	1918		1518
Platte River	Fremont C. & P. Co.	Fremont	Fremont Canal	I. & P.	2500.00	30	17	4	Butler	June	21	1895		40**
Platte River	Fremont & Omaha P. Co.	Omaha	Fremont & Omaha	Power	2000.00	30	17	4	Butler	March	25	1908		894
Platte River	Woods, Mark M., Geo. J.	Lincoln	Neb. Elec. Power Co.	Power		4	14	10	Douglas	March	31	1916		1451*
Sand Creek	Troyer, J. D.	Callaway	Troyer's Pumping Plt.	Irrig.	.24	10	15	23	Custer	Feb.	21	1916		1447
Shell Creek	Schmitt, P.	Columbus	Schmitt's Irr. Canal	Irrig.	3.00	19	18	1	Platte	Dec.	17	1894	292a	
Shell Creek	Schmitt, P.	Columbus	Schmitt's Irr. Canal	Power	30.50	19	18	1	Platte	Dec.	17	1894	292b	
Shell Creek	Max Gottberg	Columbus	Gottberg Irr. Pl.	Irrig.	1.00	24	18	1	Platte	June	6	1895		2
Short & L L'ke	Piper, Lucian; Lovejoy B. C.	Woodlake		Drain		25	28	27	Cherry	May	10	1918		1512*
Spring Creek	Hendryx, H. J.	Monroe	Hendryx Ditch	Irrig.	1.33	2	17	3	Platte	June	25	1894	290	
Sprk. Cr., trib. to Loup R.	Carstensen, Lawrence P.	Columbus	Carstensen's Lake	Irrig.	1.92	23	17	1	Platte	Sept.	5	1918		1524
Spring Branch	Milldale F. & L. S. Imp. Co.	Council Bluffs	Haskill Ditch	Irrig.	7.00	31	17	24	Custer	Feb.	27	1914		1357

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-A (Concluded)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Victoria Creek	Daily, Gilligan & Co.	Anselmo	Victoria Irr. Plt.	Irrig.	2.29	1	19	21	Custer	March	17	1894	210	
Victoria Creek	Victoria Ditch Ass'n	Gates	Victoria Ditch	Irrig.	4.29	1	19	21	Custer	July	17	1894	212	
Victoria Creek	Laughran, T., et al	New Helena.	Victoria Ditch	Irrig.	4.00	3	19	21	Custer	Sept.	22	1894	213	
Victoria Creek	Bishop, E. N.	Gates	Laughran & Bell Ditch	Irrig.	15.7	1	19	21	Custer	April	2	1912	217**	1189

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-B

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Battle Creek	Steffen, Aug.	Battle Creek	Battle Creek Mills	Power	10.67	36	24	3	Madison	Nov.	12	1898		484
Battle Creek	Steffen, Aug. and Geo. Scheerger	Battle Creek	Battle Creek Mills	Power	20.00	36	24	3	Madison	April	20	1906		818
Clear Creek	Lyons Drainage Dist.	Lyons	Main Ditch No. 1	Drain		14	23	8	Burt	March	9	1911		1069
Elkhorn River	Skrdla, Joseph	Atkinson	Atkinson Mill	Power	38.50	30	30	14	Holt	Nov.	1	1883	271	
													{ 259	
Elkhorn River	Elkhorn Irr. Co.	O'Neill	Elkhorn Irr. Canal	Irrig.	131.43	22	29	13	Holt	Feb.	3	1894	{ 263	
Elkhorn River	Davis, Jos.	O'Neill	Davis Ditch	Irrig.	1.43	31	29	11	Holt	Feb.	8	1894	260	
Elkhorn River	Carlon, Thos.	O'Neill	Carlon Ditch No. 1	Irrig.	1.00	32	29	11	Holt	Feb.	8	1894	261	
Elkhorn River	Carlon, Thos.	O'Neill	Carlon Ditch No. 2	Irrig.	5.00	30	29	11	Holt	Feb.	8	1894	262	
Elkhorn River	Cain, N. E., et al	O'Neill		Irrig.	5.00	32	29	11	Holt	Feb.	20	1895	283	
Elkhorn River	Ross, Chas. P.	Omaha	Platte Riv Hydro Elec Power Co.	Power	500.00	14	15	10	Douglas	Nov.	24	1909		971**
Elkhorn River	Neligh, W. T. S.	West Point	West P't. Hy. E. Co.	Power	400.00	18	22	6	Cuming	Dec.	26	1912		1250**
Elkhorn River	Norfolk Cereal & Flour Mills (C. S. Bridge)	Norfolk	Norfolk Cereal & F.M.	Power	100.00	23	24	1	Madison	March	1	1870	996	
Elkhorn, S. Br.	Roothleutner, Albert	Ewing	Flouring Mill	Powre	33.00	3	26	9	Holt	Aug.	21	1898		464
Middle Creek	Malone, Robert	Lincoln	Malone Ice Plant	Ice	10.00	30	10	6	Lancaster	Dec.	26	1907		883
Oak Creek	Eiche, Herman	Lincoln	Eiche Irr. Plant	Irrig.	.71	17	10	6	Lancaster	Jan.	4	1899		489
Oak Creek	Cen. Realty & Inv. Co.	Lincoln	Capital Beach	Stor.	50.00	16	10	6	Lancaster	June	5	1918		1516
Platte River	Ross, Chas. P.	Omaha	Platte Riv. Hydro El. Power Co.	Power	2500.00	6	14	10	Douglas	Nov.	24	1909		970**
Platte River	Parmalee & Rawls	Plattsm'th	Plattsmouth Pow. Co.	Power	2000.00	32	13	13	Cass	Sept.	4	1914		1379**
Ryan's Lake	Elk River Drain. Dist.	Fremont	Cutoff "H"	Drain		4	17	9	Dodge	Oct.	16	1909		966
Springs	Newton Land Co.	Omaha	Spg. Br. Aqueduct	Irrig.	.07	13	14	13	Sarpy	June	18	1895		29
Silver Creek	Armour & Co.	So. Omaha	Armour & Co. Res.	Ice	10.00	7	13	9	Saunders	Oct.	18	1897		415
Stevens Creek	Moore, R. E.	Lincoln	Stevens Cr. Irr. Proj.	Irrig.	1.00	2	10	7	Lancaster	Nov.	19	1913		1335
Union & Taylor Creeks	Bley, Louis G.	Madison	Union Val. R. Mills	Power		32	22	1	Madison				998*	

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-C

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No
						S	T	R	County	Month	D	Yr.		
Abitz Creek	Fullerton, J. B.	Atkinson	Fullerton Ditch No. 2.	Irrig.	.36	18	30	13	Holt	March	23	1896		278
Antelope Creek	Julian, A. R., et al.	Gordon	Antelope Ditch	Irrig.	.36	21	32	40	Cherry	June	29	1905		798
Ashburn Creek	Zilmer, W. H.	Valentine	Ashburn Canal	Irrig.	.43	27	34	26	Cherry	June	17	1902		676
Bear Creek	Skinner, Thos.	Springview	Skinner Ditch	Irrig.	.22	15	32	21	Keya Paha	June	20	1888	609	
Bear Creek	Cedarburg, P.	Springview	Cedarburg D. No. 1, 2	Irrig.	.02	3	32	21	Keya Paha	Oct.	3	1898		479
Beeman Cr., Old	Barnard, C. O.	Springview	Barnard Ditch	Irrig.	.43	21	32	20	Keya Paha	June	1	1892	663	
Beeman Creek	Beeman, J. D.	Springview	Beeman Ditch	Irrig.	1.00	23	32	20	Keya Paha	May	20	1892	620	
Beeman Creek	Rickman, A. L.	Springview	Beeman & Rickman	Irrig.	.29	23	32	20	Keya Paha	July	25	1895	613	
Big Sandy Cr.	Pickler, W. S.	Badger	Badger Ditch	Irrig.	1.14	12	33	14	Holt	May	16	1902		667
Big Sandy Cr.	Johnson, C. A.	Butte	Badger Mill	Power	35.00	12	33	14	Holt	Aug.	28	1902		685**
Blackbird Cr.	Mullen, A F.	O'Neill	Mullen Ditch	Irrig.	1.00	20	31	11	Holt	Aug.	18	1894	267	
Bluebird Cr.	Murphy, P.	O'Neill	Murphy's Ditch	Irrig.	1.00	26	30	11	Holt	Sept.	7	1894	273	
Boardman Cr.	Lee, Jos. S.	Chesterfield	Lee Ditch	Irrig.	6.86	6	29	32	Cherry	April	25	1895	573	
Boardman Cr.	Bachelor, J. H.	Valentine	Boardman Ditch	Irrig.	28.57	33	30	32	Cherry	Jan.	17	1912		1155
Box Butte Cr.	Sandoz, Wm.	Moomaw	Billy's Ditch	Irrig.	.21	29	29	45	Sheridan	Jan.	13	1900		653
Brush Creek	Neb. Townsite Co.	Perry	Brush Cr. Pow. Co.	Power	15.00	23	33	13	Holt	Sept.	28	1898		474**
Brush Cr., E. B.	McCarthy, W. H., et al.	O'Neill	McCarthy Ditch No. 1	Irrig.	.50	24	32	14	Holt	July	1	1894	264	
Brush Cr., W.B.	McCarthy, W. H., et al.	O'Neill	McCarthy Ditch No. 2	Irrig.	.63	26	32	14	Holt	Aug.	15	1894	266	
Burton Creek	Mutz, Otto	Springview	Burton Creek Ditch	Irrig.	.57	19	34	19	Keya Paha	June	30	1895	608b	
Burton Creek	Mutz, Otto	Springview	One Trip Ditch	Irrig.	.35	2	33	20	Keya Paha	Sept.	2	1895		142
Canyon	Gilmore, Emery	Glen	Gilmore Canal	Irrig.	14.29	36	30	54	Sioux	July	5	1907		863
Cedar Creek	McNamee, K. M.	Wood Lake	Cedar Creek Ditch	Irrig.	.43	4	30	21	Cherry	Sept.	28	1910		1027

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-C (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Cottonwood Cr.	Morrissey, Tim	Dunlap	Morrissey's Ditch	Irrig.	.71	17	29	48	Dawes	Feb.	16	1895	481	.....
Cottonwood Cr.	Fendrich & Lichte	Dunlap	Fendrich & Lichte	Irrig.	.64	22	29	48	Dawes	May	9	1896	.....	336
Cottonwood Cr.	Lichte, Hugo	Dunlap	Dunlap Ditch	Irrig.	.50	22	29	48	Dawes	July	18	1911	.....	1113
Crooked Creek	Mutz, Otto	Springview	.....	Power	3.00	19	34	19	Keya Paha	Dec.	31	1889	608a**	.....
Crooked Creek	Mutz, Otto	Springview	.....	Irrig.	1.00	19	34	19	Keya Paha	June	30	1895	608b	.....
Cross Creek	Hutchinson, W. H.	Penbrook	Hutchinson Ditch	Irrig.	.21	8	33	24	Keya Paha	Sept.	1	1888	615	.....
Cub Creek	Tissue & Patterson	Springview	Tissue & Patterson D.	Irrig.	.03	16	33	22	Keya Paha	June	30	1894	618	.....
Cub Creek	Josiassin, S.	Meadville	McComber Ditch	Irrig.	.10	28	33	22	Keya Paha	Aug.	15	1894	589	.....
Eagle Creek	Bokhof, Wm.	Atkinson	Bokhof Ditch	Irrig.	2.86	6	30	13	Holt	Sept.	18	1894	275	.....
Eagle Creek	Robertson, J. A.	Atkinson	Eagle Valley Ditch	Irrig.	2.29	1	30	14	Holt	March	15	1895	280	.....
Eagle Cr. S. Br.	Becker, Samuel	Atkinson	Becker Ditch	Irrig.	1.14	8	30	13	Holt	Nov.	30	1894	274	.....
Fairfield Cr.	Kuhre, Wm. M.	Johnstown	Kuhre's Pond	Power	25.00	31	33	23	Brown	Sept.	1	1893	612a	.....
Fairfield Cr.	Kuhre, Wm. M.	Johnstown	.....	Irrig.	.14	31	33	23	Brown	April	1	1894	612b	.....
Holt Creek	Schoettger, F. J.	Enterprise	Schoettger Ditch	Irrig.	.14	32	35	20	Keya Paha	Feb.	23	1895	595	.....
Holt Cr., S. Br.	Akers, J. W.	Springview	Akers Ditch	Irrig.	.14	1	34	21	Keya Paha	Aug.	1	1894	611	.....
Horse Head Cr.	Bruce, A.	Penbrook	Bruce Ditch	Irrig.	.17	16	33	24	Keya Paha	Sept.	7	1895	.....	149
Horse Shoe L'k et al	Horseshoe Lake Drainage Dist.	Irwin	Horseshoe Lake Dr.	Drain	.....	13	34	40	Cherry	June	27	1916	.....	1461
Huggins Creek	Soper, H. K.	Enterprise	Soper Ditch	Irrig.	.14	21	35	20	Keya Paha	Nov.	6	1894	592	.....
Jewett Creek	Jewett, C. P.	Meadville	B. L. Ditch	Irrig.	.71	5	32	21	Keya Paha	Oct.	23	1894	590	.....
Keya Paha R.	Yocum, J. C.	Butte	Yocum's Ditch	Irrig.	1.14	23	34	15	Boyd	Sept.	7	1894	573	.....
Keya Paha R.	Bruce, Andrew & Son	Naper	Bruce Roller Mills	Power	100.00	24	34	16	Boyd	Oct.	5	1903	.....	729**
Kibby Creek	Green, Martha J.	Read	Green Ditch	Irrig.	.01	28	34	16	Boyd	April	1	1904	.....	747
Lewis Spring	Lewis, Ralph	Enterprise	Lewis Ditch	Irrig.	.14	29	35	19	Keya Paha	Aug.	30	1895	.....	139

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-C (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Long Pine Cr...	Kyner, S. H.	Long Pine....	Long Pine L & P Plt..	Power	48.00	30	30	20	Brown	April	2	1909		941
Middle E. Br....	McGuire, M. W.	Norden	McGuire Ditch	Irrig.	.71	32	33	23	Keya Paha	June	1	1884	606	
Middle E. Br....	Allen, M. M.	Norden	Allen Ditch	Irrig.	.50	29	33	23	Keya Paha	June	1	1891	616	
Middle E. Br....	Allen, M. M.	Norden	Continuance Ditch	Irrig.	1.00	29	33	23	Keya Paha	May	2	1904		753
Minnechaduza ...	Gilman, S. F. Mill Co.	Neligh	Pierce Milling Co.	Power	35.00	30	34	27	Cherry	Sept.	12	1896		359
Minnechaduza ...	City of Valentine	Valentine	Valentine Pow. Plant..	Power	40.00	29	34	27	Cherry	April	16	1913		1279**
Newman Cr.	Newman, Philo	Norden	Newman Ditch	Irirg.	.21	17	33	24	Keya Paha	July	1	1888	617	
Niobrara Riv....	Richards, B.	Chadron	Lakotah Ditch	Irrig.	7.14	1	30	57	Sioux	Oct.	1	1883	554	
Niobrara Riv....	The Coffee Cattle Co.	Chadron	Earnest Ditch No. 1..	Irrig.	2.86	9	29	56	Sioux	May	1	1885	514a	
Niobrara Riv....	Bruce, A.	Penbrook	Bruce's Mill	Power	60.00	16	33	24	Keya Paha	April	1	1886	610	**
Niobrara Riv....	Cook, J. H.	Agate	McG. & S. Low. No. D	Irrig.	8.21	25	29	56	Sioux	May	1	1887	513a	
Niobrara Riv....	Furman, Nellie B.	Marsland	Pioneer Ditches	Irrig.	7.14	36	29	51	Dawes	Aug.	1	1887	442a	
Niobrara Riv....	McLaughlin, A. H.	Marsland	McLaughlin Ditch	Irrig.	7.14	9	28	52	Box Butte	May	1	1888	566	
Niobrara Riv....	Cook, J. H.	Agate	McG. & S. L'r S. D....	Irrig.	1.71	25	29	56	Sioux	May	1	1890	513b	
Niobrara Riv....	The Coffee Cattle Co.	Chadron	Earnest Ditch No. 1....	Irrig.	2.14	9	29	56	Sioux	May	15	1891	514b	
Niobrara Riv....	Cook, J. H.	Agate	Cook Ditch No. 1, 2....	Irrig.	3.54	1	28	56	Sioux	May	31	1891	980	
Niobrara Riv....	Hoyt, Wm. L.	Harrison	Bigelow & Seymour....	Irrig.	2.40	19	31	57	Sioux	June	8	1891	510	
Niobrara Riv....	Skavdahl, Oscar & Octave Harris	Marsland	Harris & Neece Ditch.	Irrig.	8.57	3	28	55	Sioux	July	1	1892	517	
Niobrara Riv....	Furman, Nellie B.	Marsland	Pioneer Ditches	Power	10.00	31	29	50	Dawes	Aug.	1	1893	442b	
Niobrara Riv....	Roll Mill Co.	Marsland	Roll Mill	Power	35.00	5	28	51	Box Butte	Sept.	10	1893	970	
Niobrara Riv....	Green, Frank J.	Hemingford	Meridian Ditch	Irrig.	.57	25	29	50	Dawes	Jan.	10	1894	459	
Niobrara Riv....	Taylor, Geo. L.	Marsland	Enterprise Ditch	Irrig.	5.71	27	29	50	Dawes	Jan.	27	1894	461	
Niobrara Riv....	Furman, H. G.	Marsland	Furman Ditch	Irrig.	3.64	29	29	50	Dawes	Feb.	2	1894	462	
Niobrara Riv....	Warneke, Henry	Harrison	Johnson Ditch	Irrig.	2.86	36	31	57	Sioux	May	1	1894	511	
Niobrara Riv....	McMannis, J. T., et al....	Hemingford	McM. & Neeland Dit...	Irrig.	.86	29	29	49	Dawes	June	15	1894	463	
Niobrara Riv....	Flenken, Chas.	Dustin	Flenken Ditch	Irrig.	1.00	12	33	16	Boyd	Oct.	1	1894	575	
Niobrara Riv....	McCully, S. J.	Carns	McCully Ditch	Irrig.	8.57	25	32	20	Keya Paha	Aug.	7	1894	583	
Niobrara Riv....	Wilson, J. A.	Springview	Wilson Canal	Irrig.	5.71	18	32	21	Keya Paha	Oct.	18	1894	591	
Niobrara Riv....	Lichte, H.	Dunlap	Lichte Ditch	Irrig.	1.43	27	29	48	Dawes	Jan.	24	1895	479	
Niobrara Riv....	Warneke, H.	Harrison	Warneke's Ditch	Irrig.	1.57	27	31	57	Sioux	Feb.	13	1895	505	
Niobrara Riv....	Cook, J. H.	Agate	McG & S. Upp. Ditch..	Irrig.	2.86	23	29	56	Sioux	Feb.	25	1895	521	

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-C (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Niobrara Riv.	Harris, Octave	Marsland	La Belle Ditch	Irrig.	2.00	6	28	54	Sioux	March	12	1895	518	.....
Niobrara Riv.	Furman, H. G.	Marsland	Snow Ditch	Irrig.	2.86	35	29	51	Dawes	March	26	1895	485	.....
Niobrara Riv.	Hughes, Mary F.	Marsland	Excelsior Ditch	Irrig.	2.86	10	28	52	Box Butte.	May	15	1895	568	.....
Niobrara Riv.	Hughes, Est. of Jno.	Marsland	Hughes Ditch	Irrig.	.....	1	28	52	Box Butte.				987*	.....
Niobrara Riv.	Mann, John E.	Harrison	Bourrett Ditch	Irrig.	2.00	33	30	56	Sioux	June	8	1895	.....	4
Niobrara Riv.	Bourrett, Jno. S.	Harrison	Bourrett Sr. Ditch	Irrig.	1.43	29	30	56	Sioux	June	10	1895	.....	5
Niobrara Riv.	Hughes, Est. of Jno.	Marsland	Hughes Ditch	Irrig.	1.00	1	28	52	Box Butte.	June	26	1895	.....	53
Niobrara Riv.	Harris, O.	Marsland	La Belle Ditch	Irrig.	3.14	6	28	54	Sioux	July	3	1895	.....	60
Niobrara Riv.	Bond & Tissot	Peters	Usher Ditch	Irrig.	1.16	19	29	46	Sheridan	July	17	1895	.....	82
Niobrara Riv.	Bennet, Sadie C.	Omaha	Moore Ditch	Irrig.	5.71	9	28	53	Sioux	July	22	1895	.....	88
Niobrara Riv.	Peters, H. A., et al	Hay Springs	Hay Sprgs Canal	Irrig.	14.29	29	29	47	Dawes	Sept.	27	1895	.....	173
Niobrara Riv.	Mettlen, J. E., et al	Marsland	Mettlen Ditch	Irrig.	10.00	4	28	54	Sioux	April	27	1896	.....	292
Niobrara Riv.	Neeland, Sarah J.	Hemingford	McM. & Neeland Dit.	Irrig.	1.93	29	29	49	Dawes	April	9	1898	.....	448
Niobrara Riv.	Armstrong, T. S.	Butte	Armstrong Canal	Power	150.00	9	33	13	Boyd	May	14	1898	.....	452**
Niobrara Riv.	Hunter, Jas. A.	Alliance	Meridian Ditch	Irrig.	5.14	25	29	50	Dawes	Aug.	29	1898	.....	469
Niobrara Riv.	Bourrett, J. F.	Harrison	Bourrett's Ditch	Irrig.	1.00	29	30	56	Sioux	March	5	1900	.....	542
Niobrara Riv.	Bourrett, J. S.	Harrison	J. S. Bourrett Ditch	Irrig.	1.71	19	30	56	Sioux	March	17	1900	.....	546
Niobrara Riv.	Montague, Jas.	Dunlap	Montague & Lichte D.	Irrig.	.43	27	29	48	Dawes	Sept.	27	1900	.....	575
Niobrara Riv.	Fendrich, B.	Dunlap	Chladek Ditch	Irrig.	.30	26	29	48	Dawes	March	18	1901	.....	607
Niobrara Riv.	Fendrich, G. A.	Dunlap	Fendrich Ditch	Irrig.	.29	32	29	48	Dawes	June	1	1901	.....	616
Niobrara Riv.	Fendrich, G. A.	Dunlap	Fendrich Ditch	Irrig.	.27	32	29	48	Dawes	June	1	1901	.....	617
Niobrara Riv.	Cornell, C. M.	Valentine	Valentine Pow. Plant.	Power	1600.00	27	24	34	Cherry	Jan.	29	1902	.....	652**
Niobrara Riv.	Potmesil Bros.	Dunlap	Potmesil Ditch	Irrig.	6.00	26	29	48	Dawes	May	19	1904	.....	757
Niobrara River & Pepper Cr.	Taylor, D. T.	Hay Spgs.	Taylor's Ditch	Irrig.	4.57	28	29	47	Dawes	Aug.	8	1904	.....	766
Niobrara Riv.	Kay, John L.	Marsland	Kay Ditch	Irrig.	2.00	6	28	53	Dawes	May	12	1905	.....	791
Niobrara Riv.	Kirk, E. L.	Sioux City.	Nebraska Power Co.	Power	900.00	34	32	7	Knox	Sept.	24	1909	.....	961
Niobrara Riv.	Kirk, E. L.	Sioux City.	Nebraska Power Plt.	Power	700.00	34	32	7	Knox	Aug.	9	1910	.....	1019
Niobrara Riv.	Mann, John E.	Harrison	Bieser Ditch	Irrig.	.75	4	29	56	Sioux	Jan.	23	1911	.....	1056
Niobrara Riv.	Mann, John E.	Harrison	Ex. Bourrett Ditch	Irrig.	1.21	33	30	56	Sioux	Jan.	23	1911	.....	1057
Niobrara Riv.	Iodence, W. M.	Dunlap	Lichte Irr. Ditch	Irrig.	3.00	27	29	48	Dawes	April	7	1911	.....	1086
Niobrara Riv.	Dieriex, Camille	Rushville	Camille Ditch	Irrig.	1.53	19	30	43	Sheridan	April	10	1911	.....	1087
Niobrara Riv.	Montague, Jas.	Dunlap	Lichte Ditch	Irrig.	.71	27	29	48	Dawes	April	19	1911	.....	1088
Niobrara Riv.	Hopkins, Thos. L.	Hemingford	Potmesil Bros. Ditch	Irrig.	.28	25	29	48	Sioux	Jan.	2	1912	.....	1152
Niobrara Riv.	Bourrett, John	Harrison	J. Bourrett Ex. No. 1	Irrig.	.11	29	30	56	Sioux	March	25	1912	.....	1188

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Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Niobrara Riv.	Wells, Harry E.	Butte	Well's Pumping Sys.	Irrig.	1.64	32	32	40	Sheridan	May	2	1912		11933
Niobrara Riv.	Bourrett, John	Harrison	J. Bourrett Ex. No. 2	Irrig.	.21	32	30	56	Sioux	July	19	1912		1209
Niobrara Riv.	Buhman, Herman P.	Leigh	Bristow-Lynch P. Plt.	Power	900.00	1-6	32	10	Boyd	Nov.	14	1912		1243
Niobrara Riv.	Bennett, Sadie C.	Omaha	Mettlen Ditch	Irrig.	5.00	4	28	54	Sioux	Dec.	18	1912		1248
Niobrara Riv.	Bennett, Sadie C.	Omaha	Bennett Ditch	Irrig.	4.00	1	28	54	Sioux	Dec.	18	1912		1249
Niobrara Riv.	Fox, Jim	Marsland	Geo. Hitshew Ditch	Irrig.	6.00	6	28	52	Box Butte	Feb.	17	1913		1260
Niobrara Riv.	Coffee Cattle Co.	Harrison	Coffee Ditch No. 3	Irrig.	2.50	15	29	56	Sioux	March	24	1914		1362
Niobrara Riv.	U. S. Forest Service	Neuzel	Morton Nursery Irr D	Irrig.	.50	30	33	32	Cherry	June	15	1917		1488
Pine Creek	Clark, Jas.	Rushville	Pine Creek Mill	Power	32.00	33	30	44	Sheridan	June	5	1893	415**	
Plum Creek	Plum Creek Irr. Co.	Johnstown	Johnstown Ditch	Irrig.	26.00	4	29	24	Brown	Dec.	18	1894	405	
Plum Creek	Wilbert, R.	Ainsworth	Wilbert Ditch	Irrig.	.43	35	32	23	Brown	May	5	1896		329
Plum Creek	Ainsworth L. & P. Co.	Ainsworth	Plum Creek Plant	Power	150.00	29	32	22	Brown	May	15	1909		947
Pole Creek	Julian, A. R., et al.	Gordon	Pole Creek Ditch	Irrig.	.57	28	32	40	Cherry	June	29	1905		799
Rickman Cr.	Byington, W. W.	Springview	Byington Ditch	Irrig.	1.00	22	32	20	Keya Paha	May	19	1891	582	
Rock Creek	Eastlick, B. J.	Carns	Necessity Ditch	Irrig.	.35	29	32	18	Rock	Jan.	17	1895	395	
Rock Creek	Wile, H.	Mariaville	Wile's Ditch	Irrig.	.86	9	31	18	Rock	April	3	1895	397	
Rock Creek	Dugger, Andrew	Stansberry	Dugger Irr. Canal	Irrig.	15.00	33	32	18	Rock	May	28	1918		1514
Rock Spkgs Cr.	Moore, W. S.	Meadville	Moore's Ditch	Irrig.	1.43	12	32	22	Keya Paha	June	30	1887	593	
Rock Spkgs Cr.	Van Koten, J.	Springview	Van Koten Ditch	Irrig.	.07	25	33	22	Keya Paha	Jan.	1	1885	619	
Shobe Br.	Lamb, A. J.	Spencer		Irrig.	.14	30	33	11	Holt	July	6	1896		322
Snake River	Jackson, W. S.	Valentine	Snake Hydro Elec. Co.	Power	180.00	9	31	30	Cherry	Feb.	16	1914		1352
Spring Creek	Kuskie, A. K.	Sparks	Garden Ditch	Irrig.	.86	27	34	25	Cherry	March	30	1900		555
Spring Creek	Keplinger, Ralph B.	Valentine	Spring Cr. Ditch	Irrig.	.05	20	34	27	Cherry	July	14	1917		1489
Springs	Bakewell, Geo. C.	Johnstown	Glen Cove Ditch	Irrig.	.85	26	33	24	Brown	March	1	1911		1067
Str., no name	Grant, C. G.	Winfield	Grant Ditch	Irrig.	.14	4	31	20	Rock	Jan.	1	1895	400	
Str., no name	Conger, C. K.	Norden	Conger Ditch	Irrig.	.11	5	33	24	Keya Paha	Sept.	16	1895		158

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-C (Concluded)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Snider Creek	Pickler, W. S.	Springview	Olds Ditch	Irrig.	.01	31	33	19	Keya Paha	May	1	1894	607	.....
Spotted Tail Cr	Rhodes, J. G.	McLean	Spotted Tail Ditch	Irrig.	.25	4	34	17	Keya Paha	May	17	1895	601	.....
Turkey Creek	La Rue, Chas.	Norden	Turkey Creek Ditch	Irrig.	.43	35	33	23	Keya Paha	Feb.	9	1900	.....	539
Turkey Creek	La Rue, Chas.	Norden	Turkey Cr. Dit. No. 2	Irrig.	2.00	35	33	23	Keya Paha	May	11	1904	.....	754
Verdigris Cr.	Hanson, J. W.	Em'tbg, Ia.	Drayton Ditch	Irrig.	2.86	8	28	8	Antelope	Aug.	11	1894	248	.....
Whistle Creek	Miller, W. K.	Alliance	Home Ditch	Irrig.	.86	13	28	54	Sioux	June	6	1895	.....	65
Whistle Creek	Watson, Mathilda	Canton	Whistle Cr. Ditch	Irrig.	1.00	12	28	54	Sioux	June	28	1895	.....	58
Wyman Cr.	McCully, R. A.	Carns	McCully Ditch	Irrig.	.80	19	32	19	Keya Paha	June	10	1891	604	.....
Wyman Cr.	Horton, I.	Carns	Horton Ditch	Irrig.	.14	17	32	19	Keya Paha	June	5	1894	587	.....
Young Creek	Lamb, A. J.	Spencer	Harvey & Lamb Ditch.	Irrig.	.21	32	33	11	Holt	June	13	1896	.....	311

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-D

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate S	T	R	County	Date of Priority Month	D	Yr.	Docket No.	App. No.
Ash Creek	Compton, W. L.	Whitney		Irrig.	.03	12	32	51	Dawes	July	15	1893	455	
Ash Creek	Connell, W. D.	Whitney	Connell Ditch	Irrig.	.63	6	32	50	Dawes	June	71	1898		459
Ash Creek	Cripps, Fred W.	Whitney	Cripps Ditch No. 2	Irrig.	1.00	13	32	51	Dawes	Jan.	10	1899		491
Ash Creek	Cripps, Fred W.	Whitney	Cripps Ditch	Irrig.	1.14	13	32	51	Dawes	Dec.	26	1903		735
Ash Creek	Howard, W. C.	Whitney	Cripps Ditch	Irrig.	.57	13	32	51	Dawes	Aug.	27	1906		835
Ash Cr., E. B.	Tomlin, H. B.	Whitney	Ox Yoke Ditch	Irrig.	2.86	31	32	50	Dawes	May	31	1880	447	
Ash Cr., E. B.	Aird, Ada L.	Crawford	Barron Ditch	Irrig.	1.14	32	32	50	Dawes	July	1	1888	438	
Ash Cr., E. B.	Ivins, Orville R.	Crawford	Sheldon Ditch	Irrig.	1.43	30	32	50	Dawes	Jan.	26	1899		493
Ash Cr., E. B.	Todd, Frank P.	Crawford	Todd Ditch	Irrig.	.38	5	31	50	Dawes	Sept.	12	1899		520
Ash Cr., E. B.	Stumph, Nellie	Whitney	Stumph Ditch	Irrig.		31	32	50	Dawes				1023½*	
Ash Cr., W. B.	Vetter, Andrew	Crawford	Mace Ditch	Irrig.	1.00	2	31	51	Dawes	July	31	1884	428	
Ash Cr., W. B.	Wall, C. W.	Whitney	W. Ash Cr. Irr. Co. D.	Irrig.	1.62	36	32	51	Dawes	July	4	1893	452	
Ash Cr., W. B.	Ivins, Orville R.	Crawford	Woodard Ditch	Irrig.	.14	25	32	51	Dawes	Feb.	3	1898		434
Ash Cr., W. B.	Broadhurst, Nathan	Crawford	Broadhurst Res.	Str.	5.00	35	32	51	Dawes	Nov.	17	1913		1333
Beaver Creek	Braddock, Wm.	Chadron	Braddock Ditch	Irrig.	.34	18	35	46	Sheridan	April	15	1895	423	
Beaver Creek	Braddock, J. F.	Chadron		Irrig.	.04	1	34	47	Dawes	April	15	1895	974	
Beaver Creek	Braddock, Wm.	Chadron	Wm. Lockler Ditch	Irrig.		34	35	47	Dawes					1017*
Beaver Creek	Braddock, J. F.	Chadron	Braddock Ditch	Irrig.	.63	1	34	47	Dawes	Nov.	24	1897		463
Beaver Creek	U. R. Land & Cattle Co.	Chadron	Cilek Ditch	Irrig.	.36	4	33	46	Sheridan	June	19	1899		513
Beaver Creek	Cavins, J. A.	Chadron	Rickman Ditch	Irrig.	1.00	9	33	46	Sheridan	July	2	1902		681
Bordeaux Cr.	Locket, T. E.	Chadron	Locket Ditch	Irrig.	.07	11	32	48	Dawes	June	30	1886		494
Bordeaux Cr.	Naylor, W. W.	Chadron	Richard's Ditch	Irrig.	.14	36	33	48	Dawes	Sept.	10	1890	430	
Bordeaux Cr.	Bryant, S. A.	Chadron	Bryant's Ditch	Irrig.	.29	14	33	48	Dawes	Feb.	4	1891	434	
Bordeaux Cr.	Hall, O. W.	Chadron	Hall's Ditch	Irrig.	.07	15	33	48	Dawes	March	1	1891	437	
Bordeaux Cr.	Naylor, W. W.	Chadron	Richard's Ditch	Irrig.	.36	36	33	48	Dawes	Sept.	7	1892	446	
Bordeaux Cr.	Mann, Wm.	Chadron	Mann's Ditch	Irrig.	.23	25	33	48	Dawes	Dec.	31	1892	975	
Bordeaux Cr.	Adams, S. L.	Chadron	Adam's Ditch	Irrig.	.14	2	32	48	Dawes	March	5	1893	450	
Bordeaux Cr.	County of Dawes	Chadron	County Ditch	Irrig.	.14	23	33	48	Dawes	July	31	1893	983	
Bordeaux Cr.	Kebard, K. M.	Chadron	Bacon Ditch	Irrig.	.21	21	34	48	Dawes	July	1	1894	445	
Bordeaux Cr.	Morrissey, M.	Chadron	Morrissey Canal	Irrig.	.08	15	33	48	Dawes	Aug.	25	1894	491	
Bordeaux Cr.	O'Donnell, John	Chadron	O'Donnell's Ditch	Irrig.	.14	9	34	48	Dawes	Jan.	17	1898		432
Bordeaux Cr.	Nelson, P. B.	Chadron	Nelson's Ditch	Irrig.	.36	14	33	48	Dawes	Oct.	19	1898		478

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-D (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Bordeaux Cr.	Nelson, P. B.	Chadron	Nelson's Irr. Plant	Irrig.	.14	14	33	48	Dawes	Jan.	28	1899		494
Bordeaux Cr.	Naylor, Chas.	Chadron	Burn's Ditch	Irrig.	4.00	36	33	48	Dawes	Nov.	5	1900		584
Bordeaux Cr.	Martens, Wm.	Chadron	Marten's Ditch	Irrig.	.57	28	34	48	Dawes	Sept.	22	1902		690
Bordeaux Cr.	Martens, Wm.	Chadron	Marten's Ditch	Irrig.	1.14	21	34	48	Dawes	Jan.	14	1907		848
Bordeaux, Lit.	Lebo, Geo. E.	Chadron	Hartzell Canal	Irrig.	.57	13	33	48	Dawes	June	1	1893	448	
Bordeaux, Lit.	Butler, J. A.	Chadron	Butler Ditch	Irrig.	.11	33	33	47	Dawes	June	1	1894	443	
Bordeaux, Lit.	Frady, C. H.	Chadron	Frady Ditch	Irrig.		30	33	47	Dawes				1009*	
Bordeaux, Lit.	Collin, Jacob	Chadron	Collin's Res.	Irrig.	.31	14	32	48	Dawes	Feb.	27	1905		780
Bordeaux, Lit.	Good, J. W.	Chadron	Good Ditch	Irrig.	7.00	29	33	47	Dawes	March	6	1905		783
Bordeaux Cr.	Naylor, Welcome W.	Chadron	Naylor Ditch	Irrig.	.42	36	33	48	Dawes	July	22	1918		1519
Bull Creek	Johnson, W. S.	Glen	Johnson Ditch No. 1	Irrig.	.29	7	30	53	Sioux	March	13	1895	519	
Butte Cr. (Trk)	Chaulk, Jno. J.	Chadron	Chaulk Ditch	Irrig.	3.00	25	33	50	Dawes	March	13	1915		1406
Carlson Draw	Guse, Wm.	Whitney	Guse Res Stor for Irr.	Irrig.	5.00	13	33	52	Dawes	Oct.	23	1917		1505
Cedar Canyon	Pelren, J. E.	Crawford	Cedar Canyon Ditch	Irrig.	.43	16	33	53	Sioux	March	1	1897		380
Chadron Creek	City of Chadron	Chadron	Chadron Water Works	W. S.	1.00	18	32	48	Dawes	Dec.	31	1888	1022	
Chadron Creek	Galleys, W. S.	Chadron	Gallup's Ditch	Irrig.	.08	15	33	49	Dawes	Dec.	20	1890	426	
Chadron Creek	Wilson, H. M.	Chadron	Tug Wilson Ditch	Irrig.	.20	12	32	40	Dawes	July	13	1893	453	
Chadron Creek	Wilson, W. W.	Chadron	Wallace Wilson Ditch	Irrig.	.07	12	32	49	Dawes	July	14	1893	454	
Chadron Creek	Record, A. A.	Hyannis	Half Diamond E. D.	Irrig.	.57	1	32	49	Dawes	June	17	1894	468	
Charcoal Cr.	Weber, M. J.	Glen	Klein Ditch	Irrig.	.11	33	31	53	Sioux	Aug.	1	1882	982	
Cottonwood Cr.	Rasmussen, Jno. J. & C. M.	Whitney	Rasmussen Ditch	Irrig.	2.29	10	33	52	Dawes	March	8	1898		444
Cottonwood Cr.	Glendy, W. K.	Whitney	Rasmussen Ditch	Irrig.	18.00	10	33	52	Dawes	Dec.	26	1899		528
Rav. trib., C't'd Creek	Carlson, A. A.	Crawford	Carlson Ditch	Irrig.	.71	21	33	52	Dawes	Sept.	20	1897		409

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						S	T	R	County	Month	D	Yr.		
Cottonw'd, Lit...	Golden, T. F.	Crawford	Thos. Stuart Ditch	Irrig.	.36	8	32	52		Dec.	21	1890	425	
Cottonw'd, Lit...	Price, J. A, Golden, T. F.	Crawford	Stuart Bros. Ditch	Irrig.	2.86	8	32	52	Dawes	June	10	1895		8
Cottonw'd, Lit...	Kusel, m. T.	Chadron	Kusel Ditch	Irrig.	1.14	9	32	51	Dawes	Oct.	16	1895		183
Cottonw'd, Lit...	Simmons, Raner	Crawford	Simmons Ditch	Irrig.	1.14	9	32	51	Dawes	Sept.	12	1899		521
Cottonw'd, Lit...	Kusel, Wm. T.	Chadron	Kusel Ditch No. 2	Irrig.	.43	8	32	51	Dawes	May	19	1900		560
Cottonw'd, Lit...	Dunn, J. G.	Crawford	Dunn's Ditch	Irrig.	1.43	9	32	52	Dawes	Jan.	14	1902		649
Cottonw'd, Lit...	Erickson, Jno. R.	Crawford	Stuart & Maple Ditch	Irrig.	.29	3	32	52	Dawes	March	10	1902		656
Cottonw'd, Lit...	Kusel, Wm. T.	Chadron	Kusel & Speain Ditch	Irrig.	.71	8	32	51	Dawes	June	30	1902		677
Cottonw'd, Lit...	Lawrence, Thos. E.	Crawford	Broadhurst Ditch	Irrig.	3.2	7	32	51	Dawes	Feb.	25	1913		1264
Cottonw'd, Lit...	Dodd & McDowell	Crawford	Dodd & McDonnell D.	Stor.	10.00	18	32	5	Sioux	April	15	1913		1276
Dead Horse Cr.	Kemery, John	Chadron		Irrig.	.01	32	32	49	Dawes	Sept.	1	1890	493	
Dead Horse Cr.	Woodruff, F. B. & E. F.	Chadron	Flag Butte Ditch	Irrig.	.03	32	32	49	Dawes	April	10	1891	427	
Dead Horse Cr.	Goff, L. L.	Chadron	Goff Ditch	Irrig.	.17	9	31	49	Dawes	Aug.	27	1893	457	
Dead Horse Cr.	Harley, Jas.	Chadron		Irrig.	.01	32	32	49	Dawes	Aug.	1	1894	488	
Dead Horse Cr.	Goff, G. L.	Chadron	Goff Ditch	Irrig.		4	31	49	Dawes	June	10	1895		7
Dead Horse Cr.	Geiser, B. A.	Chadron	Geiser Ditch	Irrig.	.15	17	32	49	Dawes	March	18	1902		658
Dead Horse Cr.	Slattery, Roy A.	Chadron		Irrig.	1.29	32	33	49	Dawes	April	6	1904		749
Deadman Cr.	Phillips, W. S.	Chadron	Stewart Ditch	Irrig.	.21	19	30	52	Dawes	May	8	1896		334
Deadman Cr.	Phillips, W. S.	Crawford	Phillip's Ditch	Irrig.	.14	18	30	52	Dawes	March	19	1900		547
Deadman Cr.	Glendy, Thos. J.	Crawford	Porter & Rasmussen Ditch	Irrig.	1.43	1	30	53	Sioux	May	29	1900		562
Deadman Cr.	Linderman, Con	Crawford	Linderman Ditch	Irrig.	.14	18	30	52	Dawes	June	11	1900		564
Deep Creek	Green, M. H.	Lynch	Deep Creek Ditch	Irrig.	.06	9	30	53	Sioux	May	1	1887	525	
Deep Creek	McMasters, Wm. A.	Glen	Green Ditch	Irrig.	.20	9	30	53	Sioux	Oct.	5	1895		203
Dry Run	Campbell, F. J.	Chadron	Campbell Ditch	Irrig.	1.00	35	34	49	Dawes	Nov.	9	1908		919
Dry Run	Guse, William	Crawford	Wm. Guse Res.	Stor.	20.00	35	34	52	Dawes	Jan.	13	1914		1345
Dry Run	Harrison & Weston	Crawford	Haish & Weston Ditch	Irrig.	3.00	31	34	51	Dawes	March	11	1914		1361
Dry Canon	Betson, Wm. A.	Crawford	Betson Ditch	Irrig.	1.00	33	32	51	Dawes	March	22	1917		1481
Dry Creek	Story, Oscar W.	Story	Story Ditch	Irrig.	5.71	9	34	56	Sioux	March	26	1918		1509
Dry Draw	Earnest, Geo. A.	Chadron	G. Earnest Ditch	Irrig.	3.71	22	35	49	Dawes	Feb.	20	1911		1061

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-D (Continued)

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						S	T	R	County	Month	D	Yr.		
Dry Draw	Glaze, Wm. A., (W. E. Heath)	Chadron	Heath Res. Slov for	Irrig.	1.00	12	32	53	Sioux	Feb.	7	1917		1475
English Creek	McDowell, E. C.	Crawford	McDowell Stor. Sys.	Irrig.	.87	12	31	52	Dawes	Oct.	24	1904		772
Flood Waters	Lenehan, Delia	Crawford	Lenehan Res.	Stor.	4.00	25	34	52	Dawes	April	16	1913		1278
Flood Waters	Arner, Jessie B.	Crawford	Arner Ditch	Irrig.	.14	27	33	53	Sioux	May	6	1913		1289
Hooker Creek	Uhlig, Max	Crawford	McMannis Ditch	Irrig.	1.00	7	31	51	Dawes	Dec.	31	1889	492	
Hooker Creek	Sheldon, C. E.	Crawford	Alcorn Ditch	Irrig.	1.21	31	32	51	Dawes	Nov.	17	1905		803
Hooker Creek	Souther, Mable G.	Crawford	Souther Lake	F. & I.	1.43	30	32	51	Dawes	Sept.	24	1908		915
Indian Creek	Seegrist, Isaac	Whitney	Seegrist Ditch	Irrig.	.03	3	31	50	Dawes	Nov.	1	1893	489	
Indian Creek	Flood, M. F.	Whitney	Flood Ditch	Irrig.	.07	33	32	50	Dawes	Feb.	13	1894	460	
Indian Creek	Boyer, F.	Whitney	Boyer Ditch	Irrig.	.86	28	32	50	Dawes	April	30	1900		559
Indian Cr. trib.	Kaiser, Omar A.	Whitney	Kaiser Ditch	Irrig.	.57	28	32	50	Dawes	Feb.	15	1900		540
Indian Cr. trib.	Honnold Bros.	Whitney	Honnold-Wilson Ditch	Irrig.	.07	3	31	50	Dawes	May	25	1912		1199
Kane Creek	McConnell, J. F.	Whitney	McConnell Dit. & Res.	Irrig.	4.29	29	34	50	Dawes	Jan.	14	1909		931
Kyle Creek	Colville, David	Glen	Kyle Creek Ditch	Irrig.	.57	3	30	54	Sioux	June	30	1882	522	
Lone Tree S. fk	Thomas, J. C.	Whitney	Thomas Ditch	Irrig.	1.00	28	34	51	Dawes	April	29	1905		789
Lone Tree Cr.	Sides, Frank	Whitney	Sides Reservoir	Stor.	3.00	13	34	52	Dawes	Nov.	25	1914		1392
Madden Creek	Flannigan, T. F.	Chadron	Dams	Irrig.	.57	26	35	49	Dawes	July	11	1904		763
Madden Creek	Trier, Phillip	Provo, S. D.	Trier Ditch	Irrig.	1.21	6	34	48	Dawes	Aug.	1	1906		830
Madden Cr. & North Creek	Flannigan, O. R.	Chadron	Dams	Irrig.	.57	31	35	48	Dawes	Oct.	17	1904		771
Rush Creek	Braddock, H. T.	Chadron	Braddock Ditch	Irrig.	3.00	10	34	49	Dawes	May	4	1903		706
Rush Creek	Braddock, H .T.	Chadron	Braddock Ditch Ex.	Irrig.	1.57	11	34	49	Dawes	May	31	1906		825

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-D (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Sand Cr. trib., to Cottonw'd	Metz, Scott & Greenwood, A. G.	Crawford	Bendex Ditch	Irrig.	.57	35	33	53	Sioux	Nov.	19	1895		189
Sand Cr. trib., to Cottonw'd	Carlson & Rasmussen	Crawford	C. & R. Sand Cr. D.	Irrig.	30.00	32	33	52	Dawes	April	12	1904		767
Sand Cr. trib., to Cottonw'd	Arner, J. & H.	Crawford	Arner Ditch	Irrig.	2.57	26	33	53	Sioux	Jan.	12	1905		779
Sand Cr. trib., to Cottonw'd	Rasmussen, K.	Whitney	Rasmussen Ditch	Irrig.	17.00	3	32	52	Dawes	Jan.	8	1906		811
Sand Cr. trib., to Cottonw'd	Dunn, John T.	Crawford	Syndicate Ditch	Irrig.	27.42	32	33	52	Dawes	April	2	1912		1190
Sand Cr. trib., to Cottonw'd	Jordon, M. D.	Adelia	Jordon Ditch	Irrig	.50	31	33	53	Sioux	April	2	1900		551
Saw Log, East	Stewart, H. C.	Crawford	Little San Log Ditch	Irrig.	.71	12	30	52	Dawes	Jan.	23	1907		849
Saw Log, East	Stephenson Chas.	Crawford	Stephenson Ditch	Irrig.	1.14	25	31	52	Dawes	March	5	1907		852
Saw Log, East	Baker, A. D.	Crawford	Baker Ditches	Irrig.	.29	5	30	51	Dawes	Jan.	3	1908		884
Saw Log, East	Van Treek, P. H.	Crawford	Van Treek Can & Pds	Irrig.	.37	4	30	51	Dawes	May	8	1911		1098
Sheridan Creek	Getchell, G. C.	Pine Ridge	Getchell Ditch	Irrig.	.07	27	34	45	Sheridan	Aug.	1	1894	418	
Soldier Creek	Rodgers, J. J.	Crawford	Rodgers Ditch	Irrig.	.14	5	31	53	Sioux	April	30	1883	546	
Spring Br., trib to White Riv.	Tucker, J. S.	Glen	Tucker Ditch	Irrig.	.17	34	31	54	Sioux	June	1	1883	557	
Spring Creek	Swinbank, Sam, et al	Crawford	Moszeter Ditch	Irrig.		13	32	52	Dawes				1014*	
Spring Creek	Forbes, J. D.	Crawford	Forbes Ditch No. 1	Irrig.	.57	20	32	52	Dawes	April	28	1902		663
Spring Creek	Swinbank, Sam'l	Crawford	Swinbank Res.	Stor.	2.00	13	32	52	Dawes	March	3	1914		1358
Spring Cr., trib to Little Cottonwood	Pinney, B. G.	Crawford	Spring Cr. Ditch	Irrig.	.86	13	32	52	Dawes	May	10	1894	466	
Spring Cr., trib to Little Cottonwood	Lawrence, Thos. E.	Crawford	Spring Cr. Ditch No. 1	Irrig.	2.00	7	32	51	Dawes	Dec.	1	1894	473	
Spring Cr., trib to D. Horse Creek	Lawrence, Thos. E.	Crawford	Spring Cr. Ditch No. 2	Irrig.	5.00	13	32	52	Dawes	April	7	1905		788

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Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
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Spring Cr., trib. to Little Cottonwood	Goff, T. L.	Chadron	Goff Ditch	Irrig.	.14	30	32	49	Dawes	April	2	1891	441	
Squaw Creek	Daniels & Stetson	Crawford	Daniels & Steson Dit.	Irrig.	.29	19	31	51	Dawes	June	17	1895		27
Squaw Creek	Hall, Leroy & F. L.	Crawford	Cooper Ditch	Irrig.	2.29	36	32	52	Dawes	May	8	1896		333
Squaw Creek	McDowell E. C.	Crawford	Squaw Creek	Stor.	3.00	12	31	52	Dawes	Oct.	3	1911		1132
Trunk Butte Cr	Smock, M.	Whitney	Smock's Ditch	Irrig.	.07	26	32	50	Dawes	June	28	1895	465	
White Clay Cr.	Tandy, A. N.	Crawford	McFarland Ditch	Irrig.	1.64	35	32	52	Dawes	May	18	1891	960	
White Clay Cr.	Hazleton, Wm. S.	Crawford	Hazleton Ditch	Irrig.	1.14	13	31	52	Dawes	May	15	1894	475	
White Clay Cr.	White River Irr. Co.	Crawford	White River Ditch	Irrig.	8.71	35	32	52	Dawes	Dec.	31	1894	477	
White Clay Cr.	Hall, LeRoy & F. L.	Crawford	Cooper Ditch	Irrig.	3.71	2	31	52	Dawes	June	22	1895		42
White Clay Cr.	Brockway, D. L.	Red Oak, Ia.	Brockway Ditch	Irrig.	.71	36	31	52	Dawes	Feb.	27	1896		256
White Clay Cr.	Pine Ridge Ind. Ag.	Pine Ridge I Ag S. D.	Pine Ridge Irr. Ditch	Irrig.					Sheridan				419*	
White Clay Cr.	Adams, Geo. M.	Crawford	Rincker Ditch	Irrig.	.57	11	31	52	Dawes	June	8	1901		618
White Clay Cr.	Hutzel, John C.	Rushville	Hutzel Ditch	Irrig.	.57	13	31	52	Dawes	April	30	1903		704
White Clay Cr.	Brooks, J. N.	Rushville	Brook's Ditch	Irrig.	.42	36	35	45	Sheridan	Aug.	2	1911		1120
White Clay Cr.	Townsend, Charles	White Clay	Townsend Ditch	Irrig.	.80	25	25	45	Sheridan	Jan.	21	1911		1054
White Clay Cr.	Handschugel, Eva U.	Crawford	Handschlegel's Lake	Stor.	1.3	11	31	52	Dawes	Dec.	17	1915		1441
White Clay, E. Br.	Stewart, H. E.	Crawford	Little San Log Ditch	Irrig.	.71	12	30	52	Dawes	Jan.	23	1907		849
White Clay and Squaw Creek	White River Irr. Co.	Crawford	White River Irr.	Irrig.	8.00	36	32	52	Dawes	March	3	1902		655
White River	Jacobson, M.	Glen	Jacobson Ditch	Irrig.	.14	32	31	53	Sioux	Oct.	1	1882	561	
White River	Hall, LeRoy	Crawford	Hall's Ditch 1 & 2	Irrig.	24.83	34	32	52	Dawes	Sept.	10	1885	478a	
White River	Diedrickson, N.	Glen	Dedrickson Ditch	Irrig.	.21	1	30	54	Sioux	Sept.	1	1890	562	
White River	Harris & Cooper Irr. As.	Crawford	Harris & Cooper Dit.	Irrig.	16.78	25	32	52	Dawes	March	9	1894		
White River	Harris & Cooper Irr. As.	Crawford	Harris & Cooper Dit.	Irrig.	1.57	25	32	52	Dawes	June	15	1894	464	
White River	Harris & Cooper Irr. As.	Crawford	Harris & Cooper Dit.	Irrig.	.28	25	32	52	Dawes	Oct.	31	1894		
White River	Estate of Chas. Rasher	Crawford	Rasher Ditch	Irrig.	1.14	19	32	51	Dawes	June	20	1894	467	

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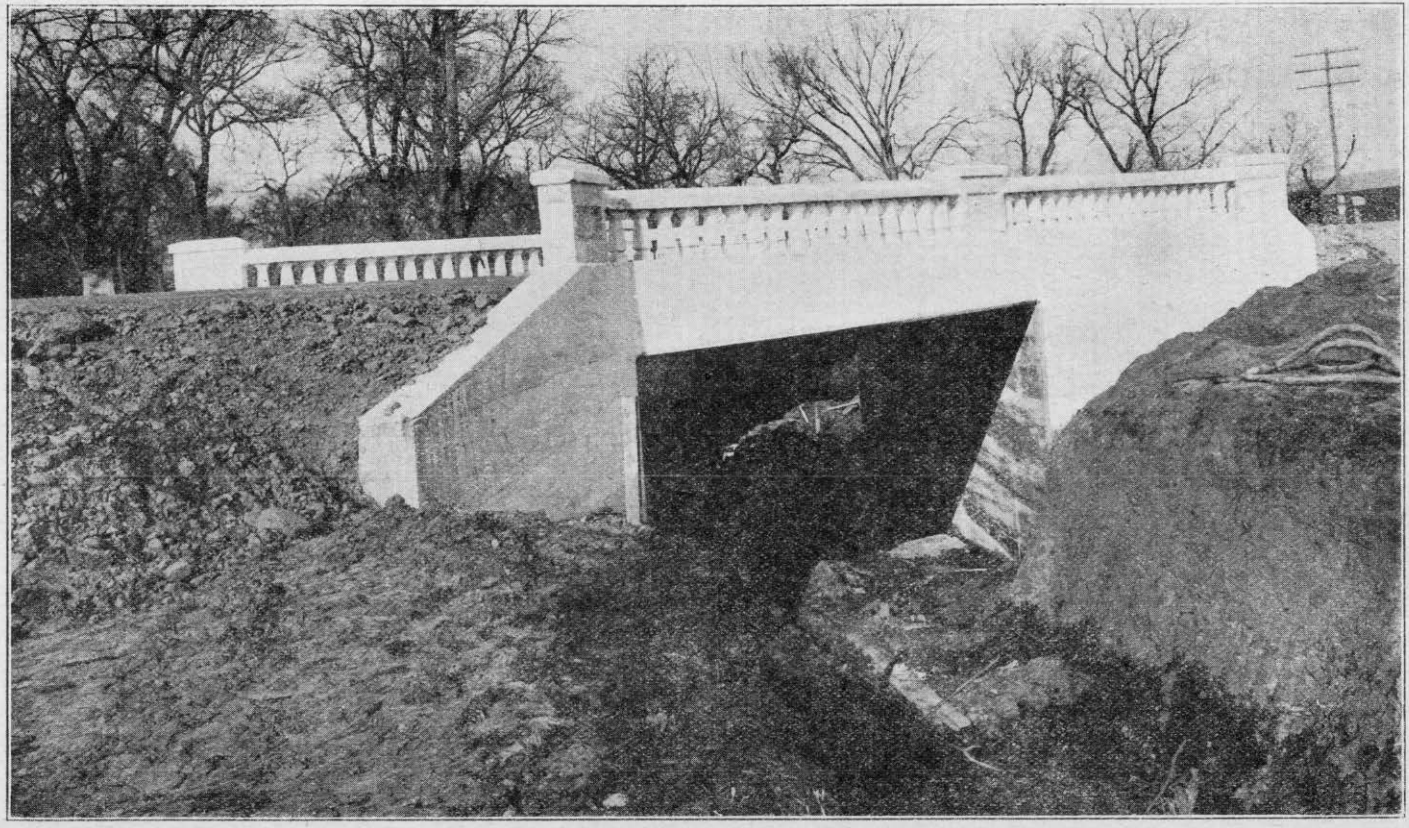
						S	T	R	County	Month	D	Yr.		
White River	Welling, Estate of N.	Crawford	Welling Ditch	Irrig.	.57	17	32	51	Dawes	July	13	1894	469	
White River	Carpenter, E. J. & Co.	Whitney	Carpenter Ditch	Irrig.	2.86	1	32	51	Dawes	Dec.	2	1894	487	
White River	White River Irr. Co.	Crawford	White Riv. Ir. Co. D.	Irrig.	8.71	35	32	52	Dawes	Dec.	31	1894	477	
White River	Hall, LeRoy	Crawford	Hall's Mill	Power	26.4	34	32	52	Dawes	Jan.	10	1895	478b	
White River	City of Crawford	Crawford	Crawford Water Sys.	City		32	32	52	Dawes				1026*	
White River	C., B. & Q. R. R. Co.	Lincoln	C., B. & Q. line at Crawford	I.D.&P.	0.8	3	31	52	Dawes	Sept.	14	1889	1030	
White River	Mecham, S. R., et al.	Whitney	Mecham Ditch	Irrig.	2.86	17	32	51	Dawes	June	27	1895		500
White River (Seepage)	Mason, J. F.	Glen	Mason's Ditch	Irrig.	.14	32	31	53	Sioux	May	12	1896		337
White River	Coffee, C. F.	Chadron	Lewis Ditch	Irrig.	.14	27	31	55	Sioux	May	19	1896		340
White River	Bartlett, A. M.	Chadron	Jones Ditch	Irrig.	.71	18	34	48	Dawes	May	21	1897		391
White River	Schwabe, Lena	Chadron	Schwabe Ditch	Irrig.	1.14	25	34	49	Dawes	June	24	1897		394
White River	Wilkinson, Thos.	Crawford	Wilkinson Ditch	Irrig.	.71	24	32	52	Dawes	Nov.	18	1897		421
White River	Wright, Frank	Whitney	Sandy Stewart Ditch	Irrig.	.94	10	32	52	Dawes	Jan.	8	1898		427
White River	Forbes, Jeanette, et al.	Crawford	Rasher Ditch	Irrig.	.50	19	32	51	Dawes	May	23	1898		456
White River	Zurn, Adam	Crawford	Zurn & Schmelzleh D.	Irrig.	1.00	19	32	51	Dawes	Oct.	13	1898		475
White River	Shaefer, Geo., et al.	Whitney	Schaeffer & Blust D.	Irrig.	3.00	2	32	51	Dawes	Dec.	18	1899		525
White River	Rasher, Frank	Crawford	Rasher Ditch	Irrig.	1.43	19	32	51	Dawes	Jan.	16	1900		534
White River	Carlson, John	Whitney	Carlson Ditch	Irrig.	1.43	6	32	50	Dawes	Nov.	26	1900		588
White River	Village of Crawford	Crawford	Crawford Pump Sta.	Power	18.00	3	31	52	Dawes	March	30	1903		702**
White River	Minnie L. & Scott De-Forest Hebbert	Chadron	Hebbert Irr. Ditch	Irrig.	.29	34	33	50	Dawes	May	11	1903		707
White River	Nance & Simmons Irr. Co.	Whitney	Simmons & Harris Irr Co. Ditch	Irrig.	1.00	16	32	51	Dawes	Oct.	26	1903		730
White River	Peterson, Chas. R.	Crawford	Ex. to C. Rasher Dit.	Irrig.	1.29	20	32	51	Dawes	Feb.	5	1904		740
White River	Schwabe, August	Chadron	Schwabe Ditch	Irrig.	.57	24	34	49	Dawes	June	13	1904		758
White River	Schwabe, August	Chadron	Schwabe Power Plt.	Power	5.00	24	34	49	Dawes	June	13	1904		759**
White River	Wright Bros.	Whitney	Wright's Ditch	Irrig.	4.00	16	32	51	Dawes	Dec.	5	1904		775
White River	Schwabe, August	Chadron	Schwabe Ditch	Irrig.	.29	24	34	49	Dawes	March	19	1906		815
White River	Roby, I. M.	Crawford	Roby Ditch	Irrig.	.33	3	31	52	Dawes	Sept.	13	1906		838
White River	Stephenson, Ira J.	Crawford	Stephenson Pow. Plt.	Power	15.00	34	31	53	Sioux	March	15	1907		854
White River	White River Irr. Co.	Crawford	White Riv. Irr. Co.'s S. Br.	Irrig.	1.43	25	32	52	Dawes	March	11	1909		936
White River	Schwabe, August	Chadron	Schwabe Canal	Irrig.	3.43	31	34	48	Dawes	July	23	1908		908

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-D (Concluded)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D.	Yr.		
White River	Jenson, J. L.	Whitney	Jenson Irr. Plant	Irrig.	1.14	26	33	50	Dawes	June	27	1911		1110
White River	Pinney, B. G. & Denslon, J. H.	Crawford	Pinney & Denslon Res 1, 2 and 3	I. & S.	20.00	26	32	52	Dawes	Aug.	10	1911		1122
White River	Forbes, Wm. T.	Crawford	Forbes Extension	Irrig.	.85	19	32	51	Dawes	Sept.	26	1911		1128
White River	Minnie L. & Scott De-Forest Hebbert	Chadron	Hebbert Ditch	Irrig.	.71	34	33	50	Dawes	March	10	1914		1360
Canyons trib to White River	Martens, Wm.	Chadron	Marten's Ditch	Irrig.	.29	14	34	48	Dawes	Dec.	26	1902		696
Canyons trib to White River	C. W. Jones	Crawford	Jones Ditch	Irrig.	.29	9	31	51	Dawes	May	20	1907		860
Wilkinson Lake	Naylor, Chas.	Chadron		Drain		16	26	45	Dawes	Oct.	20	1917		1504*



Nebraska Standard 20-Ton Bridge

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-E

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Antelope Cr.	Turner, Est. of Geo. H.	Harrison	Turner Ditch	Irrig.	.86	26	34	57	Sioux	Oct.	31	1894	537	
Antelope Cr.	Seaman S. R.	Warren, Wy.	Ellis Ditch	Irrig.	.29	9	33	57	Sioux	May	17	1896		338
Antelope Cr.	Gayhart, M. J.	Montrose	Gayhart Ditch	Irrig.	2.43	16	34	55	Sioux	June	18	1904		760
Antelope Cr, N. Br.	Story, S. R.	Story	Story's Ditch	Irrig.	2.00	8	34	56	Sioux	Nov.	11	1895		168
Boggy Creek	Holly, Thos.	Crawford		Irrig.	.11	30	33	54	Sioux	Dec.	31	1888	956	
Boggy Creek	Smith, J. W.	Harrison	Smith's Ditch	Irrig.	.28	31	33	54	Sioux	May	1	1892	526	
Boggy Creek	Readinger, H. Y.	Harrison	Wickersham Ditch	Irrig.	3.00	31	33	54	Sioux	Feb.	28	1903		701
Boggy Cr, Mid. Br.	Bannon, J. F.	Harrison	Bannon's Ditch	Irrig.	.06	7	32	54	Sioux	July	1	1886	560	
Boggy Cr, Mid. Br.	Marten, Wm.	Harrison	Martin's Ditch	Irrig.	.36	18	32	54	Sioux	May	19	1896		342
Boggy Cr, Mid. Br.	Hill, Albert F.	Harrison	Hill Irr. Ditch	Irrig.	.86	11	32	55	Sioux	Jan.	20	1908		886
Cedar Creek	Knori, Samuel	Harrison	Schelt's Creek Ditch	Irrig.	.57	35	33	56	Sioux	May	15	1885	507	
Cedar Creek	Valdez, M.	Harrison	Valdez Ditch	Irrig.	.50	10	32	56	Sioux	April	5	1886	976	
Cedar Creek	Plunkett, John	Harrison		Irrig.		4	32	56	Sioux				985*	
Cherry Creek	Ruffing, M.	Harrison	Cherry Creek Ditch	Irrig.	.03	29	33	54	Sioux	May	1	1893	549	
Dry Gulches	Childs, Roy C.	Story	R. C. Child's Ditch	Irrig.	.57	28	34	56	Sioux	Aug.	14	1914		1376
Hat Creek	Thayer, John A.	Harrison	W. Hat Creek Ditch	Irrig.	.43	16	32	55	Sioux	June	1	1880	553a	
Hat Creek	Coffee, Chas. F.	Harrison	C. F. Coffee Ditch	Irrig.	4.29	26	33	55	Sioux	Sept.	1	1881	512	
Hat Creek	Thayer, John A.	Harrison	W. Hat Ditch	Irrig.	.57	16	32	55	Sioux	May	31	1886	553	
Hat Creek	Coffee, J. T., et al	Harrison	Miller Ditch	Irrig.	.37	23	33	55	Sioux	May	19	1896		341
Hat Creek	Haas, Peter	Harrison	Haas Ditch	Irrig.	.08	2	33	55	Sioux	May	8	1899		510
Hat Creek	Lyon, E. B.	Harrison	Antrim's Ditch	Irrig.	.57	3	32	55	Sioux	Dec.	24	1900		594
Hat Creek	Lyon, E. B.	Harrison	Antrim's Dam	Irrig.	.57	3	32	55	Sioux	Aug.	20	1906		834
Hat Creek	Coffee, Jno. T.	Harrison	Coffee & Son Fld.W.D.	Irrig.	6.00	14	33	55	Sioux	Oct.	22	1912		1236
Hat Creek	Zerbe, Harry T.	Harrison	Zerbe Reservoir	Stor	2.00	35	33	55	Sioux	March	25	1915		1407
Canyon, trib to Hat Creek	Konrath Jas.	Montrose	Konrath Ditch	Irrig.	1.43	17	34	54	Sioux	Dec.	28	1905		808

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-E (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Draw, trib to Indian Cr.	Meier, Aug.	Ardmore, S. D.	Meier Dam	rig.	2.00	24	35	55	Sioux	Nov.	5	1900		585
Draw, trib to Indian Cr.	Hibbeln, Jno.	Ardmore, S. D.	Hibbeln Ditch	Irrig.	2.00	24	35	56	Sioux	Oct.	4	1907		872
Jim Creek	Dout, L.	Harrison	Dout Bros. Ditch	Irrig.	.86	7	33	56	Sioux	May	15	1889	981	
Jim Creek	Anderson, Nels	Harrison	Jim Creek Ditch	Irrig.	.43	8	33	56	Sioux	Dec.	15	1890	502	
Jim Creek	Slattery, Wm.	Harrison	Slattery Ditch	Irrig.	.29	13	33	57	Sioux	May	31	1891	543	
Jim Creek	Hunter, H. C.	Adella	Hunter Ditch	Irrig.	.03	26	33	54	Sioux	May	12	1898		451
Jim Cr., E. Fk.	Wassenberger, J.	Montrose	Wassenberger Ditch	Irrig.	2.29	29	34	54	Sioux	Oct.	13	1900		581
Little Red Cr.	Zerbst, R.	Harrison	Zerbst Ditch	Irrig.	.14	25	33	56	Sioux	May	1	1893	551	
Lickett Cr.	Coffee, S. B.	Chadron	Lickett Ditch	Irrig.		27	33	54	Sioux				1005*	
Lickett Cr.	Coffee, S. B. Est.	Chadron	Lickett Ditch	Irrig.	1.43	27	33	54	Sioux	March	21	1900		549
Long Branch	O'Connell, Dennis	Ardmore, S. D.	O'Connell Ditch	Irrig.	.20	22	35	54	Sioux	Nov.	10	1900		587
Long Branch	Ebert, L. J.	Ardmore, S. D.	Elert Ditch	Irrig.	.14	19	35	53	Sioux	Aug.	22	1901		637
Monroe Cr.	Knorl, Samuel	Harrison	Big Monroe Cr. Ditch	Irrig.	1.43	33	33	56	Sioux	May	1	1888	506	
Monroe Cr.	Knorl, Samuel	Harrison	Schilt's Monroe Ditch	Irrig.	.50	27	33	56	Sioux	July	2	1888	509	
Monroe Cr.	Noreisch, Wm.	Harrison	Noreisch's Ditch	Irrig.	.04	33	33	56	Sioux	July	19	1895		53
Monroe Cr.	Jordan, C.	Montrose	Neil Jordan Ditch	Irrig.	2.20	13	33	56	Sioux	Nov.	12	1906		841
Monroe Cr.	Jordan, C.	Montrose	Cornelius Jordan Dit.	Irrig.	2.00	13	33	56	Sioux	July	30	1914		1375
Monroe Cr.	Jordan, Richard	Harrison	Wooden Shoe	Stor	5.00	22	33	56	Sioux	Aug.	24	1914		1377
Monroe Cr.	Jordan, Cornelius	Montrose	Neal Jordan, Ext. to No. 841	Irrig.	4.00	13	33	56	Sioux	Jan.	14	1915		1399
Res. under app. 1399, Monroe Creek	Jordan, Cornelius	Montrose	Kite Ditch	Irrig.	2.2	13	33	56	Sioux	Jan.	14	1915		1469
Res. Under App. 1339, Monroe Creek	Jordan, Cornelius	Montrose	Sup to Cornelius Jordan Dit, Ap. 1375	Stor	1.4	13	33	56	Sioux	Dec.	26	1916		1470
Prairie Dog Cr.	Knorl, Samuel	Harrison	Schilt's P. Dog Dit.	Irrig.	1.14	35	33	56	Sioux	May	31	1886	508	

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-E (Continued)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Sou Belly Cr.	Schaefer, W. J.	Harrison	Old Sou Belly Ditch	Irrig.	3.00	7	32	55	Sioux	June	1	1887	533	
Sou Belly Cr.	Montgomery, Sarah	Harrison	Montgomery Ditch	Irrig.	1.00	21	33	55	Sioux	Dec.	1	1890	559	
Sou Belly Cr.	Jordan, Sarah	Harrison	Jordan Ditch	Irrig.	.43	21	33	55	Sioux	June	1	1895	556	
Sou Belly Cr.	Nutto, F.	Harrison	Uuttos Ditch	Irrig.	.43	24	32	56	Sioux	Sept.	4	1897		404
Sou Belly Cr.	Jordan, Sarah	Harrison	Jordan Ditch	Irrig.	.50	21	33	55	Sioux	May	11	1896		424
Sou Belly Cr.	Carroll, M. J.	Harrison	Carroll Ditch	Irrig.	.14	7	32	55	Sioux	July	12	1899		516
Sou Belly Cr.	Zimmerman, W. H.	Harrison	Zimmerman Ditch	Irrig.	.17	34	33	55	Sioux	Jan.	11	1900		532
Sou Belly Cr.	Jordan, S.	Harrison	Jordan Ditch	Irrig.	.14	21	33	55	Sioux	May	26	1902		668
Sou Belly Cr.	Barnes, Paul T.	Harrison	Barnes Res.	Stor.	10.00	19	32	55	Sioux	March	24	1913		1268
Sou Belly Cr.	O'Connell, M. J.	Montrose	O'Connell Canal	Irrig.	10.00	9	33	55	Sioux	May	5	1913		1288
Sprg Cr. trib to Sou Belly Cr.	Hall, W. S. & F. M.	Harrison	Hall's Spring Cr. Dit.	Irrig.	.57	6	32	55	Sioux	March	26	1889	550	
Sprg Cr. trib to Sou Belly Cr.	Schaefer, N. J.	Harrison	Spring Creek Ditch	Irrig.	.29	7	32	55	Sioux	June	1	1893	532	
Spring Br., trib to S. Warbonnet Cr.	Blehle, Chas.	Harrison	Belhle Ditch	Irrig.	.23	32	33	56	Sioux	April	1	1891	538	
Spring Br., trib to S. Warbonnet Cr.	Garton, O. A.	Harrison	Garton Ditch	Irrig.	1.43	31	33	56	Sioux	Oct.	16	1893	503	
Spring Br., trib to N Warbonnet Cr.	Kay, J. L.	Harrison	Kay's Ditch	Irrig.	.14	26	33	57	Sioux	May	1	1887	958	
Spring Br., trib to Warbonnet Creek	Easley, Jas. H.	Harrison	Nolan Ditch No. 1	Irrig.	0.01	23	33	57	Sioux	March	15	1887	957	
Spring Br., trib to Warbonnet Creek	Easley, Jas. H.	Harrison	Nolan Ditch No. 2	Irrig.	0.29	23	33	57	Sioux	May	1	1888	959	
Squaw Creek	Dunn, Thos.	Harrison	Dunn's Ditch	Irrig.	0.36	15	33	57	Sioux	June	1	1890	552	
Squaw Creek	Hamlin, N. D.	Harrison	Hamlin's Ditch	Irrig.	0.01	10	33	57	Sioux	April	1	1891	555	
Squaw Creek	Dunn, Thos.	Harrison	Thos. Dunn D. & Res.	Irrig.	0.57	10	33	57	Sioux	Aug.	5	1895		100

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-E (Concluded)

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Squaw Creek	Dunn, P. D.	Harrison	Phillip Dunn's Ditch	Irrig.	.19	3	33	57	Sioux	Jan.	22	1897		376
Squaw Cr., W. Br.	Thomas, S. M.	Harrison	Thomas Ditch	Irrig.	.50	10	33	57	Sioux	July	23	1901		627
Str., no name, trib to Jim Cr	Coffee, S. D.	Harrison	Homestead Ditch	Irrig.	.22	22	33	54	Sioux	May	31	1890	984	
Warbonnet Cr.	Anderson, Jno. A.	Harrison	Warbonnet Ditch	Irrig.	3.63	21	33	56	Sioux	July	31	1880	548	
Warbonnet Cr.	Anderson, J. A.	Harrison	Warbonnet Dit. No. 2	Irrig.	1.43	20	33	56	Sioux	March	11	1908		892
Warbonnet Cr., N. Br., S. B.	Anderson, J. A.	Harrison	Daut Ditch	Irrig.	.71	30	33	56	Sioux	May	31	1889	539a	
Warbonnet Cr., N. Br., S. B.	Anderson, J. A.	Adelia		Irrig.	.29	30	33	56	Sioux	Dec.	31	1891	539b	
Warbonnet Cr., Br.	Zerbst, Carl F.	Harrison	Zerbst Ditch No. 1	Irrig.	.03	26	33	57	Sioux	March	6	1915		1405
Warbonnet Cr., Br.	Zerbst, Carl F.	Harrison	Zerbst Ditch No. 2	Irrig.	.17	25	33	57	Sioux	March	6	1915		1404
Whitehead Cr.	Harrison, R.	Adelia	Harrison Ditch	Irrig.	.06	13	33	54	Sioux	May	30	1888	547	

CLAIMS AND APPLICATIONS BY STREAMS IN DIVISION 2-F

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Bazile Creek	Packard, J. L.	Creighton	Creighton Mill Race	Power		21	29	5	Knox				1002*	
Bazile Creek	Moss, O. H., and Buckler, Fred	Battle Creek	Creighton Mills	Power	30.00	21	29	5	Knox	Sept.	24	1908		914
Mud Creek	Horan, T. W.	Fort Crook	Horan Canal	Irrig.	0.37	34	14	13e	Sarpy	Aug.	12	1909		958
Tekamah Creek	Glasson, Joseph	Tekamah	Tekamah Roller Mills	Power	10.	19	21	11e	Burt	Sept.	17	1906		839
Tekamah Creek	Glasson, Joseph	Tekamah	Tekamah Roller Mills	Ice	1.	19	21	11e	Burt	Jan.	21	1908		887

APPLICATIONS APPROVED NOV. 1, 1916 TO OCT. 1, 1918

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Indian Creek	Brown, K. G.	Angora	Indian Creek Canal	Irrig.	.54	16	21	50	Morrill	June	13	1916		1456
Minnechaduza Creek	Cornell, Chas. H.	Valentine	Minnechaduza	Irrig.	14.3	29	34	27	Cherry	July	5	1916		1459
South Loup Riv	Brittan, Fred	Arnold	Brittan Elec. Co.	Power	131.00	25	17	25	Custer	July	19	1916		1460
Blue River	Blue River Power Co.	Seward	Electric Power Plant	Power	100.00	32	9	4	Seward	Aug.	14	1916		1463
Lit. Blue Riv.	Meyer-Hydro Elec P. Co.	Oak	Meyer Hydro E P Co. (Inc.)	Power	150.00	16	3	5	Nuckolls	July	27	1916		1467
Winter Cr. trib to N. Platte	Shields, Thos.; Barbour, W. M.	Scottsbluff	Winters Creek Canal	Power	100.00	8	22	54	Scottsbl'ff	Dec.	22	1916		1468
Res. under Ap. No 1399, Monroe Creek	Jordan, Cornelius	Montrose	Kite Ditch	Irrig.	2.20	13	33	56	Sioux	Dec.	26	1916		1469
Res. under Ap. No 1399, Monroe Creek	Jordan, Cornelius	Montrose	Sup. to Cornelius ordan Ditch Ap. 1375.	Irrig.	1.45	13	33	56	Sioux	Dec.	26	1916		1470
South Platte	Brown, C. M.	Kearney	The Tail Race Ditch	Irrig.	1.28	3	8	16	Buffalo	Jan.	16	1917		1471
North Platte	Union Pac. R. R. Co	Omaha	Locomotive Water Supply	Power	100.00	29	14	30	Keith	Jan.	19	1917		1472
North Platte	O'Holloran, Jas.	Bayard	O'Halloran Ditch	Irrig.	1.07	28	21	52	Morrill	Dec.	6	1893		1473
Frenchman Riv.	Village of Imperial	Imperial	Municipal W & L Plt	Power	55.00	25	6	39	Chase	Feb.	17	1917		1474
Dry Draw	Glaze, Wm. A. (W. E. Heath, Agt.)	Col. Spgs.	Heath Reservoir	Irrig.	1.00	12	32	53	Sioux	Feb.	7	1917		1475
Blue Riv., Big.	Blue River Power Co.	Seward	Power Plant No. 5	Power	100.00	11	8	3	Seward	Feb.	13	1917		1476
Blue River	Blue River Power Co.	Seward	Power Plant No. 6.	Power	100.00	26	9	3e	Seward	Feb.	13	1917		1477
Lodge Pole Cr.	Bentley, Bertha M.	Sidney	Bentley Ditch	Res.	1.00	34	14	50	Cheyenne	Feb.	14	1917		1478
Blue River	Blue River Power Co.	Seward	Blue River Power Co.	Power	70.00	15	10	3	Seward	Feb.	20	1917		1479

APPLICATIONS APPROVED NOV. 1, 1916 TO OCT. 1, 1918

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Beaver Creek, (Sup. A. 639	Albion Elec. Light Co.	Albion	Albion Elec. L't Co.	Power	70.00	26	20	6	Boone	Feb.	20	1917		1480
Dry Canon	Betson, Wm. A.	Crawford	Betson Ditch	Irrig.	1.00	33	32	51	Dawes	March	22	1917		1481
Spring Creek	Rogers, Amos; Rogers, Mary J.	Benkelman	Rogers Ditch	Irrig.	2.01	19	1	57	Dundy	March	23	1917		1482
Lodge Pole Cr.	Sudman, Mrs. Minnie	Chappell	Sudman Ditch	Irrig.	0.78	22	13	45	Deuel	April	5	1917		1483
Stinky Water	Krotter, F. C.	Palisade	Palisade Power Plant.	Power	72.00	25	5	34	Hitchcock	April	21	1917		1484
Stinky Water	Krotter, F. C.	Palisade	Palisade Reservoir	Irrig.	150.00	25	5	34	Hitchcock	April	21	1917		1485
Lit. Blue Riv.	Bozarth & Carter, T. H.	Hebron	Hebron L. & P. Co.	Power	150.00	9	2	2	Thayer	April	25	1917		1486
Frenchman Riv.	Shallenberger, O. P.	Imperial	Lake Imperial	Stor.	4.57	25	6	39	Chase	May	14	1917		1487
Niobrara River.	U. S. Forest Service	Nenzel	Morton Nursery Irr. D	Irrig.	.50	30	33	32	Cherry	June	15	1917		1488
Spring Creek	Keplinger, Ralph B.	Valentine	Spring Creek Ditch	Irrig.	.05	20	34	27	Cherry	July	14	1917		1489
Cook Creek	Haskell, W. G.	Alma	Cook Creek Canal	Irrig.	1.42	33	2	18	Harlan	July	21	1917		1491
Lit. Spring Cr.	McClenahan, E.	Scottsbluff	McClenahan Ex. of Shramek Canal	Irrig.	.57	22	22	55	Scottsbl'ff	July	30	1917		1492
Blue River & School Cr.	Garbe, Albert F.	Grafton	Blue Riv. Park Dam.	Power	667.00	1	8	4	Fillmore	Aug.	4	1917		1494
Buffalo Creek	Savin, Richard T.	Lexington	Savins Ditch	Irrig.	2.28	22	10	21	Dawson	Aug.	17	1917		1495
Wood River	Jacobsen, Carl A.	Riverdale		Irrig.	1.42	31	10	16	Buffalo	Aug.	29	1917		1497
North Platte	McCaffree, F. S.	Scottsbluff	Tri-City Power Sys.	Power	500.00	3	23	58	Scottsbl'ff	Oct.	5	1917		1499
Spring	Yorick, Nichols	Henry	State Line Ditch	Irrig.	.21	33	24	58	Scottsbl'ff	Oct.	8	1917		1500
Bronco Lake	McCorkle, N. A.	Alliance	Bronco Lake Ditch	Irrig.	10.28	6	24	48	Box Butte	Oct.	8	1917		1501

APPLICATIONS APPROVED NOV. 1, 1916 TO OCT. 1, 1918

Source	Name of Claimant	Postoffice Address	Name of Ditch	Use to which applied	Second feet granted	Location of Headgate				Date of Priority			Docket No.	App. No.
						S	T	R	County	Month	D	Yr.		
Carlson Draw	Guse, Wm.	Whitney	Guse Reservoir	Stor.	5.00	13	33	52	Dawes	Oct.	23	1917		1505
Big Blue Riv.	Babson, H. B.	Chicago	Shestak Power Plant	Power	200.00	35	7	4	Saline	Feb.	6	1918		1506
Pumpkin Cr.	Green, Thos. L.	Scottsbluff	Airdale Canal No. 3	Irrig.	4.11	2	19	55w	Banner	March	15	1918		1508
Dry Creek	Story, Oscar W.	Story	Story Ditch	Irrig.	5.71	9	34	56	Sioux	March	26	1918		1509
Rock Creek	Dugger, Andrew N.	Bassett	Dugger Irr. Canal	Irrig.	15.00	33	32	18	Rock	May	28	1918		1514
Lit. Spring Cr.	Nelson, Martin	Scottsbluff	Ex. Shramek Canal	Irrig.	.14	22	22	55	Scottsbluff	June	3	1918		1515
Oak Creek	Central Realty & Inv. Co.	Lincoln	Capital Beach	Power	50.00	16	10	6	Lancaster	June	5	1918		1516
Cook Creek	Shaffer, Frank	Alma		Irrig.	.108	33	25	18	Harlan	July	10	1918		1517
Oak Creek	Hatt, Hans N.	Dannebrog	Oak Cr. Ir. Plt No. 1	Irrig.	.57	2	13	11	Howard	July	12	1918		1518
Bordeaux Cr.	Naylor, Welcome W.	Chadron	Naylor Ditch	Irrig.	.42	36	33	48	Dawes	July	22	1918		1519
Big Blue, West Fork	Blue River Power Co.	Seward	Blue R. P. Plt No. 2	Power	100.00	32	9	3	Seward	Aug.	21	1918		1520
Big Blue, West Fork	Blue River Power Co.	Seward	Blue R. P. Plt No. 3	Power	100.00	5	8	4	Seward	Aug.	21	1918		1521
Cook Creek	Shaffer, Frank	Alma		Irrig.	.108	33	2	18	Harlan	Aug.	24	1918		1522
Unused water f'm wasteway of Solomon & Crews Ditch	Watcher, Geo.	Culbertson		Irrig.	.70	17	3	31	Hitchcock	Sept.	24	1918		1523
Spring Cr., trib Loup River	Carstenson, Lawrence P.	Columbus	Carstenson's Lake	Irrig.	1.92	23	17	1	Platte	Sept.	5	1918		1524
Sheep Creek	Utter, Lewis E.	Morrill	Last Camp Res.	Stor.	11.4	36	27	58	Scottsbl'ff	Sept.	9	1918		1525

RELOCATION

In the following Appropriations, the Locations of Headgate has been changed

No.	Stream	Name of Canal	NEW LOCATION			
			S	T	R	County
D. 461	Niobrara River	Enterprise	27	29	50	Dawes
A. 850	Lodge Pole Creek	Ralton	12	12	45	Deuel
A. 1398 A. 1176 A. 1403	Seepage Water Sheep Creek	Sheep Creek Lateral	8	23	57	Scotts Bluff
A. 1110	White River	Jansen Irrigation Plant	26	33	50	Dawes
D. 697a D. 697b	Lonergan Creek	Sochl's Canal	17	15	39	Keith
D. 725	Sand Creek	Patrick Ditch	10	15	40	Keith
A. 1295	Little Spring Creek	Shramek Canal	22	22	55	Scotts Bluff
D. 858	North Platte River	Empire Canal Co.	18	20	51	Morrill
D. 710	North Platte River	Sheridan Ditch	19	14	35	Keith
A. 768	North Platte River, Pathfinder Res.	Fort Laramie Canal of North Platte Project	11	26	25	
D. 801	North Platte River	Spehn Ditch	13	17	45	Garden

APPLICATIONS AND DOCKETS DISMISSED, NOV. 1, 1916 TO OCT. 1, 1918

STREAM	NAME OF APPLICANT	LOCATION OF HEADGATE				Docket No.	App. No.
		S	T	R	County		
Little Blue River	Meyer Hydro Electric Power	16	3	15	Nuckolls	1045	.....
Big Blue River	Jas. F. Johnson	15	10	3	Seward	.....	1464
Republican River	Lewis E. Crews	11	1	41	Dundy	.....	1466
Spring Creek	Will S. Shinn	20	34	27	Cherry	.....	1490
Seepage Water	Howard G. Leavitt	8	21	52	Scotts Bluff	.....	1498
North Platte	Chas. H. Dolson	33	18	46	Garden	.....	1510

APPLICATIONS AND DOCKETS CANCELLED, NOV. 1, 1916 TO OCT. 1, 1918

STREAM	NAME OF APPLICANT	LOCATION OF HEADGATE				Docket No.	App. No.
		S	T	R	County		
Sweeney Canon	J. A. Hornback	29	34	25	Cherry	414	.....
Niobrara	B. Richards	1	30	57	Sioux	554	.....
Cook Creek	W. A. Sharpnac	4	1	18	Harlan	.....	251
Wooden Springs Branch	F. J. Rhodes	25	35	20	Keya Paha	.....	512
Wooden Springs	F. J. Rhodes	25	35	20	Keya Paha	.....	544
Long Branch	Sol Borkey	23	35	54	Sioux	.....	557
Dry Creek	Conrad Fisher	24	23	17	Garfield	.....	807
North Platte River	Liebhardt Bros.	4	21	54	Morrill	.....	1165
Indian Creek	Sandford Stoneberg	11	2	37	Dundy	.....	1299
Long Pine Creek	L. E. Smith	8	30	20	Brown	.....	1391
Frenchman River	G. G. Athey	11	5	36	Chase	.....	1408
Boggy Creek, East Fork	Howard Wickersham	7	32	54	Sioux	.....	1413
Boggy Creek, West Fork	Howard Wickersham	7	32	54	Sioux	.....	1414
Beaver Creek	D. A. Willard	14	17	3	Nance	.....	1418
Big Blue River	Jas. F. Johnson	35	7	4e	Salinee	.....	1421
Indian Creek	K. G. Brown	16	21	50	Morrill	.....	1456
Sand Creek	Jas. Everson	35	33	53	Dawes	.....	1457
Minnechaduza Creek	Chas. H. Cornell	29	34	27	Cherry	.....	1459
Blue River	Blue River Power Co.	26	9	3e	Seward	.....	1477
Blue River	Blue River Power Co.	15	10	3	Seward	.....	1479
Spring Creek	Amos O. and Mary J. Rogers	19	1	57	Dundy	.....	1482
Woodriver	Carl A. Jacobsen	31	10	16	Buffalo	.....	1497
Spring	Yorick Nichols	33	24	58	Scotts Bluff	.....	1500
Blue Creek	Iowa Irrig. & Improvement Co.	7	16	42	Deuel	786	.....

PRIORITIES IN WATER DISTRICTS

The following tables give complete list of all claims and applications for water which have been granted by the State Board of Irrigation, Highways and Drainage and which have never been cancelled. In these tables the claims and applications have been arranged for each drainage area according to the date of priority for that particular drainage area.

PRIORITIES WATER DIVISION NO. 1-A

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	E	Month	D	Year
D 994	Wood River		Power	40.00	1	9	13	October	16	1873
D 993	Wood River		Power	100.00	13	9	14	November	1	1873
D 995	Wood River		Power	25.40	13	9	16	May	1	1881
D 1034a	Cedar Creek	Radcliffe Ditch	Irrig.	2.77	28	18	48	June	1	1882
D 1023	Platte River	Kearney Elec Power & Water Co.	I. & P.	125.00	3	8	16	September	10	1882
D 904	Pumpkinseed Creek	Wright Ditch No. 1	Irrig.	2.00	5	19	54	December	31	1882
D 658	White Horse Creek	Lamplough	Irrig.	2.86	8	14	30	December	31	1883
D 635	North Platte River	North Platte Canal	Irrig.	300.00	13	14	34	May	31	1884
D 1034b	Cedar Creek	Radcliffe Ditch	Irrig.	1.23	34	18	48	July	1	1885
D 915	Pumpkinseed Creek	Kelly Ditch	Irrig.	1.43	5	19	54	May	10	1886
D 825	Lawrence Fork		Irrig.	.51	28	18	52	December	31	1886
D 916	Pumpkinseed Creek	Heard's Ditch Nos. 1 and 2	Irrig.	1.29	14	19	54	June	1	1887
D 918	North Platte River	Farmer's Canal	Irrig.	1142.86	3	23	58	September	16	1887
D 905	Pumpkinseed Creek	Wright Ditch No. 2	Irrig.	2.86	5	19	54	December	31	1887
D 919	North Platte River	Minatare Canal	Irrig.	249.43	32	22	54	January	14	1888
D 748	Clear Creek	Clear Creek Ditch	Irrig.	2.86	32	16	41	July	1	1888
D 952	North Platte River	Winter Creek Canal	Irrig.	124.29	17	22	55	October	18	1888
A 1446	Winter Creek	Winter Creek Canal	Seep	70.00	19	22	54	October	18	1888
D 920	North Platte River	Enterprise Ditch	Irrig.	173.71	27	23	57	March	28	1889
A 1290	Akers Draw (Supple D. 920)	Nelson Draw Seep Ditch	Seep	10.00	12	23	57	March	28	1889
D 921	North Platte River	Castle Rock Ditch	Irrig.	82.57	4	21	54	April	18	1889
D 697a	Lonergan Creek	Soehl Canal	Irrig.	2.00	17	15	39	May	10	1889
D 698	Sand Creek	Holcombe & Smith	Irrig.	7.00	7	10	15	May	20	1889
D 699	Lonergan Creek	East Lonergan	Irrig.	9.14	17	15	39	May	25	1889
D 923	Winters Creek	Bouton's Ditch	Irrig.	1.00	3	22	54	August	17	1889
D 820	Lawrence Fork	Redington Ditch	Irrig.	.57	36	19	52	October	9	1889
D 821	North Platte River		Irrig.	5.71	19	20	50	October	17	1889
D 828	North Platte River	Belmont Canal	Irrig.	270.00	18	20	51	December	19	1889
D 830	Greenwood Creek	Coulter	Irrig.	4.00	15	18	50	February	3	1890
D 1034c	Cedar Creek	Radcliffe Ditch	Irrig.	.76	27	18	48	February	14	1890
D 763	Blue Creek	Union Irr. Co. & W. P. Canal	Irrig.	24.64	18	16	42	May	16	1890
D 765	Ash Creek	Vance Ditch	Irrig.	1.14	27	16	42	June	14	1890
D 704	Spring Creek, trib to White Tail Cr.	Spring Creek Ditch	Irrig.	1.57	19	15	37	June	21	1890
D 926	North Platte River	Central Ir. Can. & W. P. Canal	Irrig.	36.00	27	22	55	June	23	1890
D 836	Springs	Finn Bros. Ditch	Irrig.	.50	28	18	49	July	1	1890
D 645a	Platte River	Gothenburg Ir. & Power Co.	I. & P.	200.00	29	12	26	July	5	1890
D 749	White Tail Creek	McCarthy Ditch	Irrig.	1.00	36	15	36	July	15	1890
D 902	Pumpkinseed Creek	Logan Ditch	Irrig.	4.00	7	19	55	July	16	1890

PRIORITIES WATER DIVISION NO. 1-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 709	North Platte River	Myers & Phelps	Irrig.	7.14	34	15	39	September	11	1890
D 840	Pumpkinseed Creek	Court House Rock	Irrig.	30.50	30	19	50	October	6	1890
D 710	North Platte River	Sheridan & Wilson	Irrig.	10.00	20	14	35	October	9	1890
D 842	Pumpkinseed Creek	Smith & Wheeler S. D.	Irrig.	1.57	26	19	51	October	16	1890
D 636	Pawnee Creek	Holcombe Ditch	Irrig.	8.00	13	13	28	October	18	1890
D 843	Pumpkinseed Creek	Mutual Ditch Co.	Irrig.	8.57	33	19	52	November	1	1890
D 844	North Platte River	Chimney Rock Canal	Irrig.	60.00	1	20	53	December	3	1890
D 1031	North Platte River	Chimney Rock	Irrig.	.....	1	20	53	December	3	1890
D 812	Ash Creek	Gilliard Ditch	Irrig.	1.43	3	16	42	December	31	1890
D 847	Pumpkinseed Creek	Waitman Ditch	Irrig.	2.86	25	19	53	March	12	1891
D 1032	Otter Creek	Cascade Ditch	Irrig.	3.30	4	15	40	April	1	1891
D 849	Greenwood Creek	Trinnier Canal	Irrig.	6.29	28	18	50	April	6	1891
D 902	Pumpkinseed Creek	Endered Ditch	Irrig.	1.00	21	19	53	May	27	1891
D 725	Sand Creek	Patrick Ditch	Irrig.	2.43	3	15	40	May	31	1891
D 858	North Platte River	Empire Canal	Irrig.	28.57	18	20	51	June	25	1891
D 870	Springs, trib. to Middle Creek	Bartling Ditch	Irrig.	.29	28	18	51	July	31	1891
D 861	Lawrence Fork	Crigler Ditch	Irrig.	.57	1	18	52	September	11	1891
D 862	Lawrence Fork	Spring Branch	Irrig.	1.00	11	18	52	October	23	1891
D 944	North Platte River	Kah Ditch	Irrig.	4.57	11	21	54	November	1	1891
D 857	North Platte River	Brown's Creek Ditch	Irrig.	188.71	29	20	50	January	20	1892
D 1033	North Platte River	Brown's Creek Canal	Irrig.	.....	20	20	50	January	20	1892
D 954	Wind Springs	Wind Springs	Irrig.	1.43	12	24	55	March	1	1892
D 866	Camp Creek	Camp Creek Ditch	Irrig.	1.43	13	18	49	March	16	1892
D 938	Kiowa Creek	Currie Ditch	Irrig.	9.14	13	21	57	March	23	1892
D 845	Greenwood Creek	Nelson Canal	Irrig.	3.00	33	18	50	April	1	1892
D 881	Scheut Spring	Scheut Spring Canal	Irrig.	.21	28	18	50	May	10	1892
D 941	North Platte River	Homestead Ditch	Irrig.	11.43	21	22	55	June	29	1892
D 872	S. W. Lower Dugout	Cooper Ditch	Irrig.	.86	4	19	48	August	15	1892
D 874	North Platte River	Alliance Canal	Irrig.	100.00	5	20	52	December	26	1892
A 1429	Red Willow (Seep D 874)	Alliance Irr. Canal	Seep	60.00	6	20	51	December	26	1892
D 890	Greenwood Creek	Capron & Lamb	Irrig.	2.00	15	18	50	January	1	1893
D 875	North Platte River	Clarke Canal	Irrig.	9.43	22	20	51	February	2	1893
D 876	Pumpkinseed Creek	Meredith & Ammer	Irrig.	18.86	23	19	50	February	20	1893
D 945	North Platte River	Ramshorn Ditch	Irrig.	45.71	13	23	58	March	20	1893
A 1465	Sheep Creek (Seep D 945)		Seep.	45.57	19	23	57	April	5	1893
A 1403	Sheep Creek (Seep D 945)	Sheep Creek Lateral Co. Canal	Seep.	.92	8	23	57	March	20	1893
A 1398	Sheep Creek (Seep D 945)	Sheep Creek Lateral Co.	Seep	.28	8	23	57	March	20	1893
D 906	Pumpkinseed Creek	Hampton Ditch	Irrig.	1.29	25	20	57	April	5	1893

PRIORITIES WATER DIVISION NO. 1-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 697b	Lonergan Creek	Soehl Canal	Irrig.	.86	17	15	39	April	27	1893
D 893	Lawrence Fork	Redington Ditch	Irrig.	.50	11	18	52	May	1	1893
D 946	North Platte River	Short Line Canal	Irrig.	65.57	25	21	53	May	1	1893
D 754	Clear Creek	Clear Creek Canal	Irrig.	14.57	29	16	41	May	30	1893
D 756	Clear Creek	Clear Creek Ditch	Irrig.	1.14	32	16	41	May	30	1893
D 717	White Tail Creek	Holloway & Phelps	Irrig.	1.00	36	15	38	June	1	1893
D 745	Clear Creek	Green Ditch	Irrig.	1.14	29	16	41	June	1	1893
D 719	Lonergan Creek	Taney Ditch	Irrig.	1.14	17	15	39	July	1	1893
D 856	North Platte River	Lisco Ditch	Irrig.	32.86	14	18	47	July	1	1893
D 781	Blue Creek	Blue Creek Ditch	Irrig.	12.86	6	16	42	September	7	1893
D 646	Birdwood Creek	Birdwood Ditch	Irrig.	100.00	35	15	33	October	21	1893
D 925	North Platte River	Nine Mile Canal	Irrig.	200.00	18	21	53	December	6	1893
A 1431	Nine Mile Canal	Nine Mile Seep Canal	Seep	.79	10	21	53	December	6	1893
A 1473	North Platte (Seep D 925)	O'Holloran Ditch	Seep.	1.07	28	21	52	December	6	1893
D 785	Blue Creek	Blue Creek Canal	Irrig.	107.43	33	17	42	December	27	1893
D 649	North Platte River	Cody & Dillon	Irrig.	127.00	9	14	51	December	29	1893
D 652	Birdwood Creek	West Birdwood Ditch	Irrig.	8.57	22	15	33	January	16	1894
D 686	Fremont Creek	Fremont Creek Ditch	Irrig.	9.29	15	13	30	January	31	1894
D 722	North Platte River	Sutherland & Paxton	Irrig.	186.00	18	14	36	February	2	1894
D 653	North Platte River	Paxton & Hershey	Irrig.	130.00	18	14	33	February	12	1894
D 786	Blue Creek	Iowa Irr. & Imp. Co.	Irrig.	12.00	7	16	42	February	24	1894
D 787	North Platte River	Bower Ditch	Irrig.	21.37	6	17	45	March	27	1894
D 788	Blue Creek	Graf Ditch	Irrig.	61.43	19	16	42	April	2	1894
D 755	South Platte River	Eaton & McGrath	Irrig.	20.00	25	13	41	April	3	1894
D 833	Pumpkinseed Creek	Last Chance	Irrig.	8.00	27	19	50	April	12	1894
D 747	Clear Creek	Scott & Williams	Irrig.	1.00	28	16	41	May	18	1894
D 662	North Platte River	Farmers & Merchants Canal	Irrig.	183.00	12	14	33	May	22	1894
D 884	Pumpkinseed Creek	Round House Rock	Irrig.	3.00	28	19	51	May	29	1894
D 850	Lawrence Fork	Doran Canal	Irrig.	1.14	15	18	52	June	1	1894
D 891	Middle Creek	Bartling Ditch No. 1	Irrig.	.29	28	18	51	June	1	1894
D 666	Platte River	Farmers Ditch & Canal	Irrig.	280.00	17	13	29	June	2	1894
D 723	South Platte River	Hollingsworth Ditch	Irrig.	30.00	12	13	29	June	5	1894
D 567	Snake Creek	Oasis Ditch Co.	Irrig.	54.86	6	24	51	June	6	1894
D 687	North Platte River	South Side Irr. L. Canal	Irrig.	270.00	14	14	34	June	6	1894
D 669	Pawnee Creek	Murphy Ditch	Irrig.	8.57	29	13	27	June	9	1894
D 789	North Platte River	Midland Ditch	Irrig.	2.00	2	16	44	June	9	1894
D 621	Platte River	Farmers Irr. Ditch	Irrig.	114.00	25	10	23	June	14	1894
D 672	Pawnee Creek	Plumer Ditch	Irrig.	10.00	19	13	27	June	15	1894

PRIORITIES WATER DIVISION NO. 1-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location S	T	R	Date of Priority Month	D	Year
D 724	Spring Creek	Spring Creek Ditch	Irrig.	.57	12	15	40	June	18	1894
D 622	Platte River	Farmers & Merchants Ditch	Irrig.	1142.86	18	10	28	June	26	1894
D 885	Pumpkinseed Creek	Maxwell Ditch	Irrig.	.50	23	19	52	June	30	1894
D 673	Platte River	Maxwell Ditch	Irrig.	27.14	29	13	28	July	5	1894
D 657	North Platte River	Keith Canal	Irrig.	71.00	36	14	30	July	7	1894
D 674	Platte River	Appleford Ditch	Irrig.	10.00	15	13	29	July	7	1894
D 629	Platte River	Sides Ditch	Irrig.	20.00	13	8	14	July	23	1894
D 950	North Platte River	Rooster Ditch	Irrig.	5.71	10	23	58	July	29	1894
D 676	North Platte River	Smith's Canal	Irrig.	20.00	36	14	30	August	9	1894
D 791	North Platte River	Overland Irr. Ditch	Irrig.	20.00	1	16	44	August	14	1894
D 624	Platte River	Platte River Irr. Co.	Irrig.	400.00	13	19	22	September	15	1894
D 677	Birdwood Creek	Beauchamp	Irrig.	3.00	15	15	33	September	19	1894
D 645b	Platte River	Gothenburg Irr. & Power Co.	Irrig.	240.00	29	12	26	September	22	1894
D 886	North Platte River	Hannah Irr. Canal	Irrig.	5.71	24	18	47	September	24	1894
D 234, 235, 628	Wood River	Farmers' Canal	Irrig.	180.00	12	8	16	September	24	1894
D 795	Blue Creek	High Line Ditch	Irrig.	20.00	21	17	42	September	27	1894
D 796	Cold Water Creek	Cold Water Ditch	Irrig.	4.29	26	18	46	September	28	1894
D 797	North Platte River	Oshkosh Ditch	Irrig.	40.00	33	17	44	October	5	1894
D 727	White Tail Creek	Little Dandy	Irrig.	2.00	22	15	38	October	12	1894
D 887	North Platte River	Beerline	Irrig.	30.00	24	19	49	October	13	1894
D 679	Platte River	McCullough	Irrig.	30.00	35	13	28	October	20	1894
D 680	Platte River	Six Mile Ditch	Irrig.	40.00	11	11	26	October	22	1894
D 681	Platte River	Gothenburg S. S.	Irrig.	357.14	30	12	26	October	26	1894
D 730	White Tail Creek	Foster Keystone	Irrig.	13.86	36	15	38	October	30	1894
D 625	Platte River	Booker Canal	Irrig.	100.00	16	11	25	November	9	1894
D 800	Blue Creek	West Side Ditch	Irrig.	21.00	28	17	42	November	20	1894
D 801	North Platte River	Spohn	Irrig.	13.14	13	17	45	December	6	1894
D 802	North Platte River	Rush Creek Canal	Irrig.	9.64	2	17	46	December	11	1894
D 683	South Platte River	Stebbins Ditch	Irrig.	30.00	32	14	32	December	17	1894
D 744	South Platte River	Riverside Canal	Irrig.	2.86	17	13	39	December	22	1894
D 803	North Platte River	Lyons Irr. Canal	Irrig.	42.14	30	17	44	December	22	1894
D 811	North Platte River	Orr & Vance Ditch	Irrig.	2.93	29	16	42	December	24	1894
D 626	Platte River	Cozad Ditch	Irrig.	614.29	15	11	25	December	28	1894
D 804	North Platte River	Robins & Williams	Irrig.	26.57	35	16	42	January	4	1895
D 805	South Platte River	Miller & Warren	Irrig.	53.86	7	12	42	January	5	1895
D 806	North Platte River	Gyger Ditch	Irrig.	10.86	10	16	44	January	5	1895

NO.		NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
						S	T	R	Month	D	Year
D	684	North Platte River	Dikeman Ditch	Irrig.	30.00	9	14	32	January	14	1895
D	807	North Platte River	Signal Bluff	Irrig.	30.13	16	16	43	January	16	1895
D	732	North Platte River	Hayland Ditch	Irrig.	5.71	29	15	39	January	19	1895
D	627	Platte River	Orchard & Alfalfa Ditch	Irrig.	300.00	9	10	24	January	23	1895
D	687	Platte River	Lincoln & Dawson Co.	Irrig.	642.86	9	13	29	February	22	1895
D	688	Ravine	Newberry Canal	Irrig.	1.14	22	14	32	February	25	1895
D	889	Pumpkinseed Creek	Dunlap Ditch	Irrig.	.36	24	19	51	March	1	1895
D	736	South Platte River	Home Irrigation Ditch	Irrig.	3.14	30	13	40	March	2	1895
D	691	North Platte River	Hubart & Hall Ditch	Irrig.	65.70	20	14	30	March	3	1895
D	737	North Platte River	Fernstrom & Nissen	Irrig.	4.00	25	15	39	March	23	1895
D	738	North Platte River	Alfalfa Irrigation District	Irrig.	100.00	1	15	42	March	25	1895
D	888	Pumpkinseed Creek	Willard Ditch	Irrig.	1.43	25	19	51	March	27	1895
D	809	North Platte River	Bushnell Bros. Ditch	Irrig.	7.14	12	16	44	March	27	1895
D	690	Platte River	Appleford Ditch	Irrig.	2.86	15	13	29	March	28	1895
D	740	Skunk Creek	Miller Ditch	Irrig.	2.29	1	14	37	April	1	1895
D	750	Mathews Creek	Mathews Ditch	Irrig.	1.14	28	15	37	April	1	1895
D	733	South Platte River	South Side Plain Ditch	Irrig.	1.43	17	13	39	April	27	1895
D	810	South Platte River	Big Spring Canal	Irrig.	8.93	35	13	42	April	27	1895
D	751	White Tail Creek	Reed Ditch	Irrig.	.57	15	15	38	May	15	1895
D	892	Pumpkinseed Creek	Bird Cage Ditch	Irrig.	1.00	19	19	51	June	1	1895
A	1	North Platte River	Holcombe Ditch	Irrig.	15.49	16	15	40	June	4	1895
A	41	Snake Creek	Elmore Canal	Irrig.	5.71	30	25	51	June	22	1895
D	964	Clear Creek	Finch Ditch	Irrig.	1.43	4	15	41	June	30	1895
A	69	Coon Creek	Coon Creek Ditch	Irrig.	.71	34	15	37	July	3	1895
A	160	Golden Creek	Thees Ditch	Irrig.	2.71	25	15	39	September	17	1895
A	184	South Platte River	Paxton Southern	Irrig.	1.43	2	13	36	October	17	1895
A	186	North Platte River	Steamboat Ditch	Irrig.	15.00	4	21	54	October	22	1895
A	231	South Platte River	Lute & Sheridan	Irrig.	13.43	9	13	37	February	17	1896
A	243	North Platte River	North Platte River Irr. Canal	Irrig.	168.29	14	18	47	February	24	1896
A	283	South Platte River	Meyer Canal	Irrig.	1.46	22	13	40	April	14	1896
A	294	Greenwood Creek	Meglemre Ditch	Irrig.	.57	10	18	50	May	6	1896
D	842	Pumpkinseed	Smith & Wheeler No. D	Irrig.	.71	26	19	51	June	1	1896
A	357	South Platte River	Cereal Irr. Ditch	Irrig.	4.86	16	13	39	July	10	1896
A	327	North Platte River	La More Ditch	Irrig.	20.00	34	19	48	July	18	1896
A	350	North Platte River	Steamboat Ditch	Irrig.	.....	4	21	54	July	22	1896
A	353	North Platte River	Tetrault Ditch 2	Irrig.	3.43	1	19	50	August	15	1896
A	370	South Platte River	Allen Ditch	Irrig.	6.58	24	13	40	December	15	1896
A	365	North Platte River	Gering Canal	Irrig.	208.62	24	23	58	March	15	1897

PRIORITIES WATER DIVISION NO. 1-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 393	South Platte River	Western Irr. Ditch	Irrig.	180.00	29	13	41	June	14	1897
A 407	Horse Creek	State Line Ditch	Irrig.	3.07	33	23	58	September	10	1897
A 411	Owl Creek	Sunflower	Irrig.	.78	12	22	58	September	17	1897
A 410	Spring Branch	Brogan Bros. Ditch	Irrig.	.57	35	15	37	September	24	1897
A 418	North Platte River	Shermerhorn Ditch	Irrig.	29.71	16	20	51	October	25	1897
A 420	White Tail Creek		Irrig.	1.43	36	15	38	October	29	1897
A 449	Spotted Tail Creek		Irrig.	1.00	10	23	56	May	2	1898
A 476	Lawrence Fork	Spring Branch Ext.	Irrig.	.57	1	18	52	October	13	1898
A 482	South Platte River	Leach & Kimball Underflow Ditch	Irrig.	3.57	4	12	42	November	8	1898
A 486	Lawrence Fork	Crigler Extension	Irrig.	1.43	1	18	52	November	25	1898
A 515	Blue Creek	Paisley Ditch	Irrig.	4.00	33	17	42	July	14	1899
A 545a	Wood River	White Bridge P. K.	Irrig.	.03	8	9	15	March	14	1900
A 545b	Wood River	White Bridge P. K.	Power	10.00	8	9	15	March	14	1900
A 550	Lawrence Fork	Niehus Canal	Irrig.	1.86	11	18	52	March	23	1900
A 570	West Buffalo Creek	Henry Ditch	Irrig.	.07	23	11	23	July	2	1900
A 576	Platte River	Lexington South Side Canal	Irrig.	58.00	8	9	22	September	28	1900
A 602	Birdwood Creek	McCabe Ditch	Irrig.	5.00	3	16	33	March	1	1901
A 606	Sand Creek	Nissen Ditch	Irrig.	3.07	10	15	40	March	18	1901
A 641	Kiowa Creek	Kellums Ditch	Irrig.	2.43	11	22	58	October	18	1901
A 650	Willow Creek	Willow Springs 1	Irrig.	.57	16	19	56	January	21	1902
A 651	Willow Creek	Willow Springs 2	Irrig.	.86	16	19	56	January	21	1902
A 659	Little Spring Creek	Little Springs Canal	Irrig.	.57	29	15	37	April	1	1902
A 660	North Platte River	Columbia	Irrig.	600.00	3	23	58	April	14	1902
A 662	White Tail Creek	Keystone Canal	Irrig.	51.71	26	15	38	April	26	1902
A 669	Lawrence Fork	Harper Ditch	Irrig.	1.43	11	18	52	May	27	1902
A 670	Lawrence Fork	Bicket Ditch	Irrig.	.57	11	18	52	May	27	1902
A 674	Spring Branch, trib. to Lawrence	Harper Ditch 2	Irrig.	2.00	1	18	52	June	16	1902
D 913	Pumpkinseed Creek	Peters Ditch	Irrig.	2.57	34	20	56	July	1	1902
A 698	Pumpkinseed Creek	Airedale Canal 1	Irrig.	5.52	2	19	55	January	24	1903
A 699	Pumpkinseed Creek	Airedale Canal 2	Irrig.	3.22	1	19	55	January	24	1903
A 711	Pumpkinseed Creek	Reservoir Nos. 1, 2, 3	Irrig.	1.31	7	19	55	June	24	1903
A 717	Brown's Creek	Hackberry	Irrig.	.43	19	20	48	July	17	1903
A 742	Horse Creek	Horse Creek Ditch	Irrig.	.86	34	23	58	February	29	1904
A 743	Spotted Tail Creek	Stewart Reservoir	Irrig.	1.43	2	23	56	March	2	1904
A 745	Sheep Creek	Little Moon	Irrig.	1.00	10	24	58	March	23	1904
A 746	Kiowa Creek	Ellis Lowry Canal	Irrig.	.52	31	22	57	March	25	1904
A 751	Borrow Pits, trib. to No. Platte Riv.	Borrow Pit Ditch	Irrig.	.29	19	21	52	April	23	1904

PRIORITIES WATER DIVISION NO. 1-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 768	North Platte River	Pathfinder	Irrig.		19	29	83	September	19	1904
A 770	Owl Creek	Sunflower	Irrig.	1.14	12	22	58	October	10	1904
A 778	Huntington Springs	Cord Ditch	Irrig.	1.43	9	20	58	December	23	1904
A 819	Pumpkinseed Creek		Irrig.	2.29	2	19	55	April	20	1906
A 836	Pumpkinseed Creek	Beaty Ditch	Irrig.	.86	8	19	55	September	1	1906
A 843	White Tail Creek	Keystone Ditch	Irrig.	4.29	26	15	38	November	30	1906
A 844	Greenwood Creek	Dean Ditch	Irrig.	8.86	10	18	50	December	5	1906
A 851	Pumpkinseed Creek	Swanger Ditch	Irrig.	.43	29	19	50	February	28	1907
A 853	Greenwood Creek	Meglemre Extension	Irrig.	1.50	10	18	50	March	11	1907
A 855	Pumpkinseed Creek	Pumpkin Creek Mills	Power	25.00	23	19	50	March	26	1907
A 902	North Platte River	Belmont Canal	Irrig.	115.71	18	20	51	March	28	1907
A 859	Sheep Creek	Nebraska Reservoir	Irrig.	3.57	36	27	58	May	18	1907
A 865	Lower Dugout Creek	Mulloy Ditch	Irrig.	1.00	27	20	48	July	18	1907
A 866	North Platte River	Empire Extensoin	Irrig.	1.00	18	20	51	July	20	1907
A 868	Trib. to No. Platte River	Frazier Lake	Ice	4.00	35	14	30	September	6	1907
A 871	Sheep Creek	West Fork Ditch	Irrig.	5.14	1	26	58	September	21	1907
A 873	Trib. to Sheep Creek	Favorable	Irrig.	.27	19	26	57	October	25	1907
A 875	Sheep Creek	Lower Canal	Irrig.	.37	11	25	58	November	2	1907
A 876	Sheep Creek	Home Ranch	Irrig.	1.79	25	26	58	November	2	1907
A 877	Sheep Creek	Horse Pasture	Irrig.	1.29	25	26	58	November	2	1907
A 879	Owl Creek	Sunflower Ditch 2	Irrig.	1.14	12	22	58	November	29	1907
A 880	Kiowa Creek	Kellums Ditch 2	Irrig.	.57	1	22	58	November	29	1907
A 881	Owl Creek	Sunflower Extension No. 1	Irrig.	.57	12	22	58	November	29	1907
A 885	Sheep Creek	Horse Camp Reservoir	Irrig.	2.86	36	27	58	January	20	1908
A 888	Pumpkinseed Creek	Clearfield Canal	Irrig.	1.70	31	20	56	January	23	1908
A 890	Sheep Creek	No. Two	Irrig.	2.50	2	25	58	February	24	1908
A 918	Buckhorn Springs		Irrig.	2.29	8	14	36	October	3	1908
A 921	Horse Creek	Marsh & Brazier Canal	Irrig.	8.00	4	22	60	November	24	1908
A 937	Lake	Huffman Ditch	Irrig.	6.43	26	21	54	March	19	1909
A 968	Skunk Creek	Skunk Creek Ditch	Irrig.	5.00	6	14	36	November	5	1909
A 974	Sand Creek	Sand Creek Ditch	Irrig.	15.70	9	14	36	January	3	1910
A 983	Horse Creek	Gilmore Ditch	Irrig.	9.00	33	23	58	February	21	1910
A 986	Wind Springs Creek	Smith's Ditch	Irrig.	2.86	12	24	55	March	14	1910
A 991	North Platte River	Lisco Ditch	Irrig.	3.00	14	18	47	April	6	1910
A 992	North Platte River	Round House Rock	Irrig.		4	21	54	April	13	1910
A 994	Horse Creek	State Line Ditch	Irrig.	2.00	33	23	58	April	21	1910
A 1000	Horse Creek	Jackson Extension	Irrig.	1.07	27	23	58	May	19	1910
A 1001	White Tail Creek	West Keystone	Irrig.	1.76	26	15	38	May	27	1910

PRIORITIES WATER DIVISION NO. 1-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 1002	Spring Cr., trib. to No. Platte River.	Spring Creek No. 1	Irrig.	1.13	19	15	37	May	27	1910
A 1003	White Tail Creek	Keystone Canal	Irrig.	9.86	26	15	38	May	27	1910
A 1004	Pumpkinseed Creek	Beaty Canal	Irrig.	.19	5	19	55	June	2	1910
A 1005	Lower Dugout Creek	Hubbard Ditch	Irrig.	.29	4	19	48	June	23	1910
A 1009	Blue Creek	Fairview	Power	62.60	4	18	43	July	18	1910
A 1018	Beaver Lake	Beaver Ditch	Irrig.	170.00	16	24	44	August	6	1910
A 1038	Wood River	Jacobson Canal	Irrig.	.50	31	10	16	November	10	1910
A 1040	Spring Creek	Freiday Canal	Irrig.	1.00	20	9	20	November	25	1910
A 1051	Cedar Creek	Cedar Creek Ditch	Irrig.	1.57	17	14	35	January	3	1911
A 1052	Pumpkinseed Creek	Seeley Irr. Ditch	Irrig.	.57	27	19	52	January	19	1911
A 1072	Spotted Tail Creek	Brown's Ditch	Irrig.	2.28	2	23	56	March	17	1911
A 1100	Lawrence Fork	Randall Bros. Ditch	Irrig.	2.57	21	18	52	May	15	1911
A 1104	Snake Creek	Kilpatrick Reservoir	Irrig.	200.00	1	24	52	June	7	1911
A 1111	Clear Creek	Clear Creek Canal	Irrig.	1.14	31	16	41	July	5	1911
A 1126	Horse Creek	Marsh & Braziel Extension	Irrig.	13.00	4	22	60	September	18	1911
A 1133	Pumpkinseed Creek	Airedale Canal No. 2	Irrig.	1.57	1	19	55	October	26	1911
A 1148	Springs and Slough	Cundall Ditch	Irrig.	.71	19	20	51	December	15	1911
A 1149	North Platte River	French Ditch	Irrig.	11.00	9	23	60	December	21	1911
A 1154	Blue Creek	The Eggers Extension	Irrig.	.41	33	17	42	January	4	1912
A 1159	Snake Creek	Kilpatrick Ditch No. 2	Irrig.	200.00	6	24	51	January	25	1912
A 1176	Sheep Creek	Sheep Creek Lateral	Irrig.	5.00	8	23	57	February	26	1912
A 1181	North Platte River	Dobson's Lateral	Irrig.	3.14	5	20	52	February	28	1912
A 1432	Red Willow (Seep A 1181)	Dobson Ditch	Seep	2.00	12	20	51	February	28	1912
A 1198	Otter Creek	Otter Canal	Irrig.	11.00	5	15	40	May	24	1912
A 1215	Spotted Tail Creek	Whitehead Power Plant	Power	10.00	26	24	56	August	10	1912
A 1217	Sheep Creek	General Utility L. & P. Co.	Power	70.00	17	23	57	August	17	1912
A 1220	Spring Cr., trib. to No. Platte River.	Gatch Ditch	Irrig.	.93	25	21	54	August	21	1912
A 1225	Coon Creek	Coon Creek Ditch	Irrig.	1.42	34	15	37	September	16	1912
A 1227	Wood River	Kimbrough Canal	Irrig.	4.00	36	10	13	September	21	1912
A 1238	Lower Dugout	Hagerty Ditch	Irrig.	1.00	4	19	48	October	26	1912
A 1240	Otter Creek	Peterson Ditch	Irrig.	1.32	5	15	40	November	6	1912
A 1241	Spotted Tail Creek	Roberts Ditch	Irrig.	2.00	16	23	56	November	6	1912
A 1286	Wood River	Wood River Ditch	Irrig.	2.28	14	11	18	May	1	1913
A 1295	Little Spring Creek	Shramek Canal	Irrig.	1.50	22	22	55	June	9	1913
A 1310	Little Spring Creek		Irrig.	.14	22	22	55	July	29	1913
A 1316	White Horse Creek	John Bratt Ditch	Irrig.	6.00	19	14	30	August	25	1913
A 1344	Plum Creek Springs	Plum Cr. Ditch & Res.	Irrig.	1.14	23	16	42	January	12	1914
A 1380	Pumpkinseed Creek	Airdale No. 1	Irrig.	.51	2	19	55	September	4	1914

PRIORITIES WATER DIVISION NO. 1-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 1382	South Platte River	McConnell South Side	Irrig.	37.8	34	14	33	September	25	1914
A 1397	Cedar Creek	Cedar Creek Feeder	Irrig.	5.00	23	18	48	January	7	1915
A 1401	North Platte River	M. H. Stone Irr. Canal	Irrig.	1.00	28	18	46	January	19	1915
A 1433	North Platte River	French Ditch	Irrig.	3.00	9	23	60	September	11	1915
A 1436	Platte Riv. & Red Willow Creek	Dobson Lateral	Irrig.	.59	12	20	51	November	3	1915
A 1440	Lawrence Fork Creek	King's Canal	Irrig.	4.00	15	18	52	December	8	1915
A 1448	North Platte River	Liebhardt Lateral	Irrig.	2.90	6	20	52	March	1	1916
A 1449	North Platte River	Atkins Ditch	Irrig.	5.00	15	19	49	March	27	1916
A 1450	North Platte River	Atkins Ditch	Irrig.	5.00	15	19	49	March	27	1916
A 1452	North Platte River	Gering Hydro. Elec. Plant	Power	250.00	28	22	55	April	5	1916
A 1455	North Platte River, waste water	Waste Water Ditch	Irrig.	2.30	30	21	50	June	2	1916
A 1458	Pumpkinseed Creek	Airedale No. 1	Irrig.	10.00	3	19	55	June	23	1916
A 1468	Winter Creek, trib. to No. Platte	Winter Creek Power Canal	Power	100.00	8	22	54	December	22	1916
A 1471	South Platte	Tail Race Ditch	Irrig.	1.28	3	8	16	January	16	1917
A 1472	North Platte	Union Pacific Ry. Co.	Power	100.00	29	14	30	January	19	1917
A 1492	Little Spring Creek	McClenahan Ex. of Shramek Can.	Irrig.	.05	22	22	55	July	30	1917
A 1495	Buffalo Creek	Savins Ditch	Irrig.	2.28	22	10	21	August	17	1917
A 1499	North Platte	Tri-City Power System	Power	500.00	3	23	58	October	5	1917
A 1501	Bronco Lake	Bronco Lake Ditch	Irrig.	10.28	6	24	48	October	8	1917
A 1508	Pumpkinseed	Airedale Canal No. 3	Irrig.	4.41	2	19	55	March	15	1918
A 1515	Little Spring Creek	Ex. of Shramek Canal		.14	22	22	55	June	3	1918
A 1525	Sheep Creek	Last Camp Reservoir	Stor. f'r ir	11.4	36	27	58	September	9	1918

PRIORITIES WATER DIVISION NO. 1-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 183	Turkey Creek		Power		4	1	16	December	31	1874
D 1036	Republican River, South Fork	Guthrie & Co.	Power	400.00	34	1	7	September	1	1877
D 92, 93	Medicine Creek		Power	68.00	29	4	25	December	31	1878
D 1029	Republican River	Arapahoe Star Mills	Power	196.00	27	4	25	July	24	1879
D 185	Big Cottonwood Creek	Bloomington Ditch	Irrig.	.50	25	2	16	December	31	1881
D 138	Rock Creek	Phelan Ditch	Irrig.	4.29	17	1	39	December	31	1883
D 159	{Horse Creek}									
D 173	{Horse Creek}	Horse Creek Ditch	Irrig.	1.86	23	1	39	August	31	1885
D 181	Red Willow Creek	Red Willow Mill	Power		16	3	28	January	1	1886
D 178	Frenchman River	Wauneta Mill	Power	35.00	11	5	36	July	31	1886
D 1013	Frenchman River	Lamar Roller Mills	Power	30.00	18	6	40	September	30	1887
D 179	Frenchman River	Champion Mill	Power	28.30	21	6	39	December	31	1887
D 50	Frenchman River	Aberdeen	Irrig.	2.00	3	5	38	July	1	1888
D 56	Frenchman River	Harlum Ditch	Irrig.	2.00	1	5	38	July	1	1888
D 103	Republican River	Carson Ditch No. 1	Irrig.	1.43	27	3	30	July	1	1888
D 1025	Republican River, No. Fork	Haigler Land & Cattle Co.	Irrig.	77.00	2	1	43	April	4	1890
D 24, 25, 29, 30	Frenchman River, Stinking Water Cr'k	Culbertson Irr. & Imp. Co.	Irrig.	215.00	31	5	33	May	16	1890
D 115	Republican River, No. Fork	Sand Point Ditch Co.	Irrig.	11.00	11	1	42	September	25	1890
D 117	Buffalo Creek	Allen & Larned	Irrig.	6.00	18	1	40	October	16	1890
D 118	Republican River	Dundy County Ditch	Irrig.	45.00	24	1	39	November	22	1890
D 171	Buffalo Creek	Porter & Sons	Irrig.	2.86	1	1	41	November	26	1890
D 3	Republican River	Trites & Davenport	Irrig.	7.00	20	3	31	December	18	1890
4-7-8-9	Republican River	Meeker Canal	Irrig.	143.00	15	3	31	December	22	1890
D 47	Frenchman River	Champion Irr. & W. P. Co.	Irrig.	48.46	23	6	40	December	23	1890
D 5	Republican River	Trenton Farmers Irr. Ditch	Irrig.	32.00	10	2	34	December	24	1890
D 95	Red Willow Creek	Holland Ditch	Irrig.	35.00	16	3	28	January	23	1891
D 50	Frenchman River	Aberdeen Ditch	Irrig.	.50	3	5	38	February	2	1891
D 133	Republican River	Neighbor's Ditch	Irrig.	2.86	24	1	39	March	18	1891
D 102	Republican River	Carson Ditch No. 2	Irrig.	18.00	27	3	30	May	5	1891

PRIORITIES WATER DIVISION NO. 1-A—(Continued)

	NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
						S	T	R	Month	D	Year
D	89	Republican River	C. & A. Irr. & Imp. Co.	Irrig.	170.00	28	4	25	August	26	1891
D	147	Republican River	Republican Riv. Irr. Co. Ditch	Irrig.	30.00	29	1	38	May	2	1892
D	150	Republican River	White & Larned	Irrig.	3.00	22	1	40	April	29	1893
D	10	Frenchman River	Farmers Canal	Irrig.	10.00	11	3	32	December	19	1893
D	647	Red Willow Lake	Red Willow	Irrig.	2.00	36	9	33	December	20	1893
D	11	Republican River	Marr Ditch	Irrig.	4.29	16	3	31	January	22	1894
D	151	Republican River	Anderson Ditch	Irrig.	2.00	1	1	37	January	26	1894
D	57	Stinky Water	Chase County L. & Live Stk Co.	Irrig.	2.86	10	7	38	March	10	1894
D	153	Republican River	Groesbeck & Cannon	Irrig.	10.00	10	1	37	March	27	1894
D	154	Republican River	Thomas Ditch	Irrig.	2.00	24	1	40	June	5	1894
D	91	Republican River	Ballard Ditch	Irrig.	8.00	8	3	21	June	9	1894
D	62	Frenchman River	Fuller Ditch	Irrig.	25.00	4	5	36	June	12	1894
D	155	Republican River, South Fork	Karr Ditch	Irrig.	2.00	20	1	37	July	28	1894
D	18	Frenchman River	Riverside Canal	Irrig.	12.00	33	4	32	July	28	1894
D	156	Republican River, South Fork	Riverside Ditch	Irrig.	13.00	29	1	37	August	5	1894
D	182	Center Creek	Gregory Ditch	Irrig.	4.00	1	1	15	August	11	1894
D	38	Frenchman River	Frenchman Valley Canal	I. & P.	10.00	32	5	33	August	23	1894
D	65	Stinking Water Creek	McLain Ditch	Irrig.	2.50	28	7	37	September	24	1894
D	109	Republican River	Wilcox Ditch	Irrig.	4.50	32	3	29	October	4	1894
D	67	Frenchman River	Gould Ditch	Irrig.	2.00	1	5	38	October	9	1894
D	68	Frenchman River	Grant Ditch	Irrig.	2.00	3	5	38	October	16	1894
D	70, 71, 72	Frenchman River	Maranville Ditch	Irrig.	6.00	12	6	41	December	8	1894
D	175	Stinking Water Creek	Chase Co. L. & Live Stk Co.	Irrig.	4.57	36	7	37	December	21	1894
D	42	Frenchman River	Wise Ditch	Irrig.	2.00	15	5	35	December	28	1894
D	157	Republican River	Delaware & H. Ditch	Irrig.	20.00	17	1	37	January	7	1895
D	74	Frenchman River	N. Gurnsey Ditch	Irrig.	5.00	3	5	37	January	14	1895
D	75	Frenchman River	S. Gurnsey Ditch	Irrig.	24.00	10	5	37	January	14	1895
D	110	Republican River	Allen Ditch	Irrig.	14.00	2	3	26	January	26	1895
D	76	Stinking Water Creek	Chase Co. L. & Live Stk Co.	Irrig.	2.00	13	7	38	January	28	1895
D	77	Stinking Water Creek	Chase Co. L. & Live Stk Co.	Irrig.	1.50	14	7	38	January	29	1895
D	78	Stinking Water Creek	Chase Co. L. & Live Stk Co.	Irrig.	1.71	14	7	38	January	29	1895
D	83	Medicine Creek	Sanders Irr. Plant	Irrig.	1.43	27	7	27	February	8	1895
D	111	Red Willow Creek		Irrig.	2.00	17	3	28	February	18	1895
D	79	Frenchman River	Inman Ditch	Irrig.	1.50	17	6	40	February	28	1895
A	237	Indian Creek	Thompson & Van Sickle	Irrig.	.93	8	2	37	June	20	1895

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 261	Indian Creek	Kinsey Ditch	Irrig.	.31	10	2	37	June	20	1895
A 265	Rock Creek	Owens Ditch	Irrig.	.36	31	2	39	June	20	1895
A 268	Indian Creek	Wilson Ditch	Irrig.	1.42	23	2	36	June	22	1895
A 56	Stinking Water Creek	Chase Co. L. & Live Stk Co.	Irrig.	.91	14	7	38	June	27	1895
A 57	Stinking Water Creek	Chase Co. L. & Live Stk Co.	Irrig.	.70	4	7	38	June	27	1895
A 240	Indian Creek	Chamberlain Ditch	Irrig.	.06	18	2	36	October	4	1895
A 246	Frenchman River	Northside Irr. Co.	Irrig.	.79	21	6	39	February	25	1896
A 373	Spring Creek	Benkelman Ditch	Irrig.	1.29	19	1	37	December	31	1896
A 364	Springs, trib. to Horse Creek	Pringle Ditch	Irrig.	.57	11	1	39	January	12	1897
A 413	Republican River	Private Ditch	Irrig.	1.00	25	1	40	October	7	1897
A 423	Frenchman River	Shallenberger	Irrig.	1.77	25	6	39	December	21	1897
A 436	Frenchman River	Inman	Irrig.	6.43	17	6	40	February	10	1898
A 483	Big Cottonwood Creek	Bloomington Mill Race	Power	6.00	25	2	16	November	23	1898
A 483	Big Cottonwood Creek		Irrig.	1.57	25	2	16	November	23	1898
A 501	Coates Creek		Irrig.	.37	33	2	14	March	6	1899
A 526	Rock Creek	Rock Creek Ditch Co.	Irrig.	.33	13	2	40	December	18	1899
A 535	Republican River	Harmon Ditch	Ice	10.00	32	3	29	January	22	1900
A 537	Republican River	Walsh Canal	Irrig.	11.00	35	3	30	January	31	1900
A 577	Republican River	Republican Riv. Irr. Co. Ditch	Irrig.	20.00	29	1	38	August	22	1900
A 591	Frenchman River	Creamery	Power	34.40	21	6	39	December	12	1900
A 644	Republican River South Fork	McDonald Ditch	Irrig.	.79	36	1	38	November	13	1901
A 648	Center Creek	Rose Ditch	Irrig.	.29	36	2	15	January	10	1902
A 665	Crooked Creek	Fish Pond	Fish	1.00	1	1	11	May	7	1902
A 705	Frenchman River	Follette & Krotter	Irrig.	4.29	35	5	34	April	30	1903
A 708	Frenchman River	Krotter Power Plant	Power	19.00	35	5	34	May	12	1903
A 714	Frenchman River	Goker Ditch	Irrig.	20.00	8	4	33	July	6	1903
A 720	Frenchman River	Ext. Follett & Krotter	Irrig.	2.57	35	5	34	August	11	1903
A 748	Frenchman River	Krotter Power Plant	Power	12.00	35	5	34	April	5	1904
A 781	Red Willow Creek	Red Willow Valley Mound	Irrig.	14.29	31	4	28	February	27	1905
A 824	Springs, trib. to Horse Creek	Pringle Ditch	Irrig.	1.57	14	1	39	May	11	1906
A 828	Republican River	Campbell Irr. Canal	Irrig.	9.14	9	2	34	July	13	1906
A 858	Medicine Creek	Maywood Milling Co.	Power	11.88	16	8	29	May	4	1907
A 907	Stinking Water Creek	Electric Light & Power Co.	Power	30.00	30	5	33	June	30	1908
A 924	Buffalo Creek	Jenkins Land & Live Stk Co.	Irrig.	4.29	18	1	40	December	12	1908
A 935	Frenchman River		Irrig.	.86	19	5	34	March	11	1909
A 975	Frenchman River	Follett & Krotter	Irrig.	10.46	35	5	34	January	15	1910
A 979	Arickaree River	Haigler Reservoir Canal	Irrig.	171.00	15	1	42	January	21	1910
A 997	Republican River	Haigler Reservoir No. 2	Irrig.	24.00	27	1	41	April	29	1910

PRIORITIES WATER DIVISION NO. 1-B—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 1021	Frenchman River	Krotter Power Plant	Power	55.00	35	5	34	August	17	1910
A 1042	Red Willow Creek	Helm Ditch	Irrig.	10.00	8	3	28	December	5	1910
A 1046	Frenchman River	F. C. Krotter No. 2	Irrig.	3.30	35	5	34	December	15	1910
A 1047	Frenchman River	F. C. Krotter No. 3	Irrig.	2.42	35	5	34	December	15	1910
A 1049	Republican River	Shadeland Park Ditch	Irrig.	38.00	26	3	29	January	3	1911
A 1055	Republican River	McConnell Bros. Irr. Canal	Irrig.	180.00	10	2	34	January	23	1911
A 1068	Republican River	H. D. Irr. Canal	Irrig.	7.00	28	2	35	March	2	1911
A 1070	Indian Creek	Stoneberg Ditch	Irrig.	1.00	2	2	37	March	13	1911
A 1093	Republican River	G. Cappel Ditch	Irrig.	1.57	19	3	30	May	1	1911
A 1094	Frenchman River	Hokes Pump & Power Plant	Irrig.	2.28	21	6	39	May	1	1911
A 1108	Frenchman River	Kilpatrick Reservoir No. 1	Stor.	60.00	23	6	40	June	22	1911
A 1117	Frenchman River	Ext. of Aberdeen Ditch	Irrig.	1.57	2	5	38	July	29	1911
A 1129	Republican River	Shadeland Park Ditch	Irrig.	7.00	25	3	29	September	28	1911
A 1136	Frenchman River	Wauneta Mills & Elec. L. Plant	Power	75.00	11	5	36	November	16	1911
A 1142	Frenchman River	Arteburn Storage Reservoir	S. & I.	160.00	11	6	41	November	28	1911
A 1143	Maurer Springs	Burlington Pipe Line	Irrig.	1.48	23	2	11	November	28	1911
A 1145	Frenchman River	Inman Storage Reservoir	Stor.	125.00	17	6	40	December	8	1911
A 1160	Kilpatrick Reservoir	Kilpatrick Reservoir Ditch	Irrig.	17.00	30	6	39	January	25	1912
A 1172	Republican River	Cottonwood Ditch	Irrig.	3.35	6	1	36	February	19	1912
A 1192	Republican River	Rupert Ditch	Irrig.	20.00	32	3	32	April	19	1912
A 1201	Brush Creek	Brush Creek Reservoir	Stor.	3.5	3	20	29	June	1	1912
A 1202	Republican River, North Fork	Parks Ditch	Irrig.	17.00	20	1	39	June	18	1912
A 1212	Red Willow Creek	Master's Ditch	Irrig.	1.14	6	3	28	July	29	1912
A 1213	Crooked Creek	Slawson's Ice Pond	Stor.	.75	1	1	11	August	8	1912
A 1221	Republican River		Power	300.00	15	1	19	August	26	1912
A 1245	Rock Creek	Benkelman Light Association	Power	20.00	8	1	39	November	30	1912
A 1284	Frenchman River	Oliver Bros. Irr. Power Plant	Power	50.00	7	5	35	April	28	1913
A 1285	Frenchman River	Oliver Bros. Canal	Irrig.	3.20	7	5	35	April	28	1913
A 1287	Driftwood Creek	Schmitz Irr. Works	Irrig.	1.50	12	2	30	May	3	1913
A 1298	Buffalo Creek	J. R. Porter Ditch	Irrig.	3.32	1	1	41	June	23	1913
A 1304	Frenchman River	Harvey Reservoir	Stor.	300.00	3	5	38	July	10	1913
A 1315	Elk Creek	Murray Irr. Works	Irrig.	2.85	11	4	23	August	13	1913
A 1321	Republican River	W. J. Bailey Ditch	Irrig.	.64	6	3	21	September	8	1913
A 1332	Driftwood Creek	Hesterwerth Irr. Works	Irrig.	1.00	14	2	30	November	17	1913
A 1339	Frenchman River	Krotter Power Plant	Power	65.00	35	5	34	December	2	1913
A 1340	Driftwood Creek	Sylvan Dell	Irrig.	2.80	1	2	30	December	6	1913
A 1442	Republican River	Lake Disappointment	Stor.	5.00	32	2	18	December	18	1915
A 1443	Republican River	The Everson Canal	Irrig.	1.07	13	2	18	December	18	1915

PRIORITIES WATER DIVISION NO. 1-B—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 1444	Republican River, North Fork	The Parks Ditch	Irrig.	2.00	20	1	39	December	31	1915
A 1474	Frenchman River	Municipal W. & L. Plant	Power	55.00	25	6	39	February	7	1917
A 1484	Stinking Water	Palisade Power Plant	Power	72.00	25	5	34	April	21	1917
A 1485	Stinking Water	Palisade Reservoir	Irrig.	150.00	25	5	34	April	21	1917
A 1487	Frenchman River	Lake Imperial	Irrig.	4.57	25	6	39	May	14	1917
A 1491	Cook Creek	Cook Creek Canal	Irrig.	1.42	33	2	18	July	21	1917
A 1517	Cook Creek		Irrig.	.108	33	2	18	July	10	1918
A 1522	Cook Creek		Irrig.	.108	33	2	18	August	24	1918
A 1523	Flood and Surplus water from spillway No. 10 of the canal of Frenchman Irrigation District		Irrig.	.70	17	3	31	September	4	1918

PRIORITIES WATER DIVISION NO. 1-C

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 1219	Little Blue River	Crystal Lake	Stor.	1.50	27	6	10	August	17	1912
A 1410	Little Blue River	Lyons Little Blue Elec. Co.	Power	150.00	29	4	6	April	26	1915
A 1411	Little Blue River		Irrig.	4.00	18	4	6	April	26	1915
A 1467	Little Blue River	Meyer Hydro. Elec. Power Co.	Power	150.00	16	3	5	July	27	1916

PRIORITIES WATER DIVISION NO. 1-D

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 963	Beaver Creek		Power	40.00	7	10	2	November	1	1878
D 1021	Big Blue River	Holmesville Mill & Power Co.	Power	500.00	29	3	7	April	....	1882
A 81	Turkey Creek	Lane Model	Irrig.	.09	4	7	3	July	16	1895
A 455	Bear Creek	Feeble Minded Institution	D. & I.	1.00	36	4	6	May	20	1898
A 1006	Big Blue River		Power	200.00	19	9	4	July	8	1910
A 1095	Big Blue River	Holmesville Mill & Power Co.	Power	500.00	29	3	7	May	3	1911
A 1135	Big Blue River	Jacobs Electric Co.	Power	41.00	26	12	2	November	13	1911
A 1153	Big Blue River	Blue River Power Plant 2	Power	100.00	32	9	3	January	3	1912
A 1262	Big Blue River	Barneston Power Plant	Power	500.00	13	1	7	February	18	1913
A 1265	Big Blue River	Blue River Power Plant 3	Power	100.00	5	8	4	March	13	1913
A 1314	Big Blue River	Marr's Irr. Canal	Irrig.	2.28	2	6	4	August	12	1913
A 1366	Big Blue River	C. B. & Q. Pipe Line	Irrig.	.50	2	9	3	April	30	1914
A 1394	Big Blue River	Pipe Line at Wymore	Irrig.	.50	21	2	7	December	24	1914
A 1395	Big Blue River	Pipe Line at Seward	Irrig.	.50	21	11	3	December	24	1914
A 1416	Big Blue River	Power Station No. 4	Power	125.00	19	4	6	June	7	1915
A 1417	Big Blue River	Power Station No. 2	Power	100.00	1	5	4	June	7	1915
A 1422	Big Blue River	Power Station No. 3	Power	175.00	3	4	5	July	7	1915
A 1476	Big Blue River	Power Station No. 5	Power	100.00	11	8	3	February	13	1917
A 1494	Blue River and School Creek	Blue River Park Dam	Power	667.00	1	8	4	August	4	1917
A 1506	Big Blue River	Shestak Power Plant	Power	200.00	35	7	4e	February	6	1918
A 1520	West Fork Big Blue River	Blue River Power Plant No. 2	Power	100.00	33	9	3	August	21	1918
A 1521	West Fork Big Blue River	Blue River Power Plant No. 3	Power	100.00	5	8	4	August	21	1918

PRIORITIES WATER DIVISION NO. 1-E—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 347	Lodge Pole Creek	Bay State Ditch	Irrig.	1.50	29	15	55	December	31	1876
D 368	Lodge Pole Creek	Adams & Tobin	Irrig.	1.14	35	14	50	October	1	1878
D 305	Lodge Pole Creek	Gunderson Ditch	Irrig.	1.43	1	14	52	June	1	1879
D 339	Lodge Pole Creek	Runge Ditch No. 1	Irrig.	1.71	20	14	50	April	15	1880
D 338	Lodge Pole Creek	Runge Ditch No. 2	Irrig.	.50	20	14	50	April	15	1882
D 373	Lodge Pole Creek	Anderson Ditch No. 1	Irrig.	2.50	8	14	51	June	30	1882
D 346	Lodge Pole Creek	Circle Arrow	Irrig.	3.71	29	15	55	July	1	1882
D 308	Lodge Pole Creek	Urback Ditch	Irrig.	.86	15	14	51	September	1	1882
D 320	Lodge Pole Creek	Hale Ditch No. 3	Irrig.	.57	36	14	49	April	30	1883
D 321	Lodge Pole Creek	Hale Ditch No. 4	Irrig.	.71	36	14	49	April	30	1883
D 322	Lodge Pole Creek	Hale Ditch No. 5	Irrig.	.57	36	14	49	April	30	1883
D 317	Lodge Pole Creek	L. Whitney Ditch	Irrig.	.29	31	14	48	May	1	1883
D 309, 310	Lodge Pole Creek	Booth's Canal	Irrig.	4.29	29	14	47	May	21	1883
D 814	Lodge Pole Creek	McAuliff Ditch	Irrig.	2.29	21	13	45	December	31	1884
D 348	Lodge Pole Creek	Kinney Ditch No. 2	Irrig.	2.71	33	15	56	December	31	1884
D 312	Lodge Pole Creek	Libby Ditch	Irrig.	2.00	36	14	47	December	31	1884
D 969	Lodge Pole Creek		Irrig.	1.14	26	14	47	January	1	1885
D 336	Lodge Pole Creek	Howard Ditch	Irrig.	.86	31	14	47	April	10	1885
D 323	Lodge Pole Creek	Krueger Ditch No. 3	Irrig.	1.14	32	14	48	May	1	1885
D 813	Lodge Pole Creek	Wolf Ditch	Irrig.	1.00	18	13	45	December	31	1885
D 351	Lodge Pole Creek	McIntosh Ditch	Irrig.	3.31	29	15	55	April	16	1886
D 324	Lodge Pole Creek	Krueger Ditch No. 2	Irrig.	2.29	32	14	48	October	10	1886
D 301	Lodge Pole Creek	Bergquist	Irrig.	1.29	34	14	49	April	30	1887
D 300	Lodge Pole Creek	Bergquist	Irrig.	.71	34	14	49	April	30	1887
D 316	Lodge Pole Creek	Upper Whitney Ditch	Irrig.	2.29	36	14	49	May	1	1887
D 966	Lodge Pole Creek	McLaughlin	Irrig.	1.00	25	14	48	May	1	1887
D 318	Lodge Pole Creek	Hale Ditch No. 1	Irrig.	1.14	36	14	49	July	1	1887
D 304	Lodge Pole Creek		Irrig.	.86	8	14	51	September	1	1887
D 330	Lodge Pole Creek	Tobin Ditch	Irrig.	2.29	28	14	47	July	31	1888
D 303	Lodge Pole Creek	Bordwell Ditch	Irrig.	1.43	35	14	49	August	1	1888
D 340	Lodge Pole Creek	Premier	Irrig.	2.43	3	14	58	April	11	1889
D 341	Lodge Pole Creek	Smeed	Irrig.	1.43	8	14	58	April	12	1889
D 302	Lodge Pole Creek	Bordwell Ditch	Irrig.	.86	35	14	49	April	27	1889
D 342	Lodge Pole Creek	Polly Ditch	Irrig.	.79	30	15	55	May	6	1889
D 343	Lodge Pole Creek	Independent	Irrig.	3.14	7	14	58	May	6	1889
D 344	Lodge Pole Creek		Irrig.	.43	30	15	55	May	6	1889
D 345	Lodge Pole Creek	Kinney Ditch	Irrig.	2.00	31	15	56	May	14	1889

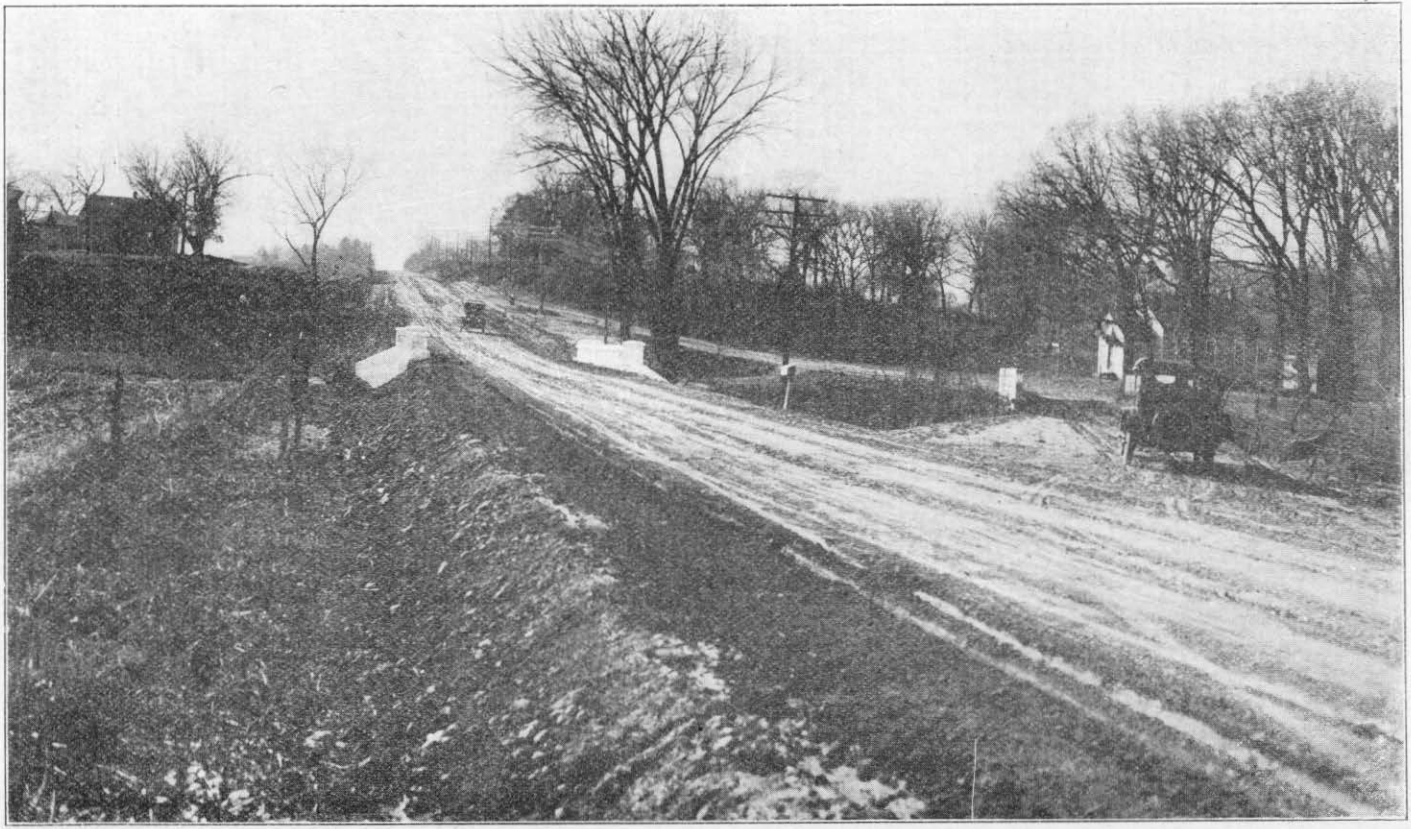
NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 349	Lodge Pole Creek	Young Ditch	Irrig.	.50	33	15	57	May	28	1889
D 307	Spring Creek	Oberfelder Ditch	Irrig.	2.23	31	14	46	May	29	1889
D 350	Lodge Pole Creek	Ruttner Ditch	Irrig.	1.14	36	15	57	June	4	1889
D 333	Lodge Pole Creek	Oberfelder Ditch	Irrig.	.43	31	14	46	June	10	1889
D 319	Lodge Pole Creek	Hale Ditch No. 2	Irrig.	.43	36	14	49	June	26	1889
D 296	Lodge Pole Creek		Irrig	9.14	3	13	46	June	25	1889
D 297	Lodge Pole Creek	Persinger Ditch	Irrig.	4.57	33	14	46	June	25	1889
D 325	Lodge Pole Creek	Krueger Ditch No. 1	Irrig.	3.00	29	14	48	June	26	1889
D 352	Lodge Pole Creek	Brady Ditch	Irrig.	.71	29	15	55	August	16	1889
D 353	Lodge Pole Creek	Hoover Ditch	Irrig.	1.43	12	14	59	September	4	1889
D 329	Lodge Pole Creek	Ickes Ditch	Irrig.	2.50	28	14	56	March	25	1891
D 371	Lodge Pole Creek	Adams Ditch	Irrig.	1.43	3	14	52	July	6	1891
D 354	Lodge Pole Creek	Hurley, et al.	Irrig.	2.57	26	15	56	October	1	1891
D 366	Lodge Pole Creek	Christenson	Irrig.	.57	7	14	51	April	15	1893
D 367	Lodge Pole Creek	Christenson	Irrig.	.43	7	14	51	April	15	1893
D 365	Lodge Pole Creek	Trognitz	Irrig.	1.00	36	14	50	June	1	1893
D 306	Lodge Pole Creek	Oberfelder	Irrig.	2.00	31	14	46	December	30	1893
D 968	Lodge Pole Creek	Krueger Ditch	Irrig.	1.00	29	14	48	May	1	1894
D 372	Lodge Pole Creek	Anderson Ditch No. 2	Irrig.	.57	10	14	51	June	1	1894
D 370	Lodge Pole Creek	Adams	Irrig.	1.43	10	14	52	September	1	1894
D 337	Lodge Pole Creek	Lyngholm	Irrig.	.36	14	14	51	November	1	1894
D 335	Spring Creek		Irrig.	.04	14	13	51	March	19	1895
D 369	Lodge Pole Creek	Adams Ditch	Irrig.	.50	10	14	52	August	1	1895
D 967	Lodge Pole Creek		Irrig.	2.29	33	14	47	May	10	1896
A 381	Lodge Pole Creek		Irrig.	.14	30	15	53	March	3	1897
A 437	Lodge Pole Creek	Bullock Canal	Irrig.	.57	4	13	46	February	16	1898
A 454	Lodge Pole Creek	Maltese Cross	Irrig.	.21	36	15	57	May	16	1898
A 504	Lodge Pole Creek	Bushnell Ditch	Irrig.	3.00	2	14	58	April	15	1899
A 563	Lodge Pole Creek	Wiegand Ditch	Irrig.	2.00	17	13	45	May	31	1900
A 565	Lodge Pole Creek	Neuman Canal 1 and 2	Irrig.	1.89	36	13	45	June	12	1900
A 600	Lodge Pole Creek	Wertz Bros. Ditch	Irrig.	2.86	12	13	46	February	14	1901
A 611	Lodge Pole Creek	Neuman Canal	Irrig.	1.29	26	13	45	April	17	1901
A 612	Lodge Pole Creek	Johnson's Canal	Irrig.	2.14	23	13	45	April	17	1901
A 623	Spring Creek	Spring Branch Ditch	Irrig.	.29	36	14	47	July	1	1901
A 657	Lodge Pole Creek	Bennett Live Stock Co.	Irrig.	22.29	29	15	55	March	13	1902
A 661	Lodge Pole Creek	Nasland Ditch	Irrig.	.90	1	12	45	April	16	1902
A 683	Lodge Pole Creek	Clausen South Side	Irrig.	.57	27	15	54	July	25	1902
A 684	Lodge Pole Creek	Clausen North Side	Irrig.	.57	26	15	54	July	25	1902

PRIORITIES WATER DIVISION NO. 1-E—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 691	Lodge Pole Creek	Bennett Live Stock Co.	Irrig.	1.87	29	15	55	October	2	1902
A 703	Lodge Pole Creek	Forsling	Irrig.	1.50	34	15	57	April	24	1903
A 718	Lodge Pole Creek		Irrig.	1.83	33	15	56	July	25	1903
A 719	Lodge Pole Creek	Bickel Ditch	Irrig.	.93	30	15	55	August	3	1903
A 723	Lodge Pole Creek	Pomeroy Ditch No. 1	Irrig.	.57	15	14	51	August	20	1903
A 724	Lodge Pole Creek		Irrig.	.14	30	15	55	September	9	1903
A 725	Lodge Pole Creek	Oswasco	Irrig.	22.28	29	15	55	September	12	1903
A 734	Lodge Pole Creek	Oswasco	Irrig.	1.75	29	15	55	December	15	1903
A 806	Lodge Pole Creek	Forsling Ditch	Irrig.	.86	34	15	57	December	6	1905
A 850	Lodge Pole Creek	Smith Ditch	Irrig.	3.57	12	12	45	August	18	1906
A 847	Lodge Pole Creek	Ralton Irr. System	Irrig.	19.14	36	13	45	January	4	1907
A 857	Lodge Pole Creek	Yoder Extension	Irrig	2.71	36	15	57	April	9	1907
A 869	Lodge Pole Creek	Walker Ditch	Irrig.	1.71	31	15	56	September	16	1907
A 870	Lodge Pole Creek	Tracy Ditch	Irrig.	.50	12	14	59	June	20	1895
A 882	Lodge Pole Creek	Ralton Irr. District	Irrig.	12.40	36	13	45	September	21	1907
A 897	Lodge Pole Creek	Kimball Stor. & Res. Irr. System	Irrig.	20000.00 a ft.	36	15	57	April December	15 4	1908 1907
A 904	Lodge Pole Creek	Wild's Ditch	Irrig.	1.71	11	13	46	June	2	1908
A 906	Lodge Pole Creek	Ruttner Canal	Irrig.	.50	30	14	47	June	25	1908
A 934	Lodge Pole Creek	Bennett Ditch No. 5	Irrig.	1.00	29	15	54	February	17	1909
A 1091	Flood water from hills	Fifield Ditch	Irrig.	.57	22	15	56	April	27	1911
A 1127	Lodge Pole Creek	McGinnis Ice Pond	Stor.	3.00	26	15	56	September	19	1911
A 1237	Lodge Pole Creek	Soderquist Ditch	Irrig.	2.00	36	13	45	October	22	1912
A 1322	Lodge Pole Creek	Wiegand Ditch No. 3	Irrig.	1.28	16	13	45	September	10	1913
A 1323	Lodge Pole Creek	Wiegand Ditch No. 2	Irrig.	.42	16	13	45	September	10	1913
A 1420	Lodge Pole Creek	Soderquist Ditch	Irrig.	2.33	36	13	45	June	29	1915
A 1445	Lodge Pole Creek	A. G. Neumann Ditch	Irrig.	6.00	26	13	45	January	5	1916
A 1478	Lodge Pole Creek	Bentley Canal	Res.	1.00	34	14	50	February	14	1917
A 1483	Lodge Pole Creek	Sudman Ditch	Irrig.	.78	22	13	45	April	5	1917

PRIORITIES WATER DIVISION NO. 1-F

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 955	Weeping Water	Gilmore Ditch	Ice	8.00	2	10	11	August	5	1909



Complete Federal and State Aid Project No. 2, Otoe County.

PRIORITIES WATER DIVISION NO. 2-A

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 229	Middle Loup River	Sherman County Canal	Power	125.00	26	17	16	Fall f		1888
D 227, 228, 232	North Loup River	North Loup Ditch	Irrig.	143.00	27	19	14	September	30	1893
D 210	Victoria Ditch	Victoria Irr. Plant	Irrig.	2.29	1	19	21	March	17	1894
D 202	Middle Loup River	Middle Valley Irr. Co.	Irrig.	560.29	15	21	22	June	6	1894
D 289	Looking Glass Creek	Monroe Ditch	Irrig.	2.86	1	17	3	June	12	1894
D 290	Spring Creek	Hendryx Ditch	Irrig.	1.33	2	17	3	June	25	1894
D 194	Caw Creek	Homestead Ditch	Irrig.	2.29	7	26	27	July	14	1894
D 213	Victoria Creek	Victoria Ditch	Irrig.	4.29	1	19	21	July	17	1894
D 189, 188, 356	North Loup River	Lee Ditch	Irrig.	40.00	25	27	29	August	7	1894
D 214	Middle Loup River	Wescott Irr. Ditch	Irrig.	88.57	15	19	18	August	8	1894
D 229	Middle Loup River	Sherman County Canal	Irrig.	244.00	26	17	16	August	13	1894
D 215	Muddy Creek	Penns Irr. Ditch	Irrig.	.50	33	17	20	August	14	1894
D 198	Middle Loup River	Thedford Ditch	I. & P.	43.00	4	23	29	August	25	1894
D 224	North Loup River	Burwell Irr. Ditch	Irrig.	110.00	27	21	17	September	7	1894
D 199	Middle Loup River	Norway Ditch	Irrig.	2.86	31	24	29	September	8	1894
D 221	Cedar River	Cedar River Canal	Irrig.	175.00	22	21	12	September	14	1894
D 217	Victoria Creek	Loughran & Bell	Irrig.	4.00	3	19	21	September	22	1894
D 216, 204	Middle Loup River	Lillian Precinct Ditch	Irrig.	140.00	30	21	21	October	19	1894
D 287	Beaver River	Pioneer Ditch	Irrig.	3.57	22	20	6	December	8	1894
D 292a	Shell Creek	Schmitt's Irr. Ditch	Irrig.	3.00	19	18	1	December	17	1894
D 292b	Shell Creek		Power	30.50	19	18	1	December	17	1894
D 236	South Loup River	Tillson Ditch	Irrig.	15.57	29	12	15	December	28	1894
D 219	South Loup River	Bobbits Ditch	Power	20.00	10	14	21	January	17	1895
D 219	South Loup River		Irrig.	.50	10	14	21	January	17	1895
D 205	North Loup River	Newton Irr. Co.	I. & P.	115.14	35	23	21	February	5	1895
D 209	Goose Creek	Erickson's Ditch	Irrig.	8.00	18	25	24	April	3	1895
D 187	Goose Creek	Giles Ditch	Irrig.	10.00	2	25	25	June	1	1895
A 2	Shell Creek	Gottbrog	Irrig.	1.00	24	18	1	June	6	1895
A 40	Platte River	Fremont Canal	I. & P.	2500.00	30	17	4	June	21	1895
A 113	Middle Loup River	Jewett Ditch	Irrig.	4.29	30	22	24	August	12	1895
A 248	Middle Loup River	Harris Canal	Irrig.	5.71	16	22	25	February	21	1896
A 262	Middle Loup River	Arcada	Irrig.	20.00	16	17	16	March	6	1896
A 277	Beaver River	Wind Mill Irr.	Irrig.	.14	14	17	4	March	31	1896

PRIORITIES WATER DIVISION NO. 2-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 345	Goose Creek	Crook Ditch	Irrig.	8.00	33	25	24	June	2	1896
A 301	North Loup River	Tzschuck Canal	Irrig.	242.86	30	22	19	June	5	1896
A 363	South Loup River	Brown Canal	Irrig.	.86	31	17	24	February	23	1897
A 390	South Loup River	Hartzell Ditch	Irrig.	.37	27	18	26	May	1	1897
A 397	Gracie Creek	Gracie High Line	Irrig.	.29	29	23	17	July	9	1897
A 442	Middle Loup River	Webster	Irrig.	1.71	20	19	17	March	5	1898
A 636	Cedar Creek	Fullerton Elec. L. & P. Co.	Power	200.00	12	16	6	September	9	1901
A 639	Beaver River	Albion Elec. L. & P. Co.	Power	67.00	26	20	6	October	3	1901
A 709	Loup River	Columbus Development	I. & P.	2700.00	27	17	4	June	10	1903
A 894	Platte River	Fremont & Omaha Power Co.	Power	2000.00	30	17	4	March	25	1908
A 1058	Beaver River	St. Edward Elec. Power Co.	Power	134.00	27	19	5	February	11	1911
A 1175	Middle Loup River	Long Wood Irr. Canal	Irrig.	12.93	20	19	17	February	21	1912
A 1182	Mira Creek	Mira Reservoir	Stor.	1.14	26	18	13	March	8	1912
A 1185	Middle Loup River	Mullen Grist & Light Plant	Power	124.00	6	24	32	March	12	1912
A 1187	Loup River	Schuyler Development	Power	2000.00	28	17	1	March	23	1912
A 1189	Victoria Creek	Victoria Ditch	Irrig.	15.7	1	19	21	April	2	1912
A 1207	Dane Creek		Irrig.	.14	20	19	14	July	5	1912
A 1216	Middle Loup River	St. Paul Elec. Works	Power	2000.00	3	14	10	August	12	1912
A 1224	Middle Loup River	Lundy Mill & Power Plant	Power	400.00	9	19	19	September	16	1912
A 1226	Middle Loup River	Nursery Ditches	Irrig.	1.00	3	22	26	September	16	1912
A 1233	Lillian Creek	Lillian Creek Canal	Irrig.	5.00	1	19	20	October	14	1912
A 1234	Middle Loup River	Middle Loup Power Plant	Power	500.00	36	20	21	October	15	1912
A 1239	Mira Reservoir		Irrig.	1.32	26	18	13	October	30	1912
A 1275	South Loup River	W. J. Flagg	Irrig.	5.71	11	12	18	April	15	1913
A 1294	Middle Loup River	Loup Valley Irr. Canal	Irrig.	.85	36	20	21	May	31	1913
A 1300	Middle Loup River	Lundys Lake Canal	Irrig.	28.31	4	19	19	June	27	1913
A 1306	Middle Loup River	Lundys Lake	Stor.	8.00	2	19	19	July	19	1913
A 1307	Middle Loup River	Lundys Lake	Irrig.	6.34	4	19	19	July	19	1913
A 1308	Middle Loup River	Bills Lake Canal	Irrig.	118.00	36	20	21	July	19	1913
A 1330	Middle Loup River	Austin Irr. Ditch	Irrig.	50.00	32	13	14	November	6	1913
A 1357	Spring Branch	Haskill	Irrig.	7.00	31	17	24	February	27	1914
A 1373	Middle Loup River	Central Power Co.	Power	1000.00	30	13	12	July	14	1914
A 1393	Loup River	Pipe Line at Ravenna	Irrig.	.50	9	12	14	December	24	1914
A 1396	Middle Loup River	Pipe Line at Seneca	Irrig.	.50	18	24	30	December	28	1914
A 1400	South Loup River	Grand Island Elec. Co.	Power	840.00	35	13	12	January	18	1915
A 1415	Cedar River	Erickson Lake Co.	Power	175.00	25	21	12	May	24	1915
A 1447	Sand Creek	Troyers Pumping Plant	Irrig.	.24	10	15	23	February	21	1916
A 1453	Mira Creek	Hutchins Dam	Irrig.	.20	26	18	13	April	18	1916

PRIORITIES WATER DIVISION NO. 2-A—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 1480	Beaver Creek (Supple A. 639)	Albion Elec. Light Co.	Power	70.00	26	20	6	October	3	1901
A 1518	Oak Creek	Oak Creek Irr. Plant No. 1	Irrig.	.57	2	13	11	July	12	1918
A 1524	Spring Creek, trib. to Loup River	Carstensen's Lake	Irrig.	1.92	23	17	1	September	5	1918

PRIORITIES WATER DIVISION NO. 2-B

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 996	Elkhorn River, South Branch	Sugar City Cereal Mills	Power	100.00	23	24	1	March	1	1870
D 271	Elkhorn River	Atkinson Mill	Power	38.50	30	30	14	November	1	1883
D 259	Elkhorn River									
D 263	Elkhorn River	Elkhorn Irr. Co.	Irrig.	131.43	22	29	13	February	3	1894
D 260	Elkhorn River	Davis Ditch	Irrig.	1.43	31	29	11	February	8	1894
D 261	Elkhorn River	Carlon Ditch No. 1	Irrig.	1.00	32	29	11	February	8	1894
D 262	Elkhorn River	Carlon Ditch No. 2	Irrig.	5.00	30	29	11	February	8	1894
D 283	Elkhorn River		Irrig.	5.00	32	29	11	February	20	1895
A 29	Springs	Spring Brook Aqueduct	Irrig.	.07	13	14	13	June	18	1895
A 415	Silver Creek	Armour & Co. Ditch	Ice.	10.00	7	13	9	October	18	1897
A 464	Elkhorn River, South Branch	Flouring Mill	Power	33.00	3	26	9	August	21	1898
A 484	Battle Creek	Battle Creek Mills	Power	10.67	36	24	3	November	12	1898
A 489	Oak Creek	Eiche Irr. Plant	Irrig.	.71	17	10	6	January	4	1899
A 818	Battle Creek	Battle Creek Mills	Power	20.00	36	24	3	April	20	1906
A 883	Middle Creek	Malone Ice Pond	Irrig.	10.00	30	10	6	December	26	1907
A 966	Ryan's Lake	Cut Off "H"	Drain.		4	17	9	October	16	1909
A 970	Platte River	Platte River Hydro Elec. P. Co.	Power	2500.00	6	14	10	November	24	1909
A 971	Elkhorn River	Platte River Hydro Elec. P. Co.	Power	500.00	14	15	10	November	24	1909
A 1069	Clear Lake	Main Ditch No. 1	Drain.		14	23	8	March	9	1911
A 1250	Elkhorn River	West Point Hydro Elec. Dev.	Power	400.00	18	22	6	December	26	1912
A 1335	Stevens Creek	Setvens Creek Irr. Project	Irrig.	1.00	2	10	7	November	19	1913
A 1379	Platte River	Plattsmouth Power Plant	Power	2000.00	32	13	13	September	4	1914
A 1516	Oak Creek	Capital Beach	Power	50.00	16	10	6	June	5	1918

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 606	Middle Creek	McGuire Ditch	Irrig.	.71	32	33	23	June	1	1884
D 619	Rock Creek	Van Koten Ditch	Irrig.	.07	25	33	22	January	1	1885
D 514a	Niobrara River	Earnest Ditch No. 1	Irrig.	2.86	9	29	56	May	1	1885
D 610	Niobrara River	Bruce Mill Dam	Power	60.00	16	33	24	April	1	1886
D 513a	Niobrara River	McGinley & Stover	Irrig.	8.21	25	29	56	May	1	1887
D 593	Rock Springs	Moore's Ditch	Irrig.	1.43	12	32	22	June	30	1887
D 442a	Niobrara River	Pioneer Ditches	Irrig.	7.14	36	29	51	August	1	1887
D 566	Niobrara River	McLaughlin Ditch	Irrig.	7.14	9	28	52	May	1	1888
D 609	Bear Creek	Skinner Ditch	Irrig.	.22	15	32	21	June	20	1888
D 617	Newman Creek	Neumann Ditch	Irrig.	.21	17	33	24	July	1	1888
D 615	Cross Creek	Hutchinson Ditch	Irrig.	.21	8	33	24	September	1	1888
D 608a	Crooked Creek	Burton Ditch	Power	3.00	19	34	19	December	31	1889
D 513b	Niobrara River	McGinley & Stover	Irrig.	1.71	25	29	56	May	1	1890
D 514b	Niobrara River	Earnest Ditch No. 1	Irrig.	2.14	9	29	56	May	15	1890
D 582	Rickman Creek	Byington Ditch	Irrig.	1.00	22	32	20	May	19	1891
D 980	Niobrara River	Cook Ditch Nos. 1 and 2	Irrig.	3.54	1	28	56	May	31	1891
D 616	West Middle Creek	Allen Ditch	Irrig.	.50	29	33	23	June	1	1891
D 510	Niobrara River	Bigelow Ditch	Irrig.	2.40	19	31	57	June	8	1891
D 604	Wymer Creek	McCulley Ditch	Irrig.	.80	19	32	19	June	10	1891
D 620	Beeman Creek	Beeman Ditch	Irrig.	1.00	23	32	20	May	20	1892
D 603	Old Beeman Creek	Barnard	Irrig.	.43	21	32	20	June	1	1892
D 517	Niobrara River	Harris & Niese	Irrig.	8.57	3	28	55	July	1	1892
D 415	Pine Creek	Pine Creek Mills	Power	32.00	33	30	44	June	5	1893
D 442b	Niobrara River	Pioneer Ditches	Power	10.00	31	33	50	August	1	1893
D 612a	Fairfield Creek	Kuhres Ditch	Power	25.00	31	33	23	September	1	1893
D 970	Niobrara River	Roll Milling Co.	Power	35.00	5	28	51	September	10	1893
D 459	Niobrara River	Meridan	Irrig.	.57	25	29	50	January	10	1894
D 461	Niobrara River	Enterprise	Irrig.	5.71	27	29	50	January	27	1894
D 462	Niobrara River	Furman	Irrig.	3.64	29	29	50	February	2	1894
D 612b	Fairfield Creek		Irrig.	.14	31	33	23	April	1	1894
D 511	Niobrara River	Johnson Ditch	Irrig.	2.86	36	31	57	May	1	1894
D 607	Snider Creek	Olds Ditch	Irrig.	.01	31	33	19	May	1	1894
D 587	Wyman Creek	Horton Ditch	Irrig.	.14	17	32	19	June	5	1894
D 463	Niobrara River	McManus & Neeland	Irrig.	.86	29	29	49	June	15	1894
D 618	Cub Creek	Tissue & Patterson	Irrig.	.03	16	33	22	June	30	1894
D 264	East Brush Creek	McCarthy Ditch No. 1	Irrig.	.50	24	32	14	July	1	1894
D 611	Holt Creek	Akers Ditch	Irrig.	.14	1	34	21	August	1	1894

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 329	Plum Creek	Wilbert	Irrig.	.43	35	32	23	May	5	1896
A 330	Cottonwood Creek	Fendrick & Lichte	Irrig.	.64	22	29	48	May	9	1896
A 311	Young Creek	Harvey & Lambe	Irrig.	.21	32	33	11	June	13	1896
A 322	Shobe & Sizer Branch		Irrig.	.14	30	33	11	July	6	1896
A 359	Minnechaduza Creek	Pierce Milling Co.	Power	35.00	30	34	27	September	12	1896
A 448	Niobrara River	McManus & Neeland	Irrig.	1.93	29	29	49	April	9	1898
A 452	Niobrara River	Armstrong	Power	150.00	9	33	13	May	14	1898
A 469	Niobrara River	Meridan	Irrig.	5.14	25	29	50	August	29	1898
A 474	Brush Creek	Brush Creek Power Co.	Piwer	15.00	23	33	13	September	28	1898
A 479	Bear Creek	Ciderberg Ditch No. 1	Irrig.	.02	3	32	21	October	3	1898
A 533	Box Butte Creek	Billys Ditch	Irrig.	.21	29	29	45	January	13	1900
A 539	Turkey Creek	Turkey Creek	Irrig.	.43	35	33	23	February	9	1900
A 542	Niobrara River	Bourrett Ditch	Irrig.	1.00	29	30	56	March	5	1900
A 546	Niobrara River	Bourrett Ditch	Irrig.	1.71	19	30	56	March	17	1900
A 555	Spring Creek	Garden Ditch	Irrig.	.86	27	34	25	March	30	1900
A 575	Niobrara River	Montague & Lichte	Irrig.	.43	27	29	48	September	27	1900
A 607	Niobrara River	Chladek Ditch	Irrig.	.30	26	29	48	March	18	1901
A 616	Niobrara River	Fendrick Ditch	Irrig.	.29	32	29	48	June	1	1901
A 617	Niobrara River	Fendrick Ditch	Irrig.	.27	32	29	48	June	1	1901
A 667	Big Sandy Creek	Badger Ditch	Irrig.	1.14	12	33	14	May	16	1902
A 676	Ashburn Creek	Ashburn Canal	Irrig.	.43	27	34	26	June	17	1902
A 685	Big Sandy Creek	Badger Mill	Power	35.00	12	33	14	August	28	1902
A 729	Keya Paha River	Bruce Roller Mills	Power	100.00	24	34	16	October	5	1903
A 747	Kibby Creek	Green Ditch	Irrig.	.01	28	34	16	April	1	1904
A 753	West Middle Creek	Continuance M. M. Allen Ditch	Irrig.	1.00	29	33	23	May	2	1904
A 754	Turkey Creek	Turkey Creek No. 2	Irrig.	2.00	35	33	23	May	11	1904
A 757	Niobrara River	Potmesel Ditch	Irrig.	6.00	26	29	48	May	19	1904
A 766	Niobrara River and Pepper Creek	Taylors Ditch	Irrig.	4.57	28	29	47	August	8	1904
A 791	Niobrara River	John L. Kay	Irrig.	2.00	6	28	53	May	12	1905
A 798	Antelope Creek	Antelope Ditch	Irrig.	.36	21	32	40	June	29	1905
A 799	Pole Creek	Pole Creek Ditch	Irrig.	.57	28	32	40	June	29	1905
A 863	Dry Canyon	Gilmore Canal	Irrig.	14.00	36	30	54	July	5	1907
A 941	Long Pine Creek	Long Pine L. & P. Plant	Power	48.00	30 29	30	20	April	2	1909
A 947	Plum Creek	Plum Creek	Power	150.00	32	32	22	May	15	1909
A 961	Niobrara River	Nebraska Power Co.	Power	900.00	34	32	7	September	24	1909
A 1019	Niobrara River	Nebraska Power Co.	Power	700.00	34	32	37	August	9	1910
D 583	Niobrara River	McCulley Ditch	Irrig.	8.57	25	32	20	August	7	1894

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 248	Verdigris Creek	Drayton Irrigation Ditch	Irrig.	2.86	8	28	8	August	11	1894
D 266	West Brush Creek	McCarthy Ditch No. 2	Irrig.	.63	26	32	14	August	15	1894
D 589	Cub Creek	McComber Ditch	Irrig.	.10	28	33	22	August	15	1894
D 267	Blackbird Creek	Mullen Ditch	Irrig.	1.00	20	31	11	August	18	1894
D 273	Bluebird Creek	Murphy's Ditch	Irrig.	1.00	26	30	11	September	7	1894
D 573	Keya Paha River	Yocum Ditch	Irrig.	1.14	23	34	15	September	7	1894
D 275	Eagle Creek	Bokhof Ditch	Irrig.	2.86	6	30	13	September	18	1894
D 575	Niobrara River	Fienken Ditch	Irrig.	1.00	12	33	16	October	1	1894
D 591	Niobrara River	Wilson Ditch	Irrig.	5.71	18	32	21	October	18	1894
D 590	Jewett Creek	B. L. Ditch	Irrig.	.71	5	32	21	October	23	1894
D 592	Huggings Creek	Soper Ditch	Irrig.	.14	21	35	20	November	6	1894
D 274	Eagle Creek South Branch	Becker Ditch	Irrig.	1.14	8	30	13	November	30	1894
D 405	Plum Creek	Johnstown Ditch	Irrig.	26.00	4	29	24	December	18	1894
D 400	Stream, no name	Grant Ditch	Irrig.	.14	4	31	20	January	1	1895
D 395	Rock Creek	Necessity	Irrig.	.35	29	32	18	January	17	1895
D 479	Niobrara River	Lichte Ditch	Irrig.	1.43	27	29	48	January	24	1895
D 505	Niobrara River	Warenke	Irrig.	1.57	27	31	57	February	13	1895
D 481	Cottonwood Creek	Morrissey's Ditch	Irrig.	.71	17	29	48	February	16	1895
D 595	Holt Creek	Schoettger Ditch	Irrig.	.14	32	35	20	February	23	1895
D 521	Niobrara River	McGinley & Stover	Irrig.	2.86	23	29	56	February	25	1895
D 518	Niobrara River	Labelle Ditch	Irrig.	2.00	6	28	54	March	12	1895
D 280	Eagle Creek	Eagle Valley Ditch	Irrig.	2.29	1	30	14	March	15	1895
D 485	Niobrara River	Snow Ditch	Irrig.	2.86	35	29	51	March	26	1895
D 397	Rock Creek Branch	Wiles Ditch	Irrig.	.86	9	31	18	April	3	1895
D 973	Boardman Creek	Lee Ditch	Irrig.	6.86	3	29	33	April	25	1895
D 568	Niobrara River	Excelsior	Irrig.	2.86	10	28	52	May	15	1895
D 601	Spotted Tail Creek	Spotted Tail Ditch	Irrig.	.25	4	34	17	May	17	1895
D 608b	Burton Creek	Burton Creek Ditch	Irrig.	.57	19	34	19	June	30	1895
A 4	Niobrara River	Bourrett Ditch	Irrig.	2.00	33	30	56	June	8	1895
A 65	Whistle Creek	Home Ditch	Irrig.	.86	13	28	54	June	6	1895
A 5	Niobrara River	Bourrett Ditch	Irrig.	1.43	29	30	56	June	10	1895
A 53	Niobrara River	Hughes Ditch	Irrig.	1.00	1	28	52	June	26	1895
A 58	Whistle Creek	Whistle Creek Ditch	Irrig.	1.00	12	28	54	June	28	1895
A 60	Niobrara River	Labelle Ditch	Irrig.	3.14	6	28	54	July	3	1895
A 82	Niobrara River	Ussher Ditch	Irrig.	1.16	19	29	46	July	17	1895
A 88	Niobrara River	Moore Ditch	Irrig.	5.71	9	28	53	July	22	1895
D 613	Beeman Creek	Beeman & Rickman	Irrig.	.29	23	32	20	July	25	1895
A 139	Lewis Spring Creek	Lewis	Irrig.	.14	29	35	19	August	30	1895

PRIORITIES WATER DIVISION NO. 2-C—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 142	Burton Creek	One Trip	Irrig.	.35	2	33	20	September	2	1895
A 149	Horse Head Creek	Bruce	Irrig.	.17	16	33	24	September	7	1895
A 158	Stream, no name	Conger Dam	Irrig.	.11	5	33	24	September	16	1895
A 173	Niobrara River	Hay Springs Ditch	Irrig.	14.29	29	29	47	September	27	1895
A 278	Abitz Creek	Fullerton Dtich No. 2	Irrig.	.36	18	30	13	March	23	1896
A 292	Niobrara River	Mettlin Ditch	Irrig.	10.00	4	28	34	April	27	1896
A 1027	Cedar Creek	Cedar Creek Ditch	Irrig.	.43	4	30	24	September	28	1910
A 1056	Niobrara River	Bieser Ditch	Irrig.	.75	4	29	56	January	23	1911
A 1057	Niobrara River	Ex. Bourrett Ditch	Irrig.	1.21	33	30	56	January	23	1911
A 1067	Springs	Glen Cove Ditch	Irrig.	.85	26	33	24	March	1	1911
A 1086	Niobrara River	Lichte Irrigation Ditch	Irrig.	3.00	27	29	48	April	7	1911
A 1087	Niobrara River	Camille Ditch	Irrig.	1.53	19	30	43	April	10	1911
A 1088	Niobrara River	Lichte Ditch	Irrig.	.71	27	29	48	April	19	1911
A 1113	Cottonwood Creek	Dunlap Ditch	Irrig.	.50	22	29	48	July	18	1911
A 1152	Niobrara River	Potmesil Bros. Ditch	Irrig.	.28	25	29	48	January	2	1912
A 1155	Boardman Creek	Boardman Ditch	Irrig.	28.57	33	30	32	January	17	1912
A 1188	Boardman Creek	Bourrett Extension No. 1	Irrig.	.11	29	30	56	March	25	1912
A 1193	Niobrara River	Wells Pumping System	Irrig.	1.64	32	32	40	May	2	1912
A 1209	Niobrara River	Bourrett Extension No. 2	Irrig.	.21	32	30	56	July	19	1912
A 1243	Niobrara River	Bristow-Lynch Power Plant	Power	900.00	1-6	32	10	November	14	1912
A 1248	Niobrara River	Mettlin Ditch	Irrig.	5.00	4	28	54	December	18	1912
A 1249	Niobrara River	Bennett Ditch	Irrig.	4.00	1	28	54	December	18	1912
A 1260	Niobrara River	Geo. Hitshew Ditch	Irrig.	6.00	6	28	52	February	17	1913
A 1279	Minnechaduza Creek	Valentine Power Plant	Power	40.00	29	34	27	April	16	1913
A 1352	Snake Creek	Snake Hydro Elec. Co.	Power	180.00	9	31	30	February	16	1914
A 1362	Niobrara River	Coffey Ditch No. 3	Irrig.	2.50	15	29	56	March	24	1914
A 1461	Horse Shoe Lake et al	Horse Shoe Lake Drain	Drain	.....	13	34	40	June	27	1916
A 1488	Niobrara River	Morton Nursery Irr. Ditch	Irrig.	.50	30	33	32	June	15	1917
A 1489	Spring Creek	Spring Creek Ditch	Irrig.	4.70	20	34	27	July	14	1917
A 1514	Rock Creek	Dugger Irr. Canal	Irrig.	15.00	33	32	18	May	28	1918

PRIORITIES WATER DIVISION NO. 2-D

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
D 447	East Ash Creek	Ox Yoke	Irrig.	2.86	31	32	50	May	31	1880
D 522	Kyle Creek	Kyle Creek Ditch	Irrig.	.57	3	30	54	June	30	1882
D 982	Charcoal Creek	Klein Ditch	Irrig.	.11	33	31	53	August	1	1882
D 561	White River	Jacobson Ditch	Irrig.	.14	32	31	53	October	1	1882
D 546	Soldier Creek	Rodgers Ditch	Irrig.	.14	5	31	53	April	50	1883
D 557	Spring Branch, trib. to White River.	Tuckers Ditch	Irrig.	.17	34	31	54	June	1	1883
D 428	West Ash Creek	Mase Ditch	Irrig.	1.00	2	31	51	July	31	1884
D 478a	White River	Halls Ditch No. 1 and 2	Irrig.	24.83	34	32	52	September	10	1885
D 494	Big Bordeaux Creek	Locket Ditch	Irrig.	.07	11	32	48	June	30	1886
D 525	Deep Creek	Deep Creek Ditch	Irrig.	.06	9	30	53	May	1	1887
D 438	East Ash Creek	Barron	Irrig.	1.14	32	32	50	July	1	1888
D 1022	Chadron Creek	Chadron Water Works	W. S.	1.00	18	32	48	December	31	1888
D 1030	White River	McMannis Ditch	Irrig.	.80	3	31	52	September	14	1889
D 492	Springs, trib. to Hooper Creek	C. B. & Q. Pipe Line, Crawford.	Irrig.	1.00	7	31	51	December	31	1889
D 493	Dead Horse Creek		Irrig.	.01	32	32	49	September	1	1890
D 562	White River	Diedrickson Ditch	Irrig.	.21	1	30	54	September	1	1890
D 430	Big Bordeaux Creek	Richards Ditch	Irrig.	.14	36	33	48	September	10	1890
D 426	Chadron Creek	Gallups Ditch	Irrig.	.08	15	33	49	December	20	1890
D 425	Little Cottonwood Creek	Thomas Stuart	Irrig.	.36	8	32	52	December	21	1890
D 434	Big Bordeaux Creek	Bryants Ditch	Irrig.	.29	14	33	48	February	4	1891
D 437	Bordeaux Creek	Halls Ditch	Irrig.	.07	15	33	48	March	1	1891
D 441	Springs	Goff Ditch	Irrig.	.14	30	32	49	April	2	1891
D 427	Dead Horse Creek	Flag Butte	Irrig.	.03	32	32	49	April	10	1891
D 960	White Clay Creek	McFarland Ditch	Irrig.	1.64	35	32	52	May	18	1891
D 446	Bordeaux Creek	Richards	Irrig.	.36	36	33	48	September	7	1892
D 975	Bordeaux Creek	Manns Ditch	Irrig.	.23	25	33	48	December	31	1892
D 450	Bordeaux Creek	Adams Ditch	Irrig.	.14	2	32	48	March	5	1893
D 448	Little Bordeaux Creek	Hartzell Ditch	Irrig.	.57	13	33	48	June	1	1893
D 452	West Ash Creek	West Ash Creek Irr. Co.	Irrig.	1.62	36	32	51	July	4	1893
D 453	Chadron Creek	Tug Wilson	Irrig.	.20	12	32	45	July	13	1893
D 454	Chadron Creek	Wallace Wilson	Irrig.	.07	12	32	49	July	14	1893
D 455	Ash Creek		Irrig.	.03	12	32	51	July	15	1893
D 983	Big Bordeaux Creek	County Ditch	Irrig.	.14	23	33	48	July	31	1893
D 457	Dead Horse Creek	Goff Ditch	Irrig.	.17	9	31	49	August	27	1893
D 489	Indian Creek	Siegrist Ditch	Irrig.	.03	3	31	50	November	1	1893
D 460	Indian Creek	Flood Ditch	Irrig.	.07	33	32	50	February	13	1894
D 464	White River	Harris & Cooper, F. A.	Irrig.	16.79	25	32	52	March	9	1894
D 466	Spring Creek	Spring Creek Ditch	Irrig.	.86	13	32	52	May	10	1894

PRIORITIES WATER DIVISION NO. 2-D—(Continued)

	NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
						S	T	R	Month	D	Year
D	475	White Clay Creek	Hazelton Ditch	Irrig.	1.14	13	31	52	May	15	1894
D	443	Little Bordeaux	Butler Ditch	Irrig.	.11	33	33	47	June	1	1894
D	464	White River	Harris & Cooper, F. A.	Irrig	1.57	25	32	52	June	15	1894
D	468	Chadron Creek	Half Diamond	Irrig.	.57	1	32	49	June	17	1894
D	467	White River	Rasher Ditch	Irrig.	1.14	19	32	51	June	20	1894
D	445	Bordeaux Creek	Bacon Ditch	Irrgi.	.21	21	34	48	July	1	1894
D	469	White River	Welling Ditch	Irrig.	.57	17	32	51	July	13	1894
D	418	Sheridan Creek	Getchell Ditch	Irrig.	.07	27	34	45	August	1	1894
D	488	Dead Horse Creek		Irrig.	.01	32	32	49	August	1	1894
D	491	Bordeaux Creek	Morrissey Canal	Irrig.	.08	15	33	48	August	25	1894
D	464	White River	Harris & Cooper Ditch	Irrig.	.28	25	32	52	October	31	1894
D	473	Spring Creek	Spring Ditch No. 1	Irrig.	2.00	7	32	51	December	1	1894
D	487	White River	Carpenter's Irrigation Ditch	Irrig.	2.86	1	32	51	December	2	1894
D	477	White River and White Clay Creek	White River Irr. Ditch	Irrig.	8.71	35	32	52	December	31	1894
D	478b	White River	Hall's Mill	Power	26.40	34	32	52	January	10	1895
D	519	Bull Creek	Johnson Ditch No. 1	Irrig.	.29	7	30	53	March	13	1895
D	423	Beaver Creek	Braddock	Irrig.	.36	18	34	46	April	15	1895
D	974	Beaver Creek		Irrig.	.04	1	34	47	April	15	1895
A	7	Dead Horse Creek	Goff Ditch	Irrig.		4	31	49	June	10	1895
A	8	Little Cottonwood	Stuart Ditch	Irrig.	2.86	8	32	52	June	10	1895
A	27	Squaw Creek	Stetson Ditch	Irrig.	.29	19	31	51	June	17	1895
A	42	White Clay Creek	Cooper Ditch	Irrig.	3.71	2	31	52	June	22	1895
A	500	White River	Metcham et al Ditch	Irrig.	2.86	17	32	51	June	27	1895
D	465	Trunk Butte Creek	Smock's Ditch	Irrig.	.07	26	32	50	June	28	1895
A	203	Deep Creek	Green Ditch	Irrig.	.20	9	30	53	Ostober	5	1895
A	183	Little Cottonwood	Kusel Ditch	Irrig.	1.14	9	32	51	October	16	1895
A	189	Sand Creek	Bendix Irrigation Ditch	Irrig.	.57	35	33	53	November	19	1895
A	256	White Clay and Little Sawlog Creek	Brockway Ditch	Irrig.	.71	36	31	52	February	27	1896
A	333	Squaw Creek	Cooper Ditch	Irrig.	2.29	36	32	52	May	8	1896
A	334	Deadman Creek	Stewart Ditch	Irrig.	.21	19	30	52	May	8	1896
A	337	Seepage, White River	Mason	Irrig.	.14	32	31	53	May	12	1896
A	340	White River	Lewis Ditch	Irrig.	.14	27	31	55	May	19	1896
A	380	Cedar Canyon	Cedar Canyon Ditch	Irrig.	.43	16	33	53	March	1	1897
A	391	White River	Jones Ditch	Irrig.	.71	18	34	48	May	21	1897
A	394	White River	Schwabe Ditch	Irrig.	1.14	25	34	49	June	24	1897
A	409	Ravine, trib. to Cottonwood	Carlson Dittch	Irrig.	.71	21	33	52	September	20	1897
A	463	Beaver Creek	Braddock Ditch	Irrig.	.63	1	34	47	November	24	1897
A	421	White River	Wilkinson Ditch	Irrig.	.71	24	32	52	November	18	1897

	NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority.		
						S	T	R	Month	D	Year
A	427	White River	Sandy Stewart	Irrig.	.94	10	32	51	January	8	1898
A	432	Bordeaux Creek	O'Donnell	Irrig.	.14	9	34	48	January	17	1898
A	434	West Ash Creek	Woodard Ditch	Irrig.	.14	25	32	51	February	3	1898
A	444	Big Cottonwood	Rasmussen Ditch	Irrig.	2.29	10	33	52	March	8	1898
A	456	White River	Rasher Ditch	Irrig.	.50	19	32	51	May	23	1898
A	459	Ash Creek	Connell Ditch	Irrig.	.63	6	32	50	June	17	1898
A	475	White River	Zeun & Schmeizle	Irrig.	1.00	19	32	51	October	13	1898
A	478	Bordeaux Creek	Nelson's Ditch	Irrig.	.36	14	33	48	October	19	1898
A	491	Ash Creek	Cripp's Ditch	Irrig.	1.00	13	32	51	January	10	1899
A	493	East Ash Creek	Sheldon Ditch	Irrig.	1.43	30	32	50	January	26	1899
A	494	Bordeaux Creek	Nelson Ditch	Irrig.	.14	14	33	48	January	28	1899
A	513	Beaver Creek	Celek Ditch	Irrig.	.36	4	33	46	June	19	1899
A	520	East Ash Creek	Todd Ditch	Irrig.	.38	5	31	50	September	12	1899
A	521	Little Cottonwood Creek	Simmons	Irrig.	1.14	9	32	51	September	12	1899
A	525	White River	Shaefer Blust Ditch	Irrig.	3.00	2	32	51	December	18	1899
A	528	Cottonwood Creek	Rasmussen	Irrig.	18.00	10	33	52	December	26	1899
A	534	White River	Rasher Ditch	Irrig.	1.43	19	32	51	January	16	1900
A	540	Indian Creek Tributary	Kaiser	Irrig.	.57	28	32	50	February	15	1900
A	547	Deadman Creek	Phillip's Ditch	Irrig.	.14	18	30	52	March	19	1900
A	551	Sand Creek Tributary	Jordon	Irrig.	.50	31	33	53	April	2	1900
A	559	Indian Creek	Boyer	Irrig.	.86	28	32	50	April	30	1900
A	560	Little Cottonwood Creek	Kusel Ditch No. 2	Irrig.	.43	8	32	51	May	19	1900
A	562	Deadman Creek	Porter & Rasmussen	Irrig.	1.43	1	30	53	May	29	1900
A	564	Deadman Creek	Lindeman Ditch	Irrig.	.14	18	30	52	June	11	1900
A	584	West Bordeaux Creek	Burns' Ditch	Irrig.	4.00	36	33	48	November	5	1900
A	588	White River	Carlson Ditch	Irrig.	1.43	6	32	50	November	26	1900
A	618	White Clay Creek	Rinker Ditch	Irrig.	.57	11	31	52	June	8	1901
A	649	Little Cottonwood Creek	Dunn Ditch	Irrig.	1.43	9	32	52	January	14	1902
A	655	White Clay Creek	White River Irr. Co.	Irrig.	8.00	36	32	52	March	3	1902
A	656	Little Cottonwood	Stewart & Maple Ditch	Irrig.	.29	3	32	51	March	10	1902
A	658	Dead Horse Creek	Geiser Ditch	Irrig.	.15	17	32	49	March	18	1902
A	663	Spring Creek	Forbes Ditch No. 1	Irrig.	.57	20	32	52	April	28	1902
A	677	Little Cottonwood	Kusel & Spearman	Irrig.	.71	8	32	51	June	30	1902
A	681	Beaver Creek	Rickman	Irrig.	1.00	9	33	46	July	2	1902
A	690	Bordeaux Creek	Martens	Irrig.	.57	28	34	48	September	22	1902
A	696	White River	Martens	Irrig.	.29	14	34	48	December	26	1902
A	702	White River	Crawford Pumping Station	Power	18.00	3	31	52	March	30	1903
A	704	White Clay Creek	Hutzell Irr. Ditch	Irrig.	.57	13	31	52	April	30	1903

PRIORITIES WATER DIVISION NO. 2-D—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 706	Rush Creek	Braddock Ditch	Irrig.	3.00	10	34	49	May	4	1903
A 707	White River	Hebbert Irr. Ditch	Irrig.	.29	34	33	50	May	11	1903
A 730	White River	Simmons, Harris Irr. Co.	Irrig.	1.00	16	32	51	October	26	1903
A 735	Ash Creek	Cripp's Ditch No. 2	Irrig.	1.14	13	32	51	December	26	1903
A 740	White River	Ext. to Rasher Ditch	Irrig.	1.29	20	32	51	February	5	1904
A 749	Dead Horse Creek		Irrig.	1.29	32	33	49	April	6	1904
A 767	Sand Creek	Carlson Rasmus Sand Co. Ditch	Irrig.	30.00	32	33	52	April	12	1904
A 758	White River	Schwabe Ditch	Irrig.	.57	24	34	49	June	13	1904
A 759	White River	Schwabe Power Plant	Power	5.00	24	34	49	June	13	1904
A 763	Madden Creek	Dams	Irrig.	.57	26	35	49	July	11	1904
A 771	Madden and North Creek	Dams	Irrig.	.57	31	35	48	October	17	1904
A 772	English Creek	McDowell Stor.. Irr. System	Irrig.	.87	12	31	52	October	24	1904
A 775	White River	Wright's Ditch	Irrig.	4.00	16	32	51	December	5	1904
A 779	Sand Creek	Arner Ditch	Irrig.	2.51	26	33	53	January	12	1905
A 780	Bordeaux Little	Collins' Reservoir	Irrig.	.31	14	32	48	February	27	1905
A 783	Bordeaux Little	Good Ditch	Irrig.	7.00	29	33	47	March	6	1905
A 788	Spring Creek	Spring Creek No. 1	Irrig.	5.00	13	32	52	April	7	1905
A 789	Lone Tree Creek	I. C. Thomas Ditch	Irrig.	1.00	28	34	51	April	29	1905
A 803	Hooker Creek	Alcorn Ditch	Irrig.	1.21	31	32	51	November	17	1905
A 811	Sand Creek	Kirstine & Rasmussen	Irrig.	17.00	3	32	52	January	8	1906
A 815	White River	Schwabe Ditch	Irrig.	.29	24	34	49	March	19	1906
A 825	Rush Creek	Ext. Braddock Ditch	Irrig.	1.57	11	34	49	May	31	1906
A 830	Madden Creek	Trier Ditch	Irrig.	1.21	6	34	48	August	1	1906
A 835	Ash Creek	Cripp's Ditch	Irrig.	.57	13	32	51	August	27	1906
A 838	White River	Roby Ditch & Dam	Irrig.	.33	3	31	52	September	13	1906
A 848	Bordeaux Creek	Marten Ditch	Irrig.	1.14	21	34	48	January	14	1907
A 849	Little Sawlog and White Clay	Little Sawlog	Irrig.	.71	12	30	52	January	23	1907
A 852	East Sawlog	Stephenson Ditch	Irrig.	1.14	25	31	52	March	5	1907
A 854	White River	Stephenson's Power Plant	Power	15.00	34	31	53	March	15	1907
A 860	Stream, trib. to White River	Jones' Ditch	Irrig.	.29	9	31	51	May	20	1907
A 884	East Sawlog	Baker Ditch	Irrig.	.29	5	30	51	January	3	1908
A 908	White River	Schwabe Ditch	Irrig.	3.43	31	34	48	July	23	1908
A 915	Hooker Creek	Souther Lake	F. & I.	1.43	30	32	51	September	24	1908
A 919	Dry Run	Campbell Ditch	Irrig.	1.00	35	34	49	November	9	1908
A 931	Kane Creek	McConnell Ditch and Res.	Irrig.	4.29	29	34	50	January	14	1909
A 936	White River.....									
A 936	White Clay Creek	White River Irr. Co., So. Br.	Irrig.	1.43	25	32	52	March	11	1909
A 1054	White Clay Creek	Townsend Ditch	Irrig.	.80	25	25	45	January	21	1911

PRIORITIES WATER DIVISION NO. 2-D—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 1061	Dry Draw	G. Earnest Ditch	Irrig.	3.71	22	35	49	February	20	1911
A 1098	Sawlog	Van Treek Ditch	Irrig.	.37	4	30	51	May	8	1911
A 1110	White River	Jensen Irr. Plant	Irrig.	1.14	26	33	50	June	27	1911
A 1120	White Clay Creek	Brooks Ditch	Irrig.	.42	36	35	45	August	2	1911
A 1122	White River	Jinney & Denslow Res., 1, 2, 3	I. & S.	20.00	26	32	52	August	10	1911
A 1128	White River	Forbes Ext.	Irrig.	.85	19	32	51	September	26	1911
A 1132	Squaw River	Squaw Creek Ditch	Stor.	3.00	12	31	52	October	3	1911
A 1190	Sand Creek Tributary	Syndicate Ditch	Irrig.	27.42	32	33	52	April	2	1912
A 1199	Indian Creek	Honnold Wilson Ditch	Irrig.	.07	3	31	50	May	25	1912
A 1264	Little Cottonwood	Broadhurst Ditch	Irrig.	3.20	7	32	51	February	25	1913
A 1276	Little Cottonwood	Dodd & McDonnell	Stor.	10.00	18	32	53	April	15	1913
A 1278	Flood Water	Lenehan Reservoir	Stor.	4.00	25	34	52	April	16	1913
A 1289	Flood Water	Arner Ditch	Irrig.	.14	27	33	53	May	6	1913
A 1333	Ash Creek, West Branch	Braodhurst Reservoir	Stor.	5.00	35	32	51	November	17	1913
A 1345	Dry Run	Wm. Guse Reservoir	Stor.	20.00	35	34	52	January	13	1914
A 1358	Spring Creek	Swinbank Reservoir	Stor.	2.00	13	32	52	March	3	1914
A 1360	White River	Hebbert Ditch	Irrig.	.71	34	33	50	March	10	1914
A 1361	Dry Run	Harsh & Weston Ditch	Irrig.	3.00	31	34	51	March	11	1914
A 1392	Lone Tree Creek	Sides Reservoir	Stor.	3.00	13	34	52	November	25	1914
A 1406	Butte Creek	Chaulk Ditch	Irrig.	3.00	25	33	50	March	13	1915
A 1441	White Clay Creek	Handschiegel's Lake	Stor.	1.30	11	31	52	December	17	1915
A 1475	Dry Draw	Heath Reservoir	Stor.	1.00	12	32	52	February	7	1917
A 1481	Dry Canyon	Betson Ditch	Irrig.	1.00	33	32	51	March	22	1917
A 1505	Carlson Draw	Guse Reservoir	Stor.	5.00	13	33	52	October	23	1917
A 1509	Dry Creek	Story Ditch	Irrig.	5.71	9	34	56	March	26	1918

PRIORITIES WATER DIVISION NO. 2-E

	NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
						S	T	R	Month	D	Year
D	553a	Hat Creek	W. Hat Creek Ditch	Irrig.	.43	16	32	55	June	1	1880
D	548	Warbonnet Creek	Warbonnet Ditch	Irrig.	3.63	21	33	56	July	31	1880
D	512	Hat Creek	Coffee Ditch	Irrig.	4.29	26	33	55	September	1	1881
D	507	Cedar Creek	Schilts' Ditch	Irrig.	.57	35	33	56	May	15	1885
D	976	Cedar Creek	Valdez Ditch	Irrig.	.50	10	32	56	April	5	1886
D	553	West Hat Creek	West Hat Creek Ditch	Irrig.	.57	16	32	55	May	31	1886
D	508	Prairie Dog Creek	Schilts' Prairie Dog Ditch	Irrig.	1.14	35	33	56	March	31	1886
D	560	Boggy Creek	Bannon's Ditch	Irrig.	.06	7	32	54	July	1	1886
D	957	Warbonnet Creek, Branch	Nolan Ditch No. 1	Irrig.	.01	23	33	57	March	15	1887
D	958	Warbonnet Creek, North Branch	Kay's Ditch	Irrig.	.14	26	33	57	May	1	1887
D	533	Sowbelly Creek	Old Sowbelly Ditch	Irrig.	3.00	7	32	55	June	1	1887
D	506	Big Monroe Creek	Big Monroe Creek Ditch	Irrig.	1.43	33	33	56	May	1	1888
D	959	Warbonnet Creek, Branch	Nolan Ditch No. 2	Irrig.	.29	23	33	57	May	1	1888
D	547	Tributary of White Head Creek	Harrison Ditch	Irrig.	.06	13	33	54	May	30	1888
D	509	Monroe Creek	Schilts' Ditch	Irrig.	.50	27	33	56	July	2	1888
D	956	Boggy Creek		Irrig.	.11	30	33	54	December	31	1888
D	550	Spring Creek, trib. to Sowbelly	Hall's Ditch	Irrig.	.57	6	32	55	March	26	1889
D	981	Jim Creek	Dout Bros. Ditch	Irrig.	.86	7	33	56	May	15	1889
D	439a	Warbonnet Creek	Dout Ditch No. 2	Irrig.	.71	30	33	56	May	31	1889
D	984	Tributary to Jim Creek	Homestead Ditch	Irrig.	.22	22	33	54	May	31	1890
D	552	Squaw Creek	Dunn's Ditch	Irrig.	.36	15	33	57	June	1	1890
D	559	Sowbelly Creek	Montgomery Ditch	Irrig.	1.00	21	33	55	December	1	1890
D	502	Jim Creek	Jim Creek Ditch	Irrig.	.43	8	33	56	December	15	1890
D	538	Spring Branch, trib. to Warbonnet	Biehl's Ditch	Irrig.	.23	32	33	56	April	1	1891
D	555	Squaw Creek	Hamlin Ditch	Irrig.	.01	10	33	5	April	1	1891
D	543	Jim Creek	Slattery Ditch	Irrig.	.29	13	33	57	May	31	1891
D	539b	Warbonnet Creek	Dout Ditch No. 2	Irrig.	.29	30	33	56	December	31	1891
D	526	Boggy Creek	Smith's Ditch	Irrig.	.28	31	33	54	May	1	1892
D	549	Cherry Creek	Cherry Creek Ditch	Irrig.	.03	29	33	5	May	1	1893
D	551	Little Red Creek	Zerbst Ditch	Irrig.	.14	25	33	56	May	1	1893
D	532	Spring Creek, trib. to Sowbelly	Spring Creek Ditch	Irrig.	.29	7	32	55	June	1	1893
D	503	Spring Branch, trib. to Warbonnet	Gorton Ditch	Irrig.	1.43	31	33	56	October	16	1893
D	537	Antelope Creek	Turner Ditch	Irrig.	.86	26	34	57	October	31	1894
D	556	Sowbelly Creek	Jordan's Ditch	Irrig.	.43	21	33	55	June	1	1895
A	83	Monroe Creek	Norelsch Ditch	Irrig.	.04	33	33	56	July	19	1895
A	100	Squaw Creek	Thos. Dunn's Ditch & Res.	Irrig.	.57	10	33	57	August	5	1895
A	168	Antelope North Branch	Story's Ditch	Irrig.	2.00	8	34	56	November	11	1895
A	424	Sowbelly Creek	Jordan Ditch	Irrig.	.50	21	33	55	May	11	1896

PRIORITIES WATER DIVISION NO. 2-E—(Continued)

NO.	NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
					S	T	R	Month	D	Year
A 338	Antelope Creek	Ellis Ditch	Irrig.	.29	9	33	57	May	17	1896
A 341	Hat Creek	Miller Ditch	Irrig.	.37	23	33	55	May	19	1896
A 342	East Boggy Creek	Martin Ditch	Irrig.	.36	18	32	54	May	19	1896
A 376	Squaw Creek	Phillip Dunn Ditch	Irrig.	.19	3	33	57	January	22	1897
A 404	Sowbelly Creek	Nutto Ditch	Irrig.	.43	24	32	56	September	4	1897
A 451	Jim Creek Tributary	Hunter Ditch	Irrig.	.08	26	33	54	May	12	1898
A 510	Hat Creek	Haas Ditch	Irrig.	.08	2	33	55	May	8	1899
A 516	Sowbelly Creek	Carroll Ditch	Irrig.	.14	7	32	55	July	12	1899
A 532	Sowbelly Creek	Zimmerman Ditch	Irrig.	.71	34	33	55	January	11	1900
A 549	Licket Creek	Licket Ditch	Irrig.	1.43	27	33	54	March	21	1900
A 581	Jim Creek Tributary	Wasserberger Ditch	Irrig.	2.29	29	34	54	October	13	1900
A 585	Peterson Draw	Meyer Dam	Irrig.	2.00	24	35	55	November	5	1900
A 587	Long Branch Creek	O'Connell Ditch	Irrig.	.20	22	35	54	November	10	1900
A 594	Hat Creek	Antrim's Ditch	Irrig.	.57	3	32	55	December	24	1900
A 627	West Squaw Creek	Thomas Irr. Ditch	Irrig.	.50	10	33	57	July	23	1901
A 635	Long Branch Creek	Ebert Ditch	Irrig.	.14	19	35	53	August	22	1901
A 668	Sowbelly Creek	Jordan Canal	Irrig.	.14	21	33	55	May	23	1902
A 701	Boggy Creek	Wickersham Ditch	Irrig.	3.00	31	33	54	February	28	1903
A 760	Antelope Creek	Gayhart Ditch	Irrig.	2.43	16	34	55	June	18	1904
A 808	Canyon, trib. to Hat Creek	Joseph Konrath Ditch	Irrig.	1.43	17	34	54	December	28	1905
A 834	Hat Creek	Antrim Dam	Irrig.	.57	3	32	55	August	20	1906
A 841	Monroe Creek	Niel Jordon Dam	Irrig.	2.20	13	32	56	November	12	1906
A 872	Dry Draw, trib. to Indian Creek	Hebbeln's Ditch	Irrig.	2.00	24	35	56	October	4	1907
A 886	Little Boggy Creek	Hill Irr. Ditch	Irrig.	.86	11	32	55	January	20	1908
A 892	Warbonnet Creek	Warbonnet Ditch No. 2	Irrig.	1.43	20	33	58	March	11	1908
A 1236	Hat Creek	Coffey & Son Fld. W. D.	Irrig.	6.00	14	33	55	October	22	1912
A 1268	Sowbelly Creek	Barnes Reservoir	Stor.	10.00	19	32	55	March	24	1913
A 1288	Sowbelly Creek	O'Connell Canal	Irrig.	10.00	9	33	55	May	5	1913
A 1375	Monroe Creek	Cornelius Jordan Ditch	Irrig.	2.00	13	33	56	July	30	1914
A 1376	Dry Gulches	Roy C. Childs Ditch	Irrig.	.57	28	34	56	August	14	1914
A 1377	Monroe Creek	Wooden Shoe	Stor.	5.00	22	33	56	August	24	1914
A 1399	Monroe Creek	Neal Jordan, Ex. to No. 841	Stor.	4.00	14	33	56	January	14	1915
A 1404	Warbonnet Creek	Zerbst Ditch No. 2	Irrig.	.17	25	33	57	March	6	1915
A 1405	Warbonnet Creek	Zerbst Ditch No. 1	Irrig.	.03	26	33	57	March	6	1915
A 1407	Hat Creek	Zerbe Reservoir	Stor.	2.00	35	33	55	March	25	1915
A 1470	Reservoir under Ap. 1399, Monroe Cr.	Supple. to Cornelius Jordan Ditch, App. 1375	Irrig.	1.4	13	33	56	July	30	1914
A 1469	Res. under Ap. 1399, Monroe Cr.	Kite Ditch	Irrig.	2.2	13	33	56	December	26	1916

PRIORITIES WATER DIVISION NO. 2-F

NO.		NAME OF STREAM	NAME OF CANAL	Use	Sec. Ft.	Location			Date of Priority		
						S	T	R	Month	D	Year
A	839	Tekamah Creek	Tekamah Roller Mills	Power	10.00	19	21	11	September	17	1906
A	887	Tekamah Creek	Tekamah Roller Mills	Ice	1.00	19	21	11	January	21	1908
A	914	Bazile Creek	Creighton Milling Co.	Power	30.00	21	29	5	September	24	1908
A	958	Mud Creek	Horan Canal	Irrig.	.37	34	14	13	August	12	1909

WATER POWER

Water Power in Nebraska

The first law relating to the use of water for irrigation or water power was passed by the Legislature of 1877. This law was very brief and merely gave to companies desiring to construct such work the right of eminent domain and declared them to be works of internal improvement. No mention whatever was made of any course of procedure whereby title or the right of property to the use of water could be acquired.*

The next legislation covering the use of water was passed by the Legislature of 1889. This act provided the right to acquire the use by appropriation of running water flowing in any river or stream or down any canyon or ravine; provided that the same be used for beneficial or useful purposes, and that when any appropriator or successor in interest ceased to use the water so appropriated for such a purpose the right ceased; that no land was to be burdened by more than one ditch, without the consent of the owner thereof; that all ditches were exempt from taxation; that the point of diversion might be changed if others were not injured; that the water so diverted must be returned to the stream from which it was taken; that as between appropriators the one first in time was first in right; that a notice be posted by the party desiring to appropriate water at the point of intended diversion, stating the point of diversion, the amount of appropriation, the purpose for which claimed, the place of intended use, and the means by which it was intended to divert: that a copy of the notice be recorded in the office of the County Clerk of the County in which the notice was posted; that excavation must commence within sixty days from the time of posting notice and continue to completion; that completion meant conducting the water to the place of intended use; that a permanent right was granted to the use of all water beneficially used through ditches which had previously been completed; that owners of lands bordering on streams were entitled to use of water on adjoining lands; that the right was given for condemnation for right of way; sites for reservoirs, and to enlarge ditches; that ditch companies were authorized to borrow money and issue bonds; that canals constructed for irrigating or water power purposes were declared works of internal improvement; that ditches must be kept in proper repair; and provided a penalty for interfering with ditches or gates.†

The next law governing the use of water was enacted by the Legislature of 1895, which passed the first comprehensive law regarding

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*Session Laws of Nebraska for 1877, page 168.
†Session Laws of Nebraska for 1889, chapter 68, page 503.

and relating to the use of water for irrigation and water power purposes. The most important features of this law as pertaining to water power were as follows: The dedication of the water of every natural stream to public use; the right to divert unappropriated water for beneficial use was never to be denied; stated the priority of the use of water gave preference to the use as follows: first, for domestic uses; second, for irrigation, and third, for power and manufacturing purposes; divided the state in two water divisions and these divisions into districts; provided for the measurement of water in streams; created the State Board of Irrigation; required County Clerks to send certified copies of notices of all water appropriations on their records to the State Board; provided for the adjudication of existing rights by the State Board; provided for the future applications for appropriations of water; the examination and approval or disallowance of said applications; appeals from the decision of the Board; and a complete record of all water rights to be kept in the office of the State Board.* This law has been amended from time to time and improvement in it made thereby.

The State Board of Irrigation organized itself on April 24, 1895, being composed of the Governor, as President of the Board, the Attorney General and the Commissioner of Public Lands and Buildings. The State Board appointed its secretary, state engineer and other assistants, and at once prepared claim blanks which were sent to water users of record in the offices of the different county clerks, which were filled out and returned to the office of the State Board. Hearings were had on those claims and the rights of the different claimants adjudicated. For convenience in keeping a record of these claims, the hearings were numbered in order in which they were held, and were called "Dockets." Thus all claims for the right to the use of water prior to April, 1895, are known as "Dockets." Special attention is called to this for the reason that it is necessary to know the docket number of a particular water right in order to look it up.

After a hearing on one of these claims which were presided over by the Secretary, an opinion was rendered by the State Board upon the evidence submitted, which determined the amount of water, the use to which it was applied, the point of diversion, the location of the project, and the date of priority. These opinions are bound in book form in the office of the State Board and are final and binding except where appealed from to the District Court.†

For all water rights since April, 1895, the Board upon its organization at once prepared blanks, known as "Application Blanks," which were supplied to persons desiring to obtain a permit for the use of the waters of the State of Nebraska. These were filed on the date and hour received at the office of the Board, given a numerical number and recorded. All rights, acquired since 1895 are therefore known as "Application No. ....." These blanks, among other things, set forth the

*Session Laws of Nebraska for 1895, chapter 69 page 244.

† Copies of the claim blanks used for water power purposes together with complete record of adjudication of the water right may be found in the office of the State Engineer.

name of the applicant, his address, the source of the appropriation, amount, and use to which applied. The date of priority to the right to use water under all applications, dates from the filing of the application in the office of the State Board, which is considered the date of priority. These applications are taken up, investigated by the Secretary and acted upon by the Board through the Secretary and either approved or dismissed.

Under the law as it exists at present, an applicant feeling himself aggrieved by the action taken by the State Board on his application for a permit to appropriate water, may ask for a hearing before the State Board, at which hearing testimony may be submitted for and against any proposed appropriation, the State Board having the right to summon any witnesses and in all things act as a court rendering a final decision in the matter, from which decision an applicant may appeal directly to the Supreme Court of the State, the same as in cases before the State Railway Commission. Cases pertaining to irrigation and water coming before the Supreme Court are advanced on the docket, so as to receive prompt consideration.

Upon the allowance of an application, the applicant shall begin the actual work of excavation and construction within six months from the date of approval of said application. The application being, in fact, simply a permit to the right of the water and no perfected rights are supposed to have been acquired until the project has been completed and the water beneficially used and applied. The work of construction of a power plant must be vigorously, diligently and uninterruptedly prosecuted to completion and one-tenth of the total work must be completed within one year from the date of approval. Also the applicant must file by the tenth of each month a report under oath to the State Board, giving the actual amount of money expended on such power development during the preceding calendar month.

The time for completing the appropriation and applying the water to beneficial use is left to the discretion of the State Board, and in most cases a year is allowed after the completion of the construction work for the application of water to beneficial use. When the time for applying the water to beneficial use has expired the applicant is required to file a proof of appropriation on a blank furnished by the state. This proof of appropriation shows how much water has been applied to beneficial use and the purpose, and is made under oath and attested to by witnesses. Upon receipt of this the Secretary of the Board makes a personal investigation and verifies the proof.

If everything is found to be according to law the certificate is issued, which certificate grants the applicant the right to the use of the water which has been applied to the beneficial purpose and the right to the use of the same for as long as the applicant shall apply the same to said beneficial use.

Prior to 1911 ten years' non-use of a water right constituted an abandonment, this being a decision of the Supreme Court. Under the law of 1911, three years consecutive non-use of the water under any

water rights constitutes an abandonment and a forfeiture to the state. A water right for irrigation purposes attaches to the land to which it is applied. A water right for power purposes attaches to the project and a relocation of the same which would constitute a new project is not permitted.*

Water Power Plants That Are Now Under Construction or in Operation

Meyer-Hydro Electric Power Company (Application 1467). Has an appropriation of 150 cu. ft. per second of time. Dam is located in Section 16, Township 3, Range 5. A Dessel duplex engine with a capacity of 112 Kilowatt. The oil engine has a supply tank in connection with a 13,000-gallon capacity. At the request of a number of citizens of Oak and adjoining towns, the present owner decided to make more use of the water by installing a hydro-electric power plant. This is one of the finest hydro-electric power plants in the state. It is all of the Ollis Chalmer Manufacturing Company make, which guarantees it to be a model of perfection. Their hydraulic engineers who have had much experience in Switzerland, studyied local conditions and on their recommendations, the Meyer Hydro-Electric Power Company was organized with a capital of $100,000.00 This is only the beginning of developing the present power plant. The outlook is very promising and we may see within a few years one of the largest hydro-electric power station in the country located in this vicinity.

Charles F. Garbe (Application 1494). This power plant is located on Blue River and School Creek at Grafton, Nebraska. Dam is 10 ft. high. The plant will be operated continuously for generating electric current. Power will be obtained from a 35-inch turbine.

Municipal Water & Light Plant (Application 1474). On the Frenchman River, is operated continuously for lighting purposes. Will produce approximately 80 horse power. Dam is 9 ft. high.

Blue River Power Company (Application 1476). This plant is located in the Northeast Quarter of Section 11, Township 8, Range 3 East, West Fork Big Blue River. Dam 20 ft. high, developing 150 horse power.

Hebron Light & Power Company (Application 1486). This development is on the Little Blue River. The dam is 9 ft. high, developing 200 horse power through a turbine wheel, furnishing light to the town of Hebron.

Application 1506. This application was granted to H. B. Babson, March 2, 1918, and during July excavation and construction work was under way.

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*Blanks used for making application for water power purposes, proofs of appropriation and certificate of appropriation may be had upon application to the State Board.

The site for this development is located on the Big Blue River, about three miles above Wilber.

The appropriation granted by the State Board was for 200 C. S. F. water to be used under a head of 18 feet.

This amount of water is about the minimum normal flow at this point and will produce 350 horse power.

Concrete abutment walls on each side of the river will be built to a height of 25 feet above normal water level.

Between these abutments will be constructed a timber spillway 18 feet in height and 200 feet long.

One vertical turbine unit will be installed in a concrete scroll flume, discharging into a curved conical draft tube; this arrangement and design giving the highest possible efficiency. To this vertical turbine will be connected a 250 Kilowatt umbrella type electric generator running at a speed of 150 R. P. M.

The power house containing the usual equipment for a plant of this kind will be of brick construction resting directly upon the concrete flume.

The electric power generated in this plant will be transformed to 22,000 volts and fed on the present transmission system of the Blue River Power Company supplying 16 different towns in Seward, Butler, Saunders, and Saline Counties.

Nebraska Corn Mills (Power Development Docket 1044). This development is located on the Big Blue River, close to the town of Milford, Seward County, developing 150 to 200 horse power under an 18 ft. head of water, three water wheels being used to generate the power.

The dam is made of timber and in bad shape, spanning the river which is confined to a channel of 150 feet.

At a point 64 feet below the old dam, a new concrete dam is being built at present with foundations embedded three feet in a soft limestone.

The new dam has an effective head of 18 feet and can be raised two feet by use of flash boards. The new dam is of the Armbursen type with counterforts and venting ports to eliminate all buoyancy.

Two sluiceways are carried under the dam with an effective opening of 4'x1'4" opening. Heavy reinforced slabs to prevent any leakage are placed over the sluice.

A 4'x1'4" cast iron gate is placed in each sluiceway, set in cast iron guides and is raised and lowered by screw and nuts from the inside of dam. There are two openings in this dam for entry, one in the north side and one in the south side and a circular passageway 8 feet in diameter extends from end to end of the dam through the counterforts. A heavy reinforced wall 24 feet high extending westerly from the south end of the dam meeting the wheel house foundations. This wall is of buttress type with spread footing supported on top by arches extending to a ledge of stone on the south side of the river. The tail race is 64 feet long by 36 feet wide with floor of natural limestone.

The old dam has been in place for more than 30 years and as soon as present new structure is completed will be taken out on account of its dangerous condition. Considerable rip-rapping has been done in the vicinity to keep the river in its confines and has been very successful.

Blue River Power Co (Application 1463). This power plant is located on the South bank of the Big Blue River in the Northwest Quarter of Section 32, Township 9, North of Range 4, East of the 6th P. M., in Seward County, Nebraska.

At this point there is an outcropping of shale upon which is built concrete flume abutments and footings for the frame spillway which is 150 feet in length.

Upon the top of the concrete flume is built a brick power house 18x24 feet in dimension in which is located a 125 Kilowatt 200 H. P. M. 2,400-volt, three-phase General Electric company's generator, together with other necessary electric equipment.

This generator is directly connected through a certical connecting shaft with a vertical water wheel made by the James Leffel Company.

The spillway of the dam is constructed of framework of 10x10-inch square timbers with decking of 3-inch planking, the apron portion of which is covered with ¼-inch steel plates.

The framework of the dam is 20 feet in height, which maintains a working head at the normal flow of the river of 18 feet; the entire height of the dam including the concrete footings for the timber structure and the cut-off walls is 25 feet.

U. S. RECLAMATION SERVICE.—NORTH PLATTE -INTERSTATE-PROJECT
RUN OFF FROM SEEPAGE STREAMS IN ACRE FEET BY MONTHS

1917	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Sheep Creek	3,565	3,024	3,658	3,180	2.914	2,520	2,294	2,573	3,435	4,944	4,800	4,340	41,247
Akers Draw	635	560	620	600	558	480	527	589	825	976	810	775	7.955
Stewart Draw	666	529	570	510	496	480	496	496	570	632	600	620	6,665
Dry Spotted Tail Creek	589	434	390	372	360	360	403	496	903	1,243	990	744	7,373
Wet Spotted Tail Creek	428	336	465	510	496	420	403	620	1,140	1,364	960	775	7,917
Tub Springs	1,131	834	899	810	806	900	1,023	992	1,026	1,339	1,230	1,023	12,013
Dunham Drain	167	106	124	105	93	141	161	217	315	325	291	276	2,321
Winters Creek	1,414	1,120	1,205	1,170	1,085	1,080	1,302	1,426	1,404	1,420	1.410.	1,457	15,493
Alliance Drain	453	370	409	390	372	480	775	1,023	1,035	1,007	900	806	8,020
West Nine Mile	186	168	186	180	186	210	279	651	960	806	630	651	5,093
East Nine Mile	62	56	62	60	62	75	109	558	831	704	585	589	3,753
Total	9,296	7,537	8,647	7,905	7,440	7,146	7,772	9,641	12,444	14,760	13,206	12,056	117,850

DEPARTMENT OF THE INTERIOR UNITED STATES RECLAMATION SERVICE
NORTH PLATTE PROJECT—NEBR.-WYO. RUN-OFF-SEEPAGE STREAMS— ACRE FEET

1918	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Sheep Creek	3,690	3,605	3,074	2,678	4,370	3,862	4,300	4,920	5,358	5,900	4,890	3,348	49,995
Akers Draw	615	556	553	476	553	595	615	861	833	861	775	646	7,939
Stewart Draw	554	499	554	477	554	536	615	738	714	738	596	462	7,037
Dry Spotted Tail Creek	492	445	369	298	369	595	738	800	1,071	922	745	523	7,367
Wet Spotted Tail Creek	615	500	554	387	431	417	615	923	952	922	745	553	7,614
Sunflower Drain	18	17	18	18	12	18	18	25	30	31	27	25	257
McAlister Drain	22	3	0	0	0	72	246	246	238	246	194	92	1,359
*Banner Drain	123	111	123	89	123	149	184	184	208	215	164	108	1,781
*Hiersche Drain	307	278	307	298	307	357	431	431	476	492	417	307	4,408
Tub Springs	862	834	862	774	1,108	1,190	1,478	1,230	1,308	1,292	1,280	1,292	13,510
Dunham Drain	185	167	185	149	185	238	246	369	357	369	357	275	3,082
Winters Creek	1,230	1,110	1,108	1,012	1,108	1,190	1,722	1,722	1,785	1,722	1,608	1,756	17,073
Alliance Drain	615	612	615	595	738	774	800	924	952	985	921	738	9,269
Nine Mile	554	384	432	357	369	595	738	923	1,190	1,107	894	676	8,219
West Nine Mile	554	444	492	417	432	833	984	1,230	1,784	1,476	1,188	922	10,756
Total by months	10,006	9,176	8,816	7,638	10,229	10,915	13,115	14,911	16,572	16,571	14,220	11,308	143,477

IRRIGATION

OPERATION AND MAINTENANCE COST UNDER DISTRICT SYSTEM

1917

Name of Dist.	Acres	Valuation	Amount raised	Gen'l. fund Mills	Int on bonds Mills
Alliance	5,889	$ 115,750.00	$	†60c	41
Alfalfa	4,116	208,377.00	5,192.17	5	20
Bridgeport	14,322	240,763.00	19,185.00	*80	00
Brown's Cr.	.....	256,518.00	11,286.88	*44	00
Castle Rock	5,659	121,748.50	5,605.51	30	16
Central	2,299	50,661.00	4,559.49	60	30
Chimney Rock	5,562	185,651.00	11,139.00	41	19
Enterprise	6,983	126,329.98	15,791.15	60	65
Farmers' (Tri-State)	64,460	2,538,285.85	266,520.00	70	65
Gering	14,647	279,192.00	44,931.19	85	75
Mitchell	13,781	158,059.00	17,386.49	50	60
Nine Mile	.....	289,368.00	10,128.00	27	8
Short Line	.....	36,424.00	1,659.00	33	12

† Per Acre.
* Including Storage Contract.

OPERATION AND MAINTENANCE COST UNDER DISTRICT SYSTEM

1918

Name of Dist.	Acres	Valuation	Amount raised	Gen'l. fund Mills	Int. on bonds Mills
Alliance	5,705	$ 117,330.00	$	$1.40	28
Alfalfa	4,116	208,377.00	7,499.23	21	15
Bridgeport	14,295	271,316.00	19,769.26	75	00
Brown's Cr.	.....	253,111.00	14,423.99	57	00
Castle Rock	5,909	132,194.00	2,437.04	10	16
Central	2,300	49,712.00	7,456.80	100	50
Chimney Rock	5,562	184,661.00	11,079.70	41	19
Enterprise	6,930	124,294.00	12,429.40	50	50
Farmers' (Tri-State)	64,460	2,666,527.50	266,652.75	80	20
Mitchell	13,781	158,770.00	11,113.87	70	00
Nine Mile	.....	.....	.....	36	4
Northport	14,788	194,215.00	2,523.40	*13	00
Short Line	1,955	36,424.00	1,659.70	....	....

† Per Acre.
* Canal not carrying water this season.

ACTUAL DISCHARGE MEASUREMENTS OF ALLIANCE CANAL, EAST OF RED WILLOW, 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6-17	Wade Flynn	25.2	1.15	5.6	29.2
6-20	W. F. Chaloupka	27.31	1.22	5.89	33.4
7- 2	Wade Flynn	30.90	1.38	5.95	42.8
7- 8	Wade Flynn	28.00	1.40	5.80	39.2
7-31	Chaloupka-Palmer	23.20	1.50	5.70	44.8
8- 5	W. F. Choloupka	28.65	1.61	5.77	46.2
8-12	Wade Flynn	26.85	1.28	5.73	34.6
8-22	Wade Flynn	16.80	.83	5.15	14.1
8-26	Wade Flynn	20.20	1.15	5.40	23.3
9-11	Flynn-Palmer	19.35	1.16	5.45	22.6

DAILY DISCHARGE, IN SECOND FEET, OF THE ALLIANCE CANAL MEASURED AT RED WILLOW, FOR THE YEAR

Day	1918 June	July	August	Sept.
1	.....	51.0	31.0	35.0
2	.....	22.0	48.0	35.0
3	.....	24.0	51.0	27.0
4	.....	25.5	29.0	31.0
5	.....	24.0	48.0	25.5
6	.....	22.0	35.0	.....
7	.....	46.0	37.0	.....
8	.....	24.0	39.0	.....
9	.....	25.5	35.0	.....
10	.....	22.0	41.5	.....
11	.....	48.0	29.0	.....
12	.....	51.0	35.0	.....
13	.....	24.0	27.0	.....
14	.....	48.0	31.0	.....
15	.....	24.0	33.0	.....
16	.....	51.0	33.0	.....
17	25.0	22.0	31.0	.....
18	29.0	.....	31.0	.....
19	29.0	.....	24.0	.....
20	33.0	.....	29.0	.....
21	29.0	.....	31.0	.....
22	33.0	.....	24.0	.....
23	.....	.....	22.0	.....
24	24.0	.....	29.0	.....
25	72.0	.....	31.0	.....
26	51.0	.....	27.0	.....
27	51.0	.....	27.0	.....
28	53.0	22.0	27.0	.....
29	56.0	19.0	27.0	.....
30	53.0	20.5	28.0	.....
31	.....	29.0	27.0	.....
Total	538.0	644.5	997.5	153.5
Mean	41.4	20.1	32.2	30.7
Maximum	72.0	51.0	48.0	35.0
Minimum	24.0	.....	22.0	27.0
Acre feet	1067.1	1278.4	1978.5	304.5

Acreage from Assessor's Record, 5,889 Acres.
Acres from Assessor's Record, 3,862 Acres below Red Willow.
Total Acre feet, 4,628.5.
Acre Feet per Acre, 1.19.

ACTUAL MEASUREMENTS FOR THE BELMONT CANAL, AT RATING FLUME, FOR THE YEARA OF 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-22	S. A. Swanson	17.17	1.52	.72	26.15
6-19	S. A. Swanson	28.5	2.00	1.05	57.18
7-20	S. A. Swanson	58.93	2.07	1.78	121.7
7-27	S. A. Swanson	18.7	1.57	.83	29.6
8-24	D. P. Weeks, Jr.	28.2	1.57	.80	44.45

DAILY DISCHARGE, IN SECOND FEET, OF THE BELMONT CANAL FOR THE YEAR OF 1917

Day	May	June	July	August	Sept.	Oct.
1	.....	30	73	87	105	.....
2	.....	25	73	95	113	.....
3	.....	25	69	95	109	.....
4	.....	25	82.0	95	113	.....
5	.....	25	87	123	.....	.....
6	.....	25	95	105	.....	.....
7	.....	25	102	87	.....	.....
8	.....	20	105	78	.....	.....
9	.....	20	105	78	.....	.....
10	.....	30	115	78	.....	.....
11	.....	20	123	*	.....	.....
12	.....	16	118	*	.....	.....
13	.....	16	115	*	.....	.....
14	.....	20	95	*	.....	.....
15	.....	30	95	*	.....	.....
16	.....	34	102	*	.....	.....
17	.....	34	95	*	.....	.....
18	.....	47	87	*	.....	.....
19	.....	47	123	*	.....	.....
20	.....	52	123	*	.....	.....
21	.....	60	123	43	.....	.....
22	.....	56	123	43	.....	.....
23	.....	56	95	43	.....	.....
24	30	60	92	43	.....	.....
25	30	65	69	47	.....	.....
26	25	87	43	47	.....	.....
27	25	113	49	52	.....	.....
28	20	95	54	47	.....	.....
29	25	95	60	52	.....	.....
30	25	82	69	82	.....	.....
31	30	.....	78	102	.....	.....
Total	210	1335	2837	1522	440	.....
Mean	26	44	91	72	110	.....
Max.	30	113	123	123	113	.....
Min.	20	16	43	43	105	.....
Acre ft.	417	2648	5627	3018	873	.....

Acreage reported, based on 1916 report, 14,440 acres.
Acre feet, 12,583.
Acre feet per acre, .87.
*No reports received Aug. 13-20 and after Sept. 4th.

ACTUAL DISCHARGE MEASUREMENTS, BELMONT CANAL, AT RATING FLUME, FOR 1918.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6-6	Wade Flynn	22.00	1.86	60	41.0
6-15	W. F. Chaloupka	50.3	2.15	1.50	108.2
6-19	W. F. Chaloupka	66.52	2.24	1.92	149.2
6-21	W. F. Chaloupka	69.32	2.25	2.03	156.4
7-1	W. F. Chaloupka	78.86	2.55	2.32	201.6
7-3	W. F. Chaloupka	47.55	1.90	1.37	90.5
7-15	W. F. Chaloupka	81.89	2.57	2.34	210.9
7-24	W. F. Chaloupka	55.59	2.19	1.68	122.2
7-27	W. F. Chaloupka	81.59	2.34	2.34	191.7
8-3	W. F. Chaloupka	45.23	2.04	1.47	93.1
8-10	W. F. Chaloupka	77.35	2.34	2.21	190.9
8-19	W. F. Chaloupka	21.93	1.43	0.83	31.3
8-26	W. F. Chaloupka	60.04	2.12	1.70	128.8
9-19	W. F. Chaloupka	36.56	1.97	1.19	72.1

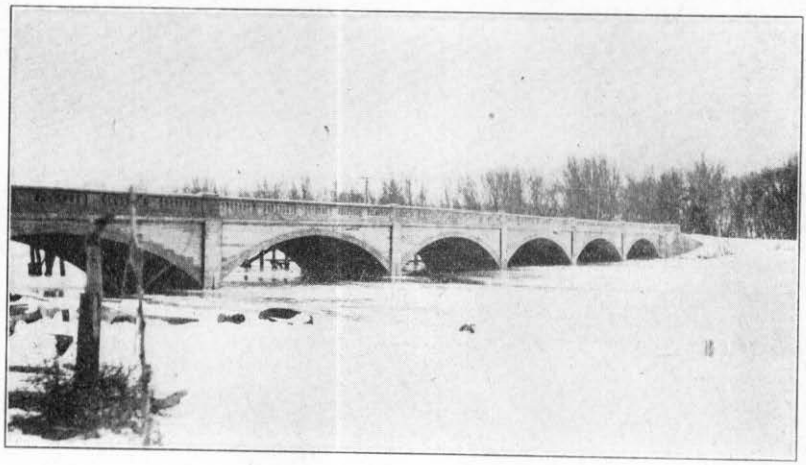
DAILY DISCHARGE, IN SECOND FLEET, OF BELMONT CANAL MEASURED AT RATING FLUME, FOR THE YEAR 1918

Day	June	July	August	Sept.
1	.....	208	*	80
2	.....	108	*	76
3	.....	84	*	88
4	.....	72	74	98
5	.....	53	130	106
6	.....	44	174	106
7	.....	50	184	108
8	.....	84	184	108
9	.....	95	196	102
10	.....	118	196	106
11	.....	148	196	102
12	.....	164	191	95
13	.....	208	191	94
14	84	196	130	94
15	108	196	140	84
16	108	184	152	84
17	102	184	152	82
18	95	000	148	75
19	152	000	45	75
20	163	000	90	84
21	174	164	90	82
22	174	174	90	96
23	184	174	118	80
24	174	140	140	84
25	174	184	140	75
26	174	196	140	58
27	184	184	110	58
28	184	*	102	58
29	184	*	84	*
30	196	*	94	*
31	.....	*	88	*
Total	2614	3412	3769	2438
Mean	153	126	134	87
Maximum	196	208	196	108
Minimum	84	00	45	58
Acre Feet	5184	6767	7475	4836

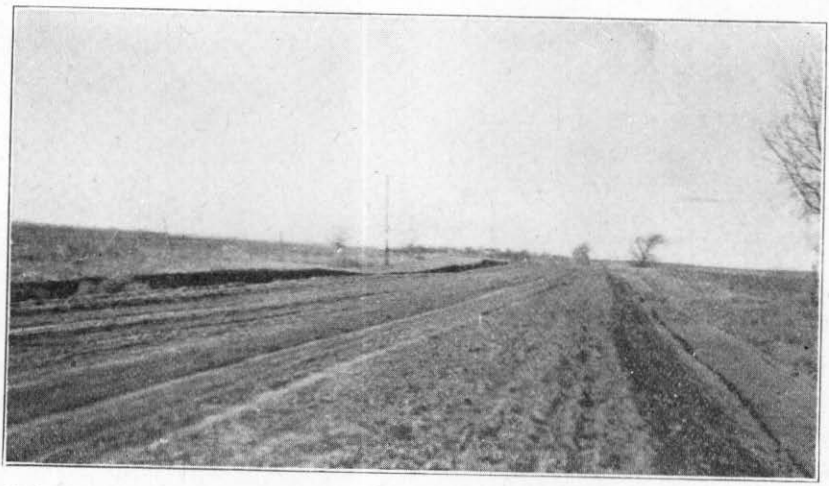
Acreage reported, 14280.
Total Acre Feet, 24261.
Acre Feet per Acre, 1.69.
*Not reported.

ACTUAL DISCHARGE MEASUREMENTS OF THE BLUE CREEK IRR. DIST. CANAL, AT RATING FLUME, 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-18	T. C. Palmer	13.20	1.12	1.40	14.8
6-2	T. C. Palmer	21.90	1.28	1.85	28.8
6-7	T. C. Palmer	15.51	1.76	1.70	27.3
6-18	T. C. Palmer	18.59	1.56	1.70	29.0
6-27	Palmer-Hartman	20.86	1.49	1.92	31.1
7-7	Palmer-Hartman	10.05	1.25	1.75	23.9
7-13	T. C. Palmer	25.41	1.48	2.44	37.7
7-27	T. C. Palmer	22.97	1.38	2.15	31.8
8-11	T. C. Palmer	17.98	0.94	1.58	16.9
8-11	T. C. Palmer	22.97	1.22	2.01	28.1
8-11	T. C. Palmer	24.77	1.26	2.25	31.4
8-31	T. C. Palmer	21.35	1.21	2.05	25.9
9-8	T. C. Palmer	22.17	1.22	2.05	27.2
9-13	T. C. Palmer	14.74	1.31	1.69	19.3
9-27	T. C. Palmer	10.95	1.06	1.41	12.6



Bartley State Aid Bridge



Federal and State Aid Earth Road Kearney County. Unfinished Rough Graded Road

DAILY DISCHARGE, IN SECOND FEET, OF BLUE CREEK IRRIGATION DISTRICT CANAL FOR THE YEAR OF 1918

Day	June	July	August	Sept.
1	.....	29.0	17.0	25.0
2	.....	29.5	20.5	27.5
3	.....	29.0	25.0	27.5
4	.....	27.5	27.0	27.0
5	.....	25.5	24.0	28.0
6	33.0	26.0	20.0	7.5
7	31.5	24.0	24.0	24.0
8	29.5	25.0	17.0	26.0
9	22.5	30.5	15.0	22.0
10	22.5	31.0	18.0	22.5
11	34.0	33.0	16.0	16.5
12	34.5	35.0	3.0	17.0
13	36.0	37.0	3.5	17.0
14	35.5	27.0	15.5	19.5
15	35.0	30.5	16.5	21.0
16	10.5	30.0	18.0	22.5
17	22.5	30.0	16.0	20.5
18	27.5	26.0	14.5	21.0
19	29.0	25.0	15.0	11.0
20	29.5	32.0	5.5	11.5
21	25.5	20.5	4.3	11.0
22	26.5	21.5	4.0	11.0
23	26.5	30.0	2.5	11.0
24	31.5	29.0	2.5	13.0
25	41.0	30.0	10.0	14.0
26	27.5	32.0	10.0	14.0
27	32.0	29.0	9.5	12.5
28	29.0	29.0	12.5	12.5
29	32.5	30.0	15.0	.....
30	8.0	29.5	26.0	.....
31	.....	21.5	25.0	.....
Total	713.0	884.5	461.3	513.5
Mean	28.5	28.5	14.9	18.3
Maximum	41.0	37.0	29.0	28.0
Minimum	8.0	20.5	2.5	7.5
Acre Feet	1414.2	1754.4	915.0	1018.5

Acreage reported, 2,835 acres.
Total Acre Feet, 5,102.
Acre Feet per Acre, 1.79.

ACTUAL MEASUREMENTS OF THE BROWN"S CREEK CANAL AT RATING FLUME FOR THE YEAR OF 1917

Date	Made by	Area of Section	Mean Velocity	Gage Height	Discharge
7-3	S. A. Swanson	36.9	1.89	1.55	70.0
7-18	S. A. Swanson	61.7	1.97	2.32	122.75
7-25	L. D. Horrocks	55.9	1.91	2.20	106.46
8-3	J. A. Rohrer			1.80	82.0
8-25	D. P. Weeks, Jr.	23.1	1.15	1.00	26.78
9-25	J. A. Rohrer			1.21	50.0

DAILY DISCHARGE, IN SECOND FEET, OF THE BROWN CREEK CANAL, 1917

Day	May	June	July	August	Sept.	Oct.
1		45	27			
2		70	121			
3		70	93			
4		70	85			
5		70	100			
6		80	93			
7		90	81			
8		132	70			
9		125	70			
10		125	78			
11		125	81			
12		125	*			
13		128				
14		128				
15		121				
16		128				
17		132				
18		132				
19		123				
20		135				
21	27	135				
22	41	135				
23	27	128				
24	27	132				
25	60	130				
26	61	128				
27	63	106				
28	45	96				
29	51	100				
30	45	85				
31		27				
Total	447	3356	899			
Mean	44	108	81			
Maximum	63	135	121			
Minimum	27	27	27			
Acre feet	887	6657	1783			

Acreage report, based on 1917 report, 6540.71 acres.
Acre feet, 9327.
Acre feet per acre, 1.42.
*No reports received after July 11, 1917.

ACTUAL DISCHARGE MEASUREMENTS OF THE BROWN'S CREEK CANAL, AT RATING FLUME, FOR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-21	Wade Flynn	26.0	1.46	1.0	38.0
6-13	Wade Flynn	26.0	1.26	.95	32.9
6-13	Wade Flynn	31.2	1.71	1.16	53.5
6-21	W. F. Chaloupka	44.61	2.05	1.70	91.7
6-24	T. C. Palmer	49.40	2.07	1.90	102.5
6-26	W. F. Chaloupka	49.83	2.44	1.90	121.9
7-3	Wade Flynn	54.60	2.05	2.10	112.0
7-15	W. F. Chaloupka	52.82	2.24	1.98	118.5
7-24	W. F. Chaloupka	45.48	2.42	1.70	110.2
7-27	W. F. Chaloupka	20.80	1.09	.75	22.8
8-10	W. F. Chaloupka	29.57	2.11	1.20	62.4
8-13	W. F. Chaloupka	26.82	1.99	.95	53.5
8-19	W. F. Chaloupka	18.80	1.60	.74	30.2
8-23	Wade Flynn	20.80	1.34	.78	27.9
8-26	W. F. Chaloupka	23.84	1.70	.87	40.6

DAILY DISCHARGE, IN SECOND FEET, OF BROWN'S CREEK CANAL AT THE RATING FLUME, FOR THE YEAR 1918

Day	May	June	July	August	Sept.
1	.....	38	120	38	26
2	.....	38	120	46	26
3	.....	38	120	46	32
4	.....	38	120	46	26
5	.....	38	112	46	26
6	.....	38	112	46	26
7	.....	38	105	46	26
8	.....	38	105	46	26
9	.....	46	105	46	26
10	.....	46	88	46	21
11	.....	55	88	46	21
12	.....	55	97	38	21
13	.....	63	97	38	21
14	.....	63	112	38	21
15	.....	71	120	32	16
16	32	80	112	32	16
17	32	80	120	32	13
18	32	80	120	26	13
19	32	97	112	26	13
20	32	120	105	26	13
21	32	105	105	26	13
22	32	112	105	26	.....
23	32	120	97	26	.....
24	38	112	88	26	.....
25	38	112	88	32	.....
26	38	112	71	26	.....
27	26	112	26	26	.....
28	26	112	38	26	.....
29	26	112	38	32	.....
30	38	112	38	32	.....
31	38	.....	.....	32	.....
Total	524	2281	2884	1096	442
Mean	32	76	96	35	21
Maximum	38	120	120	46	32
Minimum	26	38	26	26	13
Acre Feet	1039	4524	5720	2174	877

Acreage report, based on 1917 report 6,540.
Total Acre Feet, 14,334.
Acre Feet per Acre, 2.19.

ACTUAL DISCHARGE MEASUREMENTS OF THE CASTLE ROCK CANAL, AT RATING FLUME, FOR YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
714	T. C. Palmer	28.24	2.15	1.44	60.96
7-10	Wade Flynn	30.60	2.38	1.74	73.10
8-28	Wade Flynn	23.40	2.15	1.38	50.40

DAILY DISCHARGE, IN SECOND FEET, OF CASTLE ROCK CANAL AT RATING FLUME. FOR THE YEAR 1918

Day	July	August	Sept.
1	.....	89	55
2	.....	92	49
3	.....	69	51
4	.....	58	52
5	.....	71	51
6	.....	95	50
7	.....	101	50
8	.....	103	33
9	.....	106	33
10	.....	109	32
11	.....	109	31
12	.....	102	35
13	.....	95	35
14	.....	86	.....
15	.....	75	.....
16	.....	69	.....
17	.....	62	.....
18	.....	62	.....
19	.....	55	.....
20	.....	49	.....
21	42	29	.....
22	44	42	.....
23	46	49	.....
24	45	49	.....
25	42	46	.....
26	44	45	.....
27	48	42	.....
28	62	49	.....
29	64	51	.....
30	66	62	.....
31	66	55	.....
Total	569	2176	557
Mean	51	70	42
Maximum	66	109	55
Minimum	42	29	31
Acre Feet	1129	4316	1104

Acreage reported, 5,659.
Total Acre Feet, 6,549.
Acre Feet per Acre,, 1.15.

ACTUAL MEASUREMENTS OF THE CHIMNEY ROCK CANAL AT RATING FLUME, FOR THE YEAR 1917.

Date	Made by	Area of Section	Mean Velocity	Gage Height	Discharge
6-18	S. A. Swanson	16.66	1.94	.92	32.3
7-2	S. A. Swanson	20.5	1.45	1.02	29.73
7-25	S. A. Swanson	36.0	1.78	1.63	64.3
8-4	J. A. Rohrer	.....	.....	2.00	76.0
8-22	D. P. Weeks, Jr.	34.0	1.56	1.60	53.30
9-24	J. A. Rohrer	.....	.....	.....	0.00

DAILY DISCHARGE, IN SECOND FEET, OF THE CHIMNEY ROCK CANAL, FOR 1917

Day	May	June	July	August	Sept.
1	17	.....	54	67	54
2	17	.....	54	67	54
3	.....	.....	54	80	54
4	17	.....	54	80	54
5	17	.....	54	48	54
6	17	.....	54	48	48
7	17	.....	54	48	48
8	17	.....	54	48	48
9	17	.....	54	48	54
10	17	.....	48	48	44
11	17	.....	60	48	36
12	.....	.....	60	48	36
13	.....	.....	74	40	30
14	.....	.....	74	26	28
15	.....	.....	60	40	23
16	17	.....	60	40	23
17	17	.....	67	44	23
18	17	36	67	40	23
19	.....	36	67	48	17
20	.....	36	67	48	17
21	.....	36	80	48	17
22	.....	36	73	48	17
23	.....	36	67	48	17
24	.....	36	80	48	17
25	.....	36	54	48	17
26	.....	36	74	36	17
27	.....	54	67	48	17
28	.....	54	74	36	17
29	.....	54	54	48	17
30	.....	54	67	48	.....
31	.....	.....	67	54	.....
Total	221	540	1947	1514	921
Mean	17	41	63	48	31
Maximum	17	54	80	80	54
Minimum	17	36	48	26	17
Acre feet	438	1071	3862	3003	1827

Acreage report, based on 1913 report, 5557.60 acres.
Acre feet, 10,201.
Acre feet per acre, 1.83.

ACTUAL DISCHARGE MEASUREMENTS OF THE CHIMNEY ROCK CANAL, AT RATING FLUME, FOR 1918.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6-6	Wade Flynn	9.31	1.19	.61	11.1
6-27	Wade Flynn	27.99	1.79	1.53	50.1
7-31	Wade Flynn	24.77	1.39	1.23	34.0
8-13	Wade Flynn	27.18	1.58	.....	43.1
8-22	Wade Flynn	11.10	1.13	.62	12.6
8-26	Wade Flynn	10.55	0.89	.52	9.8
9-6	Wade Flynn	18.78	1.25	.90	23.6
9-11	Palmer-Flynn	15.09	1.24	.78	18.8

DAILY DISCHARGES, IN SECOND FEET, OF THE CHIMNEY ROCK CANAL AT RATING FLUME, FOR THE SEASON 1918

Day	June	July	August	Sept.
1	....	49	53	27
2	....	49	53	23
3	....	53	58	27
4	....	49	63	27
5	....	49	73	23
6	12	53	73	19
7	14	58	68	30
8	16	58	73	19
9	19	53	63	27
10	23	49	53	23
11	23	53	44	19
12	21	58	49	27
13	19	58	35	35
14	21	53	30	27
15	21	58	35	35
16	23	49	30	40
17	27	53	27	35
18	58	53	35	27
19	63	49	35	35
20	53	45	27	19
21	63	53	23	40
22	53	58	19	....
23	58	63	19	....
24	63	58	15	....
25	58	53	15	....
26	53	44	9	....
27	53	42	15	....
28	53	40	35	....
29	49	35	35	....
30	49	35	40	....
31	....	35	40	....
Total	965	1565	1242	584
Mean	38	50	40	27
Maximum	63	63	73	40
Minimum	12	35	19	19
Acre Feet	1914	3104	2464	1158

Acreage reported, 5,562.
Total Acre Feet, 8,640.
Acre Feet per Acre, 1.55.

COURT HOUSE ROCK DITCH

OBSERVER—Atomatic Gage Recorder.
LOCATION—Rating Flume; rectangular; about 300 feet below headgate, on Section 30, T. 19 N., R. 50 W.

DAILY RISCHARGE, ON THE COURTHOUSE ROCK CANAL FOR THE YEAR 1917

Day	May	June	July	August	Sept.	Oct.
1	.....	17.9	20.0	21.2	19.1	21.2
2	.....	18.0	20.0	21.3	19.2	20.8
3	.....	18.1	20.0	21.4	19.3	20.6
4	.....	18.2	20.1	21.5	22.2	20.4
5	.....	18.3	20.1	21.6	23.5	20.2
6	.....	18.4	21.1	21.7	24.2	20.2
7	.....	18.5	20.1	21.8	23.4	20.4
8	15.5	18.6	20.2	21.9	23.2	21.2
9	15.5	18.7	20.2	22.3	23.3	20.4
10	15.6	18.8	20.2	22.5	23.4	.....
11	15.6	18.9	20.2	22.8	23.3	.....
12	16.0	19.0	20.2	23.0	23.3	.....
13	16.0	19.0	20.3	22.9	23.3	.....
14	16.2	19.1	20.3	23.0	23.2	.....
15	16.3	19.1	20.3	22.5	23.7	.....
16	16.4	19.2	20.3	22.5	24.2	.....
17	16.5	19.3	20.3	22.5	25.3	.....
18	16.6	19.4	20.4	23.0	24.4	.....
19	16.7	19.4	20.4	22.2	24.1	.....
20	16.8	19.5	20.4	22.5	24.0	.....
21	16.9	19.6	20.4	22.0	24.0	.....
22	16.9	19.7	20.4	21.8	23.7	.....
23	17.0	19.7	20.4	22.5	23.5	.....
24	17.1	19.8	20.5	22.5	23.3	.....
25	17.2	19.8	20.5	22.5	23.0	.....
26	17.3	19.9	20.5	22.5	22.5	.....
27	17.4	20.0	20.5	20.0	22.5	.....
28	17.6	20.0	20.6	16.8	22.2	.....
29	17.7	20.0	20.8	11.8	21.9	.....
30	17.8	20.0	20.9	12.2	21.9	.....
31	17.8	20.0	21.1	12.7	.....	.....
Total	400.4	539.9	630.7	651.4	688.1	185.4
Mean	16.6	19.2	20.3	21.0	22.9	20.6
Maximum	17.8	20.0	21.1	23.0	25.3	21.2
Minimum	15.5	17.9	20.0	11.8	19.1	20.2
Acre Ft.	794.2	1178.0	1250.9	1292.0	1364.8	367.7

Acreage reported, 1159 acres.
Acre feet, 6247.6.
Acre feet per acre, 5.38.

ACTUAL DISCHARGE MEASUREMENTS OF COURT HOUSE ROCK DITCH, RATING FLUME, FOR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6-15	W. F. Chaloupka	7.3	2.57	1.49	18.8
6-19	W. F. Chaloupka	7.60	2.24	1.56	17.1
6-21	W. F. Chaloupka	7.83	2.14	1.60	16.8
6-26	W. F. Chaloupka	8.34	1.81	1.69	15.1
7-1	W. F. Chaloupka	7.93	1.50	1.67	11.9
7-3	W. F. Chaloupka	8.93	1.46	1.70	13.0
7-15	W. F. Chaloupka	9.94	1.61	1.85	16.0
7-23	W. F. Chaloupka	7.51	1.56	1.54	11.8
7-24	W. F. Chaloupka	7.32	1.51	1.52	11.1
7-27	W. F. Chaloupka	7.52	1.54	1.52	11.7
8-3	W. F. Chaloupka	6.79	1.50	1.40	10.2
8-10	W. F. Chaloupka	6.79	1.50	1.40	10.2
8-13	W. F. Chaloupka	7.51	1.54	1.50	11.6
8-19	W. F. Chaloupka	7.93	1.58	1.54	12.6
9-2	W. F. Chaloupka	5.04	2.78	1.11	14.0
9-9	W. F. Chaloupka	4.16	3.28	1.05	13.7
9-16	W. F. Chaloupka	5.92	2.75	1.26	16.3
9-19	W. F. Chaloupka	5.04	2.91	1.00	14.7
9-23	W. F. Chaloupka	5.06	2.84	1.10	14.4

DAILY DISCHARGE, IN SECOND FEET, OF COURT HOUSE ROCK CANAL AT RATING FLUME, FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	11.9	10.0	14.2
2	.....	12.2	10.0	14.1
3	.....	12.8	10.4	16.0
4	.....	11.5	10.6	16.6
5	20.5	11.4	10.6	16.5
6	20.5	11.4	11.0	16.0
7	20.2	12.0	12.0	14.3
8	19.8	13.0	11.6	13.8
9	20.0	13.0	10.6	13.8
10	19.6	13.0	10.1	13.8
11	19.4	13.6	10.1	14.1
12	19.0	16.0	11.1	14.0
13	19.0	16.0	11.6	13.8
14	19.4	16.0	11.6	13.8
15	19.1	16.0	16.0	15.1
16	19.1	16.0	14.4	16.0
17	19.1	13.6	13.6	15.1
18	17.5	12.8	13.0	14.6
19	17.0	12.1	12.5	14.3
20	17.0	11.6	12.4	14.3
21	17.0	11.6	13.0	14.3
22	16.6	11.6	5.6	14.3
23	17.0	11.6	3.8	14.0
24	16.0	11.1	*	20.6
25	15.0	11.6	*	23.3
26	15.0	12.7	*	20.0
27	15.2	11.6	*	18.0
28	14.0	11.0	*	17.0
29	12.8	10.1	12.3	15.8
30	11.9	11.6	13.8	.....
31	.....	10.9	16.6	.....
Total	456.7	391.3	298.1	461.5
Mean	17.5	12.6	9.6	15.9
Maximum	20.5	16.0	16.6	23.3
Minimum	11.9	10.9	.....	13.8
Acre feet	905.8	776.1	591.3	915.4

Acreage report, 1,120.
Total acre feet, 3,189.
Acre feet per acre, 2.84.
*Cleaning out weeds and moss August 24th to 28th.

ACTUAL DISCHARGE MEASUREMENTS OF THE COZAD CANAL, BRIDGE SOUTH OF GOTHENBURG, FOR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
7- 2	T. C. Palmer	47.04	1.56	1.86	73.8
7- 4	T. C. Palmer	39.82	1.63	1.60	65.0
7- 6	T. C. Palmer	44.60	1.52	1.48	67.9
7-23	T. C. Palmer	44.10	1.71	1.46	75.5
8-15	T. C. Palmer	38.15	1.51	1.26	57.9
8-20	T. C. Palmer	36.45	1.65	1.28	60.3
9- 4	T. C. Palmer	41.40	1.53	1.38	63.7
9- 5	T. C. Palmer	41.00	1.64	1.40	67.5
9-18	T. C. Palmer	44.00	1.68	1.60	74.3
9-24	T. C. Palmer	43.9	1.67	1.54	73.5

DAILY DISCHARGE, IN SECOND FEET, OF COZAD CANAL AT RATING FLUME, FOR THE YEAR 1918

Day	June	July	August	Sept.
1	.....	93	64	35
2	.....	93	64	60
3	.....	93	.....	60
4	.....	93	.....	64
5	.....	93	.....	60
6	.....	83	.....	64
7	7	69	35	60
8	.....	69	37	45
9	.....	49	42	60
10	.....	60	48	60
11	.....	60	48	60
12	.....	64	48	60
13	.....	69	48	60
14	.....	49	56	60
15	.....	60	56	48
16	.....	60	48	64
17	.....	78	48	64
18	.....	98	48	64
19	.....	93	48	73
20	.....	83	56	73
21	.....	64	60	73
22	.....	69	60	73
23	56	69	60	64
24	73	78	64	69
25	77	78	52	69
26	77	88	56	69
27	93	93	56	69
28	93	60	35	78
29	108	69	35	.....
30	93	69	56	.....
31	.....	64	66	.....
Total	670	2310	1394	1758
Mean	83	73	45	62
Maximum	108	98	66	78
Minimum	56	49	.....	35
Acre feet	1329	4581	2765	3487

Acreage reported, 15,890.
Total acre feet, $12.162.
Acre feet per acre, .76.

ACTUAL DISCHARAGE OF THE DAWSON COUNTY DITCH, BELOW HEADGATE 1 MILE, FOR THE YEAR OF 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-24	T. C. Palmer	62.4	1.58	.....	98.5
6-12	T. C. Palmer	27.85	0.86	1.35	24.0
6-14	T. C. Palmer	13.82	.63	1.10	8.7
7- 2	T. C. Palmer	62.77	1.80	2.40	113.3
7- 4	T. C. Palmer	74.45	1.88	2.35	140.4
7-16	T. C. Palmer	77.10	2.05	2.80	158.6
7-23	T. C. Palmer	80.33	2.19	3.00	176.0
8-15	T. C. Palmer	84.66	2.11	3.95	179.3
8-20	T. C. Palmer	83.95	1.90	2.26	159.8
9- 4	T. C. Palmer	62.27	1.61	2.00	100.3
9- 5	T. C. Palmer	65.79	1.75	2.05	115.6
9-18	T. C. Palmer	87.41	2.04	2.85	178.5
9-24	T. C. Palmer	80.54	2.04	2.70	164.9

DAILY DISCHARGES, IN SECOND FEET, OF DAWSON COUNTY IRRIGATION CANAL AT RATING FUME, FOR SEASON OF 1918

Day	July	August	Sept.
1	140	184	76
2	130	152	86
3	120	152	86
4	130	152	86
5	120	98	108
6	108	152	140
7	76	174	152
8	130	196	140
9	120	174	140
10	120	184	120
11	140	120	108
12	162	130	140
13	162	130	152
14	152	140	140
15	130	130	130
16	174	152	162
17	184	140	174
18	196	130	184
19	206	120	196
20	218	130	184
21	218	120	174
22	206	108	174
23	184	162	162
24	206	140	140
25	196	140	152
26	196	120	130
27	206	130	140
28	162	162	152
28	196	120	.....
30	206	162	.....
31	196	76	.....
Total	5090	4380	3928
Mean	164	141	140
Maximum	218	196	196
Minimum	76	76	76
Acre feet	10096	8688	7791

Acreage reported, 8,260.
Total acre feet, 26,575.
Acre feet per acre, 3.21.

ACTUAL DISCHARGE MEASUREMENTS, EMPIRE CANAL, HEAD OF CANAL, FOR THE YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6-15	W. F. Chaloupka	15.84	1.06	1.00	16.9
6-19	W. F. Chaloupka	18.64	1.01	1.29	18.9
6-21	W. F. Chaloupka	22.34	1.08	1.56	24.3
7- 1	W. F. Chaloupka	10.65	1.46	1.12	15.6
7-15	W. F. Chaloupka	10.41	1.57	1.12	16.4
8- 3	W. F. Chaloupka	3.82	0.94	0.61	3.6
8-10	W. F. Chaloupka	5.13	1.23	0.73	6.3
8-26	W. F. Chaloupka	2.94	0.88	0.53	2.6

DAILY DISCHARGE, IN SECOND FEET, OF EMPIRE CANAL AT RATING FLUME, FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	12.3	*	6.2
2	.....	12.3	*	0.2
3	.....	12.3	*	0.2
4	.....	2.5	0.6	0.2
5	.....	2.5	0.6	0.2
6	.....	2.5	0.6	.....
7	.....	2.5	0.6	.....
8	.....	2.5	0.6	.....
9	.....	2.5	0.6	.....
10	.....	2.5	0.6	3.6
11	.....	2.5	0.7	3.6
12	.....	3.6	0.5	3.6
13	.....	3.6	0.5	.....
14	.....	3.6	0.3	.....
15	14.4	6.0	0.3	.....
16	14.4	1.6	.....	.....
17	14.4	*	.....	.....
18	14.4	*	.....	.....
19	23.6	*	.....	.....
20	23.6	*	.....	.....
21	23.6	*	.....	.....
22	23.6	*	.....	.....
23	25.4	*	0.6	.....
24	12.3	*	0.2	.....
25	12.3	*	0.2	.....
26	12.3	*	0.2	.....
27	14.4	*	0.2	.....
28	12.3	*	0.2	.....
29	12.3	*	0.2	.....
30	12.3	*	0.2	.....
31	.....	*	0.2	.....
Total	265.6	65.5	8.7	11.80
Mean	16.6	4.1	0.3	0.98
Maximum	25.4	12.3	0.7	3.60
Minimum	12.3	1.6	.....	.....
Acre feet	526.8	129.9	17.2	23.40

Acreage report, 2,100.
Total acre feet, 698.
Acre feet per acre, .33.
* No report.

ACTUAL MEASUREMENTS OF THE FARMERS' CANAL AT RATING FLUME FOR THE YEAR OF 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-11	S. A. Swanson	77.2	1.95	1.45	150.6
5-28	Swanson-McGowan	101.7	2.09	0.59	212.8
6- 7	S. A. Swanson	80.2	1.88	0.46	150.9
6-13	S. A. Swanson	128.5	2.37	0.70	305.0
7-21	S. A. Swanson	181.1	1.33	2.48	241.2
8-10	S. A. Swanson	269.1	2.75	4.21	739.7
8-17	Weeks-McGowan	266.0	2.67	4.16	711.6

DAILY DISCHARGE, IN SECOND FEET, OF THE FARMER CANAL, 1917

Day	May	June	July	August	Sept.	Oct.
1	.....	420	675	152	1014	672
2	.....	450	735	152	1014	.....
3	.....	465	767	306	1036	.....
4	.....	480	.....	429	1036	.....
5	.....	490	.....	429	1036	.....
6	.....	510	.....	553	1035	.....
7	100	520	.....	634	1035	.....
8	100	535	.....	691	1035	.....
9	115	550	.....	691	1035	.....
10	130	460	.....	738	1035	.....
11	145	580	.....	785	1035	.....
12	160	590	.....	785	1035	.....
13	175	605	210	472	992	.....
14	190	620	306	553	950	.....
15	205	630	306	624	950	.....
16	220	650	306	710	950	.....
17	240	650	306	748	950	.....
18	250	675	298	748	950	.....
19	265	675	290	806	950	.....
20	280	675	290	828	950	.....
21	295	675	278	827	950	.....
22	210	675	284	826	950	.....
23	225	675	290	876	950	.....
24	240	.....	250	876	950	.....
25	250	.....	215	908	950	.....
26	270	.....	180	908	950	.....
27	280	.....	150	929	950	.....
28	400	.....	85	950	675	.....
29	410	.....	85	950	672	.....
30	425	.....	85	954	672	.....
31	440	.....	118	1014	.....	.....
Total	6020	13265	6509	21852	28692	.....
Mean	240	442	209	704	959	.....
Maximum	440	675	767	1014	1036	.....
Minimum	100	420	85	152	672	.....
Acre feet	11940	26211	12911	43343	56931	.....

Acreage reported for 1917, 63,453.9 acres.
Acre feet, 151,336.
Acre feet per acre, 2.38.

ACTUAL DISCHARGE MEASUREMENTS OF FARMERS' CANAL, AT RATING FLUME, FOR YEAR 1918

Date	Made by	Area of Section	Mean Velocity	Gage Height	Discharge Sec. Feet
5-24	Wade Flynn	115.80	2.54	2.00	294.8
5-30	Wade Flynn	282.10	3.20	4.01	903.3
6-21	Wade Flynn	344.85	3.29	3.85	1135.0
7-13	Wade Flynn	343.60	3.57	3.95	1226.9
7-26	Wade Flynn	244.50	3.14	2.95	768.7
8- 6	T. C. Palmer	329.60	3.27	3.70	1077.9
8-19	Wade Flynn	159.65	2.71	1.90	434.0
8-27	T. C. Palmer	346.90	3.33	4.00	1158.2
8-30	Wade Flpnn	361.65	3.39	4.00	1229.5
9-27	Wade Flynn	41.25	1.06	.....	44.1

DAILY DISCHARGE, IN SECOND FEET, OF FARMERS CANAL FOR THE SEASON 1918

Day	May	June	July	August	Sept.
1	.....	685	1100	955	1155
2	.....	685	1120	955	1195
3	.....	685	1140	955	1195
4	.....	685	1140	1050	1090
5	285	685	1155	1090	995
6	285	685	1155	1090	940
7	285	685	1195	1090	860
8	285	685	1195	1090	830
9	285	685	1195	1090	830
10	285	685	1195	1055	760
11	315	720	1195	1055	760
12	340	740	1195	1055	210
13	340	800	1170	1015	760
14	340	815	1155	1015	760
15	405	985	1155	000	760
16	405	1090	1155	000	650
17	470	1090	1140	000	540
18	510	1120	1140	285	540
19	580	1140	1050	435	540
20	580	1140	950	800	540
21	615	1140	960	830	540
22	685	1140	925	830	540
23	760	1140	885	1015	540
24	830	1100	800	1015	420
25	830	830	800	1015	315
26	850	735	760	1015	.....
27	905	1100	760	1050	.....
28	905	1100	800	1050	.....
29	905	1100	870	1090	.....
30	885	1100	905	1120	.....
31	685	.....	955	1155	.....
Total	14850	26975	32325	27265	18265
Mean	550	899	1043	879	730
Maximum	905	1140	1195	1155	1195
Minimum	285	685	760	000	210
Acre Feet	29455	53505	64117	54080	36229

Acreage report, 63,350 acres.

Total Acre Feet, 237,386, Less 26,511 acre feet wasted back to river. 210,875

Acre Feet, per acre, 3.33.

Closed September 25, 1918.

*Gage heights obtained from Manager F. C. Magruder's office.

DAILY DISCHARGE, IN SECOND FEET, OF FT. LARAMIE CANAL, AT WHALEN, WYO., FOR 1918

Day	April	May	June	July	August	Sept.
1	.....	133	54	260	261	176
2	.....	150	54	300	261	176
3	.....	.....	54	300	265	183
4	.....	.....	54	300	269	185
5	.....	.....	54	316	269	183
6	.....	.....	100	368	269	183
7	.....	110	0	368	269	185
8	.....	50	0	365	269	185
9	.....	50	0	390	268	185
10	.....	50	51	381	233	199
11	.....	50	51	380	228	.....
12	.....	50	100	393	214	.....
13	.....	50	200	394	200	.....
14	115	50	200	394	189	.....
15	115	50	200	394	189	.....
16	115	58	175	394	189	.....
17	115	81	100	394	147	.....
18	86	81	200	394	186	.....
19	0	81	225	394	186	.....
20	0	81	225	394	186	.....
21	27	81	225	394	185	.....
22	94	0	150	394	186	.....
23	31	0	210	394	183	.....
24	0	0	210	261	185	.....
25	0	0	250	261	186	.....
26	34	0	225	261	189	.....
27	84	36	225	261	188	.....
28	.....	54	225	261	187	.....
29	.....	54	225	261	185	.....
30	.....	54	225	261	185	.....
31	.....	54	.....	261	189	.....
Total	816	1408	4267	10543	6595	1840
Mean	58	52	142	340	212	184
Acre Feet	1618	2792	8463	20912	13081	3649
Maximum	115	150	225	394	269	199
Minimum	0	0	0	260	147	176

Supplied by U. S. R. S.

ACTUAL DISCHARGE MEASUREMENTS OF THE GERING CANAL, AT RATING FLUME, FOR THE YEAR OF 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
7-12	Swanson-Frank	91.1	2.16	3.04	197.4
7-20	S. A. Swanson	.....	.....	3.05	188.0
7-23	S. A. Swanson	91.77	2.11	2.07	194.4
8-1	S. A. Swanson	.....	.....	3.10	195.0
8-10	S. A. Swanson	92.2	2.19	3.10	192.4
8-16	D. P. Weeks, Jr	89.1	2.17	3.05	193.2
8-29	D. P. Weeks, Jr	98.5	2.48	3.34	244.0
9-1	.....	.....	.....	3.37	216.0
9-11	.....	.....	.....	3.00	190.0
9-21	.....	.....	.....	2.44	146.0

DAILY DISCHARGE, IN SECOND FEET, OF THE GERING CANAL FOR THE YEAR 1917

Day	May	June	July	August	Sept.	Oct.
1	.....	.....	162	198	162	102
2	.....	.....	162	198	128	102
3	.....	.....	162	198	132	102
4	.....	.....	166	198	136	102
5	.....	.....	170	198	128	102
6	.....	.....	170	198	190	102
7	.....	.....	170	198	190	102
8	.....	.....	170	198	190	102
9	.....	52	170	198	190	96
10	.....	52	190	198	190	80
11	.....	52	190	198	226	80
12	.....	121	190	198	190	73
13	.....	131	190	195	190	66
14	.....	141	190	195	190	52
15	.....	141	190	195	185	40
16	.....	141	190	195	190	52
17	112	141	190	195	185	52
18	.....	141	190	190	185	46
19	.....	141	190	190	185	46
20	.....	141	190	190	185	.....
21	.....	141	190	190	185	.....
22	.....	141	193	190	185	.....
23	.....	141	196	190	185	.....
24	.....	141	195	190	185	.....
25	.....	141	190	190	185	.....
26	.....	141	190	190	185	.....
27	.....	141	195	190	150	.....
28	118	162	195	190	136	.....
29	.....	162	195	180	108	.....
30	.....	162	198	170	102	.....
31	.....	.....	198	52	.....	.....
Total	230	2868	5727	5843	5153	1499
Mean	115	130	185	188	172	79
Maximum	118	162	198	198	226	102
Minimum	112	52	162	52	102	40
Acre feet	456	5689	11360	11590	10221	2973

Acreage report, based on 1916 report, 14,450 acres.
Acre feet, 42,289.
Acre feet per acre, 2.99.

ACTUAL DISCHARGE MEASUREMENTS OF GERING CANAL, AT RATING FLUME, FOR YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharg Sec. fe
5-30	Wade Flynn	42.40	1.66	1.57	70.6
6-22	Wade Flynn	79.93	2.32	2.80	185.5
7-2	Wade Flynn	91.67	2.39	3.15	219.4
7-25	Wade Flynn	86.80	2.26	3.10	196.9
8-17	Wade Flynn	81.66	2.23	2.86	182.
8-19	Wade Flynn	92.87	2.35	3.25	218.
8-30	Wade Flynn	96.37	2.41	3.30	233.1
8-31	Wade Flynn	95.16	2.43	3.29	232.1
9-27	Wade Flynn	60.07	1.83	2.20	110.3

DAILY DISCHARGE, IN SECOND FEET, OF GERING CANAL AT RATING FLUME, FOR THE SEASON 1918

Day	May	June	July	August	Sept.	Oct.
1	.....	66	180	210	210	78
2	.....	44	180	210	255	78
3	.....	57	180	210	210	78
4	.....	57	180	210	210	78
5	.....	100	200	210	210	78
6	.....	146	200	210	210	78
7	.....	146	200	210	210	78
8	.....	146	200	210	210	78
9	.....	146	200	210	210	78
10	.....	146	200	210	210	78
11	.....	146	210	210	210	78
12	.....	163	210	210	146	78
13	.....	180	210	210	146	78
14	.....	180	210	200	146	78
15	.....	180	210	190	146	78
16	.....	180	210	200	146	78
17	.....	180	210	200	146	78
18	.....	146	210	200	146	78
19	.....	168	210	200	146	78
20	.....	168	210	200	146	78
21	.....	180	200	200	146	78
22	35	180	210	200	146	78
23	35	180	210	200	146	78
24	35	180	210	200	108	62
25	45	180	210	200	108	62
26	48	180	210	200	108	45
27	48	180	210	200	108	45
28	53	180	210	210	108	45
29	53	180	210	210	78	42
30	71	180	210	210	78	48
31	71	.....	210	210	.....	45
Total	494	4545	6320	6360	4803	2188
Mean	49	151	203	205	160	70
Maximum	71	180	210	210	255	78
Minimum	35	44	180	190	78	42
Acre Feet	980	9015	12536	12615	9527	4340

Acreage report, 14,647 acres.
Total Acre Feet, 49,013.
Acre Feet per Acre, 3.35.

ACTUAL DISCHARGE MEASUREMENT OF GOTHENBURG IRRIGA-
CANAL, FOR YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6-12	T. C. Palmer	24.40	1.49	1.65	30.4
6-14	T. C. Palmer	20.82	1.88	1.65	39.2
7-2	T. C. Palmer	40.51	1.71	3.10	69.6
7-4	T. C. Palmer	39.37	1.84	3.10	72.7
7-16	T. C. Palmer	35.80	1.93	2.95	69.3
7-23	T. C. Palmer	39.32	2.10	3.05	82.6
8-15	T. C. Palmer	41.15	1.97	3.00	81.4
8-20	T. C. Palmer	41.69	1.79	3.10	74.9
9-4	T. C. Palmer	15.96	.97	1.20	15.6
9- 5	T. C. Palmer	20.14	1.22	1.58	24.7
9-18	T. C. Palmer	46.74	2.20	3.40	103.0
9-24	T. C. Palmer	41.17	2.07	2.95	85.3

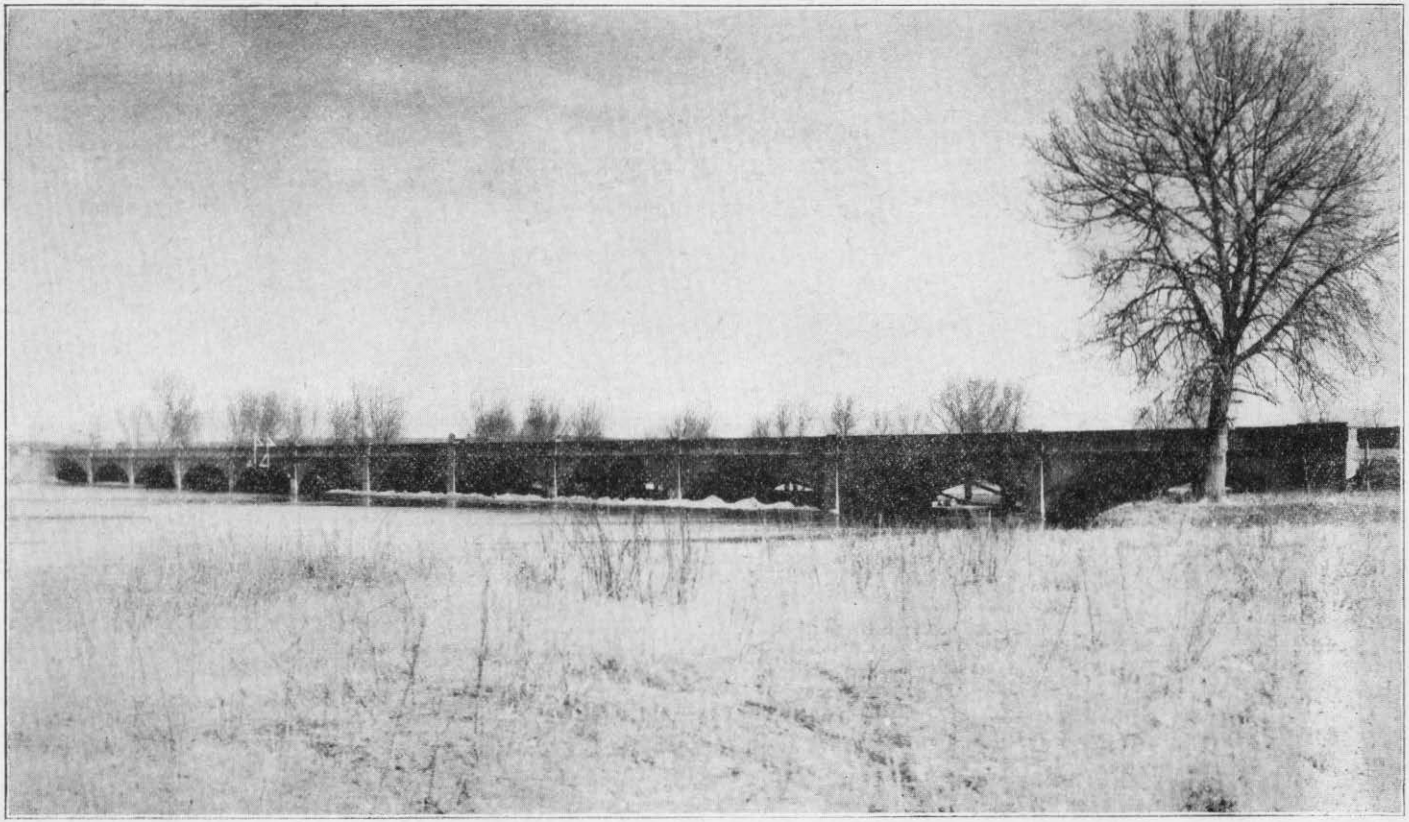
DAILY DISCHARGE, IN SECOND FEET, OF GOTHENBURG IRRIGATION CANAL, FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	88.0	79.0	51.0
2	.....	88.0	65.0	36.0
3	.....	88.0	65.0	11.5
4	.....	88.0	60.0	18.0
5	.....	88.0	60.0	36.5
6	.....	84.0	43.0	32.0
7	.....	56.0	75.0	29.0
8	.....	23.0	79.0	51.0
9	.....	00.0	88.0	32.0
10	.....	00.0	84.0	29.0
11	.....	00.0	79.0	70.0
12	.....	00.0	75.0	70.0
13	.....	61.0	56.0	84.0
14	.....	75.0	70.0	88.0
15	.....	75.0	88.0	97.0
16	26.0	106.0	84.0	102.0
17	26.0	97.0	75.0	102.0
18	23.0	97.0	84.0	102.0
19	23.0	92.0	84.0	102.0
20	23.0	70.0	84.0	102.0
21	23.0	75.0	92.0	106.0
22	23.0	84.0	84.0	88.0
23	26.0	88.0	84.0	84.0
24	40.5	88.0	75.0	84.0
25	70.0	92.0	79.0	84.0
26	70.0	92.0	79.0	79.0
27	75.0	92.0	79.0	84.0
28	84.0	92.0	79.0	79.0
29	88.0	88.0	79.0	.....
30	88.0	88.0	65.0	.....
31	.....	88.0	43.0	.....
Total	708.0	2243.0	2315.0	1933.0
Mean	47.0	72.0	74.0	69.0
Maximum	88.0	106.0	92.0	106.0
Minimum	23.0	0.0	43.0	11.5
Acre Feet	1404.0	4449.0	4592.0	3834.0

Acreage report, 20,650.
Total acre feet, 14,279.
Acre Feet per Acre, 0.69.

ACTUAL DISCHARGE MEASUREMENTS OF GOTHENBURG POWER WASTE CANAL, AT GAGING STATION

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6-12	T. C. Palmer	38.20	1.25	2.60	47.8
6-14	T. C. Palmer	31.40	1.41	2.50	44.2
7-2	T. C. Palmer	28.15	1.50	1.30	42.4
7-4	T. C. Palmer	31.30	1.14	1.25	35.9
7-16	T. C. Palmer	35.15	1.53	2.35	54.0
7-23	T. C. Palmer	31.25	1.74	1.30	54.4
8-15	T. C. Palmer	39.28	1.50	2.65	59.1
9-4	T. C. Palmer	46.50	1.40	2.85	69.1
9-18	T. C. Palmer	54.00	1.45	3.10	78.5
9-24	T. C. Palmer	36.50	1.43	2.35	52.4



Mitchell State Aid Bridge

DAILY DISCHARGE, IN SECOND FEET, OF GOTHENBURG WASTE FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	49.0	53.0	46.0
2	.....	51.0	51.0	39.0
3	.....	51.0	49.0	39.0
4	.....	51.0	49.0	41.0
5	.....	51.0	46.0	46.0
6	.....	42.0	46.0	46.0
7	.....	37.0	53.0	42.0
8	.....	32.0	56.0	46.0
9	.....	29.0	56.0	42.0
10	.....	34.0	56.0	56.0
11	.....	35.0	54.5	58.0
12	.....	54.5	46.0	63.0
13	.....	56.0	53.0	63.0
14	.....	56.0	63.0	63.0
15	.....	60.0	56.0	63.0
16	41.0	60.0	56.0	61.0
17	41.0	63.5	56.0	63.0
18	41.0	49.0	56.0	61.0
19	40.0	53.0	58.0	60.0
20	39.0	58.0	56.0	60.0
21	41.0	54.5	49.0	60.0
22	44.0	58.0	54.5	53.0
23	42.0	58.0	54.5	56.0
24	49.0	58.0	54.5	56.0
25	49.0	58.0	54.5	56.0
26	52.0	56.0	54.5	58.0
27	53.0	56.0	54.5	72.0
28	53.9	56.0	60.0	58.0
29	51.0	56.0	49.0	.....
30	49.0	54.5	49.0	.....
31	.....	54.5	51.0	.....
Total	686.0	1591.5	1644.5	1527.0
Mean	45.0	51.3	53.0	54.5
Maximum	53.0	63.5	63.0	72.0
Minimum	39.0	29.0	46.0	39.0
Acre Feet	1361.0	3156.7	3261.9	3029.0

ACTUAL DISCHARGE MEASUREMENTS OF THE GRAF DITCH, AT RATING FLUME, FOR THE YEAR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
7-12	L. D. Horrocks	12.8	1.49	2.15	19.12
7-12	L. D. Horrocks	9.45	1.20	1.8	11.43
7-12	L. D. Horrocks	5.07	.59	1.3	3.01
7-27	Willis-Horrocks	12.9	1.3	2.1	15.78

ACTUAL DISCHARGE MEASUREMENTS OF THE BLUE CREEK DISTRICT DITCH, AT RATING FLUME, FOR THE YEAR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
7-11	L. D. Horrocks	21.8	1.67	1.96	36.23
7-11	L. D. Horrocks	12.53	.94	1.21	11.71
7-11	L. D. Horrocks	9.71	1.08	.90	10.50
7-27	Willis-Horrocks	19.14	1.61	1.60	28.92

DAILY DISCHARGE, IN SECOND FEET, OF THE BLUE CREEK DISTRICT DITCH, OF THE YEAR 1917

July 5	35.50
July 11	31.00
July 24	46.00
July 25	35.50
July 26	35.50
July 28	30.00
July 29	34.00
July 30	38.00
August 1	32.50
August 3	30.00
August 5	32.50
August 6	15.00
August 8	12.50
August 9	11.50
August 10	28.00
August 13	27.00
August 14	24.00
August 15	22.00
August 16	25.50
August 17	39.00
August 18	37.00
August 20	30.00
August 21	34.00
August 22	0.00
August 23	0.00
August 24	0.00
August 25	48.00
August 26	34.00

DAILY DISCHARGE, IN SECOND FEET OF THE GRAF DITCH FOR YEAR 1917

July 5	0.00
July 12	8.00
July 24	10.00
July 25	10.00
July 26	15.00
July 27	15.00
July 28	5.00
July 29	17.00
July 30	17.00
July 31	23.50
August 1	6.50
August 3	11.50
August 5	11.50
August 6	22.00
August 8	17.00
August 9	20.50
August 10	15.00
August 13	15.00
August 14	17.00
August 15	15.00
August 16	11.50
August 17	5.00
August 20	18.50
August 21	17.00
August 23	19.50
August 24	25.50

ACTUAL DISCHARGE MEASUREMENTS OF GRAF DITCH, AT RATING FLUME, FOR YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6- 2	T. C. Palmer	9.10	0.76	.....	6.9
6- 8	T. C. Palmer	13.40	1.36	1.90	18.2
6-18	T. C. Palmer	18.80	1.53	2.55	28.7
7- 7	T. C. Palmer	16.11	1.48	2.35	23.9
7-13	T. C. Palmer	13.74	1.24	2.10	17.1
8-23	T. C. Palmer	11.70	1.28	2.11	15.0
8-31	T. C. Palmer	12.40	1.57	2.37	19.5
9- 8	T. C. Palmer	7.35	1.48	1.95	10.9
9-13	T. C. Palmer	9.02	1.60	2.19	14.5
9-27	T. C. Palmer	.....	.....	1.22	Est. 0.5

DAILY DISCHARGE, IN SECOND FEET, OF GRAF CANAL AT RATING FLUME. FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	16.5	17.0	20.0
2	.....	16.5	16.0	22.5
3	.....	22.5	15.0	22.0
4	.....	22.0	11.0	22.5
5	.....	20.8	5.2	22.5
6	16.5	24.5	.....	17.0
7	11.8	20.8	.....	11.5
8	7.0	24.0	.....	10.5
9	7.5	20.0	.....	15.0
10	7.0	23.5	.....	14.5
11	19.5	24.5	.....	14.0
12	19.5	19.2	.....	16.5
13	21.0	14.0	.....	16.0
14	21.0	16.5	.....	16.0
15	21.0	20.0	.....	8.0
16	9.5	16.5	.....	.....
17	28.5	13.3	.....	0.7
18	31.0	10.0	.....	3.5
19	36.0	7.5	.....	9.5
20	30.5	16.3	1.5	1.0
21	23.5	6.0	9.0	0.9
22	16.0	9.5	16.5	0.8
23	16.5	1.7	14.0	0.8
24	29.0	21.0	14.4	0.9
25	31.5	.....	16.0	1.5
26	19.0	.....	.....	1.5
27	31.5	.....	0.5	1.0
28	26.0	.....	17.0	0.4
29	26.0	.....	16.5	*
30	24.5	0.5	19.5	*
31	.....	.....	20.00	.....
Total	530.8	407.6	209.1	270.5
Mean	21.2	13.1	6.7	9.6
Maximum	36.0	24.5	20.0	22.5
Minimum	7.0	.....	.....	.....
Acre feet	1052.8	808.5	414.7	536.5

Acreage reported 2,100.
Total acre feet, 2,813.
Acre feet per acre, 1.34.
* No report.

ACTUAL MEASUREMENTS OF THE HOOPER DITCH AT THE RATING FLUME FOR THE YEAR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
7-10	L. D. Horrocks	9.6	1.70	1.80	15.96
7-10	L. D. Horrocks	6.7	1.45	1.25	9.75
7-10	L. D. Horrocks	4.32	.82	.70	3.45
7-28	R. H. Willis	.58	1.6	.....	.93
	CANAL BELOW WASTE GATE				
7-27	Willis-Horrocks	11.89	1.19	1.45	14.22

ACTUAL DISCHARGE MEASUREMENTS OF THE UNION DITCH, AT RATING FLUME, FOR THE YEAR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
7-11	L. D. Horrocks	5.40	1.45	.65	7.84
7-11	L. D. Horrocks	2.51	.51	.36	1.30
7-11	L. D. Horrocks	8.92	1.97	.90	17.65
7-27	Willis-Horrocks	9.00	1.25	.....	11.26

DAILY DISCHARGE, IN SECOND FEET, OF THE UNION DITCH, FOR THE YEAR 1917

July 5	7.60
July 10	9.80
July 13	14.00
July 25	9.80
July 27	7.55
July 28	14.00
July 29	2.60
July 30	12.00
July 31	17.80
August 1	1.20
August 3	5.80
August 5	9.80
August 6	21.60
August 8	24.00
August 9	22.00
August 10	3.80
August 13	3.80
August 14	3.80
August 15	5.60
August 16	1.60
August 17	5.60
August 18	5.60
August 20	5.60
August 21	2.60
August 22	22.00
August 23	25.60
August 24	22.00
August 25	10.20
August 26	7.55

DAILY DISCHARGE, IN SECOND FEET, OF (HOOPER) BLUE CREEK DITCH, FOR 1917

July 5	.....
July 10	15.00
July 24	18.50
July 25	11.60
July 26	16.00
July 27	13.00
July 28	11.60
July 29	12.00
July 30	12.60
July 31	20.80
August 1	16.00
August 3	13.80
August 4	15.00
August 5	17.40
August 6	15.60
August 8	17.80
August 9	17.80
August 10	15.00
August 13	16.60
August 14	17.40
August 15	16.60
August 16	19.60
August 17	17.80
August 18	17.40
August 20	13.80
August 21	14.40
August 22	20.80
August 23	16.00
August 24	17.80
August 25	15.60
August 26	15.60

ACTUAL DISCHARGE MEASUREMENTS OF HOOPER DITCH, AT RATING FLUME, FOR YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6- 2	T. C. Palmer	9.0	.92	.....	8.3
6- 7	T. C. Palmer	7.88	1.15	1.75	9.1
6-18	T. C. Palmer	7.30	1.22	1.60	8.9
6-27	T. C. Palmer	8.00	1.10	1.59	8.8
7- 7	T. C. Palmer	8.50	1.26	1.70	10.8
7-13	T. C. Palmer	9.50	1.25	1.87	11.9
8-12	T. C. Palmer	2.55	.24	0.69	0.7
9- 8	T. C. Palmer	11.32	1.37	2.29	15.6
9-13	T. C. Palmer	6.50	.95	1.35	6.2
9-27	T. C. Palmer	8.85	1.28	1.87	11.4

DAILY DISCHARGE, IN SECOND FEET, OF HOOPER CANAL AT RATING FLUME, FOR THE SEASON OF 1918

Day	June	July	August	Sept.
1	.....	9.8	8.9	.....
2	.....	10.0	6.7	.....
3	.....	9.2	7.1	.....
4	.....	9.1	15.4	.....
5	.....	8.5	18.2	.....
6	17.0	9.1	8.3	16.0
7	13.8	9.7	10.6	16.3
8	10.7	9.7	6.7	16.8
9	10.0	9.5	6.7	5.6
10	10.0	9.5	6.5	6.1
11	13.2	9.5	3.6	5.8
12	16.9	10.5	0.8	5.7
13	16.2	11.6	0.8	5.7
14	14.7	21.2	.....	10.2
15	18.0	15.8	0.1	11.1
16	8.8	6.8	.....	12.0
17	8.4	3.6	.....	7.3
18	9.0	2.3	1.6	9.6
19	9.6	1.6	2.0	9.8
20	9.8	4.6	1.8	9.6
21	9.7	13.6	2.3	9.9
22	9.7	13.7	2.7	9.9
23	9.6	13.0	2.2	10.2
24	12.4	13.2	2.3	10.2
25	13.2	.....	2.0	11.2
26	7.7	.....	1.8	11.2
27	8.4	.....	7.0	11.6
28	9.5	.....	0.4	6.4
29	9.6	.....	.....	.....
30	9.7	.....	.....	.....
31	.....	8.9	.....	.....
Total	285.6	244.0	126.5	228.2
Mean	11.4	7.8	4.1	8.2
Maximum	18.0	21.2	18.2	16.8
Minimum	7.7	.....	.....	.....
Acre feet	566.5	484.0	250.9	452.6

Acreage reported, 735 acres.
Total acre feet, 1,754.
Acre feet per acre, 2.38.

DAILY DISCHARGE, IN SECOND FEET, OF INTERSTATE CANAL, AT WHALEN, WYO., FOR 1917

Day	April	May	June	July	Aug.	Sept.	Oct.
1	.....	618	855	1520	1625	1630	950
2	.....	695	855	1520	1625	1630	300
3	.....	772	855	1520	1625	1630	630
4	.....	775	855	1520	1625	1630	770
5	.....	781	855	1520	1625	1630	820
6	.....	618	855	1520	1625	1630	800
7	.....	820	855	1520	1625	1280	850
8	.....	813	595	1530	1625	1340	685
9	.....	823	595	1535	1625	1390	660
10	.....	830	595	1545	1625	1390	660
11	.....	830	650	1555	1625	1490	660
12	.....	852	683	1555	1625	1490	670
13	.....	850	683	1555	1625	1490	715
14	.....	878	683	1555	1625	1490	730
15	.....	907	997	1555	1625	1500	730
16	.....	918	1198	1555	1625	1500	.....
17	.....	934	830	1560	1625	1475	.....
18	.....	950	653	1560	1625	1400	.....
19	.....	950	750	1575	1625	1400	.....
20	.....	950	1188	1600	1400	1400	.....
21	.....	950	1260	1600	1525	1400	.....
22	350	950	1369	1600	1570	1290	.....
23	526	950	1422	1600	1570	1260	.....
24	603	950	1453	1600	1610	1260	.....
25	685	918	1479	1600	1610	1200	.....
26	502	850	1479	1600	1615	1200	.....
27	538	855	1495	1600	1625	1200	.....
28	533	855	1510	1600	1630	1200	.....
29	565	855	1517	1600	1630	950	.....
30	594	855	1517	1625	1630	935	.....
31	.....	855	.....	1625	1630	.....	.....
Total	4896	24522	30586	48525	49920	41710	10630
Mean	544	875	1019	1565	1610	1490	708
Acre feet	9711	48639	60667	96249	99016	82731	21084
Minimum	350	775	595	1520	1400	935	300
Maximum	685	950	1517	1625	1625	1630	950

DAILY DISCHARGE, IN SECOND FEET, OF INTERSTATE CANAL, AT WHALEN, WYO,. FOR 1918

Day	April	May	June	July	Aug.	Sept.	Oct.
1	.....	824	1408	1610	1660	1645	650
2	.....	848	1416	1625	1650	1645	675
3	.....	874	1425	1630	1650	1645	700
4	.....	874	1425	1630	1650	1607	720
5	.....	873	1425	1633	1650	1470	720
6	.....	892	1425	1637	1500	1470	724
7	.....	887	1425	1645	1650	1470	740
8	.....	915	1425	1650	1637	1470	740
9	.....	890	1475	1650	1580	1428	655
10	280	845	1485	1650	1512	1420	550
11	460	885	1485	1655	1490	1420	465
12	730	885	1483	1660	1512	1420	300
13	720	885	1500	1660	1535	1420	300
14	645	899	1525	1600	1535	1425	300
15	645	906	1540	1573	1550	1340	240
16	645	931	1545	1655	1580	1160	290
17	725	964	1552	1650	1580	1160	320
18	735	1023	1570	1650	1580	1160	410
19	735	1096	1580	1650	1580	1160	485
20	740	1148	1580	1650	1580	1160	500
21	780	1179	1590	1650	1610	1080	520
22	795	1251	1600	1650	1595	860	520
23	795	1300	1590	1650	1610	860	500
24	766	1330	1585	1653	1625	830	500
25	766	1330	1590	1660	1640	750	450
26	803	1330	1590	1660	1550	750	400
27	823	1330	1595	1660	1640	750	350
28	815	1339	1600	1660	1640	750	.....
29	824	1360	1605	1660	1640	750	.....
30	824	1370	1610	1660	1645	700	.....
31	.....	1385	.....	1660	1645	.....	.....
Total	15051	32748	45649	50986	49521	36175	13724
Mean	716	1056	1521	1644	1597	1205	442
Acre feet	29853	64955	90544	101130	98224	71753	27221
Maximum	824	1385	1610	1660	1660	1645	740
Minimum	280	824	1408	1573	1490	700	.....

ACTUAL DISCHARGE MEASUREMENTS, KEITH-LINCLON COUNTY CANAL, BELOW WASTE-WAY, 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 7	T. C. Palmer	42.80	1.46	1.00	62.6
5-20	T. C. Palmer	32.70	1.00	0.70	32.8
6- 1	T. C. Palmer	27.20	1.38	0.70	37.6
6-10	T. C. Palmer	28.50	1.57	0.70	45.0
6-17	T. C. Palmer	63.55	1.63	1.38	103.7
6-29	T. C. Palmer	50.82	1.74	1.25	88.6
7- 6	T. C. Palmer	45.41	1.38	0.90	62.3
7-14	T. C. Palmer	60.70	1.45	1.30	88.1
7-24	T. C. Palmer	32.75	1.41	0.65	46.2
8-22	T. C. Palmer	34.90	1.30	0.75	45.5
9- 2	T. C. Palmer	37.75	1.40	0.80	55.3
9- 7	T. C. Palmer	43.05	1.32	0.90	57.1
9-16	T. C. Palmer	54.75	1.43	1.20	78.5
9-26	T. C. Palmer	39.92	1.39	0.93	55.4

DAILY DISCHARGE, IN SECOND FEET, OF KEITH AND LINCOLN COUNTY CANAL, AT RATING FLUME, FOR SEASON 1918

Day	June	July	August
1	.....	116	.....
2	.....	116	.....
3	.....	106	.....
4	.....	86	40
5	.....	66	56
6	.....	56	48
7	.....	48	48
8	.....	32	56
9	.....	76	48
10	.....	86	40
11	.....	86	56
12	.....	76	66
13	.....	76	56
14	.....	76	56
15	.....	86	56
16	.....	.....	56
17	.....	.....	56
18	.....	.....	66
19	.....	26	75
20	.....	40	56
21	.....	40	56
22	.....	32	48
23	.....	40	48
24	.....	48	26
25	.....	32	56
26	86	26	48
27	146	26	56
28	106	20	56
29	96	20	56
30	86	56	48
31	.....	.....	40
Total	520	1594	1473
Mean	104	51	47
Maximum	146	116	75
Minimum	86	.....	26
Acre feet	1031	3162	2922

Acreage based on 1916 report, 6,300 acres.
Total acre feet, 7,115.
Acre feet per acre, 1.13.

ACTUAL DISCHARGE MEASUREMENTS, OF LISCO CANAL AT RATING FLUME, FOR THE SEASON 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6- 8	T. C. Palmer	26.30	1.36	2.00	35.80
6-20	T. C. Palmer	19.07	1.09	1.40	20.90
6-26	T. C. Palmer	37.74	1.66	2.50	62.90
7- 8	T. C. Palmer	10.17	0.67	0.90	6.79
7-29	T. C. Palmer	16.42	1.47	1.60	24.12
8-24	T. C. Palmer	7.20	1.04	1.20	7.49
8-30	T. C. Palmer	7.27	0.80	1.10	5.87
9- 9	T. C. Palmer	10.60	0.96	1.50	10.20
9-12	T. C. Palmer	14.32	1.33	1.70	19.12

DAILY DISCHARGE, IN SECOND FFET, OF LISCO CANAL FOR THE SEASON 1918

Day	July	Aug.	Day	July	Aug.
1	*	6	19	*	*
2	*	6	20	23.0	*
3	*	*	21	*	*
4	*	*	22	*	*
5	*	8.0	23	*	*
6	*	13.0	24	6	*
7	*	*	25	26.0	*
8	*	*	26	*	*
9	*	*	27	*	*
10	*	*	28	*	*
11	*	*	29	*	*
12	*	*	30	*	*
13	*	*			
14	*	*	Total	99.0	21.0
15	*	*	Mean	24.7	10.5
16	31.0	*	Maximum	31.0	13.0
17	19.0	*	Minimum	19.0	8.0
18	*	*	Acre feet	196.4	41.7

* Not reported.

ACTUAL MEASUREMENTS OF THE MITCHELL CANAL AT THE RATING FLUME, FOR THE YEAR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 4	Swanson-Willis	15.85	.....	.75	24.10
5-19	J. A. Rohrer	.....	.....	1.90	107.0
5-29	S. A. Swanson	.....	.....	1.58	78.59
7-12	S. A. Swanson	76.6	.....	2.69	161.37
7-20	J. A. Rohrer	.....	.....	3.00	222.0
7-23	S. A. Swanson	.....	.....	2.91	188.4
8- 1	J. A. Rohrer	.....	.....	3.22	228.0
8-16	D. P. Weeks, Jr.	76.3	2.42	2.70	185.07
8-29	D. P. Weeks, Jr.	83.6	2.	2.65	176.77
9- 1	J. A. Rohrer	.....	.....	2.60	163.0
9-11	J. A. Rohrer	.....	.....	2.73	177.0
9-21	J. A. Rohrer	.....	.....	2.34	134.0

DAILY DISCHARGE, IN SECOND FEET, OF THE MITCHELL CANAL FOR THE YEAR 1917

Day	May	June	July	August	Sept.	Oct.
1	.....	.....	168	205	164	90
2	.....	.....	168	205	174	90
3	.....	.....	168	205	174	90
5	.....	.....	168	205	174	90
6	.....	.....	168	205	122	90
7	.....	.....	168	205	174	90
8	.....	.....	168	205	168	90
9	.....	84	168	225	168	90
10	.....	84	196	225	168	90
11	.....	84	174	225	168	90
12	.....	130	174	225	168	84
13	.....	149	174	225	168	77
14	.....	168	174	225	168	70
15	.....	168	174	225	168	45
16	.....	168	174	168	168	45
17	.....	168	174	168	168	45
18	.....	140	174	168	90	45
19	.....	150	182	168	90	42
20	.....	150	182	168	90	.....
21	.....	158	182	168	90	.....
22	.....	150	189	168	90	.....
23	.....	150	197	168	90	.....
24	.....	150	196	168	90	.....
25	.....	150	200	168	90	.....
26	.....	150	205	168	90	.....
27	.....	150	196	168	90	.....
28	110	150	196	168	90	.....
29	.....	150	205	159	90	.....
30	.....	168	205	150	90	.....
31	.....	.....	205	115	.....	.....
Total	110	3169	5640	5823	4006	1443
Mean	110	144	182	187	133	76
Maximum	110	168	205	225	174	90
Minimum	110	84	168	115	90	42
Acre feet	218	6286	11187	11550	7946	2862

Acreage as reported by District Assessor, 13,781 acres.

ACTUAL DISCHARGE MEASUREMENTS OF MITCHELL CANAL, AT RATING FLUME, FOR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
4-20	Flynn-Palmer	15.80	1.42	1.00	22.5
5-16	Wade Flynn	28.40	2.00	1.47	57.0
5-30	Wade Flynn	59.60	2.20	2.38	131.1
6-22	Wade Flynn	76.70	2.31	2.94	177.5
7-12	Wade Flynn	78.10	2.47	3.00	193.5
7-25	Wade Flynn	77.77	2.40	3.05	187.2
8-17	Wade Flynn	73.42	2.09	2.85	153.6
8-30	Wade Flynn	64.58	2.16	2.66	139.7
8-31	Wade Flynn	44.33	2.03	2.00	90.4
9- 1	Wade Flynn	32.85	1.87	1.70	61.5
9-27	Wade Flynn	49.95	2.01	2.28	100.4

DAILY DISCHARGE, IN SECOND FEET, OF MITCHELL CANAL AT RATING FLUME, FOR THE SEASON 1918

Day	May	June	July	August	Sept.	Oct.
1	.....	126	158	158	64	64
2	.....	126	158	158	163	64
3	.....	126	158	158	163	64
4	.....	126	158	158	163	64
5	.....	126	158	158	163	64
6	.....	126	158	158	163	64
7	.....	126	158	158	163	64
8	.....	135	158	158	163	64
9	.....	126	158	158	163	64
10	.....	126	158	158	163	64
11	.....	135	158	158	163	64
12	.....	135	182	158	163	64
13	.....	135	158	158	163	64
14	.....	135	158	158	163	64
15	.....	154	158	158	163	64
16	48	154	158	158	163	64
17	56	154	158	168	163	.....
18	56	154	158	158	144	.....
19	56	154	158	158	144	.....
20	64	154	158	163	144	.....
21	72	154	158	163	64	.....
22	72	154	158	172	64	.....
23	72	154	158	163	64	.....
24	75	154	158	163	64	.....
25	89	158	186	163	64	.....
26	89	158	158	163	64	.....
27	89	158	158	163	115	.....
28	89	158	158	163	64	.....
29	126	158	158	163	64	.....
30	124	158	158	150	64	.....
31	126	.....	158	89	.....	.....
Total	1247	4297	4950	4890	3795	1024
Mean	83	143	159	157	126	64
Maximum	126	158	186	172	163	64
Minimum	48	126	158	89	64	64
Acre feet	2473	8523	9818	9699	7527	2031

Assessors' Acreage report, 13,781 acres.
Total acre feet, 40,071.
Acre feet per acre, 2.91.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE CANAL, AT 1 MILE BELOW HEADGATE, 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 7	T. C. Palmer	27.60	2.16	0.98	59.7
5-20	T. C. Palmer	34.80	1.58	1.04	54.6
6-10	T. C. Palmer	46.92	2.12	1.52	99.6
6-17	T. C. Palmer	50.12	1.85	1.68	92.9
6-29	T. C. Palmer	75.65	2.67	2.68	202.4
7- 6	T. C. Palmer	61.80	2.46	2.20	152.8
7-14	T. C. Palmer	74.70	2.42	2.48	180.8
8-22	T. C. Palmer	64.47	2.17	2.10	140.5
9- 2	T. C. Palmer	55.25	2.06	.....	113.7
9- 7	T. C. Palmer	53.12	2.11	1.56	112.5
9-16	T. C. Palmer	69.82	2.27	2.24	158.8
9-26	T. C. Palmer	54.32	2.09	1.60	113.7

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE CANAL AT RATING FLUME, FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	198	216	148
2	.....	216	216	156
3	.....	216	216	156
4	.....	138	216	164
5	.....	130	216	164
6	.....	88	206	164
7	.....	172	206	164
8	.....	172	206	172
9	.....	180	206	172
10	138	172	206	172
11	138	172	216	172
12	172	164	216	172
13	164	164	206	172
14	172	198	206	180
15	172	198	206	.....
16	208	216	206	.....
17	208	216	206	.....
18	208	216	*	.....
19	198	224	*	.....
20	216	216	*	.....
21	208	216	*	.....
22	208	216	*	.....
23	190	216	*	.....
24	190	208	*	.....
25	180	198	*	.....
26	180	208	*	.....
27	242	208	*	.....
28	248	208	*	.....
29	198	208	*	.....
30	216	216	*	.....
31	.....	216	*	.....
Total	4054	5984	3572	2328
Mean	193	193	210	166
Maximum	248	224	216	180
Minimum	138	88	206	148
Acre feet	8041	11865	7085	4618

Acreage report, based on 1917 report, 11,760 acres.
Total acre feet, 31,613.
Acre feet per acre, 2.68.

ACTUAL DISCHARGE MEASUREMENTS OF ORCHARD & ALFALFA CANAL, AT BRIDGE AT WASTE GATE, 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
7- 2	T. C. Palmer	37.87	.99	2.62	37.6
7- 4	T. C. Palmer	36.04	.95	2.60	34.4
7-23	T. C. Palmer	52.58	1.02	3.34	53.7
9-18	T. C. Palmer	51.47	.48	3.24	43.5

DAILY DISCHARGE, IN SECOND FEET, OF ORCHARD & ALFALFA CANAL FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	.....	19.0	10.0
2	.....	14.0	18.0	10.0
3	.....	13.0	23.0	9.0
4	.....	13.0	19.0	12.0
5	.....	13.0	17.0	16.0
6	.....	13.0	16.0	27.0
7	.....	11.0	14.0	27.0
8	.....	10.0	0.0	25.0
9	.....	19.0	0.0	23.0
10	.....	17.0	0.0	21.0
11	.....	16.0	*	19.0
12	.....	14.0	*	17.0
13	.....	13.0	*	16.0
14	.....	13.0	*	19.0
15	.....	13.5	*	23.0
16	.....	14.0	*	23.0
17	.....	16.0	*	23.0
18	.....	19.0	*	36.0
19	.....	21.0	*	35.0
20	13.0	23.0	*	34.0
21	23.0	32.0	*	32.0
22	29.0	33.0	*	33.0
23	36.0	34.0	*	34.0
24	31.0	34.0	*	34.0
25	26.0	34.0	*	34.0
26	21.0	34.0	*	35.0
27	16.0	34.0	*	36.0
28	13.0	28.0	*	23.0
29	13.0	23.0	*	.....
30	16.0	21.5	*	.....
31	.....	21.0	*	.....
Total	237.0	614.0	126.0	686.0
Mean	21.5	20.5	12.6	24.5
Maximum	36.0	34.0	23.0	36.0
Minimum	13.0	10.0	0.0	9.0
Acre Feet	470.1	1217.9	249.9	1360.7

Acreage report: None reported.
Total Acre Feet, 32,986.
*Not reported.

ACTUAL MEASUREMENTS OF THE PAISLEY DITCH AT RATING FLUME FOR THE YEAR OF 1917

Date	Made by	Area of Section	Mean Velocity	Gage Height	Discharge
7-11	L. D. Horrocks	5.94	1.14	.85	6.83
		4.36	1.25	.65	5.47

DAILY DISCHARGE, IN SECOND FEET, OF THE PAISLEY IRRI. DIST. DITCH, 1917

July 5	2.80
July 11	7.60
July 28	1.60
July 29	8.40
August 1	8.40
August 3	8.40
August 5	6.60
August 6	10.00
August 8	10.40
August 10	10.40
August 13	13.40
August 14	13.00
August 15	13.00
August 16	12.50
August 17	13.00
August 18	11.60
August 20	11.60
August 21	12.60
August 22	12.60
August 23	12.60
August 24	12.60
August 25	13.00
August 26	13.00

ACTUAL DISCHARGE MEASUREMENTS OF PAISLEY DITCH, AT RATING FLUME, FOR THE YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6- 7	T. C. Palmer	11.65	1.53	1.40	17.9
6-18	T. C. Palmer	8.00	1.46	1.00	11.7
6-27	T. C. Palmer	5.60	1.22	.74	6.8
7-27	T. C. Palmer	5.60	1.43	.74	8.0
8-11	T. C. Palmer	6.78	1.15	.84	7.8
8-23	T. C. Palmer	8.00	1.26	1.00	10.1
8-31	T. C. Palmer	6.40	1.18	.78	7.6
9- 8	T. C. Palmer	7.20	1.08	.94	7.8
9-13	T. C. Palmer	7.77	1.26	1.00	9.8
9-27	T. C. Palmer	4.34	.85	.55	3.7

DAILY DISCHARGE, IN SECOND FEET, OF PAISLEY CANAL AT RATING FLUME, FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	00.0	11.2	5.4
2	.....	00.0	18.0	6.8
3	.....	00.0	22.0	6.8
4	.....	00.0	21.5	7.4
5	.....	00.0	18.8	9.4
6	18.4	00.0	00.0	8.6
7	18.4	00.0	00.0	8.4
8	18.4	00.0	00.0	9.4
9	13.4	00.0	7.6	9.6
10	13.4	00.0	7.6	9.4
11	00.0	00.0	7.4	10.6
12	00.0	00.0	0.0	10.4
13	00.0	00.0	6.6	10.6
14	00.0	00.0	7.6	10.4
15	00.0	00.0	4.6	9.4
16	10.6	11.4	4.5	8.4
17	10.6	8.8	3.2	5.6
18	00.0	13.3	1.9	3.6
19	00.0	10.2	0.8	6.8
20	10.6	10.2	0.8	7.8
21	10.7	7.2	4.6	7.3
22	10.6	7.4	8.4	4.2
23	10.7	6.6	10.2	4.2
24	11.6	6.0	10.2	5.3
25	6.8	6.8	10.6	4.2
26	6.7	7.6	9.4	4.6
27	6.0	5.4	8.3	3.8
28	00.0	7.1	11.2	3.6
29	00.0	7.4	11.0	.....
30	00.0	4.9	10.6	.....
31	.....	13.4	5.4	.....
Total	176.9	133.7	244.0	202.0
Mean	7.0	4.3	7.9	7.2
Maximum	18.4	13.4	22.0	10.6
Minimum	0.0	0.0	0.0	3.6
Acre Feet	350.9	265.2	484.0	400.7

Acreage report, 840 acres.
Total Acre Feet, 1,500.
Acre Feet per Acre, 1.79.

ACTUAL DISCHARGE MEASUREMENTS OF PAXTON-HERSHEY CANAL, AT FIRST BRIDGE BELOW HEAD

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-20	T. C. Palmer	24.3	1.16	.....	28.3
6-10	T. C. Palmer	21.3	1.90	1.35	40.6
6-17	T. C. Palmer	19.18	1.50	1.20	28.8
6-29	T. C. Palmer	26.25	1.76	1.60	46.2
7- 1	T. C. Palmer	14.53	1.51	.90	22.0
7-14	T. C. Palmer	24.13	1.49	1.40	36.1
8-22	T. C. Palmer	29.97	2.14	1.80	64.1
9- 2	T. C. Palmer	21.17	1.82	1.30	38.7
9- 7	T. C. Palmer	23.32	1.93	1.40	45.1
9-16	T. C. Palmer	25.07	2.10	1.50	52.9
9-26	T. C. Palmer	23.3	1.99	1.40	46.4

DAILY DISCHARGE, IN SECOND FEET, OF PAXTON-HERSHEY CANAL AT RATING FLUME, FOR THE SEASON

	June	July	Aug.
1	.....	.....	22.0
2	.....	.....	24.5
3	.....	.....	22.0
4	.....	.....	18.5
5	.....	.....	15.0
6	.....	.....	18.0
7	.....	58.0	45.5
8	.....	39.5	100.0
9	.....	30.5	15.0
10	.....	24.5	00.0
11	.....	30.5	00.0
12	.....	22.0	18.0
13	.....	18.0	30.5
14	.....	39.5	35.0
15	.....	15.0	24.5
16	.....	30.5	24.5
17	.....	35.0	27.5
18	45.5	58.0	.....
19	76.0	76.0	.....
20	84.5	35.0	.....
21	70.0	45.5	.....
22	70.0	58.0	.....
23	76.0	52.0	.....
24	95.0	35.0	.....
25	100.0	64.0	.....
26	100.0	52.0	.....
27	84.5	70.0	.....
28	100.0	22.0	.....
29	100.0	22.0	.....
30	.....	22.0	.....
31	.....	24.5	.....
Total	1101.5	959.5	440.5
Mean	83.5	38.4	25.9
Maximum	100.0	76.0	100.0
Minimum	45.5	15.0	0.0
Acre Feet	1986.5	1903.2	873.7

1918 Acreage report, 7,840 acres.
Total Acre Feet, 4,763.
Acre Feet per Acre, .60.

ACTUAL DISCHARGE MEASUREMENTS OF UNION DITCH, AT WEIR-RATING FLUME, FOR YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6- 8	T. C. Palmer	4.00	4.27	.....	17.1
6-18	T. C. Palmer	2.00	2.05	.75	4.1
6-27	T. C. Palmer	2.00	1.34	.80	4.7
7- 7	T. C. Palmer	3.49	4.14	1.05	14.5
7-13	T. C. Palmer	4.27	5.02	1.24	21.5
7-27	T. C. Palmer	2.49	3.13	.89	7.8
8-12	T. C. Palmer	1.34	.83	.62	1.1
8-31	T. C. Palmer	3.00	3.72	.93	11.2
9- 8	T. C. Palmer	2.00	3.03	.85	6.1
9-13	T. C. Palmer	.....	.....	.....	3.0
9-27	T. C. Palmer	2.23	1.06	.70	2.4

DAILY DISCHARGE, IN SECOND FEET, OF UNION CANAL AT RATING FLUME, FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	12.4	10.4	9.8
2	.....	14.6	10.4	8.8
3	.....	12.7	12.4	10.4
4	.....	12.7	8.8	12.4
5	.....	12.4	11.8	13.8
6	.....	12.7	12.4	7.0
7	.....	14.4	2.2	7.4
8	.5	12.1	4.0	6.2
9	.4	14.2	4.5	11.4
10	.4	14.2	6.4	10.4
11	.3	10.4	4.6	10.0
12	.2	16.2	2.9	2.7
13	.2	22.0	0.3	5.0
14	.3	14.0	4.8	10.4
15	.2	12.7	5.0	7.8
16	.2	0.0	5.6	5.2
17	4.0	0.0	4.3	5.0
18	4.0	14.0	2.9	3.2
19	2.9	20.4	5.0	2.9
20	2.8	21.4	5.6	2.9
21	3.2	12.4	4.1	4.6
22	8.8	14.0	2.7	2.9
23	5.0	13.8	3.9	4.4
24	12.4	14.0	5.0	4.1
25	8.7	0.0	2.7	3.8
26	5.0	5.0	3.0	2.9
27	5.0	8.0	2.9	2.9
28	8.8	7.0	2.9	5.6
29	8.8	6.4	6.2	.....
30	12.7	8.0	5.6	.....
31	.....	13.8	9.7	.....
Total	94.8	365.9	173.0	183.9
Mean	3.9	11.8	5.6	6.6
Maximum	12.7	22.0	12.4	13.8
Minimum	0.0	0.0	0.3	2.7
Acre Feet	188.0	725.8	343.1	364.8

1918 Acregae report, 1,050 acres.
Total Acre Feet, 1,621.
Acre Feet per acre, 1.54.

ACTUAL DISCHARGE MEASUREMENTS OF WESTERN IRRIGATION DITCH, AT RATING FLUME, FOR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 4	T. C. Palmer	75.4	1.69	1.40	127.9
6-28	T. C. Palmer	148.6	2.22	3.42	330.5

DAILY DISCHARGE, IN SECOND FEET, OF WESTERN IRRIGATION DITCH, FOR THE SEASON 1918

Day	May	June	July	August	Sept.
1	.....	45	320	27	70
2	.....	45	220	26	67
3	.....	45	210	70	135
4	.....	45	145	125	70
5	.....	45	102	80	67
6	70	48	70	127	75
7	70	46	65	120	.....
8	70	46	60	230	.....
9	80	46	55	98	.....
10	70	46	46	140	.....
11	60	40	46	135	.....
12	60	40	46	165	.....
13	56	39	46	165	.....
14	50	35	46	155	.....
15	70	27	65	175	.....
16	60	25	130	110	.....
17	60	23	365	155	.....
18	54	25	320	115	.....
19	70	25	.....	100	.....
20	65	25	.....	102	.....
21	54	26	.....	105	.....
22	50	26	.....	90	.....
23	50	23	17	80	.....
24	50	27	22	155	.....
25	50	25	.....	150	.....
26	50	26	.....	117	.....
27	50	115	.....	80	.....
28	50	390	17	56	.....
29	50	390	17	140	.....
30	50	425	17	120	.....
31	45	.....	50	100	.....
Total	1514	2234	2497	3613	484
Mean	58	74	80	116	80
Maximum	80	425	365	230	135
Minimum	45	23	.....	26	67
Acre Feet	3003	4431	4953	7166	900

1918 acreage report, 9,940.
Total Acre Feet, 20,513.
Acre Feet per Acre, 2.06.

ACTUAL DISCHARGE MEASUREMENTS OF WINTER'S CREEK CANAL, AT RATING FLUME, 1918.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6-20	Wade Flynn	24.78	1.34	2.22	33.2
6-26	Wade Flynn	32.99	1.62	2.37	53.5
7- 9	Wade Flynn	18.56	1.13	1.06	21.0
7-23	Wade Flynn	19.41	1.33	2.14	26.0
8-27	Wade Flynn	18.40	1.20	2.03	22.2
9- 2	Wade Flynn	14.70	.89	2.90	13.1

Arlington State Aid Bridge

DAILY DISCHARGE, IN SECOND FEET, OF WINTER'S CREEK AT RATING FLUME, FOR THE SEASON 1918

Day	June	July	August	Sept.
1	.....	28.0	26.0	26.5
2	.....	26.5	20.0	27.0
3	.....	17.0	26.0	28.0
4	.....	16.0	20.0	27.0
5	.....	16.5	14.5	27.0
6	.....	16.0	16.0	.....
7	.....	17.0	26.5	.....
8	.....	26.5	26.5	.....
9	.....	17.0	20.0	.....
10	.....	16.0	26.5	.....
11	.....	16.5	27.0	.....
12	.....	16.5	26.5	.....
13	.....	16.5	26.5	.....
14	.....	9.5	26.5	.....
15	.....	2.0	26.5	.....
16	.....	.....	26.5	.....
17	.....	.....	26.0	.....
18	.....	.....	.....	.....
19	.....	.....	.....	.....
20	.....	3.0	27.0	.....
21	.....	28.5	28.0	.....
22	.....	28.5	28.0	.....
23	.....	28.5	27.0	.....
24	.....	26.5	26.5	.....
25	.....	20.0	27.0	.....
26	.....	28.5	28.0	.....
27	54.0	28.5	27.0	.....
28	60.0	29.0	27.0	.....
29	48.0	28.0	26.5	.....
30	38.0	26.0	26.5	.....
31	.....	27.0	26.5	.....
Total	200.0	559.5	732.5	135.5
Mean	50.0	18.0	23.6	27.1
Maximum	60.0	29.0	28.0	28.0
Minimum	38.0	0.0	0.0	26.5
Acre Feet	396.7	1109.8	1452.9	268.8

Acreage report, 4,270.
Total Acre Feet, 3,228.

DAILY DISCHARGE, IN SECOND FEET, OF NINE MILE CANAL EAST OF MINATARE DRAIN, FOR THE SEASON 1918

	June	July	Aug.
1	.....	27|0	46.0
2	.....	33.0	46.0
3	.....	30.0	46.0
4	.....	33.0	.....
5	.....	33.0	.....
6	.....	27.0	.....
7	.....	27.0	.....
8	.....	33.0	.....
9	.....	33.0	.....
10	.....	46.0	.....
11	.....	27.0	.....
12	.....	33.0	.....
13	.....	53.5	.....
14	.....	0.0	.....
15	.....	0.0	.....
16	.....	0.0	.....
17	.....	0.0	.....
18	.....	0.0	.....
19	.....	0.0	.....
20	.....	0.0	.....
21	.....	0.0	.....
22	.....	0.0	.....
23	.....	0.0	.....
24	.....	0.0	.....
25	.....	0.0	.....
26	33.0	0.0	.....
27	33.0	0.0	.....
28	24.0	0.0	.....
29	33.0	4.6	.....
30	27.0	4.6	.....
31	.....	.....	.....
Total	150.0	527.5	138.0
Mean	30.0	17.0	46.0
Maximum	33.0	53.5	46.0
Minimum	24.0	0.0	46.0
Acre Feet	297.5	1046.3	273.7

1918 Acreage report, 14,000 acres; 13,000 acres east of Minatare Drain Ditch.

Total Acre Feet, 16,175.

Acre Feet per Acre, 1.15.

MISCELLANEOUS CANAL MEASUREMENTS, 1918

Place	Locality	Hydrog'pher	Date	Disch.
Alfalfa Ir. Dis. Canal	Rating flume	T. C. Palmer	5- 8	22.90
Alfalfa Ir. Dis. Canal	Rating flume	T. C. Palmer	5- 8	11.10
Alfalfa Ir. Dis. Canal	Rating flume	T. C. Palmer	6- 7	9.00
Alfalfa Ir. Dis. Canal	Rating flume	T. C. Palmer	6-20	27.62
Alfalfa Ir. Dis. Canal	Rating flume	T. C. Palmer	6-28	34.40
Alfalfa Ir. Dis. Canal	Rating flume	T. C. Palmer	7- 7	2.46
Alfalfa Ir. Dis. Canal	Rating flume	T. C. Palmer	7-13	21.47
Alliance Canal	At the bridge	Wade Flynn	7- 8	12.80
Alliance Canal	south of	Wade Flynn	7-19	21.70
Alliance Canal	Bayard	Wade Flynn	8-12	7.70
Beerline Canal	Rating flume	T. C. Palmer	6-25	13.60
Beerline Canal	Rating flume	T. C. Palmer	7-11	10.36
Beerline Canal	Rating flume	T. C. Palmer	7-30	9.71
Belmont Feeder		T. C. Palmer	6-21	6.59
Belmont Feeder		T. C. Palmer	6-25	6.91
Belmont Feeder		Wade Flynn	7- 1	5.50
Belmont Feeder		T. C. Palmer	7-11	6.09
Belmont Feeder	Diverted into Bel-	Wade Flynn	7-16	5.30
Belmont Feeder	mont Canal from	T. C. Palmer	7-29	5.34
Belmont Feeder	Cedar Creek	W. F. Chaloupka	8- 1	5.64
Belmont Feeder		T. C. Palmer	8-10	6.95
Belmont Feeder		Wade Flynn	8-24	8.30
Belmont Feeder		Flynn-Palmer	9-10	10.50
Belmont Feeder		Wade Flynn	9-17	10.70
Birdwood Canal		T. C. Palmer	6-11	13.40
Birdwood Canal	Bridge below	T. C. Palmer	6-29	29.86
Birdwood Canal	Headgate	T. C. Palmer	7- 5	22.75
Birdwood Canal		T. C. Palmer	7-24	4.80
Central Canal	Bridge on Scotts-	Wade Flynn	6-29	31.50
Central Canal	bluff-Gering road.	Palmer-Noskey	8- 5	22.38
Central Canal		Wade Flynn	8-14	14.60
Culbertson Canal	Rating flume	R. H. Willis	5-22	83.30
Doran-King	Diversion dam	W. F. Chaloupka	7-30	0.99
Enterprise Canal	Rating flume	Wade Flynn	5-29	23.80
Enterprise Canal	Rating flume	Wade Flynn	6-21	81.30
Enterprise Canal	Rating flume	Wade Flynn	6-25	37.40
Enterprise Canal	Rating flume	Wade Flynn	7-13	64.80
Enterprise Canal	Rating flume	T. C. Palmer	8- 7	49.84
Enterprise Canal	Rating flume	Wade Flynn	8-16	8.10
Enterprise Canal		Wade Flynn	6-20	13.10
Enterprise Canal		Wade Flynn	8-19	59.30
Enterprise Canal	Below Tub Springs	T. C. Palmer	8-27	43.57
Enterprise Canal	Drain Ditch	Wade Flynn	8-29	72.70
Enterprise Canal		Wade Flynn	9- 2	35.30
Farmers Canal on the Frenchman	Near headgate	R. H. Willis	5-24	9.18
Gothenburg Canal	One mile below	T. C. Palmer	5- 3	69.00
Gothenburg Canal	Headgate	T. C. Palmer	5-22	105.30
Gothenburg Canal		T. C. Palmer	5-24	111.60

Place	Locality	Hydrog'pher	Date	Disch.
Inman Canal on the Frenchman	Near headgate	R. H. Willis	5-25	10.72
Kearney Canal		T. C. Palmer	5- 2	117.80
Kearney Canal		T. C. Palmer	5-23	176.50
Kearney Canal	Bridge below waste	T. C. Palmer	6-13	172.90
Kearney Canal	gate at gaging	T. C. Palmer	7- 3	170.80
Kearney Canal	station	T. C. Palmer	8-19	177.20
Kearney Canal		T. C. Palmer	9- 5	155.59
Kearney Canal		T. C. Palmer	9-19	205.43
Kearney Canal		T. C. Palmer	9-23	218.31
Keystone Canal		T. C. Palmer	7-14	25.84
Keystone Canal	Bridge below head-	T. C. Palmer	7-25	22.50
Keystone Canal	gate at rating	T. C. Palmer	8-22	6.90
Keystone Canal	flume	T. C. Palmer	9- 7	2.74
Lyon's Canal		T. C. Palmer	7- 8	10.92
Lyon's Canal		T. C. Palmer	7-12	19.05
Lyon's Canal	Bridge below head-	T. C. Palmer	7-26	36.03
Lyon's Canal	gate at gaging	T. C. Palmer	8-24	13.38
Lyon's Canal	station	T. C. Palmer	8-30	10.27
Lyon's Canal		T. C. Palmer	9- 9	9.06
Lisco Canal	Rating flume	T. C. Palmer	6- 8	35.80
Lisco Canal	Rating flume	T. C. Palmer	6-20	20.90
Lisco Canal	Rating flume	T. C. Palmer	6-26	62.90
Lisco Canal	Rating flume	T. C. Palmer	7- 8	6.79
Lisco Canal	Rating flume	T. C. Palmer	7-29	24.12
Lisco Canal	Rating flume	T. C. Palmer	8-24	7.49
Lisco Canal	Rating flume	T. C. Palmer	8.30	5.87
Lisco Canal	Rating flume	T. C. Palmer	9- 9	10.20
Lisco Canal	Rating flume	T. C. Palmer	9-12	19.12
Maranville Canal on the Frenchman	Near headgate	R. H. Willis	5-25	6.54
West Side				
Meredith Canal	Below dam	W. F. Chaloupka	7-24	8.97
Meredith Canal	Below dam	W. F. Chaloupka	8- 3	13.82
Meredith Canal	Below dam	W. F. Chaloupka	8-13	9.98
Meredith Canal	Below dam	W. F. Chaloupka	8-19	5.51
Meredith Canal	Below dam	W. F. Chaloupka	8-26	4.05
East Side				
Meredith Canal	Below dam	W. F. Chaloupka	7-24	1.35
Meredith Canal	Below dam	W. F. Chaloupka	8- 3	0.65
Meredith Canal	Below dam	W. F. Chaloupka	8-13	0.64
Meredith Canal	Below dam	W. F. Chaloupka	8-19	0.65
Meredith Canal	Below dam	W. F. Chaloupka	8-26	0.68
Meredith Canal	Below dam	W. F. Chaloupka	9-23	0.59
Meglemere Canal	Below Diversion	W. F. Chaloupka	8-22	1.02
Minatare Canal	Below wastegate	Wade Flynn	6-19	118.80
Minatare Canal	Below wastegate	Wade Flynn	7- 9	78.50
Minatare Canal	Below wastegate	Wade Flynn	7-22	29.30
Minatare Canal	Below wastegate	Palmer-Noskey	8- 4	73.90
Minatare Canal	At bridge ½ mile E. or wastegate	Wade Flynn	8-13	44.40
Minatare Canal		Wade Flynn	8-27	35.50

Place	Locality	Hydrog'pher	Date	Disch.
Nine Mile Canal		Wade Flynn	6- 8	12.80
Nine Mile Canal		Wade Flynn	6-19	19.80
Nine Mile Canal	Bridge 1 mile be-	Wade Flynn	7- 8	15.10
Nine Mile Canal	low headgate	Wade Flynn	7-19	26.10
Nine Mile Canal		Wade Flynn	8-13	10.90
Nine Mile Canal		Wade Flynn	6-19	34.30
Nine Mile Canal	Bridge ½ mile E.	C'loupka-Willis	6-25	35.93
Nine Mile Canal	of Minatare drain	Wade Flynn	7- 8	36.90
Nine Mile Canal	ditch	T. C. Palmer	8- 3	58.79
Nine Mile Canal		Wade Flynn	8-13	15.90
Oliver's Canal on the Frenchman	Near headgate	R. H. Willis	5-22	3.50
Oshkosh Canal	Gaging station	T. C. Palmer	6-20	7.50
Oshkosh Canal	Gaging station	T. C. Palmer	6-26	15.70
Oshkosh Canal	Gaging station	T. C. Palmer	7- 8	4.70
Oshkosh Canal	Gaging station	T. C. Palmer	7-12	8.21
Oshkosh Canal	Gaging station	T. C. Palmer	7-29	2.21
Oshkosh Canal	Gaging station	T. C. Palmer	8-24	2.28
Oshkosh Canal	Gaging station	T. C. Palmer	8-30	2.23
Oshkosh Canal	Gaging station	T. C. Palmer	9- 9	3.68
Oshkosh Canal	Gaging station	T. C. Palmer	9-12	3.50
Overland Canal	Headgate	T. C. Palmer	6-20	36.00
Overland Canal	Headgate	T. C. Palmer	7-12	10.34
Overland Canal	Headgate	T. C. Palmer	7-29	4.25
Overland Canal	Headgate	T. C. Palmer	9- 9	2.56
Overland Canal	Headgate	T. C. Palmer	9-12	1.00
Owasco Canal	Headgate	Willis-Radcliffe	7-19	11.43
Otter Creek Canal	At flume	T. C. Palmer	6-17	18.20
Otter Creek Canal	At flume	T. C. Palmer	7- 6	6.92
Riverside Canal on the Frenchman	Near headgate	R. H. Willis	5-24	17.36
Ramshorn Canal		Wade Flynn	6-25	5.40
Ramshorn Canal	Bridge 1¼ mile S.	Wade Flynn	7-13	13.50
Ramshorn Canal	of Morrill	Wade Flynn	8-16	4.90
Ramshorn Canal		Wade Flynn	9- 2	9.60
Ramshorn Canal	Water from Sheep Creek	T. C. Palmer	8-6	9.16
Redington Canal	250 ft. below	W. F. Chaloupka	7-30	4.77
Redington Canal	diversion	W. F. Chaloupka	8-14	2.88
Redington Canal	Sec. line, Sec. 11-12	W. F. Chaloupka	7-30	3.81
Redington Canal	T.18, R.52, at bdge.	W. F. Chaloupka	8- 4	3.05
Redington Canal	Just below wastew'y	W. F. Chaloupka	7-30	1.34
Redington Canal	250 ft. below bridge.	W. F. Chaloupka	8-14	3.14
Suburban Canal	Rating flume	T. C. Palmer	6-15	8.10
Suburban Canal	Rating flume	T. C. Palmer	6-29	29.15
Suburban Canal	Rating flume	T. C. Palmer	7- 5	23.22
Suburban Canal	Rating flume	T. C. Palmer	7-14	37.30
Suburban Canal	Rating flume	T. C. Palmer	7-24	19.50
Suburban Canal	Rating flume	T. C. Palmer	8-21	30.40

Place	Locality	Hydrog'pher	Date	Disch.
Suburban Canal	Rating flume	T. C. Palmer	9- 2	26.88
Suburban Canal	Rating flume	T. C. Palmer	9- 7	30.30
Suburban Canal	Rating flume	T. C. Palmer	9-16	28.77
Suburban Canal	Rating flume	T. C. Palmer	9-26	19.00
Schermerhorn Canal	Rating flume below	Wade Flynn	6-28	23.90
Schermerhorn Canal	headgate	Wade Flynn	7- 2	6.20
Signal Bluff Canal	Below wastegate	T. C. Palmer	7-27	7.80
Six Mile Canal	Bridge below H. G.	T. C. Palmer	7-23	15.14
Spohn Canal	Gaging station	T. C. Palmer	8-24	12.87
Spohn Canal	Gaging station	T. C. Palmer	8-24	16.11
Spohn Canal	Gaging station	T. C. Palmer	8-30	9.65
Spohn Canal	Gaging station	T. C. Palmer	9-12	8.04
Trinnier Canal	S.28, T.18,N., R.50W.	W. F. Chaloupka	8-22	9.07
Winter's Creek Canal	Taken from Winter's Creek Drain Ditch	Palmer-Noskey	8- 5	56.58
Winter's Creek Canal		Wade Flynn	8-20	38.30
Winter's Creek Canal		Wade Flynn	8-27	57.70
Winter's Creek Canal		Wade Flynn	9-14	47.20

SEEPS AND WASTE WATER MEASUREMENTS 1918

Place	Locality	Hy'grapher	Date	Disch.
Dry Spotted Tail	B. above Enterprise	Wade Flynn	5-17	16.70
Dry Spotted Tail	B. above Enterprise	Wade Flynn	6- 1	29.30
Dry Spotted Tail	B. above Enterprise	Wade Flynn	6-21	40.90
Dry Spotted Tail	B. above Enterprise	Wade Flynn	6-25	30.60
Dry Spotted Tail	B. above Enterprise	Wade Flynn	7-13	37.60
Dry Spotted Tail	B. above Enterprise	Wade Flynn	7-24	52.40
Dry Spotted Tail	B. above Enterprise	T. C. Palmer	8- 8	46.34
Dry Spotted Tail	B. above Enterprise	Wade Flynn	8-16	38.90
Dry Spotted Tail	B. above Enterprise	Wade Flynn	8-29	42.80
Dry Spotted Tail	B. above Enterprise	Wade Flynn	9- 2	45.50
Enterprise Waste		Wade Flynn	6-21	34.40
Enterprise Waste		Wade Flynn	6-25	17.00
Enterprise Waste		Wade Flynn	7-13	16.90
Enterprise Waste	Bridge 1 mile	Wade Flynn	7-24	6.20
Enterprise Waste	West of Mitchell	T. C. Palmer	8- 8	73.28
Enterprise Waste		Wade Flynn	8-16	12.40
Enterprise Waste		Wade Flynn	8-29	14.60
Enterprise Waste		Wade Flynn	9- 2	20.00
Enterprise Waste		Flynn-Palmer	4-20	10.90
Enterprise Waste		Wade Flynn	5-14	0.70
Enterprise Waste		Wade Flynn	5-17	18.80
Enterprise Waste		Wade Flynn	5-29	21.90
Enterprise Waste	Bridge one-half mile	Wade Flynn	6-20	3.70
Enterprise Waste	east of Mitchell	Wade Flynn	6-25	1.80
Enterprise Waste		Wade Flynn	7-13	20.10
Enterprise Waste		Wade Flynn	7-23	9.70
Enterprise Waste		T. C. Palmer	8- 8	21.37
Enterprise Waste		Wade Flynn	8-16	5.10
Enterprise Waste		Wade Flynn	8-29	1.70
Minatare Drain Ditch		Flynn-Palmer	4-17	70.20
Minatare Drain Ditch		Wade Flynn	5-10	49.90
Minatare Drain Ditch	Minatare bridge 2	Wade Flynn	5-24	75.80
Minatare Drain Ditch		Wade Flynn	6- 8	97.80
Minatare Drain Ditch	miles east—2	Wade Flynn	6-18	42.60
Minatare Drain Ditch	south Minatare	Wade Flynn	7- 8	76.60
Minatare Drain Ditch		Wade Flynn	7-19	190.60
Minatare Drain Ditch		Wade Flynn	8-13	156.70
Minatare Drain Ditch		Wade Flynn	8-27	145.20
Nine Mile Drain		Flynn-Palmer	4- 7	1.00
Nine Mile Drain	Minatare 4 Mi. E.	Wade Flynn	5-24	2.20
Nine Mile Drain	of Minatare	Wade Flynn	7- 8	5.40
Nine Mile Drain		T. C. Palmer	8- 2	3.89
Seep	¼ Mi. N. of	Wade Flynn	6- 8	4.68
Seep	Minatare Bridge	Wade Flynn	6-19	2.77
Seep No. 1		Flynn-Palmer	4-16	0.10
Seep No. 1		Wade Flynn	5-10	0.10
Seep No. 1	¼ Mile South of	Wade Flynn	5-23	0.10
Seep No. 1	Bayard Depot	Wade Flynn	6- 6	0.10
Seep No. 1		Wade Flynn	6-18	0.05
Seep No. 1		Wade Flynn	7-19	1.00

Place	Locality	Hydrog'pher	Date	Disch.
Seep No. 2		Flynn-Palmer	4-16	0.50
Seep No. 2		Wade Flynn	5-10	9.90
Seep No. 2		Wade Flynn	6- 6	4.90
Seep No. 2		Wade Flynn	6-18	1.70
Seep No. 2		Wade Flynn	7- 8	1.70
Seep No. 2	1¼ Mile South of	Wade Flynn	7-19	2.00
Seep No. 2	Bayard	Wade Flynn	5-23	3.00
Seep No. 2		Wade Flynn	8-12	1.30
Seep No. 2		Wade Flynn	8-22	6.50
Seep No. 2		Wade Flynn	9- 7	2.10
Seep No. 2		Flynn-Palmer	9-11	0.60
Seep No. 3		Flynn-Palmer	4-16	6.30
Seep No. 3		Wade Flynn	5-10	7.90
Seep No. 3		Wade Flynn	5-23	6.80
Seep No. 3		Wade Flynn	6- 6	10.60
Seep No. 3		Wade Flynn	6-17	8.40
Seep No. 3	North of Bayard	Wade Flynn	7- 8	18.50
Seep No. 3	Depot	Wade Flynn	8-12	45.70
Seep No. 3		Wade Flynn	8-22	28.30
Seep No. 3		Wade Flynn	9- 7	49.30
Seep No. 3		Flynn-Palmer	9-11	45.50
Stewart Drain		Flynn-Palmer	4-19	9.47
Stewart Drain		Wade Flynn	5-17	5.90
Stewart Drain		Wade Flynn	5-29	9.10
Stewart Drain		Wade Flynn	6-21	9.30
Stewart Drain		Wade Flynn	7-13	12.30
Stewart Drain	½ Mile W. of Too-	Wade Flynn	7-24	9.90
Stewart Drain	hey Dump	T. C. Palmer	8- 7	14.69
Stewart Drain		Wade Flynn	8-16	9.90
Stewart Drain		Wade Flynn	8-29	13.50
Stewart Drain		Wade Flynn	9- 2	13.10
Sheep Creek		Wade Flynn	5-16	34.80
Sheep Creek		Wade Flynn	5-30	49.00
Sheep Creek		Wade Flynn	6-21	42.30
Sheep Creek	½ Mile South &	Wade Flynn	7-13	59.10
Sheep Creek	1 Mile West of	Wade Flynn	7-26	53.10
Sheep Creek	Morrill	T. C. Palmer	8- 6	55.56
Sheep Creek		Wade Flynn	8-16	59.20
Sheep Creek		Wade Flynn	8-30	64.40
Sheep Creek		Wade Flynn	9- 2	72.20
Sheep Creek		Wade Flynn	5-16	40.70
Sheep Creek		Wade Flynn	6-21	43.90
Sheep Creek		Wade Flynn	6-25	45.20
Sheep Creek	Bridge above Tri-	Wade Flynn	7-13	43.70
Sheep Creek	State Canal	Wade Flynn	7-26	55.60
Sheep Creek		Wade Flynn	8- 6	66.25
Sheep Creek		T. C. Palmer	8-16	57.90
Sheep Creek		Wade Flynn	8-30	65.20
Sugar Factory Seep	½ Mile South and	Flynn-Palmer	4-16	22.30
Sugar Factory Seep	½ West Bayard	Wade Flynn	5-10	24.90
Sugar Factory Seep	Depot	Wade Flynn	5-23	25.10
Sugar Factory Seep		Wade Flynn	6- 6	20.40
Sugar Factory Seep		Wade Flynn	6-18	20.40

Place		Hydrog'pher	Date	Disch.
Sugar Factory Seep		Wade Flynn	7- 8	20.80
Sugar Factory Seep		Wade Flynn	7-19	30.70
Sugar Factory Seep		Wade Flynn	8-12	34.20
Sugar Factory Seep		Wade Flynn	8-22	19.10
Sugar Factory Seep		Wade Flynn	9- 7	57.50
Sugar Factory Seep		Flynn-Palmer	9-11	25.80
Tub Springs to River		Flynn-Palmer	4-20	35.30
Tub Springs to River		Wade Flynn	5-17	24.90
Tub Springs to River		Wade Flynn	6- 1	18.20
Tub Springs to River		Wade Flynn	6-20	8.50
Tub Springs to River		Wade Flynn	6-25	16.60
Tub Springs to River	Bridge below En-	Wade Flynn	7-23	23.70
Tub Springs to River	terprise	T. C. Palmer	8- 6	27.22
Tub Springs to River		Wade Flynn	8-19	3.00
Tub Springs to River		T. C. Palmer	8-27	5.26
Tub Springs to River		Wade Flynn	8-29	2.70
Tub Springs to River		Wade Flynn	9- 2	1.90
Tub Springs Drain		Wade Flynn	6-20	21.60
Tub Springs Drain	Above Enterprise	T. C. Palmer	8- 6	27.22
Tub Springs Drain	Canal	Wade Flynn	8-19	62.30
Winter's Creek Drain		Flynn-Palmer	4-20	38.40
Winter's Creek Drain		Wade Flynn	5-13	32.10
Winter's Creek Drain		Wade Flynn	5-25	45.80
Winter's Creek Drain		Wade Flynn	6-19	51.40
Winter's Creek Drain	Bridge 1 Mile E.	Wade Flynn	7- 9	57.10
Winter's Creek Drain	1 Mile N. Sugar	Palmer Noskey	8- 5	88.70
Winter's Creek Drain	Factory	Wade Flynn	8-20	74.90
Winter's Creek Drain		Wade Flynn	8-27	67.10
Winter's Creek Drain		Wade Flynn	9- 6	94.60
Winter's Creek Drain		Wade Flynn	9-14	76.40
Wet Spotted Tail		Wade Flynn	6-20	12.00
Wet Spotted Tail		Wade Flynn	6-25	5.60
Wet Spotted Tail	Bridge across	Wade Flynn	7-13	10.80
Wet Spotted Tail	Drain ½ Mile	Wade Flynn	7-24	10.50
Wet Spotted Tail	North Mitchell	Wade Flynn	8-16	9.10
Wet Spotted Tail		Wade Flynn	8-29	7.40
Wet Spotted Tail		Wade Flynn	9- 2	9.10
Wet Spotted Tail		Wade Flynn	5.29	2.80
Wet Spotted Tail		Wade Flynn	6-20	13.80
Wet Spotted Tail		Wade Flynn	7-11	9.20
Wet Spotted Tail	Bridge above Tri-	Wade Flynn	7-24	13.50
Wet Spotted Tail	State	T. C. Palmer	8- 8	22.65
Wet Spotted Tail		T. C. Palmer	8-27	16.92
Wet Spotted Tail		Wade Flynn	8-29	14.50
Tri-S. Mitchell Waste	Wasteway No. 3—	Wade Flynn	5-29	98.30
Tri-S. Mitchell Waste	Bridge 1 Mile S.	Wade Flynn	7-23	150.40
Tri-S. Mitchell Waste	and ½ Mile S. of	Wade Flynn	8-16	65.30
Tri-S. Mitchell Waste	Mitchell	Wade Flynn	8-19	321.70
Tri-S. Mitchell Waste	Wasteway No. 2—			
Tri-S. Mitchell Waste	Bridge ¼ Mile	Wade Flynn	7-24	26.20
	W. Toohey	T. C. Palmer	8- 6	108.73

DISCHARGE OF SEEPAGE STREAMS 1917

Name	Locality	Date 1917	Disch. Sec. ft.
Acres Draw	Above Tri-State	8-18	12.8
Bayard Sugar Factory Drain	North boundary of Sec. 4-20-52	7- 3	6.0
Birdwood	At bridge	8-15	163.2
Dry Spotted Tail		5- 4	17.29
Dry Spotted Tail		5-17	14.9
Dry Spotted Tail	Into Enterprise Canal	6-12	10.5
Dry Spotted Tail		7- 7	7.56
Dry Spotted Tail		7-23	8.00
Dry Spotted Tail		8-18	25.80
Enterprise Waste		6-29	1.18
Minatare Drain		6-30	74.49
Minatare Drain	Southwest corner of Sec. 15, T	7-27	52.7
Minatare Drain	21 N., R. 53 W.	8-22	92.34
Minatare West Drain	Southwest of Minatare	5-23	11.59
Minatare West Drain	Southwest of Minatare	8-23	7.32
Nine Mile Drain		7- 9	2.01
Nine Mile Drain		8-22	5.18
Red Willow Creek		5- 5	27.9
Red Willow Creek	South side of Sec. 29, T. 21 N.,	5-19	24.88
Red Willow Creek	R. 51 W.	7-26	14.8
Red Willow Creek		8-25	31.5
Seep No. 1		5- 7	20.19
Seep No. 1	About ¼ mile south of Bayard	7- 3	25.8
Seep No. 1		8-25	Dry
Seep No. 2		5- 8	6.9
Seep No. 2	½ mile south of Bayard	7-25	Est 1.0
Seep No. 2		8-25	1.05
Seep Ditch No. 3	Near Bayard Depot, North of R. R.	8-25	10.55
Stewart's Drain		5-11	10.9
Stewart's Drain		5-25	4.1
Stewart's Drain	Bridge above Enterprise	6-21	6.6
Stewart's Drain		8-18	13.5
Stewart's Drain		8-29	15.68
Sheep Creek	One mile west and one mile south	5- 4	28.2
Sheep Creek	of Morrill. To river	5-11	41.26
Sheep Creek	Under Tri-State Canal. To river	7-21	20.0
Sheep Creek		8-16	29.84
Sheep Creek		5-29	58.34
Sheep Creek	Into Tri-State Canal	7-21	35.95
Sheep Creek		8-16	17.4
Sheep Creek		8-29	38.87
Tub Springs		5- 5	27.65
Tub Springs		5- 9	26.84
Tub Springs	North of railroad bridge	5-24	29.29
Tub Springs		6- 8	13.95
Tub Springs		7-30	Est 2.0
Tub Springs	Into Enterprise Canal	8-20	16.1

Winter's Creek Drain....	5- 8	40.9
Winter's Creek Drain....South side Sec. 19-22-54. To river.....	5-19	38.9
Winter's Creek Drain....	5-30	54.8
Winter's Creek Drain....To river	6-21	26.02
Winter's Creek Drain....To canal	7-13	39.35
Winter's Creek Drain....To canal	7-16	48.51
Winter's Creek Drain....To canal	7-31	52.8
Winter's Creek Drain....Into Winter's Creek Canal.....	8-22	28.1
Winter's Creek Drain....South side Sec. 19-22-54. To river.....	8-22	33.66
Waste No. 3 Tri-State....	6-14	0.0
Waste No. 3 Tri-State....One mile east and ¾ mile south	5-11	21.75
Waste No. 3 Tri-State.... of Mitchell	5-24	167.37
Waste No. 3 Tri-State....	6- 8	89.01
Waste No. 3 Tri-State....	6-12	0.0
Wet Spotted Tail.....	5- 9	3.78
Wet Spotted Tail.....	5-24	4.77
Wet Spotted Tail.....	7- 7	3.34
Wet Spotted Tail.....Into Enterprise Canal.....	8-18	6.8
Wet Spotted Tail.....	8-20	7.8

MISCELLANEOUS STREAM MEASUREMENTS 1918

Place	Locality	Hydrog'pher	Date	Disch.
Birdwood Creek	Gaging station	T. C. Palmer	5- 5	176.80
Birdwood Creek	Gaging station	T. C. Palmer	6- 1	176.80
Birdwood Creek	Gaging station	T. C. Palmer	6-11	155.30
Birdwood Creek	Gaging station	T. C. Palmer	6-15	159.30
Birdwood Creek	Gaging station	T. C. Palmer	6-29	133.00
Birdwood Creek	Gaging station	T. C. Palmer	7- 5	121.34
Birdwood Creek	Gaging station	T. C. Palmer	7-24	148.40
Birdwood Creek	Gaging station	T. C. Palmer	8-21	141.90
Birdwood Creek	Gaging station	T. C. Palmer	9-17	153.40
Blue Creek	Gaging station	Palmer-Flynn	4-26	76.00
Blue Creek	Gaging station	T. C. Palmer	5-10	92.60
Blue Creek	Gaging station	T. C. Palmer	5-18	84.80
Blue Creek	Gaging station	T. C. Palmer	6- 2	39.80
Blue Creek	Gaging station	T. C. Palmer	7-13	31.24
Blue Creek	Gaging station	T. C. Palmer	7-27	49.70
Blue Creek	Gaging station	T. C. Palmer	8-12	86.99
Blue Creek	Gaging station	T. C. Palmer	8-31	20.79
Blue Creek	Gaging station	T. C. Palmer	9- 8	21.14
Blue Creek	Gaging station	T. C. Palmer	9-13	31.66
Blue Creek	Gaging station	T. C. Palmer	9-27	54.86
Cedar Creek	Below Belmont Can.	T. C. Palmer	6- 7	8.70
Cedar Creek	Below Belmont Can.	T. C. Palmer	6-21	1.53
Cedar Creek	Below Belmont Can.	T. C. Palmer	6-25	1.04
Cedar Creek	Below Belmont Can.	T. C. Palmer	7-11	.85
Cedar Creek	Below Belmont Can.	T. C. Palmer	7-29	.74
Cedar Creek	Below Belmont Can.	T. C. Palmer	8-10	1.15
Cedar Creek		T. C. Palmer	4-25	2.85
Cedar Creek		T. C. Palmer	5-10	12.40
Cedar Creek		T. C. Palmer	5-17	4.40
Cedar Creek	Bridge at mouth	T. C. Palmer	6- 5	13.90
Cedar Creek	of Creek into	Wade Flynn	7- 1	2.20
Cedar Creek	River	Wade Flynn	7-16	3.30
Cedar Creek		T. C. Palmer	8-29	5.81
Cedar Creek		Palmer-Flynn	9-10	4.70
Cedar Creek	Waste water from Belmont	Wade Flynn	8-24	16.30
Cedar Creek	Belmont Canal	T. C. Palmer	4- 8	2.1½
Frenchman River	Champion Mills	R. H. Willis	5-22	31.28
Frenchman River	1 Mi. E. of Imperial Power House	R. H. Willis	5-24	48.76
Frenchman River	Head of Kilpatrick Ditch	R. H. Willis	5-22	10.87
Frenchman River	200' above Krotter Ditch on old wagon road	R. H. Willis	5-23	65.90
Frenchman River	Head of Riverside Ditch	R. H. Willis	5-24	14.61
Frenchman River	Head of Maranville Ditch	R. H. Willis	5-25	6.70
Greenwood Creek	Sec. 33-18-50	W. F. Chaloupka	8-22	5.62

Place	Locality	Hydrog'pher	Date	Disch.
Greenwood Creek	Above Capron Ditch Diversion	W. F. Chaloupka	8-22	3.67
Lawrence Fork	Redington-Niehus Diversion	W. F. Chaloupka	8-14	3.63
Lawrence Fork	300' N. Redington Canal	W. F. Chaloupka	7-30	1.73
Lawrence Fork	300' N. Redington Canal	W .F. Chaloupka	8-14	2.44
Lawrence Fork	Below Randall Bros	W. F. Chaloupka	7-30	5.08
Lawrence Fork	Ditch Div. Point	W. F. Chaloupka	8-14	5.37
Lodge Pole Creek	NW¼ Sec. 35-14-49	R. H. Willis	4-22	14.40
Lodge Pole Creek	Passing Owasco Diversion	Willis-Radcliffe	7-19	2.00
North Platte River	Morrill	Flynn-Palmer	4-20	1998.00
North Platte River	Morrill	Wade Flynn	5-15	7214.30
North Platte River	Sutherland	T. C. Palmer	5-20	5976.30
North Platte River	Sutherland	T. C. Palmer	6- 1	5059.20
Otter Creek	Gaging station	T. C. Palmer	5- 8	19.80
Otter Creek	Gaging station	T. C. Palmer	5-19	21.30
Otter Creek	Gaging station	T. C. Palmer	6- 2	21.30
Otter Creek	Gaging station	T. C. Palmer	6- 9	19.10
Otter Creek	Gaging station	T. C. Palmer	7- 6	11.28
Otter Creek	Gaging station	T. C. Palmer	7-11	21.00
Otter Creek	Gaging station	T. C. Palmer	8-23	22.70
Otter Creek	Gaging station	T. C. Palmer	9- 2	18.50
Otter Creek	Gaging station	T. C. Palmer	9- 7	20.30
Otter Creek	Gaging station	T. C. Palmer	9-14	18.74
Otter Creek	Gaging station	T. C. Palmer	9-26	19.30
Platte River	Elm Creek	T. C. Palmer	5- 1	3503.40
Platte River	Elm Creek	T. C. Palmer	5-23	6692.20
Platte River	Gothenburg	T. C. Palmer	4-30	3594.50
Platte River	Gothenburg	T. C. Palmer	5-22	6991.60
Pumpkinseed Creek		Flynn-Palmer	4-25	43.40
Pumpkinseed Creek	6 miles S. E. of	T. C. Palmer	5-17	71.90
Pumpkinseed Creek	Bridgeport, near	T. C. Palmer	6- 5	28.30
Pumpkinseed Creek	mouth of creek	T. C. Palmer	6- 7	13.60
Pumpkinseed Creek		T. C. Palmer	6-21	8.85
Pumpkinseed Creek	Measured 100' below C. H. R. Div	W. F. Chaloupka	7-24	2.89
Sand Creek	Bridge on main road	T. C. Palmer	6- 2	3.20
South Platte River	Big Springs	T. C. Palmer	5- 4	212.00
South Platte River	Big Springs	T. C. Palmer	6- 3	23.50
South Platte River	Big Springs	T. C. Palmer	6-28	261.00
White Tail Creek	Gaging station	T. C. Palmer	5-19	26.20
White Tail Creek	Gaging station	T. C. Palmer	6- 2	27.00
White Tail Creek	Gaging station	T. C. Palmer	6- 7	23.67

Place	Locality	Hydrog'pher	Date	Disch.
White Tail Creek	Gaging station	T. C. Palmer	6-17	22.00
White Tail Creek	Gaging station	T. C. Palmer	7-25	3.46
White Tail Creek	Gaging station	T. C. Palmer	8-22	15.50
White Tail Creek	Gaging station	T. C. Palmer	9- 7	25.50
White Tail Creek	Gaging station	T. C. Palmer	9-16	30.28
White Tail Creek	Gaging station	T. C. Palmer	9-26	27.30

Place	Locality	Hydrog'pher	Date	Disch.
Blue Creek	North Line Sec. 19-16-42	Horrocks-Willis	5-12	138.83
Blue Creek	North Line Sec. 19-16-42	J. A. Rohrer	8- 7	24.0
Blue Creek	North Line Sec. 19-16-42	J. A. Rohrer	9-26	107.0
Cedar Creek	On Sec. 23-18-48	Horrocks-Willis	5- 8	6.27
Cedar Creek	On Sec. 23-18-48	L. D. Horrocks	7- 9	2.74
Lodge Pole Creek	W. T. Young's ranch west of Kimball	R. H. Willis	7-14	7.65
Otter Creek	Mouth	Horrocks-Willis	5-12	18.34
Pumpkinseed Creek	Sec. line bet. 28 & 29-19-50	S. A. Swanson	6-29	106.56
White Tail Creek	Bridge south of U. P. Track	Horrocks-Willis	5-14	26.05
White Tail Creek	Bridge south of U. P. Track	L. D. Horrocks	7-13	.76

DISCHARGE MEASUREMENTS OF CANALS 1917

Name	Locality	Hy'gropher	Date	Disch. Sec. ft.
Alfalfa Irr. Dist.	Waste Gate	L. D. Horrocks	8-28	5.75
Alliance Canal	Below Red Willow	S. A. Swanson	7-17	27.3
Alliance Canal	Below Red Willow	J. A. Rohrer	8- 4	12.0
Alliance Canal	Below Red Willow	D. P. Weeks, Jr.	8-25	36.99
Alliance Canal	Thru rating flume	S. A. Swanson	7-25	24.7
Alliance Canal	Thru rating flume	D. P. Weeks, Jr.	8-25	2.7
Alliance Canal	Above Red Willow	D. P. Weeks, Jr.	8-25	9.00
Barber Ditch	Rating flume	L. D. Horrocks	7-12	6.10
Barber Ditch	Rating flume	Willis-Horro'ks	7-28	6.54
Castle Rock Canal	Rating flume	S. A. Swanson	6-30	36.63
Castle Rock Canal	Rating flume	J. A. Rohrer	8- 3	62.0
Castle Rock Canal	Rating flume	D. P. Weeks, Jr.	8-22	79.89
Castle Rock Canal	Rating flume	J. A. Rohrer	9-24	44.0
Cozad Canal	W. B'ge below H. G.	L. D. Horrocks	7-17	75.8
Cozad Canal	W. B'ge below H. G.	J. A. Rohrer	8- 9	41.0
Cozad Canal	W. B'ge below H. G.	L. D Horrocks	8-16	113.7
Cozad Canal	W. B'ge below H. G.	L. D. Horrocks	9- 1	45.99
Cozad Canal	W. B'ge below H. G.	J. A. Rohrer	9-28	9.0
Dawson Co. Canal	Bridge below H. G.	L. D. Horrocks	7-18	173.61
Dawson Co. Canal	Bridge below H. G.	L. D. Horrocks	8-18	124.50
Dawson Co. Canal	Bridge below H. G.	L. D. Horrocks	9- 4	68.40
Enterprise Canal	Rating Flume	S. A. Swanson	6-21	59.75
Enterprise Canal	Rating Flume	S. A. Swanson	7- 6	44.99
Enterprise Canal	Rating Flume	S. A. Swanson	7-24	98.5
Enterprise Canal	Rating Flume	D. P. Weeks, Jr.	8-18	105.97
Enterprise Canal	Rating Flume	D. P. Weeks, Jr.	8-29	41.02
Gothenburg Canal	Bridge below H. G.	L. D. Horrocks	7-19	120.4
Gothenburg Canal	Bridge below H. G.	L. D. Horrocks	8-18	101.8
Gothenburg Canal	Bridge below H. G.	L. D. Horrocks	9- 1	97.105
Kearney Canal	Bridge at Waste G.	J. A. Rohrer	8-10	197.0
Kearney Canal	Bridge at Waste G.	L. D. Horrocks	9- 3	178.65
Kearney Canal	Bridge at Waste G.	L. D. Horrocks	9-29	153.0
Lincoln & Keith Co.	Bridge below H. G.	L. D. Horrocks	7-13	132.90
Lincoln & Keith Co.	Bridge below H. G.	L. D. Horrocks	8-23	107.45
Lisco Canal	Waste gate	L. D. Horrocks	7-10	25.39
Lisco Canal	Waste gate	J. A. Rohrer	8- 7	20.0
Lisco Canal	Waste gate	L. D. Horrocks	8-24	9.96
Lisco Canal	Waste gate	J. A. Rohrer	9-25	11.0
Minatare Canal	Bridge	S. A. Swanson	7- 9	86.1
Minatare Canal	Bridge	S. A. Swanson	7-13	39.35
Minatare Canal	Bridge	S. A. Swanson	7-17	106.6
Minatare Canal	Bridge	S. A. Swanson	7-31	61.8
Minatare Canal	Bridge	J. A. Rohrer	8- 4	86.0
Minatare Canal	Bridge	D. P. Weeks, Jr.	8-22	40.9
Minatare Canal	Bridge	J. A. Rohrer	9-24	6.0
McCook Ditch (Rep. R)	W. B. 600 ft. below headgate	R. H. Willis	8-14	32.61

Name	Locality	Hy'grapher	Date	Disch. Sec. ft.
Nine Mile Irr. Ditch	Rating flume	D. P. Weeks, Jr.	8-23	5.57
N. P. Irr. Dist. Canal	1st W.B. below H.G.	Horro'ks-Willis	5-15	92.13
N. P. Irr. Dist. Canal	1st W.B. below H.G.	L. D. Horrocks	7-21	144.79
N. P. Irr. Dist. Canal	1st W.B. below H.G.	L. D. Horrocks	8- 8	259.3
N. P. Irr. Dist. Canal	1st W.B. below H.G.	L. D. Horrocks	8-29	136.95
Oshkosh Canal	Bridge below H. G.	L. D. Horrocks	7-25	31.1
Oshkosh Canal	Bridge below H. G.	L. D. Horrocks	8- 9	1.3
Paxton & Hershey C'l	Rating flume	L. D. Horrocks	8-29	28.66
Ramshorn Canal	Rating flume	S. A. Swanson	5-17	11.74
Ramshorn Canal	Rating flume	S. A. Swanson	5-28	37.3
Ramshorn Canal	Rating flume	Swanson-Frank	7-11	9.8
Ramshorn Canal	Rating flume	L'j'stolpe-S'son	7-21	5.9
Ramshorn Canal	Rating flume (below S. Cr. D'n. D.	D. P. Weeks, Jr.	8-17	17.3
Ramshorn Canal	Rating flume (below S. Cr. D'n. D.	D. P. Weeks, Jr.	8-29	6.3
Schermerhorn Canal	Headgate	D. P. Weeks, Jr.	8-25	4.49
Short Line Canal	Headgate	D. P. Weeks, Jr.	8-22	5.00
Six Mile Canal	Headgate	L. D. Horrocks	7-17	7.5
Six Mile Canal	Headgate	L. D. Horrocks	8-18	14.6
Spohn Canal	Headgate	L. D. Horrocks	8-24	3.0
Suburban Canal	Rating flume	L. D. Horrocks	8-15	37.5
Suburban Canal	Rating flume	L. D. Horrocks	8-29	17.74
Sutherland & Paxton	Rating flume	L. D. Horrocks	7-21	65.4
Sutherland & Paxton	Rating flume	L. D. Horrocks	8- 8	37.9
Winter's Creek Canal	Rating flume	S. A. Swanson	6-21	26.02
Winter's Creek Canal	Rating flume	S. A. Swanson	7-13	41.84
Winter's Creek Canal	Rating flume	S. A. Swanson	7-31	42.3
Winters Creek Canal	Rating flume	D. P. Weeks, Jr.	8-21	23.9

GAGINGS MADE BY U. S. RECLAMATION SERVICE HYDROGRAPHER ON STREAMS IN NEBRASKA, SEASON 1918
NORTH PLATTE RIVER

Date	Station	Station	Gage Height	Discharge
July 5	Henry Spring Ck	North Platte	4.20	1262 sec. ft.
July 5	Main Channel	North Platte	4.55	2103 sec. ft.
July 5	Gering W. Way	North Platte	1.40	542 sec. ft.
Total				3907 sec. ft.
July 25	Scottsbluff	North Platte	2.45	3623 sec. ft.
July 26	Melbeta	North Platte	2.70	3427 sec. ft.
July 27	Bridgeport	North Platte	6.30	3794 sec. ft.
July 27	Broadwater	North Platte	2.75	3778 sec. ft.
July 28	Belmar	North Platte	1.43	3435 sec. ft.
July 29	North Platte	North Platte	3.65	3567 sec. ft.
July 30	Lexington	Platte	3.95	3282 sec. ft.
July 31	Overton	Platte	1.38	3668 sec. ft.

CANALS AND CREEKS

Date	Stream	Gage Height	Discharge
July 2	Mitchell Canal	3.10	206 sec. ft.
July 24	Mitchell Canal	3.10	199 sec. ft.
Sept 25	Mitchell Canal	2.30	125 sec. ft.
July 2	Gering Canal	3.00	202 sec. ft.
July 24	Gering Canal	3.13	217 sec. ft.
Sept 25	Gering Canal	2.15	112 sec. ft.
July 5	Farmers' Canal	.....	1126 sec. ft.
July 25	Farmers' Canal (In well)	3.48	755 sec. ft.
July 5	Sheep Creek Seep	.....	28 sec. ft.
July 25	Sheep Creek Seep	.....	56 sec. ft.
July 5	Enterprise Canal	1.55	106 sec. ft.
July 25	Enterprise Canal	.72	30 sec. ft.
July 25	Tub Springs sup.	.....	66 sec. ft.
July 25	Winter Creek Canal	2.08	24 sec. ft.
July 26	Winter Creek Seep	.....	92 sec. ft.
July 26	Minatare Canal	.....	36 sec. ft.
July 26	Nine Mile Canal	.....	32 sec. ft.
July 26	Nine Mile Drain Seep	.....	189 sec. ft.
July 26	Castle Rock Canal	.98	36 sec. ft.
July 26	Alliance Canal	.....	19 sec. ft.
July 26	Chimney Rock Canal	.....	45 sec. ft.
July 26	Red Willow Drain Seep	.....	183 sec. ft.
July 27	Belmont Canal	2.05	200 sec. ft.
July 27	Brown's Creek Canal	.75	26 sec. ft.
July 27	Pumpkinseed Creek	.....	8 sec. ft.
July 27	Beerline Canal	.....	15 sec. ft.
July 27	Lisco Canal	.....	28 sec. ft.
July 28	Blue Creek	1.05	52 sec. ft.
July 28	Alfalfa Canal	.....	36 sec. ft.
July 28	Otter Creek	.30	20 sec. ft.
July 28	Spohn Canal	.....	Est. 3 sec. ft.
July 28	Midland Canal	.....	Est. 3 sec. ft.
July 28	Overland Canal	.....	Est. 3 sec. ft.
July 28	Clear Creek	.....	Est. 3 sec. ft.
July 28	Sand Creek	.....	Est. 1 sec. ft.
July 28	Lonergan Creek	.....	Est. 4 sec. ft.
July 28	Whitetail Creek	.....	Est. 4 sec. ft.
July 28	Sutherland & Paxton Canal	.....	Est. 4 sec. ft.
July 29	North Platte Canal	.....	120 sec. ft.
July 29	Paxton & Hershey Canal	.....	7 sec. ft.
July 29	Birdwood Creek	.40	153 sec. ft.
July 29	Suburban Canal	.....	Est. 5 sec. ft.
July 29	South Platte River	.....	596 sec. ft.
July 30	Gothenburg P. & I. Canal	.....	148 sec. ft.
July 30	Gothenburg P. & I. W. Way	2.72	81 sec. ft.
July 30	Cozad Canal	.....	63 sec. ft.
July 30	Lexington Canal	.....	154 sec. ft.
July 31	Kearney Canal	.....	170 sec. ft.

PATHFINDER INFLOW, IN SECOND FEET FOR THE YEAR 1916

Day	Oct.	Nov,	Dec.
1	700	1000	580
2	780	910	480
3	800	870	530
4	790	870	530
5	800	700	540
6	630	650	530
7	750	650	540
8	860	510	490
9	950	510	490
10	1280	510	490
11	1270	230	490
12	1150	240	350
13	1100	280	350
14	1320	330	350
15	1160	330	350
16	900	330	300
17	930	240	550
18	960	240	550
19	880	610	550
20	880	610	540
21	790	660	610
22	800	660	300
23	890	620	310
24	980	620	450
25	1160	570	450
26	1120	520	510
27	1130	530	510
28	990	520	510
29	990	520	510
30	1090	580	510
31	1000	.....	510
Total	29830	16420	14760
Mean	962	547	476
Acre-feet	59167	32569	29276
Maximum	1320	1000	580
Minimum	700	230	300

Supplied by U. S. R. S.

PATHFINDER INFLOW, IN SECOND FEET, FOR THE YEAR 1917

Day	Jan.	Feb.	March	April	May	June
1	410	380	440	2650	3670	9400
2	410	370	500	1960	4020	10190
3	410	380	500	2160	3700	9800
4	410	330	450	2180	3130	9670
5	410	270	450	1470	3020	8750
6	410	270	450	1720	3220	9430
7	410	270	450	1490	3420	10250
8	410	330	450	1740	2760	9440
9	410	380	450	2070	3390	9740
10	360	380	450	3340	3240	11130
11	360	380	450	5460	3160	12900
12	420	380	450	5690	3410	15350
13	410	380	570	6590	4130	15560
14	420	380	570	6430	4050	16680
15	210	380	570	6700	5900	15560
16	210	380	510	5260	5720	15170
17	210	440	510	4900	8890	15790
18	210	330	400	5160	10360	16170
19	260	330	400	5070	12040	18080
20	270	330	400	4760	13530	19110
21	370	330	400	3920	13480	20120
22	480	440	400	3520	13260	19840
23	530	490	400	3980	13090	19640
24	530	490	400	5330	12310	19710
25	530	490	510	6650	9690	19700
26	470	500	520	7660	10680	19220
27	480	340	570	7710	9920	19180
28	380	330	580	7160	10210	18960
29	370	.....	1610	5910	10210	18250
30	320	.....	1680	5120	8790	17310
31	420	.....	1690	.....	9010	.....
Total	11910	10480	18000	133760	225410	450110
Mean	384	374	581	4459	7271	15003
Acre-feet	23620	20790	35700	265310	447090	892780

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PATHFINDER INFLOW, IN SECOND FEET, FOR THE YEAR 1917

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	16550	2220	900	540	580	760
2	15830	2655	1050	260	580	760
3	15510	2435	550	380	580	760
4	13750	2285	450	340	580	760
5	11740	1675	1030	670	660	770
6	11150	1705	1140	650	660	770
7	10900	1660	1295	560	660	770
8	10670	1020	1000	560	740	770
9	9830	2210	1070	630	740	780
10	9930	1560	1040	730	740	780
11	10000	945	855	610	740	470
12	9500	915	665	580	740	390
13	8960	1165	775	610	600	390
14	7590	1185	1060	650	600	390
15	7000	1135	985	590	600	390
16	6300	1425	955	650	600	390
17	5850	1425	905	690	600	390
18	4840	1345	715	510	600	390
19	5220	1195	665	590	600	390
20	4280	1285	825	510	600	400
21	4220	1035	700	420	600	550
22	4990	1085	690	150	600	550
23	3885	1185	620	220	600	550
24	3380	1055	705	510	610	550
25	2805	785	640	510	600	550
26	3315	755	680	580	610	550
27	3475	585	620	590	600	550
28	2990	1240	640	510	610	560
29	2655	800	510	510	610	560
30	2685	980	510	440	610	550
31	2175	1440	.....	430	.....	.....
Total	231975	42930	24245	16180	18850	17760
Mean	7483	1385	808	521	628	573
Acre-feet	460120	85140	48090	32090	37323	35165

2383218 Total. Supplied by U. S. R. S.

PATHFINDER INFLOW, IN SECOND FEET FOR THE YEAR 1918

Day	Jan.	Feb.	March	April	May	June
1	560	330	510	1600	2560	7660
2	560	330	510	1700	2230	6800
3	640	340	510	2160	1890	6910
4	650	330	510	2250	2420	6440
5	640	330	510	1700	2900	6210
6	640	330	510	1000	2720	6260
7	650	330	600	1380	4840	6550
8	650	340	600	1840	5880	8220
9	650	330	600	2320	5920	8840
10	650	330	600	1990	6650	9440
11	250	420	1200	1970	6820	11150
12	330	420	1200	1730	5880	11220
13	250	420	1200	2450	5970	12820
14	250	420	1210	2560	4920	13340
15	330	420	1300	2940	4540	14040
16	250	420	1120	3380	4350	14270
17	250	420	1120	3010	4630	14330
18	330	420	1130	3470	5340	13490
19	250	420	1130	2830	6260	14270
20	250	420	1130	2060	5610	13820
21	490	500	1320	1870	6020	13220
22	490	500	1310	1740	5600	13060
23	490	510	1320	1980	5880	12480
24	490	500	1320	1810	5260	11990
25	490	510	1330	1710	6600	11240
26	490	510	1770	1900	6460	10200
27	490	590	1780	2000	6460	8690
28	490	590	2230	2180	6510	7760
29	490	.....	2700	2480	7470	5240
30	500	.....	2130	2180	7210	4610
31	570	.....	1870	.....	7310	.....
Total	14510	11730	36280	64190	163110	304570
Mean	468	419	1170	2140	5262	10152
Acre-feet	28780	23270	71960	127320	323530	604115
Maximum	650	590	2700	3470	7470	14330
Minimum	250	330	510	1600	1890	4610

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PATHFINDER INFLOW, IN SECOND FEET, FOR THE YEAR 1918

Day	July	Aug.	Sept.	Oct.
1	4270	750	680	500
2	4080	1080	290	730
3	2550	1160	690	960
4	2600	870	290	660
5	2590	990	90	710
6	2370	830	290	530
7	2050	660	610	720
8	2060	730	440	880
9	1900	810	490	880
10	1610	770	730	970
11	2540	650	640	860
12	1720	500	100	980
13	2250	850	210	930
14	2690	720	190	1000
15	1990	600	1130	930
16	2490	570	760	930
17	2510	820	770	820
18	2230	220	610	850
19	2290	130	620	810
20	2260	700	550	780
21	1720	560	260	800
22	1930	440	320	800
23	1520	610	320	780
24	1620	430	330	600
25	1360	430	150	600
26	1490	860	920	490
27	1620	440	1040	500
28	1460	440	790	790
29	1370	590	960	960
30	1270	500	980	1120
31	1100	580	.....	880
Total	65510	20290	16250	24750
Mean	2113	654	542	798
Acre-feet	129939	40245	32231	49091
Maximum	4270	1160	980	1120
Minimum	1100	130	90	500

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PATHFINDER STORAGE, IN ACRE FEET, FOR THE YEAR 1916

Day	Oct.	Nov,	Dec.
1	313900	353060	384430
2	313900	354860	385380
3	313820	356570	386420
4	313740	358290	387470
5	313740	359660	388530
6	313400	360930	389580
7	313740	362210	390640
8	313900	363210	391600
9	314070	364210	392560
10	314660	365210	393530
11	314580	365660	394500
12	314240	366120	395180
13	315920	366660	395860
14	318440	367300	396540
15	320650	367940	397220
16	322360	368580	397810
17	324080	369040	398890
18	325980	369500	399970
19	327720	370700	401050
20	329460	371890	402120
21	331020	373180	403310
22	332590	374480	403900
23	334350	375690	404500
24	336290	376900	405390
25	338590	378020	406280
26	340810	379050	407280
27	343040	380090	408280
28	345000	381120	409280
29	346950	382150	410280
30	349100	383290	411280
31	351080	.....	412280

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PATHFINDER STORAGE, IN ACRE FEET, FOR THE YEAR 1917

Day	Jan.	Feb.	March	April	May	June
1	413080	436380	457070	496910	747240	1110050
2	413880	437110	458050	500790	753230	1117250
3	414680	437850	459040	505070	758580	1121750
4	415480	438490	459920	509390	762790	1129000
5	416280	439020	460800	512290	767010	1128500
6	417090	439550	461680	515700	771400	1132550
7	417900	440080	462560	518640	776190	1136150
8	418700	440720	463440	522080	779620	1137050
9	419510	441460	464320	526170	784090	1138180
10	420220	442200	465200	532790	788230	1141100
11	420930	442940	466090	543610	791000	1145500
12	421750	443690	466980	554880	793440	1152130
13	422560	444440	467980	567940	797270	1158650
14	423380	445190	468980	580690	800770	1162480
15	423790	445940	469980	593970	807800	1163150
16	424200	446680	470990	604400	814540	1163150
17	424610	447540	472000	614114	827430	1163830
18	425020	448190	472780	624000	843490	1164950
19	425530	448840	473560	634040	862900	1168550
20	426050	449480	474350	643460	885630	1172380
21	426770	450130	475130	651220	908540	1176430
22	427710	451000	475920	657850	934020	1178900
23	428750	451910	476710	665430	959330	1180250
24	429790	452940	477500	674160	984410	1181150
25	430830	453910	478510	685340	1003600	1181600
26	431760	454890	479530	698550	1025330	1181600
27	432700	455550	480660	711820	1045270	1181600
28	433440	556200	481800	724000	1065480	1181150
29	434170	.....	484900	733750	1081300	1179800
30	434800	.....	488310	741950	1092500	1176650
31	435640	.....	491660	.....	1102180	.....

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PATHFINDER STORAGE. IN ACRE FEET, FOR THE YEAR 1917

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1173950	1047500	837690	643310	629580	666930
2	1171480	1043490	829230	641140	630730	668430
3	1168100	1039480	819730	639400	631880	669930
4	1164730	1035040	810090	637660	633030	671440
5	1159100	1028630	801650	636500	634330	672950
6	1154600	1022700	793610	635340	635630	674470
7	1151450	1013980	785640	634180	636930	675990
8	1149200	1003620	777220	633030	638380	677510
9	1146500	996100	768700	631880	639830	679040
10	1144700	987440	760260	630870	641280	680570
11	1143350	980820	753230	629580	642730	681490
12	1142000	973890	746250	628430	644180	682260
13	1140200	967630	739320	627290	645350	683030
14	1136600	961400	732770	626150	646520	683800
15	1133450	955210	726270	624860	647690	684570
16	1128500	949460	719810	623710	648860	685340
17	1122650	943950	713410	622570	650040	686110
18	1115000	938060	706580	621430	651220	686880
19	1108250	932010	699490	620430	652390	687650
20	1099930	925990	692770	619290	653570	688430
21	1092050	919610	687650	619720	654750	689510
22	1090030	913070	682570	620000	655930	690600
23	1087550	906580	677510	620430	657110	691680
24	1084400	900130	672350	621430	658300	692770
25	1080130	892940	667230	622430	659480	693860
26	1076530	885820	662450	623570	660670	694950
27	1073380	879320	657410	624720	661850	696040
28	1069320	871920	653860	625720	663040	697140
29	1064580	862900	650330	626720	664230	698240
30	1060070	854340	646810	627580	665430	699340
31	1054900	846410	.....	628430	.....	700430

Supplied by U. S. R. S.

PATHFINDER STORAGE, IN ACRE FEET, FOR THE YEAR 1918

Day	Jan.	Feb.	March	April	May	June
1	701530	729510	752890	824020	881800	925390
2	702630	730160	753890	826350	876090	928390
3	703890	730820	754900	829590	870410	931400
4	705160	731470	755900	833010	865710	933820
5	706420	732120	756900	835350	861970	935840
6	707680	732770	757910	837150	858240	938060
7	708950	733420	759080	839870	858240	940900
8	710230	734080	760260	843490	860290	947010
9	711500	734730	761440	848070	862900	954180
10	712770	735380	762620	851750	866650	962440
11	713250	736200	764980	855450	870410	973890
12	713890	737020	767350	858800	872300	985470
13	714370	737840	769720	861780	874190	1000380
14	714850	738660	772100	864400	873810	1016590
15	715490	739480	774660	869660	872680	1034150
16	715970	740300	776880	874190	872680	1051980
17	716450	741130	779100	877990	872300	1070000
18	717090	741950	781340	882760	873060	1085140
19	717570	742780	783570	886200	875330	1099250
20	718050	743600	785810	888120	884290	1108930
21	719010	744590	788410	888120	890440	1115000
22	719980	745580	791000	887550	891980	1119500
23	720940	746580	793610	886970	893910	1121750
24	721910	747570	796220	886210	894300	1122430
25	722870	748570	798850	885250	897210	1121080
26	723840	749570	802350	884670	900130	1121080
27	724810	750730	805860	884290	903050	1119500
28	725780	751890	810270	884290	905990	1115000
29	726750	.....	815610	884860	910900	1111180
30	727730	.....	819190	884290	915440	1107580
31	728860	.....	821880	.....	920200	.....

Supplied by U. S. R. S.

PATHFINDER STORAGE, IN ACRE FEET, FOR THE YEAR 1918

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1103750	901100	690130	565570	.....	.....
2	1099250	893300	683800	563870	.....	.....
3	1093180	886780	678580	562170	.....	.....
4	1085750	879890	672500	560470	.....	.....
5	1079000	873250	665880	558780	.....	.....
6	1072250	866650	659630	559690	.....	.....
7	1066380	859540	654160	560990	.....	.....
8	1060070	853490	648130	562560	.....	.....
9	1053550	845500	642590	564130	.....	.....
10	1046830	838240	637370	565830	.....	.....
11	1041930	830670	632170	567280	.....	.....
12	1035260	823490	625430	567940	.....	.....
13	1029290	817040	619150	568200	.....	.....
14	1024240	810630	612860	568470	.....	.....
15	1017680	804100	610640	568600	.....	.....
16	1012240	797440	607580	568730	.....	.....
17	1006830	791000	604400	568730	.....	.....
18	1001240	783570	600680	568860	.....	.....
19	995460	775850	577120	569000	.....	.....
20	989290	769210	593420	569000	.....	.....
21	982300	761770	590700	569000	.....	.....
22	975900	754730	586500	569000	.....	.....
23	968670	747080	582450	569000	.....	.....
24	961400	740140	578410	569660	.....	.....
25	854180	733260	574540	570710	.....	.....
26	946600	726750	573350	571640	.....	.....
27	939280	719810	572330	572690	.....	.....
28	931600	713410	570720	574410	.....	.....
29	923790	797640	568730	576270	.....	.....
30	915840	701530	567540	578410	.....	.....
31	909330	695890	.....	580020	.....	.....

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PATHFINDER OUTFLOW, IN SECOND FEET FOR THE YEAAR 1916

Day	Oct.	Nov,	Dec.
1	750	5	5
2	780	5	5
3	780	5	5
4	800	5	5
5	800	5	5
6	800	5	5
7	660	5	5
8	750	5	5
9	850	5	5
10	955	5	5
11	1290	5	5
12	1290	5	5
13	230	5	5
14	5	5	5
15	5	5	5
16	5	5	5
17	5	5	5
18	5	5	5
19	5	5	5
20	5	5	5
21	5	5	5
22	5	5	5
23	5	5	5
24	5	5	5
25	5	5	5
26	5	5	5
27	5	5	5
28	5	5	5
29	5	5	5
30	5	5	5
31	5	....	5
Total	10830	150	155
Mean	349	5	5
Acre-feet	21481	297	307
Maximum	1290	5	5
Minimum	5	5	5

Supplied by U. S. R. S.

PATHFINDER OUTFLLOW, IN SECOND FEET, FOR THE YEAR 1917

Day	Jan.	Feb.	March	April	May	June
1	5	5	5	5	1005	5350
2	5	5	5	5	1005	6405
3	5	5	5	5	1005	7450
4	5	5	5	5	1005	8270
5	5	5	5	5	1005	6700
6	5	5	5	5	1005	7305
7	5	5	5	5	1005	8200
8	5	5	5	5	1005	8670
9	5	5	5	5	1005	8860
10	5	5	5	5	1005	9320
11	5	5	5	5	1585	10210
12	5	5	5	5	2000	11610
13	5	5	5	5	2050	13190
14	5	5	5	5	2050	14430
15	5	5	5	5	2120	14980
16	5	5	5	5	2020	14850
17	5	5	5	5	2065	14960
18	5	5	5	5	2020	15240
19	5	5	5	5	2035	15950
20	5	5	5	5	2065	16890
21	5	5	5	5	2020	17750
22	5	5	5	5	480	18310
23	5	5	5	5	10	18640
24	5	5	5	800	10	18850
25	5	5	5	960	10	18900
26	5	5	5	1020	10	18900
27	5	5	5	1020	10	18900
28	5	5	5	1020	20	18810
29	5	....	5	990	1970	18560
30	5	....	5	990	3030	18130
31	5	....	5	....	4125	.....
Total	155	140	155	6915	41755	404509
Acre feet.....	310	280	310	13830	83510	809180

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PATHFINDEER OUTFLOW IN SECOND FEET FOR THE YEAR 1917

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	17380	5550	5110	2140	5	5
2	16720	4245	5110	1255	5	5
3	15930	4055	5110	1095	5	5
4	15160	4055	5110	1095	5	5
5	14140	4485	5110	1095	5	5
6	13060	4555	5110	1095	5	5
7	12120	5730	5145	1095	5	5
8	11370	5730	5110	1095	5	5
9	10810	5730	5110	1095	5	5
10	10440	5730	5110	1095	5	5
11	10160	4375	4235	1095	5	5
12	9820	4065	4035	1095	5	5
13	9400	4055	4035	1095	5	5
14	8860	4055	4180	1095	5	5
15	8230	4055	4055	1095	5	5
16	8490	4055	4055	1095	5	5
17	8410	4055	4055	1095	5	5
18	8350	4055	4055	1095	5	5
19	8200	4055	4055	1095	5	5
20	8090	4055	4055	1095	5	5
21	7780	4055	3200	255	5	5
22	5620	4055	3070	5	5	5
23	4755	4135	3070	5	5	5
24	4560	4055	3125	5	5	5
25	4545	4055	3070	5	5	5
26	4755	4055	3070	5	5	5
27	4685	4055	3070	5	5	5
28	4590	4850	2260	5	5	5
29	4555	5130	2140	5	5	5
30	4555	5110	2140	5	5	5
31	4555	5110	.....	5	....	5
Total	280095	139410	120165	23410	150	155
Acre feet	560190	278820	240330	46820	300	310

Supplied by U. S. R. S.

PATHFINDER OUTFLOW, IN SECOND FEET, FOR THE YEAR 1918

Day	Jan.	Feb.	March	April	May	July
1	5	5	5	525	3620	4970
2	5	5	5	525	4420	4990
3	5	5	5	525	4600	5060
4	5	5	5	525	4600	5060
5	5	5	5	525	4600	5060
6	5	5	5	90	4600	4880
7	5	5	5	10	4600	5015
8	5	5	5	10	4600	5015
9	5	5	5	10	4600	5015
10	5	5	5	10	4760	5040
11	5	5	5	10	4920	5060
12	5	5	5	10	4920	5060
13	5	5	5	850	4920	5060
14	5	5	5	1090	4920	4910
15	5	5	5	1095	4920	4895
16	5	5	5	1095	4130	4990
17	5	5	5	1095	4600	5060
18	5	5	5	1095	4710	5630
19	5	5	5	1095	4825	7150
20	5	5	5	1095	800	8820
21	5	5	5	1870	2700	9855
22	5	5	5	2030	4600	10555
23	5	5	5	2200	4710	11155
24	5	5	5	2195	4870	11530
25	5	5	5	2195	4900	11530
26	5	5	5	2195	4920	9690
27	5	5	5	2195	4920	8940
28	5	5	10	2195	4920	9520
29	5	....	5	2195	4920	6630
30	5	....	330	2470	4920	6240
31	5	....	510	.....	4710	.....
Total	155	140	990	33025	139755	202385
Mean	5	5	32	1101	4508	6746
Acre feet	307	278	1965	65505	277205	401430
Maximum	5	5	510	2470	4920	11155
Minimum	5	5	5	10	3620	4880

Elimination of a Dangerous Curve in Otoe County. Federal and State Aid Project No. 7.

PATHFINDEER OUTFLOW, IN SECOND FEET, FOR THE YEAR 1918

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	5900	4645	3330	1500		
2	6050	4645	3330	1500		
3	5190	4095	3330	1500		
4	6110	4000	3330	1500		
5	5620	4095	3330	1500		
6	5510	4095	3330	25		
7	4930	4095	3295	25		
8	4870	4095	3295	25		
9	4895	4095	3295	25		
10	4920	4095	3265	25		
11	4970	4140	3265	25		
12	5015	3885	3265	645		
13	5015	3750	3265	735		
14	5015	3750	3200	735		
15	5015	3750	2305	735		
16	5015	3750	2305	735		
17	4990	3750	2305	735		
18	4970	3790	2305	735		
19	4990	3790	2305	735		
20	5060	3790	2305	735		
21	5040	4070	2305	735		
22	4970	3715	2305	735		
23	4970	3715	2305	735		
24	4970	3715	2305	210		
25	4970	3715	1810	25		
26	4970	3790	1500	25		
27	4970	3750	1500	25		
28	4970	2820	1500	25		
29	4970	2820	1500	25		
30	4920	3330	1500	25		
31	4160	3330		25		
Total	157930	118870	78485	16765		
Mean	5094	3834	2615	541		
Acre feet	313254	235780	155674	33253		
Maximum	4110	4645	3330	1500		
Minimum	4160	2820	1500	25		

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER AT WHALEN, FOR YEAR 1916

Day	Oct.	Nov,	Dec.
1	1605	242	275
2	1383	234	290
3	1458	234	280
4	1510	233	270
5	1528	230	280
6	1510	227	280
7	1441	223	190
8	1355	184	190
9	1372	193	170
10	1305	165	180
11	1208	143	170
12	1208	148	180
13	1273	148	190
14	1322	80	190
15	1208	93	180
16	1113	93	180
17	1020	124	190
18	856	178	190
19	708	277	200
20	277	277	190
21	.....	277	180
22	.....	277	180
23	.....	302	170
24	183	327	170
25	265	405	170
26	548	377	160
27	450	321	150
28	346	293	150
29	340	247	150
30	325	233	140
31	280	.....	150
Total	27397	6785	6035
Mean	883	226	194
Acre feet	54341	13458	11970
Maximum	1605	405	290
Minimum	.....	80	140

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER BELOW WHALEN, FOR YEAR 1917

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	13935	3147	3520	1563	661	402
2	13759	3225	3541	2420	661	402
3	13205	4045	3562	1874	593	402
4	12837	2861	3541	1544	548	402
5	12226	2825	3541	809	510	178
6	11692	2825	3541	603	456	180
7	10559	3186	3970	530	415	187
8	9826	3260	3882	681	340	160
9	9018	3970	4236	727	389	127
10	8388	3970	3774	660	456	122
11	7990	4014	3688	658	456	148
12	7689	3970	3688	590	456	187
13	7480	3005	2884	650	442	177
14	7246	2892	2789	496	442	179
15	7042	2767	2789	483	442	172
16	6699	2731	2807	1475	442	186
17	6671	2713	2807	1475	442	196
18	6589	2749	2860	1475	442	207
19	6671	2731	2860	1475	442	262
20	6447	3166	2825	1475	428	277
21	6198	3031	2958	1475	428	293
22	6116	2794	2996	1458	428	342
23	5741	2720	2469	1458	428	420
24	3979	2691	2104	1373	428	262
25	3739	2691	2104	994	428	231
26	3363	2668	2194	828	414	316
27	3347	2616	2232	753	402	278
28	3443	2668	2168	661	402	194
29	3344	2720	2356	593	402	143
30	3464	3265	2040	593	402	185
31	3264	3565	.....	571	.....	218
Total	231967	95481	90726	32420	13625	7435
Mean	7482	3080	3024	1045	454	239
Acre feet	460106	189386	179955	64305	27025	14747
Maximum	13935	4045	4236	2420	661	420
Minimum	3264	2616	2040	483	340	122

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER BELOW WHALEN, FOR YEAR 1917

Day	Jan.	Feb.	March	April	May	June
1	150	170	500	2108	1475	7532
2	150	180	500	1936	1493	7988
3	150	170	525	1476	1487	8279
4	150	160	550	828	1445	8944
5	160	160	550	794	1452	10551
6	170	160	550	590	1643	10891
7	170	160	575	355	1484	9170
8	170	160	575	358	1445	9404
9	170	170	575	550	1421	9729
10	170	170	575	488	1384	9811
11	180	175	575	564	1347	9811
12	170	180	575	629	1445	9983
13	180	180	575	737	1688	10568
14	180	180	590	884	3014	11423
15	170	190	600	880	3620	11969
16	180	190	600	936	4330	12222
17	180	190	600	850	5137	12830
18	190	200	600	950	5368	13309
19	190	200	600	900	4860	13125
20	190	200	600	1107	5375	12581
21	180	220	600	1310	5754	13016
22	140	240	600	733	6498	13647
23	150	250	600	332	5760	14130
24	160	270	650	677	5240	14431
25	160	300	650	988	3962	14618
26	170	350	750	1597	4899	14809
27	170	450	800	2287	6433	14905
28	180	450	850	2279	5907	15000
29	190	.....	1040	2131	6285	15000
30	190	.....	1575	1726	6668	14809
31	190	.....	1550	.....	6513	.....
Total	5300	6075	21630	31980	114832	354785
Mean	170	216	697	1066	3704	11826
Acre feet	10512	12049	42903	63432	227769	703716
Maximum	190	450	1575	2287	6668	15000
Minimum	140	160	500	332	1347	7532

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER BELOW WHALEN, FOR YEAR 1918

Day	Jan.	Feb.	March	April	May	June
1	218	100	125	475	2277	4884
2	277	100	120	475	2277	4970
3	348	100	160	550	4255	4945
4	317	110	200	900	5159	4801
5	289	125	200	990	5800	5191
6	290	125	200	850	6301	5256
7	262	135	200	900	6459	5191
8	200	140	225	1350	6817	4511
9	190	150	225	1100	6817	4815
10	150	160	225	740	6965	4754
11	150	160	320	340	7183	4518
12	140	160	400	100	6746	4463
13	130	170	400	140	6650	4284
14	125	170	340	288	6430	4181
15	125	170	350	515	6345	3908
16	125	170	330	1200	6248	4018
17	125	170	340	1787	6038	3887
18	125	150	340	1557	5314	5237
19	125	110	320	1500	5564	5059
20	125	100	340	1300	5512	4881
21	120	100	350	1000	5515	6855
22	120	110	325	955	3043	7412
23	130	140	325	1053	2217	8856
24	135	170	325	1959	4885	10006
25	115	170	340	2090	4825	9004
26	115	170	340	2247	5064	9004
27	115	150	340	2461	4992	8668
28	115	140	350	2810	4949	6985
29	115	.....	370	2655	5039	7026
30	115	.....	400	2572	5064	6910
31	100	.....	450	.....	5153	.....
Total	55131	3925	9275	36859	164683	17448
Mean	165	140	299	1228	5312	5816
Acre-feet	10177	7785	18396	73109	326648	346081
Maximum	348	170	450	2810	7183	10006
Minimum	100	100	120	100	2277	3887

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER BELOW WHALEN, FOR YEAR 1918

Day	July	Aug.	Sept.	Oct.
1	4929	3716	2307	1440
2	4869	3242	2315	1380
3	4642	3517	2294	1250
4	4588	3449	2315	1205
5	4026	2900	2421	1160
6	2995	3748	2404	1155
7	4350	3490	2416	1060
8	4261	3170	2440	1063
9	3840	3483	2491	695
10	3798	3129	2491	355
11	4527	3148	2778	300
12	4925	3167	2778	300
13	4705	3245	2762	300
14	4595	3005	2800	300
15	3997	2855	3028	300
16	4553	2890	3002	330
17	4270	2846	2455	375
18	4626	2830	2425	380
19	4147	2795	2039	395
20	4236	2705	1881	400
21	4061	2967	2002	400
22	4326	2728	2328	400
23	4147	2967	1952	400
24	4193	2762	2073	400
25	3807	2746	221	450
26	4085	2855	2322	500
27	4029	2762	2244	550
28	3923	2722	1560	800
29	3796	2837	1380	725
30	3890	2091	1345	615
31	3967	1928	.....	500
Total	133103	92695	69259	19883
Mean	4293	2990	2308	641
Acre-feet	264009	183860	137375	39437
Maximum	4995	3716	3028	1440
Minimum	3796	1928	1345	300

NORTH PLATTE RIVER AT HENRY.

Location. About half a mile south of town.

Records Available. From May 12 1912 to September 30 1914.

Gage. Vertical staff in each of three channels.

Channels. Three channels at all stages. Spring creek enters the river just below the station flowing under the same bridge as the north channel of the river. Bed of shifting sand.

Accuracy. Almost daily measurements have been made during the open seasons which has reduced error in estimates to a minimum.

Observer. J. D. Fugate.

Elevation. 4020 feet.

Distance from Pathfinder Reservoir. 240 miles.

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER NEAR HENRY, NEBRASKA, 1917.

Day	July	Aug.	Sept.	Oct.
1	.....	2490	2905	2115
2	.....	2490	1645	2280
3	.....	2775	2465	2330
4	.....	2775	3340	2215
5	.....	2240	3285	2195
6	.....	2115	3800	2140
7	.....	2115	3895	1305
8	.....	2430	3850	875
9	.....	2605	3870	780
10	.....	3215	3890	650
11	.....	3500	3850	.....
12	8870	3360	4015	.....
13	8500	2610	3960	.....
14	8200	2205	3910	.....
15	8200	1705	3825	.....
16	7770	2035	3635	.....
17	7250	1410	3270	.....
18	7090	2045	3180	.....
19	6970	1950	3190	.....
20	6730	1935	3190	.....
21	6230	2400	3220	.....
22	5895	2475	3250	.....
23	5560	2350	2840	.....
24	5000	2280	2605	.....
25	3590	2295	2585	.....
26	3420	2265	2425	.....
27	3170	2040	2360	.....
28	2940	2300	2525	.....
29	2875	2785	2525	.....
30	2700	2625	2330	.....
31	2590	2805	.....	.....
Total	227100	74625	95635	16885
Mean	11355	2407	3187	1688
Acre-feet	450452	148018	189692	33491
Maximum	8870	3500	4015	2330
Minimum	2590	1410	1645	650

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER RIVER AT HENRY, 1918.

Day	May	June	July	Aug.	Sept.	Oct
1	.....	4320	5840	3470	1290	1470
2	.....	3640	4780	3370	1455	1450
3	.....	4830	4060	3040	1480	1450
4	.....	4450	3910	2990	1610	1450
5	.....	4760	3110	3140	1610	1400
6	.....	4860	3710	2940	1610	1350
7	.....	5010	3510	3200	1760	1350
8	.....	4360	3500	3410	1805	1175
9	.....	4540	3250	3025	1850	1175
10	.....	4510	3510	3025	1850	1085
11	.....	4380	2900	2925	1850	865
12	.....	4160	3445	2925	2040	835
13	.....	4010	6870	2950	2065	760
14	.....	4130	5780	2530	2065	725
15	.....	4230	3680	2530	2065	540
16	5210	4230	4250	2500	2340	540
17	5220	4560	4990	2500	2270	659
18	5580	5600	4440	2375	2090	660
19	5340	8070	4330	2375	1835	657
20	5280	6150	4030	2440	1640	685
21	5280	7790	3750	2530	1640	675
22	3290	8850	4110	2270	1565	669
23	1820	9760	4050	2220	1665	581
24	1825	10860	4570	2525	2075	679
25	3460	12710	3970	2150	2130	692
26	2790	11755	4280	2050	2130	707
27	3960	11555	3890	2050	2200	709
28	3780	10080	3790	1990	2200	709
29	3975	9500	3530	1890	1795	709
30	3960	8640	3490	1990	1650	744
31	4340	.....	3490	1410	.....	724
Total	65110	196300	126815	80735	58630	27879
Mean	4069	6543	4090	2604	1954	899
Acre-feet	129145	389361	251537	160137	116292	55297
Maximum	5580	12710	6870	3470	2340	1470
Minimum	1820	3640	3110	1410	1290	549

NORTH PLATTE RIVER AT MORRILL, NEBR., 1917.

Location. About two miles south of Morrill.

Gages. Two wooden staffs, one nailed to a square pile about 15 feet up-stream from the north end of the highway bridge across the north channel. The other is nailed to a square pile about the same distance up-stream from the south end of the bridge across the south channel.

Bench Marks. No bench mark data is at hand concerning these gages. However, they have been referred to bench marks and information concerning their location and datum will be on file in the office of the State Engineer.

Observer. F. Erwin Powell, Morrill, Nebr.

General. Because of the collapsible dam of the Enterprise Irrigation Ditch the relation between gage height and discharge has been found to be so inconsistent that no records of data discharge are

herewith published.

Elevation. 3980 feet.

Distance from Pathfinder Reservoir. 298 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT MORRILL, 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 1	S. A. Swanson	1111.55	2.10	3.17	2343.77
5-10	S. A. Swanson	890.9	2.34	3.17	2078.0
5-17	S. A. Swanson	1971.3	2.88	4.38	5733.1
5-28	S. A. Swanson	2601.4	3.31	5.20	8628.86
6- 8	S. A. Swanson	3622.8	3.74	5.78	13574.4
6-13	S. A. Swanson	3583.6	3.26	5.40	12687.0
6-21	S. A. Swanson	3876.5	4.22	6.00	16464.9
6-25	J. K. Rohrer	.....	.....	6.25	19003.0
6-29	S. A. Swanson	4496.0	3.94	6.27	17742.7
7- 6	S. A. Swanson	3566.3	3.10	5.53	14471.4
7-12	S. A. Swanson	2611.2	3.67	4.68	9608.0
7-24	S. A. Swanson	1630.0	3.27	3.70	5334.6
8-17	D. P. Weeks, Jr.	798.0	2.39	2.70	1907.9
8-29	D. P. Weeks, Jr.	704.2	2.29	2.55	1619.4

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER AT MORRILL, NEBRASKA, FOR 1917.

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	11000	17400	2800	2300	1700
2	.....	13500	17000	2550	2300	1500
3	.....	13500	16450	2550	2550	2100
4	2350	14200	16000	2550	2800	2100
5	2500	14800	15500	2550	2800	1900
6	2200	16000	15000	2550	2550	1700
7	2500	17300	13500	2100	2550	1100
8	2200	15500	13500	1900	2550	1000
9	2200	15000	12500	1900	2800	1000
10	2200	15000	11000	2550	3100	1000
11	2200	14500	10500	2800	2800	1000
12	2100	14500	10050	2800	3100	900
13	2200	13500	9500	3100	2800	850
14	2500	14000	9100	2550	2800	850
15	3400	15000	9100	2100	2300	750
16	4150	15500	8600	1900	1900	750
17	5300	16450	8100	1900	2100	1000
18	7100	17000	9100	1900	2300	1000
19	7100	17000	7600	1900	2300	1100
20	7100	16450	7600	1700	2100	1100
21	8400	17000	7200	1900	2100	1250
22	9700	17000	7200	1900	2100	1250
23	10300	17400	6700	1700	2100	1250
24	9050	17900	6200	1900	2100	1250
25	5900	17900	4300	1700	1700	1100
26	6550	17400	3750	1700	1700	1000
27	8400	17400	3400	1900	1500	900
28	11000	17900	3100	1900	1700	850
29	9050	17900	2800	1700	1500	900
30	10300	17400	2800	1900	1500	900
31	11650	.....	3100	2100	.....	900
Total	159600	474900	287650	66950	68800	36850
Mean	5700	15830	9279	2159	2293	1188
Acre-feet	316566	941964	570553	132795	136464	73091
Maximum	11650	17900	17400	3100	3100	2100
Minimum	2100	11000	2800	1700	1500	750

NORTH PLATTE RIVER AT MITCHELL.

Location. At highway bridge one mile south of town in Section 27, Township 23 North, Range 56 West.

Record Available. From the 2nd of June, 1901 to July 10, 1913.

Drainage Area. 24,400 square miles.

Gage. A standard weight and chain fastened to the up-stream hand-rail near the center of the bridge. The length of the chain from the index to the end of the weight is 10.60 feet. During 1901 the gage was maintained at a datum one foot higher than during the succeeding years. On May 3, 1902, the gage datum was lowered one foot. All gage heights so affected have been corrected to the new datum.

Bench Marks. No. 1. A cross cut in the floor of the bridge at the gage. Elevation, 9.74 feet. No. 2. A standard aluminum bench mark cap marked U. S. G. S., leading into the top of a two inch

gas pipe four feet long, located one hundred thirty-eight feet north and thirty feet east of the left end of the down-stream handrail. Elevation, 8.64 feet. Bench mark datum is zero of gage.

Channel. At the gaging section the stream flows in three channels, all of which are straight for some distance above and below the bridge. The bed is composed of shifting sand.

Accuracy. Affected by shallow water and shifting sand.

Observer. Fred Spurrier.

Elevation. 3945 feet.

Distance from Pathfinder Reservoir. 304 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT MITCHELL, 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 3	S. A. Swanson	1030.5	2.10	3.08	2152.99
5- 9	S. A. Swanson	978.8	2.06	2.94	2014.7
5-18	S. A. Swanson	2112.7	2.67	4.22	5640.7
5-24	S. A. Swanson	2258.6	3.02	4.43	6821.0
6- 7	S. A. Swanson	4024.4	3.87	5.62	15567.8
6-12	S. A. Swanson	3483.8	3.31	5.08	12653.9
6-22	S. A. Swanson	4172.2	3.75	5.80	15681.1
6-29	S. A. Swanson	4711.3	3.88	6.30	18275.9
7- 6	S. A. Swanson	3963.9	4.07	5.65	16121.4
7-12	S. A. Swanson	2620.7	3.49	4.42	9156.7
7-23	S. A. Swanson	2058.2	2.92	3.92	6016.4
7-30	S. A. Swanson	1270.8	2.50	3.30	3185.8
8- 2	J. K. Rohrer	.....	.....	2.95	2772.0
8-11	S. A. Swanson	1391.9	1.97	2.90	2731.3
8-20	D. P. Weeks Jr	742.0	2.19	2.51	1793.3
9-21	J. K. Rohrer	.....	.....	2.80	2098.0

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER AT MITCHELL, NEBRASKA, 1917.

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	10150	18500	2750	2000	1900
2	.....	11600	18200	2450	1950	1775
3	.....	11200	17700	2250	1950	1900
4	.....	12300	17000	2450	1900	1900
5	2150	14000	16500	2100	2000	1925
6	2075	15100	15700	1825	2000	1825
7	2000	15500	14300	1775	2100	1800
8	2050	13700	13000	1775	2250	1750
9	2050	13700	11800	1900	2350	1725
10	2050	13500	10900	2050	2450	.....
11	2000	13300	9800	2250	2425	.....
12	1900	12600	8700	2400	2400	.....
13	2100	12900	8300	2600	2250	.....
14	2300	12900	7700	2000	2200	.....
15	3350	14200	7650	1825	1900	.....
16	3500	14800	7600	1650	1900	.....
17	4300	15400	7700	1650	1900	.....
18	5800	16000	7600	1650	2100	.....
19	6200	16000	7500	1675	1925	.....
20	6200	16250	7600	1725	2000	.....
21	6200	16250	7200	1825	2100	.....
22	7600	16500	6600	1775	2100	.....
23	8700	17100	6100	1700	2100	.....
24	7700	17700	5900	1550	2100	.....
25	5700	18400	3500	1600	1900	.....
26	5400	18500	3600	1575	1825	.....
27	7250	18800	3700	1550	1825	.....
28	9100	19600	3500	1650	1825	.....
29	8400	19300	3300	1700	1775	.....
30	9500	19000	3200	1625	1825	.....
31	10500	.....	3100	1900	.....	.....
Total	136075	456250	283450	59200	61325	16500
Mean	5039	15208	9143	1909	2044	1833
Acre-feet	269904	904971	562223	117423	121638	32727
Maximum	10500	19600	18500	2750	2450	1925
Minimum	1900	10150	3100	1550	1775	1725

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER, AT MITCHELL, FOR YEAR 1918.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
4-19	Flynn-Palmer	921.25	2.14	.....	1972.1
5-14	Wade Flynn	2423.2	2.93	3.84	7095.8
6-20	Wade Flynn	1715.7	2.51	3.35	4313.7
6-25	Wade Flynn	3446.9	3.57	4.85	12311.8
7-11	Wade Flynn	868.9	2.22	2.50	1930.6
7-23	Wade Flynn	1376.7	2.32	2.96	3207.3
8-15	Wade Flynn	1041.7	1.21	2.80	2305.3
8-29	Wade Flynn	479.15	1.71	2.40	821.0

NORTH PLATTE RIVER AT SCOTTSBLUFF, NEBR., 1917 & 1918.

Location. At the highway bridge between Scottsbluff and Gering.

Gage. Enameled staff nailed to a pile about 15 feet up-stream from the north end of the bridge.

Bench Marks. No bench mark data is at hand concerning these gates. However, they have been referred to bench marks and information concerning their location and datum will be on file in the office of the State Engineer.

General. Because of the extreme width of the river at this point in comparison to the depth a very small variation in height gives a large variation in discharge.

Observer. F. Liljenstople.

Elevation. 3880 feet.

Distance from Pathfinder Reservoir. 313 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT SCOTTSBLUFF, 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 1	Swanson-Willis	1533.0	2.06	2.39	3185.0
5- 9	S. A. Swanson	1070.0	1.95	2.33	2086.1
5-18	S. A. Swanson	2808.4	2.26	3.06	6359.0
5-30	S. A. Swanson	3646.8	2.86	3.60	10457.8
6- 9	S. A. Swanson	4164.0	3.21	4.05	13364.0
6-15	S. A. Swanson	4321.3	3.16	4.075	13660.3
6-24	Swanson-Liljenstolpe	5217.4	3.44	4.33	17952.9
7- 2	S. A. Swanson	5179.2	3.63	4.38	18819.0
7- 9	S. A. Swanson	3718.6	3.36	3.57	12516.8
7-15	S. A. Swanson	2896.0	3.16	3.19	9161.0
7-25	S. A. Swanson	1570.6	2.54	2.47	3998.8
8- 3	J. A. Rohrer U. S. R. S.	.....	.....	2.22	2880.0
8-21	D. P. Weeks Jr.	988.4	2.38	2.01	2351.3
8-28	D. P. Weeks, Jr.	785.96	2.36	2.04	1857.0
9-22	J. A. Rohrer, U. S. R. S.	.....	.....	2.22	2532.0

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT SCOTTSBLUFF, NEBRASKA, FOR 1917.

Day	May	June	July	Aug.	Sept.
1	.....	11300	19000	2850	2600
2	2600	13200	18700	2800	.....
3	2400	13200	18100	2750	.....
4	2450	14000	17700	2500	.....
5	2400	14200	17300	2400	2400
6	2500	15700	16800	2000	2350
7	2700	17000	14600	1900	2475
8	2500	15600	13000	1950	2850
9	2300	15200	12500	2050	3000
10	2450	15100	11100	2700	.....
11	2500	14000	9600	2600	.....
12	2300	13600	9300	3100	.....
13	2025	15300	9700	2525	.....
14	2300	16600	9400	2450	.....
15	3000	15500	9300	2075	.....
16	3500	16600	8500	2025	.....
17	4150	16800	8100	1975	.....
18	5900	16900	7700	1900	.....
19	6800	17100	7300	1900	2600
20	5600	16200	7500	1900	2600
21	7600	16200	7200	1900	2600
22	7800	16900	6800	1900	2400
23	9400	17100	6500	1875	2300
24	8800	18500	5700	1850	2200
25	7200	18700	3650	1850	2250
26	6200	19300	3400	1925	2350
27	7800	19600	3200	1975	2500
28	10400	20000	3000	1975	2700
29	9500	20600	3000	1950	2525
30	10800	19300	2950	2150	2600
31	12000	.....	2900	2350	.....
Total	157875	489300	293500	67950	45300
Mean	5262	16310	9467	2192	2516
Acre-feet	313145	970526	582157	134778	89852
Maximum	12000	20600	19000	3100	3000
Minimum	2025	11300	2900	1850	2200

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT SCOTTSBLUFF, FOR 1918.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
4-19	Flynn-Palmer	983.95	2.12	1.92	2085.4
5-13	Wade Flynn	2904.8	2.49	2.95	7249.3
5-25	Wade Flynn	1622.3	2.26	2.31	3668.2
6-26	Wade Flynn	3709.4	2.65	3.45	9850.9
7-10	Wade Flynn	1141.2	1.82	2.11	2086.9
7-22	Wade Flynn	1465.91	2.06	2.38	2037.3
7-30	Wade Flynn	1451.11	1.93	2.24	2804.2
8- 5	Palmer-Noskey	1070.08	2.02	2.05	2164.7
8-14	Wade Flynn	913.59	1.62	2.03	1479.3
8-20	Wade Flynn	1103.66	1.86	2.13	2061.4
8-28	Wade Flynn	579.51	1.61	1.81	934.3
9- 5	Wade Flynn	606.77	1.60	1.77	971.1
9-14	Wade Flynn	787.14	1.84	1.96	1452.9

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT SCOTTSBLUFF, 1918.

Day	April	May	June	July	Aug.	Sept.
1	.....	3400	5000	5950	.....	750
2	.....	3400	4750	3900	2075	800
3	.....	3300	.....	3500	2025	950
4	.....	4500	5250	3300	1900	925
5	.....	5800	5650	3200	1750	925
6	.....	6100	6100	2350	.....	1000
7	1600	6300	6200	2750	2150	1025
8	1550	6550	6100	2650	2300	1075
9	1800	7600	5950	2200	2025	1150
10	1900	7600	5400	2100	.....	1400
11	1800	7800	5100	1950	2025	1450
12	1600	7400	4750	2700	1950	1550
13	1400	7050	4500	3250	1850	1525
14	1450	6800	4400	4300	1650	1325
15	1400	6650	4300	4900	2700	.....
16	1450	7000	4200	4800	2500	1700
17	1450	6300	4100	4400	2650	2050
18	2050	.....	4100	3700	2850	.....
19	2000	6100	4400	4000	2800	.....
20	2050	5850	6300	3250	1850	.....
21	1900	5650	6100	2950	1550	.....
22	1800	5750	5950	3250	1400	.....
23	1550	3000	8500	3250	1200	.....
24	1800	1650	8400	3300	1250	.....
25	2400	3450	9900	3400	1275	.....
26	2650	3700	9750	3250	1150	2400
27	3000	.....	9400	3150	1075	2350
28	2700	.....	8900	3000	1000	2300
29	3100	.....	8400	.....	1000	2000
30	3550	.....	7100	.....	900	2050
31	.....	5850	.....	.....	900	.....
Total	47950	144550	178950	94700	49750	30700
Mean	1998	5559	6170	3382	1776	1462
Acre-feet	95108	286714	354949	187837	98679	60893
Maximum	3550	7800	9900	5950	2850	2400
Minimum	1400	3300	4100	1950	900	750

NORTH PLATTE RIVER AT MELBETA-MINATARE, NEBR., 1917-1918.

Location. On highway bridge bettween Melbeta and Minatare.

Gage. Enameled staff nailed to wooden abutment on up-stream side of bridge at south end.

Bench Mark. No bench mark data is at hand concerning this gage. However, it has been referred to bench marks and in formation concerning its location and datum will be on file in the office of the State Engineer.

Observer. W. C. Birmingham.

General. The conditions at this station are very good, considering the conditions at the other stations as a whole. However, there is some tendency towards shifting sand preventing the best results. Width 1500 feet.

Elevation. 3820 feet.

Distance from Pathfinder Reservoir. 322 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT MINATARE, 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 8	S. A. Swanson	1330.5	1.92	2.80	2534.7
5-15	S. A. Swanson	1309.9	2.01	2.84	2638.9
5-23	S. A. Swanson	3261.8	2.87	3.71	9386.4
6- 6	S. A. Swanson	4295.0	3.63	4.22	15615.8
6-14	S. A. Swanson	3709.0	3.30	4.18	12292.2
6-22	S. A. Swanson	4317.5	3.48	4.40	15056.4
7- 2	S. A. Swanson	4981.7	3.74	4.70	18628.6
7-17	S. A. Swanson	2842.8	2.67	3.67	7614.4
8- 4	J. A. Rohrer	.....	.....	2.55	3196.0
8-22	D. P. Weeks, Jr	813.8	2.33	2.38	1907.8
9-24	J. A. Rohrer	.....	.....	2.60	2474.0

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT MINATARE, NEBRASKA, 1917.

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	11100	19300	2150	2150	2000
2	.....	11100	19500	2300	2150	2000
3	.....	12400	19000	2300	2150	2150
4	.....	13250	18500	2300	2000	2300
5	.....	13250	18000	2150	1950	2150
6	.....	13350	17500	2150	2000	1950
7	.....	15300	16400	2150	2000	1750
8	.....	15300	13500	2150	2150	1600
9	2800	13500	10600	2150	2300	1600
10	2650	13400	10100	2300	2200	1600
11	2500	13300	9500	2650	2200	1600
12	2475	13250	8000	2650	2150	1600
13	2475	11100	8000	2300	2200	1700
14	2400	10800	7700	2300	2150	2150
15	2400	11100	7400	2000	1950	1700
16	2800	15300	7000	1950	2150	1600
17	2875	16400	7000	1950	2150	1700
18	2950	16800	6700	2150	2200	1725
19	5150	17000	7000	2150	2300	1750
20	5600	16800	7600	2000	2300	1850
21	6600	16400	7500	2000	2200	1850
22	7000	15300	7425	1950	2150	1950
23	7950	15700	7350	1950	2300	1950
24	9000	16000	5900	1750	2300	1850
25	7000	17500	5900	1600	2150	1950
26	7950	17700	5250	1600	2000	1950
27	5150	17500	4600	1600	2150	1750
28	7000	17850	3950	1600	2150	1750
29	9000	18700	3300	1500	2000	1750
30	11100	19000	2650	1600	2000	1700
31	11100	.....	2300	1850	.....	1600
Total	125925	445450	294425	63200	64200	56525
Mean	5475	14848	9497	2038	2140	1823
Acre-feet	249772	883550	583991	125357	127340	112117
Maximum	11100	19000	19500	2650	2300	2300
Minimum	2400	10800	2300	1500	1950	1600

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER, AT MELBETA, FOR YEAR 1918.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-11	Wade Flynn	2752.8	2.57	3.48	7095.0
5-24	Wade Flynn	1234.2	2.00	2.50	2475.6
6- 8	Wade Flynn	2221.2	2.27	3.19	5053.9
6-19	Wade Flynn	1895.5	2.08	2.88	3953.1
6-27	Wade Flynn	3185.1	2.58	3.65	8230.0
7-10	Wade Flynn	1303.8	1.85	2.50	2423.3
7-20	Wade Flynn	1575.4	2.01	2.72	3181.2
7-31	Wade Flynn	1363.1	1.96	2.60	2672.9
8- 3	T. C. Palmer	1050.2	1.96	2.50	2062.3
8-13	Wade Flynn	954.0	1.80	2.28	1723.4
8-27	Wade Flynn	624.3	1.54	2.10	966.9
9- 6	Wade Flynn	598.15	1.50	2.10	898.6
9-13	Wade Flynn	774.6	1.76	2.30	1370.8

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT MELBETA, 1918.

Day	April	May	June	July	Aug.	Sept.
1	.....	4100	4900	7000	3200	700
2	.....	4300	4000	6700	2700	700
3	.....	3350	4100	5150	2000	690
4	.....	3350	4900	3600	1600	700
5	.....	4100	4800	3000	1550	740
6	.....	4950	4500	2500	1450	750
7	.....	5015	4600	3000	1700	1000
8	.....	6000	5250	3100	1550	1150
9	.....	6800	5000	2700	1550	1175
10	.....	7050	4600	2400	1450	1250
11	.....	7150	4800	2100	1450	1200
12	.....	7300	4100	3000	1300	1300
13	.....	7450	3800	3050	1300	1350
14	.....	6700	3600	3400	1250	1550
15	.....	6200	3250	4150	1400	1500
16	.....	6100	3000	2650	1800	.....
17	.....	6200	2900	3000	1700	.....
18	.....	6200	2800	3100	2000	.....
19	.....	5650	3600	3600	1950	.....
20	.....	5500	5500	3200	1600	.....
21	.....	5100	4400	3500	1300	.....
22	.....	5200	5000	3600	1300	.....
23	.....	4000	5900	3750	1100	.....
24	.....	2400	7200	3350	900	.....
25	2200	3300	8600	3300	1050	.....
26	2500	3700	8400	3400	900	.....
27	2450	3900	7950	3800	900	.....
28	2600	3400	8400	3300	875	.....
29	2800	3900	6600	3200	775	.....
30	3150	4400	6800	3000	750	.....
31	.....	.....	.....	3000	740	.....
Total	15700	152765	153250	107600	45090	15755
Mean	2616	5092	5108	3471	1455	1050
Acre-feet	31140	303009	303971	213424	89436	31250
Maximum	3150	7450	8400	7000	3200	1550
Minimum	2200	2400	2800	2100	740	690

NORTH PLATTE RIVER AT BRIDGEPORT, NEBR

1917-1918

Observer. Automatic Recorder.

Location. One-half mile north of town on the public road in Section 28, Township 20 North, Range 50 West.

Gage. Painted rod fastened in a concrete well on downstream side at north end of concrete bridge.

Bench Marks. No. 1. A six-inch by six-inch stone marked U. S. & G. S. located in the northeast quarter of Section 32, Township 20 North, Range 50 West of the 6th P. M., thirty feet east of east gate of stock yards and three hundred feet northwest of northwest corner of public school building. Elevation, 9.94 feet. No. 2. The regular aluminum U. S. G. B. M.

Cap set in a 28-inch by 12-inch stone, top of which is filled with concrete to form a truncated pyramid, located about fifty feet south and a little east of the northeast corner of lot four, block two, Riverside Addition to Bridgeport. Elevation 11.32 feet. The concrete well constructed in second concrete pier of wagon bridge from the north end. The gage rod fastened on the inside of the well, zero of which is 15.18 feet below the top of the northwest corner of iron frame of door. Stevens' Long Distance Water Recorder has been in operation at this station since June, 1917.

Channel. The river channel narrows to 700 feet at the gage section, and widens to 3,000 feet one-half mile below.

Accuracy. It is difficult to obtain satisfactory results at this station because of the narrowed section and the shifting conditions of the sandy bed.

Observer. Automatic.

Elevation. 3,675 feet.

Distance from Pathfinder Reservoir. 341 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT BRIDGEPORT FOR YEAR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 7	Swanson-Horrocks	1140.6	1.95	6.48	2227.5
5-14	S. A. Swanson	965.9	2.10	6.51	2035.8
5-22	S. A. Swanson	2928.6	3.03	7.70	8886.5
6-26	Swanson-Horrocks	4666.8	3.56	8.45	16633.3
7-11	S. A. Swanson	3353.8	3.03	7.25	10187.7
7-19	S. A. Swanson	2457.5	2.80	6.85	6890.5
7-26	Swanson-Horrocks	1713.3	2.50	6.44	4294.8
8- 6	J. A. Rohrer	.....	.....	6.30	3587.0
8- 8	S. A. Swanson	1045.6	2.85	6.20	2987.1
8-10	L. D. Horrocks	1158.7	2.15	6.00	2495.4
8-24	D. P. Weeks, Jr.	751.4	2.49	5.84	1876.9
9- 8	L. D. Horrocks	1148.5	1.74	6.02	2004.3
9-25	J. A. Rohrer	.....	.....	6.30	3169.0

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER AT BRIDGEPORT, FOR 1917

Day	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	2500	10600	18600	3700	2100	3080	1900	1300
2	.....	2700	9500	18000	3700	2300	2380	1700	1300
3	.....	2150	11400	15900	3700	2300	3080	1700	1300
4	.....	2100	12500	16400	3700	2300	3600	1700	1200
5	.....	2100	14500	15900	3700	2300	2900	1700	1300
6	.....	1950	14100	15900	3600	2300	3080	1700	1250
7	.....	1800	16800	14500	3400	2350	2900	1700	1100
8	820	2200	14900	13500	3200	2350	2100	1700	.....
9	700	2050	13300	12300	2500	2400	2000	1700	.....
10	800	1900	13300	11000	2350	2300	2000	1700	.....
11	910	2100	12700	9500	2900	2900	2000	1600	.....
12	1000	2550	10700	9150	3200	3400	2000	1600	.....
13	1050	2900	11800	9000	3400	2900	1700	1600	.....
14	1200	2250	12100	8850	3400	2900	1900	1600	.....
15	1200	2650	11500	8600	2900	2700	1680	1600	.....
16	2100	4250	13900	8000	2500	2300	1700	1600	.....
17	2000	4900	15300	7900	2500	2700	1700	1600	.....
18	1450	6000	15300	7500	2500	3100	2200	1600	.....
19	2000	7100	16300	6700	2200	3100	2200	1600	.....
20	1900	7800	15000	6500	2000	3100	2400	1600	.....
21	1750	8000	13900	6500	2000	3100	2400	1600	.....
22	1600	9700	12200	6100	2200	3100	2400	1400	.....
23	1500	9700	18400	5700	2000	3100	2400	1300	.....
24	1300	9700	18100	5700	2000	3100	2500	1400	.....
25	1100	8850	17900	4900	2000	2900	2700	1400	.....
26	1400	8850	19800	4300	1850	3100	2700	1400	.....
27	1800	7500	19300	4100	1850	2900	2400	1300	.....
28	2100	7400	19000	3900	1850	2900	2000	1300	.....
29	3200	10200	19800	3600	1850	2900	1200	1300	.....
30	3100	11800	19000	3500	1850	2900	2400	1300	.....
31	.....	10400	.....	3700	2100	.....	2200	.....	.....
TOTAL	35980	166050	442900	285700	82600	82100	72600	46900	8750
Mean	1564	5356	14763	9216	2664	2736	2341	1563	1250
Acre feet	71366	329360	878492	566685	163837	162845	144002	93026	17355
Maximum	3200	11800	19800	18600	3700	3400	3080	1900	1300
Minimum	700	1800	9500	3500	1850	2100	1200	1300	1100

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER, AT BRIDGEPORT, FOR THE YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
4- 8	Flynn-Palmer	784.95	1.83	5.90	1441.16
4-11	Flynn-Palmer	772.70	1.83	5.95	1414.75
4-16	Flynn-Palmer	717.60	1.95	5.85	1406.00
4-24	Flynn-Palmer	978.20	1.96	6.05	1919.00
4-29	Wade Flynn	12590.0	2.22	6.31	2797.00
5- 6	Wade Flynn	1931.0	2.53	6.91	4890.00
5-11	T. C. Palmer	2808.0	2.67	7.30	7518.00
5-16	T. C. Palmer	2694.3	2.41	7.00	6500.80
5-21	Wade Flynn	2507.9	2.43	6.80	6108.20
6- 3	Wade Flynn	1761.6	2.52	6.59	4443.80
6- 6	T. C. Palmer	1740.9	2.46	6.65	4297.00
6-14	Wade Flynn	1519.4	2.09	6.32	3178.80
6-24	T. C. Palmer	3290.3	2.57	7.23	8467.30
7- 3	Wade Flynn	2020.85	1.83	6.28	3717.80
7-10	T. C. Palmer	1001.40	2.13	5.86	2133.20
7-15	Wade Flynn	1468.35	2.35	6.30	3352.70
8- 1	T. C. Palmer	1029.98	2.09	6.02	2156.70
8 9	T. C. Palmer	1041.65	2.26	5.93	2359.25
9-23	Wade Flynn	890.90	1.92	5.90	1714.10
8-28	T. C. Palmer	616.77	1.68	5.61	1037.47
9 9	Wade Flynn	793.05	1.90	5.81	1513.70
9-20	Wade Flynn	1099.15	1.98	6.15	2184.60
10-19	W. F. Chaloupka	872.03	1.97	5.99	1724.29

DAILY DISCHARGE IN SECOND FEET OF NORTH PLATTE RIVER AT BRIDGEPORT FOR YEAR 1918

Day	March	April	May	June	July	Aug.	Sept.	Oct.
1	.....	.....	2800	6350	6850	2400	950	2600
2	.....	.....	2800	5550	6400	2100	850	2550
2	.....	.....	2800	4850	4400	2100	850	2500
4	.....	.....	2650	4850	3450	2100	1250	2500
5	.....	1200	2700	4850	3250	1500	1275	2500
6	.....	1600	4100	4550	3200	1600	1350	2500
7	.....	1600	4900	4575	2550	1600	1325	2500
8	.....	1600	5200	4850	2600	1575	1375	2400
9	.....	1450	5700	4850	2600	1900	1450	2200
10	.....	1450	7900	4850	2450	1800	1625	2200
11	.....	1700	8100	4850	2150	1775	1800	2200
12	.....	1700	8100	4800	2000	1875	1800	2050
13	.....	1675	8100	4500	1850	1875	1800	1900
14	.....	1250	7700	3650	2050	2025	1800	1850
15	.....	1225	7100	3200	3325	2100	1825	1700
16	.....	1500	6800	3200	4200	2200	2000	1700
17	.....	1400	6500	3200	3350	3000	2100	1700
18	1350	1500	6500	3200	3450	3025	2200	1700
19	.....	1800	5900	3200	4300	3100	2300	1700
20	.....	2100	5850	5350	4300	2650	2200	1800
21	.....	2100	5350	5650	4550	2500	2200	1700
22	.....	2100	5150	5350	4275	2100	2050	1800
23	.....	2100	5400	6400	3900	1875	1900	1800
24	.....	1950	5600	8000	3900	1500	2000	1800
25	.....	1800	4900	8450	3850	1250	3900	1700
26	.....	2100	4900	9100	3875	1325	3850	1650
27	.....	2600	4925	9600	3450	1300	3100	1600
28	.....	2650	5050	9200	3200	1000	3000	1600
29	.....	2650	5050	9000	2900	1025	2750	1600
30	.....	2650	5700	7200	2900	950	2750	1600
31	.....	.....	5600	.....	2600	950	.....	1600
Total	1350	47450	169825	167225	108125	58075	57825	61200
Mean	1350	1823	5478	5574	3488	1873	1927	1974
Acre feet	2677	94117	336847	331690	214465	115191	114695	121390
Maximum	1350	2650	8100	9100	6800	3100	3900	2600
Minimum	1350	1200	2650	3200	1850	950	850	1600

NORTH PLATTE RIVER AT BROADWATER, NEBR., 1917-1818

Location. At highway ridge about three-quarters of a mile south of Broadwater.

Gage. Wooden staff nailed to a pile in the abutment on the up-stream side of the bridge at the north end.

Observer Chester Gibson, Broadwater, Nebr.

Bench Marks. On nail driven in base of second telephone pole north of river on east side of highway. Elevation 100.34. Top of bolt driven in ground one foot west of above described telephone pole. Elevation 100.00. Elevation of zero of gage is 9357.

Channel. Straight for about one mile above and one mile below the gage section. The section has been narrowed somewhat by the construction of bridge approach of earth.

Accuracy. Very satisfactory results are obtainable at this station including the shifting condition of the sandy bed.

General. The width of the section is 1,800 feet, making actual measursements fairly accurate. It should be an ideal station for gaging on the North Platte River.

Elevation. 3,620 feet.

Distance from Pathfinder Reservoir. 360 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT BROADWATER FOR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 9	L. D. Horrocks	1714.9	1.88	2.73	3239.6
5-24	L. D. Horrocks	3658.34	2.53	3.68	9271.84
5-31	S. A. Swanson	3858.3	2.83	3.84	10930.8
6- 8	L. D. Horrocks	5466.9	3.05	4.32	16657.9
6-20	S. A. Swanson	5128.0	3.43	4.39	17626.1
6-22	L. D. Horrocks	5886.4	3.22	4.40	18992.0
7- 7	L. D. Horrocks	5252.0	3.05	4.18	16067.2
7-10	S. A. Swanson	3411.7	3.12	3.80	10657.6
7-18	S. A. Swanson	2531.7	2.71	3.20	6838.1
7-25	L. D. Horrocks	2874.7	2.14	3.00	6163.1
8- 6	J. A. Rohrer	.....	.....	2.68	3438.0
8- 8	S. A. Swanson	1083.1	2.03	2.51	2204.8
8-13	Swanson-Horrocks	1388.3	1.93	2.69	2687.4
8-24	D. P. Weeks Jr.	866.0	2.16	2.30	1874.4
8-25	L. D. Horrocks	867.9	1.98	2.35	1725.4
9- 7	L. D. Horrocks	1119.7	1.93	2.45	2161.7
9-25	J. A. Rohrer	.....	.....	2.57	2613.0

DAILY DISCHARGE IN SECOND FEET, OF NORTH PLATTE AT BROADWATER, NEBR., FOR 1917

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	13500	20400	3200	1800	3000
2	.....	13000	20000	3000	2100	2800
3	.....	14100	20000	3000	2100	2600
4	.....	14700	19500	2800	2100	2600
5	.....	15300	19000	3000	2100	2600
6	.....	15300	17600	3000	2100	2600
7	.....	15300	17100	3000	2100	2400
8	.....	16500	16200	2800	2200	2400
9	.....	15950	14400	2800	2200	2400
10	.....	15950	13000	2600	2200	2400
11	.....	15950	12000	2600	2200	2200
12	.....	15300	10200	2800	2200	2200
13	.....	14100	9200	3000	2400	2100
14	.....	14100	9200	3000	2400	2100
15	.....	14100	8200	3000	2800	2100
16	.....	15300	7300	3000	2800	2100
17	.....	15950	6800	2800	3000	1950
18	4700	16500	5900	2800	3000	1950
19	5200	16500	9700	2600	3000	1950
20	6400	17600	5000	2400	3000	1950
21	6000	17600	5900	2400	3200	2100
22	7800	17600	9700	2400	3200	2100
23	8300	19000	9700	2400	3200	2100
24	8800	19500	5000	2200	3200	2100
25	8800	19500	5000	1950	3000	2100
26	10000	18300	5000	1950	3000	2100
27	10000	21400	4600	1800	3000	2100
28	6800	19500	3700	1950	3000	2100
29	9400	20400	3400	1800	3000	2100
30	11200	20900	3200	1800	3000	1950
31	11800	.....	3200	1800	.....	1950
Total	115200	498700	319100	79800	78600	69200
Mean	8228	16623	10293	2574	2620	2232
Acre feet	228499	989171	632934	158283	155903	137258
Maximum	11800	21400	20400	3200	3200	3000
Minimum	4700	13500	3200	1800	1800	1950

ACTUAL DISCHARGE MEASUREMENTS, NORTH PLATTE RIVER, AT BROADWATER, FOR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
4-10	Flynn-Palmer	1131.20	1.73	2.33	1967.0
4-25	Flynn-Palmer	1136.00	1.78	2.50	2029.0
5- 7	Wade Flynn	2573.5	2.28	3.10	5867.3
5-10	T. C. Palmer	3194.0	2.50	3.35	8000.0
5-17	T. C. Palmer	2911.3	2.45	3.37	7154.6
5-22	Wade Flynn	2557.5	2.28	3.05	5839.2
6- 2	T. C. Palmer	2215.9	2.26	3.00	5027.6
6- 4	Wade Flynn	2161.3	2.21	2.93	4805.3
6- 7	T. C. Palmer	2309.2	2.24	3.05	5178.9
6-15	Wade Flynn	1643.45	2.06	2.67	3387.1
6-21	T. C. Palmer	2229.4	2.29	2.95	5110.5
6-25	Wade Flynn	3293.4	2.78	3.42	9175.3
7- 5	Wade Flynn	1834.4	1.81	2.57	3321.0
7- 9	T. C. Palmer	1424.89	1.88	2.52	2691.3
7-11	T. C. Palmer	1178.60	1.93	2.50	2282.0
7-17	Wade Flynn	1829.7	1.96	2.75	3616.0
7-30	T. C. Palmer	1596.93	2.00	2.64	3208.7
8 3	Wade Flynn	1312.25	1.80	2.50	2374.1
8-10	T. C. Palmer	1318.39	1.80	2.34	2374.2
8-24	Wade Flynn	1063.75	1.56	2.33	1662.8
8-28	T. C. Palmer	734.05	1.51	2.00	1110.4
9-10	Flynn-Palmer	1076.60	1.64	2.28	1767.9
9-21	Wade Flynn	1147.70	1.38	2.45	2006.5

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER, AT BROADWATER, FOR 1918

Day	May	June	July	Aug.	Sept.
1	.....	4000	6600	2250	1250
2	.....	4600	6600	2250	1250
3	.....	5200	4500	2000	1250
4	.....	4600	4000	1700	1250
5	.....	4600	3400	1400	1450
6	4300	5200	2950	1400	1350
7	5400	5200	3400	1400	1350
8	5400	5000	2950	1700	1350
9	6300	.....	2950	1700	1350
10	8300	.....	2950	.....	1450
11	8100	.....	2950	1700	1600
12	7950	5000	2200	1700	1450
13	7800	4500	2900	1650	1700
14	7650	4500	.....	2000	2000
15	7450	4500	.....	1900	2200
16	7300	3500	.....	1900	2400
17	7150	2900	3750	2800	2700
18	6850	2500	.....	2800	2400
19	6100	3500	.....	3200	2400
20	5800	5100	.....	2400	2100
21	5800	5800	3450	2400	2100
22	5800	5800	3450	2200	2200
23	6100	7400	3100	2400	2200
24	5800	9150	3100	1800	2400
25	.....	10700	3700	1700	2700
26	4250	8750	3700	1550	2900
27	4250	9900	3500	1450	3150
28	4250	9050	3500	1450	2900
29	4250	6600	3200	1300	2900
30	6100	6600	2900	1250	2700
31	6100	.....	2900	1250	.....
Total	154550	154150	88600	56600	60400
Mean	6182	5709	3544	1887	2013
Acre feet	306549	305756	175738	112266	119803
Maximum	8300	10700	6600	3200	3150
Minimum	4250	2500	2200	1250	1250

NORTH PLATTE RIVER AT LISCO, NEBR., 1917

Location. At highway bridge about one-half mile south of Lisco.

Observer. J. A. Ray.

General. The river is narrow at this point, making actual measurements

Gage. Wooden staff nailed to pile on downstream side of the fifth bent from the south end of the bridge.

fairly accurate, and conditions are good comparatively for making daily estimates from gage heights.

Elevation. 3490 feet.

Distance from Pathfinder Reservoir. 370 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT LISCO FOR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-10	L. D. Horrocks	1145.5	2.34	2.50	2686.68
5-28	L. D. Horrocks	2585.95	3.10	3.21	8021.47
6-11	L. D. Horrocks	3895.4	3.64	3.80	14197.6
8- 7	J. K. Rohrer	.....	.....	2.15	2772.0
8- 9	L. D. Horrocks	1009.0	2.40	2.15	2429.7
8-27	L. D. Horrocks	786.6	2.24	1.99	1763.7
9-25	J. K. Rohrer	.....	.....	2.30	2676.0

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE AT LISCO, NEBR., FOR 1917

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	13200	19000	2150	2000	2450
2	.....	12000	18300	2250	2050	2450
3	.....	12600	16600	2250	2050	2450
4	.....	13200	16600	2400	2150	2550
5	.....	14200	16000	2400	2150	2800
6	.....	15000	15000	2450	2150	2550
7	.....	16700	13700	2050	2150	2450
8	.....	17200	12000	2400	2250	2425
9	.....	15000	9700	2050	2250	2400
10	.....	13700	8500	2250	2400	2400
11	3150	14200	6800	2400	2450	2250
12	3150	15000	5800	2450	2550	2150
13	3150	13700	5200	2450	2450	2250
14	3325	13700	5500	2650	2800	2150
15	3325	13700	5500	2450	2550	2250
16	3325	15000	5200	2400	2550	2400
17	4700	16000	5000	2250	2550	2200
18	5000	15700	5000	2250	2800	2000
19	6150	15400	5000	2250	2550	2250
20	9000	14200	4700	2250	2800	2400
21	12600	15000	4700	2250	2550	2400
22	10900	15400	4300	2150	2550	2450
23	11500	17200	4000	2150	2550	2450
24	11500	17800	3800	2150	2550	2450
25	13200	18300	3600	2150	2800	2400
26	14200	19000	2800	2050	2550	2450
27	10900	20100	2400	2000	2450	2450
28	9700	19500	2250	1900	2450	2450
29	10900	20100	2250	2050	2450	2450
30	12600	19500	2150	2050	2450	2550
31	12000	.....	2150	2000	.....	2550
Total	174275	471300	233500	69350	73000	74275
Mean	8714	15710	7533	2237	2433	2396
Acre feet	345674	934824	463147	137556	144796	147324
Maximum	14200	20100	19000	2650	2800	2800
Minimum	3150	12000	2150	1900	2000	2000

NORTH PLATTE RIVER AT OSHKOSH, NEBR., 1917

Location. At highway bridge about two miles south of Oshkosh.

Gage. Wooden staff nailed to the downstream pile of the first bent south of the first turn-out from the north end of the bridge.

Observer. Russel Tenniford.

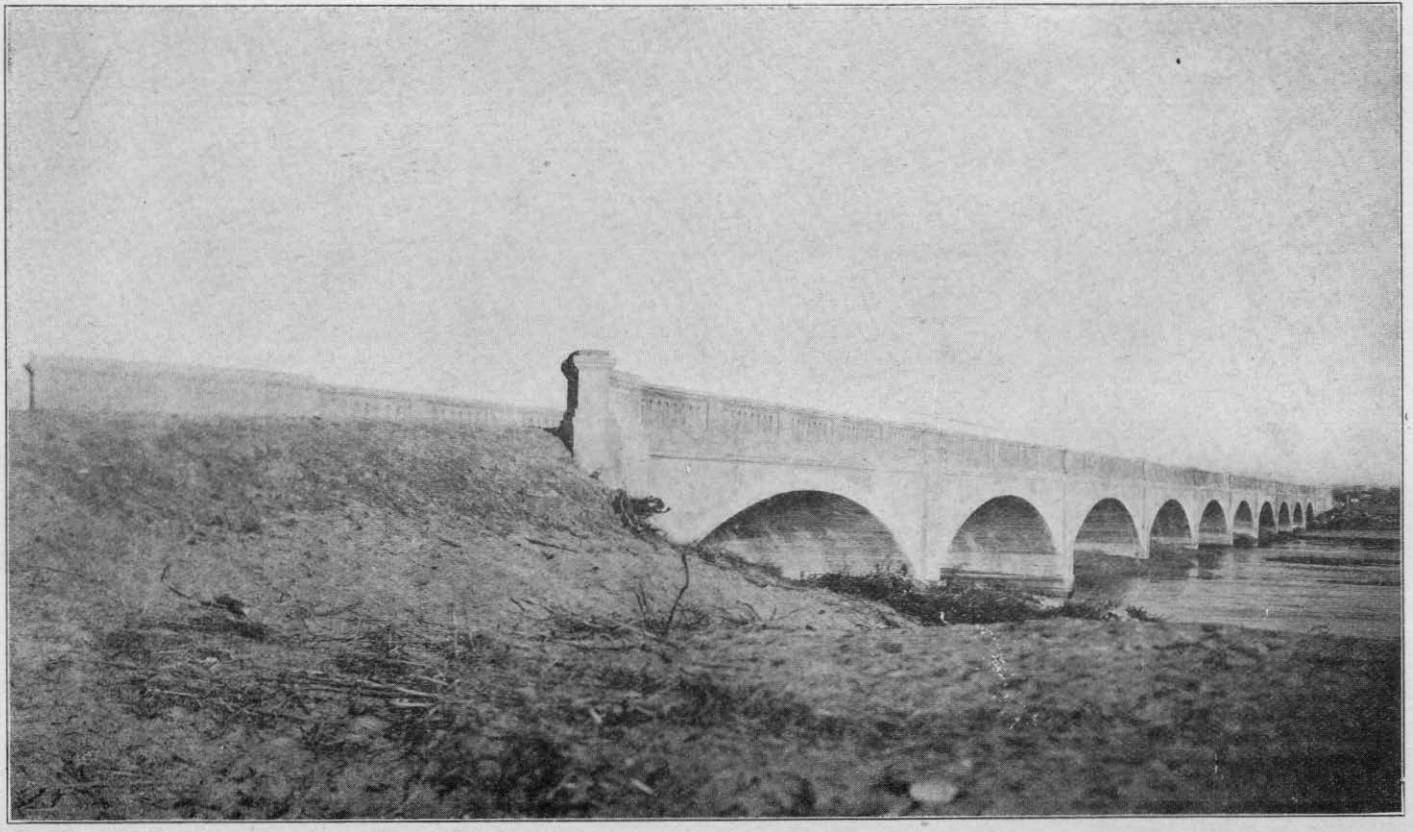
General. The river is wide at this point and a small variation in gage height indicates a large variation of discharge. This with shifting conditions make it somewhat difficult to get accurate results. However, estimates have been made.

Elevation. 3,370 feet.

Distance from Pathfinder Reservoir. 388 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT OSHKOSH FOR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-11	Horrocks-Willis	1415.15	1.94	1.50	2750.70
5-23	L. D. Horrocks	3297.26	2.70	2.20	8912.56
7-24	L. D. Horrocks	2419.8	2.47	1.55	5986.2
8- 7	J. A. Rohrer	.....	.....	1.18	2776.0
8- 9	L. D. Horrocks	1098.5	2.15	1.05	2368.2
8-24	L. D. Horrocks	907.4	1.83	0.85	1669.1
9- 7	L. D. Horrocks	1226.1	1.99	1.15	2441.3
9-26	J. A. Rohrer	.....	.....	1.25	2706.0



North Platte State Aid Bridge

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER AT OSHKOSH, NEBR., FOR THE YEAR 1917

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	.....	.....	2700	1600	2500
2	.....	.....	.....	2450	1500	2500
3	.....	.....	.....	2300	1700	2300
4	.....	.....	.....	2300	1600	2500
5	.....	.....	.....	2200	1500	2500
6	.....	.....	.....	3100	2000	2700
7	.....	.....	.....	3100	2500	2300
8	.....	.....	.....	2700	2300	2200
9	.....	.....	.....	2000	2300	2000
10	.....	.....	.....	2200	2500	2000
11	4300	.....	.....	2300	2700	2000
12	3600	.....	11000	2450	2700	2000
13	4500	.....	10500	2300	2700	1700
14	3900	.....	10500	2300	2700	1900
15	3600	.....	10500	2300	2700	1700
16	4000	.....	9800	2200	2700	1700
17	7500	.....	9200	2000	3100	1600
18	8000	.....	8500	1900	2850	1700
19	8600	.....	8500	1700	2770	1900
20	11000	.....	8500	1700	2700	2200
21	11200	.....	8500	1600	2700	2200
22	11000	.....	7900	1650	2850	2200
23	12800	.....	6700	1700	2850	2300
24	13000	.....	5500	1500	2700	2450
25	14600	.....	5500	1400	2770	2300
26	15300	.....	4300	1500	2850	2450
27	14600	.....	3900	1500	2850	2450
28	14600	.....	2700	1500	2850	2700
29	.....	.....	2700	1700	2700	2300
30	.....	.....	2700	1600	2500	2700
31	.....	.....	3100	1900	.....	2850
Total	166100	.....	140500	63750	74740	68800
Mean	9228	.....	7250	2125	2491	2219
Acre-feet	329459	.....	278682	126448	148247	136465
Maximum	15300	.....	11000	3100	3100	2850
Minimum	3600	.....	2700	1400	1500	1600

NORTH PLATTE RIVER AT BELMAR, NEBRASKA, 1917-1918

Location. Highway bridge south of Belmar.

Gage. Enameled section nailed to the downstream pile of the north abutment of bridge.

Observer. E. D. Engler until June 10, 1918, A. C. Stafford after that date.

General. The river at this section is narrowed to 2190 feet. Fairly accurate measurements are obtainable here.

Elevation. 3230 feet.

Distance from Pathfinder Reservoir. 410 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT BELMAR, 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-14	Horrocks-Willis	1758.4	1.68	1.51	2953.12
5-29	L. D. Horrocks	4111.9	2.35	2.39	9674.7
6-12	L. D. Horrocks	5637.4	2.84	3.03	16015.2
7-13	L. D. Horrocks	3936.3	2.53	2.45	9962.2
7-28	L. D. Horrocks	2218.8	2.20	1.72	4902.0
8- 7	J. A. Rohrer	.....	.....	1.50	3533.0
8-28	L. D. Horrocks	1060.26	1.75	1.15	1863.8
9-26	J. A. Rohrer	.....	.....	1.35	2832.0

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT BELMAR, NEBRASKA, FOR 1917.

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	14100	.....	3000	1750	2400
2	.....	14100	.....	3000	1750	2400
3	.....	13700	.....	2900	1750	2400
4	.....	14600	.....	2700	1625	2400
5	.....	15700	.....	2550	1625	2400
6	.....	16100	.....	2900	2000	2300
7	.....	15200	.....	2900	2000	2300
8	.....	.....	.....	2550	2000	2300
9	.....	.....	.....	2400	2000	2300
10	.....	.....	14100	2100	2000	2300
11	.....	.....	13200	2100	2100	2000
12	.....	.....	11700	2550	2300	2000
13	.....	15700	10200	2700	2400	2000
14	.....	15700	9200	2900	2400	2000
15	2700	15700	8300	2700	2550	2000
16	2400	.....	7700	2900	2550	1900
17	2950	.....	7700	2550	2700	1900
18	3300	15700	7700	2400	2700	1900
19	4300	.....	7700	2300	2550	1900
20	5800	.....	7200	2400	2550	1900
21	6000	.....	7200	2300	2400	2000
22	6700	.....	6700	2100	2400	2000
23	8700	.....	6200	2000	2300	2000
24	9200	.....	6200	1975	2300	2300
25	10700	.....	5700	1950	2400	2300
26	9900	.....	5200	1950	2550	2300
27	10700	.....	4600	1750	2550	2300
28	8700	.....	3700	1900	2400	2300
29	9200	.....	3500	1900	2400	2300
30	12700	.....	3500	1900	2550	2300
31	13700	.....	3500	1750	.....	2400
Total	127650	166300	160700	73975	67550	67500
Mean	7508	15117	7281	2386	2251	2177
Acre-feet	253194	329856	317756	146729	133985	133886
Maximum	13700	16100	14100	3000	2700	2400
Minimum	2400	14100	3500	1750	1625	1900

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE AT BELMAR, FOR YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
4-26	Palmer-Flynn	1264.0	1.74	1.30	2204.0
5- 8	T. C. Palmer	2837.0	2.20	1.95	6270.0
5-19	T. C. Palmer	3191.2	2.32	2.10	7408.8
6- 4	T. C. Palmer	2337.7	2.12	1.70	4962.9
6- 9	T. C. Palmer	2585.8	2.21	1.90	5716.6
6-19	T. C. Palmer	1723.0	1.94	1.34	3344.2
6-27	T. C. Palmer	4342.7	2.54	2.44	11039.4
7- 8	T. C. Palmer	1476.5	2.00	1.32	2961.1
7-13	T. C. Palmer	1616.9	1.79	1.21	2898.3
7-26	T. C. Palmer	2262.1	1.96	1.54	4433.8
8-23	T. C. Palmer	1342.4	1.74	1.24	2347.0
9- 1	T. C. Palmer	814.8	1.47	.80	1197.8
9-14	T. C. Palmer	1088.5	1.62	1.07	1767.9

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT BELMAR, 1918.

Day	April	May	June	July	Aug.	Sept.
1	.....	3500	4750	6700	2900	1175
2	.....	3500	5100	6700	2650	1350
3	.....	3000	5100	6300	2550	1175
4	.....	3000	4400	5000	2300	1150
5	.....	3000	4400	3900	2275	1350
6	.....	3000	5950	3450	2250	1350
7	.....	4400	5950	3450	3200	1175
8	.....	6350	5700	3000	2650	1175
9	.....	6350	6100	.....	2250	1150
10	.....	7150	6400	3000	2200	1450
11	.....	8000	5700	3000	2225	1175
12	.....	8000	5100	2800	.....	1175
13	.....	8900	4900	3000	.....	1700
14	.....	8900	4900	2300	2200	1800
15	.....	8900	6100	2600	2300	975
16	.....	8500	4100	2300	2200	1550
17	.....	7500	4000	4700	2200	1850
18	.....	6750	4800	3900	3200	1850
19	.....	6400	3350	3500	3600	1350
20	.....	7600	3600	3350	3200	1850
21	.....	6750	3600	3550	2750	1850
22	.....	6750	5400	3700	2650	1350
23	.....	6750	4350	3500	2300	1350
24	.....	7550	5400	3500	1900	1550
25	.....	5100	6350	4100	1600	2650
26	2200	3250	7500	3950	1550	.....
27	.....	2950	9500	4400	1350	3950
28	2700	4400	9500	3950	1150	.....
29	3200	4400	8500	3600	1300	2950
30	3200	4400	8000	3200	1200	3200
31	.....	4400	.....	3175	1150	.....
Total	11300	179400	168500	113575	65230	46625
Mean	2825	5787	5617	3786	2249	1665
Acre-feet	22413	355839	334219	225276	129383	92480
Maximum	3200	8900	9500	6700	3600	3950
Minimum	2200	3000	3350	2300	1150	975

NORTH PLATTE RIVER AT KEYSTONE, NEBR., 1917.

Location. At highway ridge about three-quarter of a mile southwest of Keystone.

Gage. Enameled staff nailed to the down-stream pile of the south abutment.

Observer. Eubene Feltz, Keystone, Nebr.

General. The river is very wide at this point and very shallow. During a large part of the summer construction work in repairing the bridge the measurement of actual discharge. However, estimates have been made.

Elevation. 3100 feet.

Distance from Pathfinder Reservoir. 430 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT KEYSTONE, 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-22	L. D. Horrocks	3606.72	2.51	4.12	9057.24
6- 7	L. D. Horrocks	5448.0	2.65	4.75	14418.0
6-20	L. D. Horrocks	6176.0	3.02	4.97	18638.4
7- 6	L. D. Horrocks	6130.0	2.87	5.00	17625.5
7-23	L. D. Horrocks	2864.0	2.35	3.95	6772.4
8- 8	J. A. Rohrer	.....	.....	3.60	3153.0
8-23	L. D. Horrocks	1000.2	1.80	3.40	1800.6
9- 6	L. D. Horrocks	1125.0	1.85	3.35	2084.7
9-26	J. A. Rohrer	.....	.....	3.53	2810.0

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT KEYSTONE, NEBRASKA, FOR 1917.

Day	May	June	July	Aug.	Sept.
1	.....	13400	19000	3600	1950
2	.....	12300	18500	3100	1800
3	.....	12300	19000	2650	1700
4	.....	12300	19000	2650	1700
5	.....	14000	19000	2800	2300
6	.....	14500	17900	3100	2700
7	.....	15600	18500	3300	3100
8	.....	16200	17400	3100	1800
9	.....	17400	15600	2650	.....
10	.....	14500	13400	2400	.....
11	.....	14000	12800	2650	.....
12	.....	14500	11100	2650	.....
13	.....	14000	10000	2400	.....
14	.....	13400	9400	2800	.....
15	.....	14000	8800	3100	.....
16	2100	16200	8300	3100	.....
17	2100	17400	7700	2800	.....
18	2450	16800	7700	2400	.....
19	3100	16800	6500	2400	.....
20	4000	17400	6500	2400	.....
21	6000	16200	6500	2400	.....
22	8300	17900	6500	2300	.....
23	6500	17400	6500	2300	.....
24	7700	19000	6000	2100	.....
25	8300	18500	5400	1950	.....
26	10000	19000	5400	2300	.....
27	11700	17900	6000	2300	.....
28	10000	20200	4300	2300	.....
29	10000	19600	4300	2400	.....
30	8800	20200	4300	2400	.....
31	12300	.....	.....	2300	.....
Total	113350	482900	325300	81100	17050
Mean	7084	16096	10493	2616	2131
Acre-feet	224829	957832	645232	160861	33818
Maximum	123000	20200	19000	3600	3100
Minimum	2100	12300	4000	1950	1700

NORTH PLATTE RIVER AT SUTHERLAND.

Observer. None.

Location. Two and one-half miles north and one-half mile east of Sutherland, Nebraska, on public road between Sections 7 & 8, Township 14 North, Range 33 West.

Gage. Vertical staff fastened on piling on up-stream side of north end of the bridge.

Observer. A. B. Yates.

Channel. The river channel is narrowed to 700 feet in 14 fifty-foot sections, and widens to 2700 feet two thousand feet below bridge. The channel of the river is forced toward the north and south one

half strikes the bridge at an angle of 80 degrees.

Accuracy. It is very difficult to obtain satisfactory results at this station due to the narrowing of the channel, and height of bridge making it hard to handle meter and lead.

Elevation. 2940 feet.

Distance from Pathfinder Reservoir. 460 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT SUTHERLAND, 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-15	Horrocks-Willis	1250.2	2.24	4.00	2801.8
5-30	L. D. Horrocks	3240.3	3.07	.....	9951.5
6-13	L. D. Horrocks	4019.9	3.86	[illegible]	15545.9
7-14	L. D. Horrocks	2638.0	3.42	4.70	8824.8
7-30	L. D. Horrocks	1442.7	2.39	4.00	3453.4
8-15	L. D. Horrocks	1177.6	2.21	3.77	2610.9
8-30	L. D. Horrocks	880.0	1.94	3.50	1700.73

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT SUTHERLAND, 1917.

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	15900	.....	3050	1750	3500
2	.....	14200	20000	2250	1750	3500
3	.....	12950	19200	2000	1750	3500
4	.....	11700	19200	1750	1750	3500
5	.....	15000	20000	2000	1750	3500
6	.....	15000	19200	2250	2000	4250
7	.....	14200	17500	2250	1750	5470
8	.....	15000	16700	2600	2000	6700
9	.....	18300	15900	2000	2300	6700
10	.....	16650	12500	2450	2600	5900
11	.....	15000	12500	2000	2600	3500
12	.....	15000	10800	2000	2600	3500
13	.....	15000	10000	2000	5100	3500
14	.....	14200	8400	2600	5100	3250
15	.....	15000	8800	2600	4250	3000
16	4250	15000	9200	2600	2420	2600
17	5100	16250	7500	2450	2600	2600
18	3500	17500	7500	2000	5100	2600
19	6700	18300	8400	1870	4250	2600
20	8350	19300	7500	1750	3500	2450
21	10000	19200	6700	2000	4250	2970
22	12500	19200	6700	2000	6700	3500
23	11700	18300	6700	1750	5100	3500
24	12400	19150	5900	1750	3500	3500
25	11700	20000	5100	2000	4250	3500
26	13400	19200	5100	1870	5100	3500
27	12950	19200	5100	1750	4250	3500
28	12500	20000	3500	1500	4250	3820
29	9200	20000	3500	1750	4250	4250
30	9200	20000	3500	2000	3800	4250
31	14200	.....	3500	1500	.....	2600
Total	157650	503600	306100	64340	102370	116010
Mean	9853	16786	10203	2075	3412	3742
Acre-feet	312698	998890	607149	127618	203050	30105
Maximum	14200	20000	20000	3050	6700	6700
Minimum	3500	11700	3500	1500	1750	2450

NORTH PLATTE RIVER AT NORTH PLATTE, 1917-1918.

Location. At highway bridge one-half mile north of North Platte at Section 28, Township 14 North, Range 30 West, one mile below mouth of Scout Creek and four and one-half miles above the junction with the South Platte.

Record Available. From February 25, 1895, to Sept. 30. 1914.

Drainage Area. 28,500 square miles.

Gage. A staff gage installed October 15, 1910. From October 5, 1894, to May 31, 1910, the gage was a vertical staff at the railroad bridge two miles east of North Platte. On March 25, 1910, the station was moved two miles up-stream to its present site and a chain gage reading to this datum was installed. This gage was stolen July 1, 1910, and the records interrupted until October 15, 1910, when the present staff gage was placed in position.

Datum. For 1916, .35 feet above previous gage.
Observer. Fred Spurrier.
Bench Mark. No. 1. The top of the southwest corner of the east concrete abutment of the U. P. bridge. Elevation, 8.20 feet above zero of the gage of that section. No. 2. Two square wrought iron nails in the east side of a telephone pole on the west side of the road at the gage at the highway bridge. No. 3. Two nails in each side of a telephone pole on the west side of the road at the south end of the bridge one foot above the ground. Elevation, 7.55 feet above zero of the staff gage at the highway bridge.
Channel. Straight for about five hundred feet above and below the section at the highway bridge. Very shifting.
Accuracy. Only fair because of the shifting nature of the river bed.
Elevation. 2800 feet.
Distance from Pathfinder Reservoir. 480 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER AT NORTH PLATTE, 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-16	L. D. Horrocks	1732.3	2.07	3.82	3592.0
5-21	L. D. Horrocks	2206.8	2.82	4.50	6223.2
5-31	L. D. Horrocks	3350.3	3.03	5.00	10151.0
6- 6	L. D. Horrocks	4469.4	3.68	5.62	16455.7
6-14	L. D. Horrocks	4497.3	3.48	5.42	15695.3
6-19	L. D. Horrocks	4707.2	3.52	5.50	17830.4
6-30	L. D. Horrocks	5109.2	4.02	5.80	20583.2
7- 5	L. D. Horrocks	5169.5	3.63	5.70	18769.1
7-16	L. D. Horrocks	3358.1	2.92	4.35	9823.7
7-20	L. D. Horrocks	2753.0	2.92	4.00	8055.5
7-31	L. D. Horrocks	1633.3	2.44	3.35	3926.6
8- 7	L. D. Horrocks	1347.0	2.26	3.20	3055.2
8- 9	J. A. Rohrer	.....	.....	3.30	2984.0
8-14	L. D. Horrocks	1113.1	2.23	3.30	2485.4
8-22	L. D. Horrocks	1071.2	2.06	3.10	2214.1
8-31	L. D. Horrocks	832.9	2.06	3.00	1719.6
9- 5	L. D. Horrocks	730.9	2.00	3.07	1464.3
9-27	J. A. Rohrer	.....	.....	3.60	3288.0

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT NORTH PLATTE, FOR 1917.

Day	April	May	June	July	Aug.	Sept.	Oct.
1	.....	4050	17700	19800	3200	1700	3000
2	.....	4800	16200	19600	3000	1500	3000
3	.....	4600	15700	19300	2800	1500	3000
4	.....	4600	15200	19300	2400	1700	3000
5	.....	4200	15700	19300	2000	1700	2800
6	.....	4050	17700	18900	1700	2000	3000
7	.....	4050	16200	18900	1500	2000	3500
8	.....	3700	17200	18900	2800	2400	3200
9	.....	3900	16700	16800	2550	2800	3500
10	.....	3900	17200	16800	2400	3200	3800
11	.....	3900	17200	15500	2800	2800	3800
12	.....	3900	16700	13000	2800	3000	3800
13	.....	4200	16700	11600	2800	2800	3200
14	.....	3900	15700	10900	2550	4200	3200
15	.....	3900	14600	10900	2400	4800	3200
16	.....	3550	14600	10100	2400	4500	3000
17	.....	3400	15700	9100	3000	4200	3000
18	.....	3600	16700	8000	2800	4800	3000
19	.....	4400	17500	8000	2800	4500	3200
20	.....	6400	18700	7350	2550	4200	3500
21	.....	7500	18200	7000	2800	3200	2800
22	.....	9500	17700	6600	1700	2800	2800
23	.....	10000	18200	6600	1700	3200	2800
24	.....	9500	18200	6600	1700	3200	2800
25	.....	12600	18400	5900	1700	4800	3200
26	.....	14200	19300	5900	1700	4500	3200
27	3250	12600	20000	5500	1700	4500	3800
28	3600	12600	20300	4700	1700	3800	3800
29	3600	10500	20800	3800	2000	3200	3800
30	3600	9500	20500	3200	1700	3200	3500
31	.....	14600	.....	3200	1700	.....	3200
Total	14050	206100	521200	351050	71350	96700	100400
Mean	3512	6648	17373	11324	2301	3223	3238
Acre-ft ..	27868	408799	1033800	696307	141522	191804	199143
Max.	3600	14600	20800	19800	3200	4800	3800
Min.	3250	3400	14600	3200	1500	1500	2800

ACTUAL DISCHARGE MEASUREMENTS OF THE NORTH PLATTE RIVER, AT NORTH PLATTE, FOR 1918.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
4-29	T. C. Palmer	1391.0	2.62	3.70	3644.0
5- 6	T. C. Palmer	1454.0	2.51	3.75	3659.0
5-21	T. C. Palmer	2442.8	3.25	4.50	7950.7
5-25	T. C. Palmer	2089.8	3.03	4.27	6342.1
5-31	T. C. Palmer	2125.3	2.70	4.17	5741.4
6-11	T. C. Palmer	1897.9	2.64	4.05	5016.7
6-15	T. C. Palmer	1476.1	2.55	3.75	3771.9
7- 1	T. C. Palmer	2704.5	3.14	4.70	8507.9
7- 5	T. C. Palmer	2047.2	2.68	3.97	5493.2
7-15	T. C. Palmer	1076.3	2.30	3.35	2475.8
7-24	T. C. Palmer	1524.1	2.18	3.55	3324.9
8-14	T. C. Palmer	1329.9	2.21	3.55	2941.3
8-21	T. C. Palmer	1403.9	2.27	3.60	3192.2
9- 3	T. C. Palmer	653.5	1.82	2.98	1190.7
9- 6	T. C. Palmer	677.4	1.76	3.08	1199.0
9-17	T. C. Palmer	1173.45	2.09	3.45	2453.8

DAILY DISCHARGE, IN SECOND FEET, OF THE NORTH PLATTE RIVER AT NORTH PLATTE, 1918.

Day	April	May	June	July	Aug.	Sept.	Oct.
1		3150	4900	9100	2550	1000	3550
2		3750	5450	8000	2250		
3		3600	4900	6500	2050	1000	
4		3750	5450	6000		1000	3550
5				5600	1650	1000	3550
6		3750		5100	1650	900	
7					2750	800	3550
8		4400	4900	4500	2550		
9		4400			2950	1000	3550
10			4900	2300	1650	1250	3550
11		8800	5450	1900		1250	3550
12			5450	1900	1650	1000	3300
13	2200	9400		1550	2750	1000	
14	2600	9150	4000		2550	1000	3150
15	2950	9150	3600	2450	2250		3150
16	2950	8500		2850	2050	1850	
17	2950	7950	2750	5000	1850	2200	3150
18	2700	7950	2200	4500		2200	
19			1900	4200	1650	2200	
20	3150	7950		3950	2550	2700	
21		7950			2750	2700	3300
22	3150		4000	3800	3150	2700	3150
23	3300	7950		3550	3150	2700	3150
24	3600	6600	4000	3100	2750	3150	3150
25	4400	6000		3950		3150	
26			3150	5700	2050	3150	3500
27	4200	4900	4400	3950	1650		
28		4000	6600		1650		3150
29	3600	3600	9100	3350	1550	3150	3150
30	3600	4000		2950	1550		3150
31		4400		2950	1550		3150
Total	45350	145050	87100	108700	58725	44050	66450
Mean	3239	6043	4584	4180	2175	1835	3322
Acre-ft.	89951	287706	172762	215606	116481	87373	131803
Max.	4400	9400	9100	9100	2950	3150	3550
Min.	2200	3150	1900	2950	1225	800	3150

PLATTE RIVER AT GOTHENBURG, NEBR., 1917 & 1918.

Location. At highway bridge about one-half mile south of Gothenburg.

Gages. Gages in channels Nos. 1 and 2 are nailed to piles a little south of the center of each channel on the down-stream side of the bridge. The gage in channel No. 3 is nailed to an ice breaker about one-third the distance across the channel from the north on the up-stream side of the bridge.

Observer. August Sornow, mail carrier, Gothenburg.

General. Between the limits for which actual measurements for discharge have been taken the results from this station are good. However, gage heights ran below and above the range of actual measurements.

Elevation. 2561 feet.

Distance from Pathfinder Reservoir. 510 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE PLATTE RIVER AT GOTHENBURG (MAIN RIVER), 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-17	L. D. Horrocks	1312.1	1.84	2.90	2426.1
6- 2	L. D. Horrocks	6316.3	3.42	4.95	21610.6
7- 2	L. D. Horrocks	5184.2	3.62	4.45	18789.9
8- 1	L. D. Horrocks	1034.8	.....	2.55	2171.8
8- 9	J. A. Rohrer	.....	.....	2.50	2059.0
8-16	L. D. Horrocks	933.1	1.98	2.50	1783.68
9- 1	L. D. Horrocks	612.21	1.71	2.10	1078.51
9-28	J. A. Rohrer	.....	.....	2.70	2784.0

ACTUAL DISCHARGE MEASUREMENTS OF THE PLATTE RIVER AT GOTHENBURG, (NORTH CHANNEL), 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-17	L. D. Horrocks	70.12	2.18	2.41	152.9
6- 2	L. D. Horrocks	396.3	2.51	4.70	997.0
7- 2	L. D. Horrocks	394.0	2.59	4.45	1021.4
8- 1	L. D. Horrocks	119.25	2.02	2.00	241.0
8- 9	J. A. Rohrer	.....	.....	1.73	172.0
8-16	L. D. Horrocks	74.7	1.67	1.62	125.4
9- 1	L. D. Horrocks	47.79	1.80	1.20	80.9
9-28	J. A. Rohrer	.....	.....	2.08	167.0

ACTUAL DISCHARGE MEASUREMENTS OF THE PLATTE RIVER AT GOTHENBURG, (SOUTH CHANNEL), 1917.

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-17	L. D. Horrocks	249.95	3.00	2.40	751.1
6- 2	L. D. Horrocks	538.6	4.08	4.85	2201.3
7- 2	L. D. Horrocks	529.5	4.37	4.55	2319.0
8- 1	L. D. Horrocks	192.5	.....	2.00	523.2
8- 9	J. A. Rohrer	.....	.....	1.92	672.0
8-16	L. D. Horrocks	160.7	2.81	1.75	451.0
9- 1	L. D. Horrocks	86.75	1.76	1.20	153.34
9-28	J. A. Rohrer	.....	.....	2.08	605.0

DAILY DISCHARGE, IN SECOND FEET, OF THE PLATTE RIVER AT GOTHENBURG, FOR 1917.

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	23230	20300	2920	1635	3054
2	.....	25520	20710	2910	1485	2800
3	.....	24890	20710	2375	1335	2832
4	.....	24890	20710	2375	1335	2832
5	.....	22910	20120	2162	1335	2815
6	.....	24730	19620	2010	1338	2870
7	.....	24730	19620	2010	1338	2870
8	.....	24030	19120	2010	1865	3470
9	.....	24030	19120	2360	2127	3485
10	.....	22970	16400	2360	2590	3380
11	.....	21910	14870	2230	2601	3220
12	.....	21910	13495	2005	2175	3431
13	.....	21210	11540	1775	2415	2520
14	.....	20310	10660	1862	2625	2405
15	.....	19370	10095	1855	3345	2290
16	.....	19310	9530	2062	3325	2490
17	.....	19210	8660	2140	3304	2470
18	5195	19310	8550	2200	5710	2125
19	4775	19310	8430	2417	4365	2410
20	6010	19710	8360	2630	3475	2210
21	7245	20020	8310	2600	3475	2385
22	12465	19900	8200	2600	3140	2510
23	12260	19900	8090	2138	3105	2690
24	12560	19830	7195	1740	3065	3005
25	14060	19800	6300	1340	3475	3255
26	19700	20500	6080	1490	3475	3555
27	19310	21300	5590	1640	3475	4010
28	18920	21400	4690	2028	3430	3660
29	19400	21500	3410	1628	3390	3255
30	20760	20710	3410	1628	3360	3505
31	18920	.....	3410	1628	.....	3980
Total	191580	646470	364805	65063	83415	92072
Mean	13684	21549	11767	2098	2780	2970
Acre-feet	379998	1282273	723590	129052	165453	182624
Maximum	20760	25520	20710	2920	5710	4010
Minimum	4775	19310	3410	1340	1335	2125

PLATTE RIVER AT LEXINGTON, NEBRASKA, 1917 & 1918.

Location. Highway bridge 2 miles south of Lexington, Section 20, Township 9 North, Range 21 West.

Gage. Vertical staff nailed to pile on revetment north end of bridge and up-stream side of bridge.

Bench Marks. The datum used during 1916 bears no relation to the datum used in former years.

Observer. Ray V. Duryea.

Channel. Straight at gaging station, reduced from a width of about 2,000 feet to a little over 800 feet.

Elevation. 2389 feet.

Distance from Pathfinder Reservoir. 535 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE PLATTE RIVER AT LEXINGTON, 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-18	L. D. Horrocks	1160.16	2.62	3.74	3045.03
6- 4	L. D. Horrocks	5596.9	3.98	5.15	22304.65
6-15	L. D. Horrocks	4510.6	4.09	4.68	18466.1
7- 3	L. D. Horrocks	5163.0	3.62	4.85	18711.1
7-18	L. D Horrocks	2180.25	3.73	3.60	8133.50
8- 1	L. D. Horrocks	932.8	2.61	3.01	2440.8
8-10	J. A. Rohrer	.....	.....	3.01	2114.0
8-17	L. D. Horrocks	984.8	2.35	3.05	2317.3
9- 3	L. D. Horrocks	569.05	1.89	2.89	1079.94
9-28	J. A. Rohrer	.....	.....	3.56	3136.0

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE AT LEXINGTON, FOR 1917

Day	May	June	July	Aug.	Sept.	Oct.
1	.....	21000	19300	1500	1000	3800
2	.....	21000	19800	1500	1000	3800
3	.....	21000	19800	1500	1000	3800
4	.....	21000	18700	1200	1000	3800
5	.....	21000	17700	1200	1000	3000
6	.....	19800	16600	1200	1000	4900
7	.....	19800	15600	1000	1200	5450
8	.....	14700	15600	1200	1200	6000
9	.....	14700	15600	1200	1550	6000
10	.....	18000	14500	1500	1900	7100
11	.....	21800	12400	1500	3000	3800
12	.....	19400	10200	1350	1900	4900
13	.....	17700	8100	1200	1900	3800
14	.....	17700	8100	1500	2400	3800
15	.....	17700	7050	1500	4900	3800
16	.....	16600	6000	1900	4900	3800
17	.....	16600	7100	1900	4900	3800
18	.....	16600	6000	3000	13500	3000
19	.....	17700	6000	2800	9200	3800
20	.....	18800	6000	2400	7100	3000
21	10200	19800	6000	1900	6000	3000
22	13500	18800	6000	1900	3800	3400
23	17700	17700	6000	1500	3800	3800
24	18800	17100	4900	1500	3800	6000
25	17700	16600	4900	1200	6000	4900
26	19800	17700	3800	1000	3800	6000
27	19800	17700	3800	800	6000	6000
28	19800	18800	3800	1200	6000	6550
29	21000	18800	3100	1200	3800	7100
30	20400	18800	2400	1900	3800	3800
31	19800	.....	2400	1200	.....	7100
Total	198500	554400	297250	47350	112350	142800
Mean	18045	18480	9588	1527	5745	4606
Acre feet	393724	1099652	589595	93918	222846	283243
Maximum	21000	21800	19800	3000	13500	7100
Minimum	10200	14700	2400	800	1000	3000

ACTUAL DISCHARGE MEASUREMENTS OF THE PLATTE RIVER, AT LEXINGTON, FOR YEAR OF 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5- 2	T. C. Palmer	1446.0	2.48	3.80	3599.0
5-24	T. C. Palmer	2041.4	2.91	3.95	5951.8
6-14	T. C. Palmer	1506.4	2.78	3.85	4199.5
7- 3	T. C. Palmer	2220.5	2.98	4.15	6625.3
7-22	T. C. Palmer	1150.5	2.34	3.65	2699.7
8-15	T. C. Palmer	1092.4	2.32	3.80	2543.6
8-19	T. C. Palmer	847.2	1.92	3.50	1629.5
9- 4	T. C. Palmer	544.9	1.71	3.30	936.4
9-18	T. C. Palmer	823.1	1.93	3.55	1589.6
9-23	T. C. Palmer	1084.4	2.10	3.80	2291.3

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER AT LEXINGTON, FOR 1918

Day	June	July	Aug.	Sept.
1	.....	5200	2000	.....
2	.....	8200	1900	.....
3	.....	6250	1600	750
..	.....	.....	.....	1150
5	.....	4250	1250	700
6	.....	4250	1250	700
7	.....	.....	1900	950
8	.....	1400	1300	.....
9	.....	1100	2200	.....
10	.....	1100	1600	1100
11	.....	1100	.....	950
12	.....	1100	1600	950
13	.....	1400	1300	950
14	.....	.....	1900	1150
15	.....	750	2600	.....
16	.....	1400	1900	1150
17	.....	1850	1600	1400
18	.....	2850	.....	1400
19	.....	5200	1600	1400
20	.....	6200	1600	1700
21	.....	.....	1900	2000
22	.....	2300	2600	.....
23	.....	2850	2600	2300
24	.....	2750	2200	2300
25	5150	2900	.....	2000
26	4250	2900	1900	2000
27	5150	3450	1600	2300
28	7400	.....	500	2700
29	10300	2600	1300	.....
30	.....	3000	1000	3100
31	.....	1600	1300	.....
Total	32250	77950	46200	35100
Mean	6450	2998	1711	1526
Acre feet	63967	154613	91637	69620
Maximum	10300	8200	2600	3100
Minimum	4250	1600	500	700

PLATTE RIVER AT OVERTON

Location. Highway bridge two miles south of Overton, Section Six (6), Township Ten (10), Range Twenty-one (21) West.

Gage. Vertical staff nailed to four inch pile at north end of bridge and upstream side.

Observer. Nils Brunzell, Overton, Nebr.

Channel. Straight at gaging station, reduced from natural width of about two thousand feet to a little over eight hundred feet.

Elevation. 2,320 feet.

Distance from Pathfinder Reservoir. 550 miles.

ACTUAL DISCHARGE MEASUREMENTS OF THE PLATTE RIVER, AT OVERTON, FOR THE YEAR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
6-13	T. C. Palmer	1646.9	2.81	1.60	4631.0
7- 3	T. C. Palmer	2282.8	3.12	1.94	7138.3
7-22	T. C. Palmer	1178.6	2.37	1.16	2790.5
8-19	T. C. Palmer	834.0	2.12	1.05	1768.4
9- 5	T. C. Palmer	488.3	1.95	0.70	956.6
9-19	T. C. Palmer	834.95	2.02	0.83	1686.9
9-23	T. C. Palmer	986.37	2.23	1.15	2205.1

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER AT OVERTON FOR 1918

Day	June	July	Aug.	Sept.	Oct.
1	.....	9000	2650	.....	4650
2	.....	7600	2400	1200	4050
3	.....	7600	2100	950	4050
4	.....	4700	.....	.....	4350
5	.....	5000	1700	950	3750
6	.....	4700	1100	950	.....
7	.....	.....	2200	950	2950
8	.....	1750	2200	.....	3200
9	.....	1750	2300	600	3500
10	.....	1450	2200	850	9000
11	.....	1450	.....	950	4050
12	.....	1600	1750	950	4050
13	.....	1450	1700	1000	.....
14	.....	.....	2500	950	2950
15	.....	1200	2200	.....	.....
16	.....	1450	2500	1200	3200
17	.....	1750	2100	1300	2700
18	1750	2500	.....	1450	2700
19	1450	2950	1900	1300	4050
20	1450	4050	1900	2100	.....
21	1200	.....	1750	2250	.....
22	2100	2300	1750	.....	2700
23	1750	2500	2950	2250	2950
24	.....	2500	2950	2500	2950
25	2950	2950	.....	1750	4200
26	4050	3600	1750	1750	4700
27	2100	4300	1750	1750	.....
28	6000	.....	750	2700	4400
29	8300	3050	1450	.....	4050
30	.....	3400	950	4650	3750
31	.....	3500	1450	.....	3500
Total	33100	90050	52900	37250	96400
Mean	3009	3335	1959	1552	3856
Acre feet	65653	178614	104927	73885	191209
Maximum	8300	9000	2650	4650	9000
Minimum	1200	1200	950	600	2700

PLATTE AT ELM CREEK, FOR THE YEAR OF 1917

Location. Two miles south of Elm Creek.

Gage. Standard chain and weight. Pulley is riveted to upstream hand rail of the first span from the north end of the bridge. The scale of the gage is painted on the hand rail. The chain and weight is secured in a box fastened to the panel post beneath the scale. Length of chain, 13.30.

Bench Mark. Standard U. S. G. S. bronze tablet 2 feet north of the north end of bridge, and 10 feet west of the center line of the bridge. of the bridge.

Elevation. 8.58.

Bench Mark. Datum equals zero of the gage.
Observer. C. E. Clark.

General. This station is on a bridge which narrows the Platte River from over 2,000 feet down to less than 1,000 feet. High water causes a discrepancy in the relation between gage height and discharge. When the syphon of Kearney Light & Power Co. is in operation the relation between gage height and discharge is affected. No change from datum given in 1915 records.
Elevation. 2,266 feet.
Distance from Pathfinder Reservoir. 556 miles

ACTUAL DISCHARGE MEASUREMENTS OF THE PLATTE RIVER AT ELM CREEK FOR THE YEAR OF 1917

Date	Hydrographer	Width	Area of Section	Mean Velocity	Gage Height	Discharge Sec. ft.
5-18	L. D. Horrocks.....	950	1424.6	2.37	2.23	3387.68
6- 4	L. D. Horrocks.....	950	6572.5	4.25	4.00	27986.88
6-16	L. D. Horrocks.....	950	5491.9	3.94	3.23	21669.30
7- 3	L. D. Horrocks.....	950	5778.0	3.97	3.50	22962.40
7-19	L. D. Horrocks.....	950	2556.8	3.38	2.45	8664.70
8- 2	L. D. Horrocks.....	950	1214.8	2.29	1.72	2791.6
8-10	J. A. Rohrer.....	.....	.....	.....	1.65	1934.0
9- 3	L. D. Horrocks.....	950	516.0	19.4	1.49	1000.76
9-29	J. A. Rohrer.....	.....	.....	.....	2.10	3013.6

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER AT ELM CREEK, FOR 1917

Day	April	May	June	July	Aug.	Sept.	Oct.
1	.....	9100	24600	23000	2100	1000	4300
2	.....	9500	29300	21900	1750	1000	4300
3	.....	10500	28500	21600	1900	1000	4300
4	.....	12800	27700	21300	1400	1000	3650
5	.....	13200	27100	21000	1300	1000	4000
6	.....	12600	29100	21400	1200	2500	4900
7	.....	11100	28300	20100	1700	1700	5200
8	.....	9600	27700	20000	1400	1150	5500
9	.....	8000	27100	19000	1100	1250	5500
10	.....	7800	27100	19700	1700	1400	6600
11	.....	8000	27200	17300	2000	2600	4900
12	.....	9300	24200	15500	1600	2600	4900
13	.....	9300	23700	12800	1200	2100	5500
14	.....	9300	22600	11100	1400	2100	4600
15	.....	13500	21000	9850	1500	3700	3650
16	.....	10800	17800	8600	1500	4900	4300
17	.....	8000	19500	8100	1500	6150	4300
18	.....	7200	21200	7800	1500	6150	2600
19	.....	6500	21700	7800	2050	17300	3250
20	.....	9100	22100	7400	2600	8000	4000
21	.....	11700	22000	6800	2500	6150	3600
22	.....	14000	22300	6500	1700	5500	3250
23	.....	17300	22300	6200	1100	4550	2900
24	.....	19300	22000	4300	1000	3650	5500
25	.....	19100	21800	4000	1100	9900	6100
26	.....	22300	21600	4000	800	5500	6800
27	8200	23250	21600	5500	500	5500	6800
28	9900	24200	24400	5500	900	4900	5000
29	9500	24100	23700	4150	850	5500	3250
30	9100	24100	24000	2800	900	4900	8000
31	.....	24200	.....	2100	1100	.....	9000
Total	36700	418750	723200	367100	44850	124650	150450
Mean	9175	13508	24106	11842	1447	4155	4853
Acre feet	72794	830590	1434467	728142	88960	247243	298418
Maximum	9900	24200	29300	23000	2600	17300	9000
Minimum	8200	6500	17800	2100	500	1000	2600

SOUTH PLATTE RIVER AT NORTH PLATTE

Location. Section 4 and 9, Township 13 North, Range 30 West, about four miles above its junction with the North Platte.

Records Available. From June 1, 1914, to September 20, 1914.

Gage. Vertical staff nailed to the west pile on the nineteenth pier from the south abutment on the upstream side of the bridge.

Observer. Fred Spurrier.

Bench Mark. U. S. bench mark located on top of floor of the bridge on the west side at a distance of one hundred thirty-two feet north of the south abutment. Elevation, 2,808.46 feet above mean sea level.

Elevation of zero of the gage is 2.796.47 feet.

Channel. Two channels, 920 feet apart.

Accuracy. Affected by shifting sand.

Elevation. 2,800 feet.

Distance from Pathfinder Reservoir. 480 miles

ACTUAL DISCHARGE MEASUREMENTS OF THE SOUTH PLATTE RIVER AT NORTH PLATTE FOR 1917

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
5-16	L. D. Horrocks	130.63	1.16	3.45	151.92
5-21	L. D. Horrocks	111.83	1.21	3.45	135.83
5-31	L. D. Horrocks	3015.1	2.74	5.40	8271.0
6- 6	L. D. Horrocks	3109.9	3.06	5.40	9548.7
6-14	L. D. Horrocks	2272.4	2.44	4.90	5560.8
6-19	L. D. Horrocks	1536.7	2.41	4.40	3712.9
6-30	L. D. Horrocks	722.2	1.97	3.90	1426.0
7- 4	L. D. Horrocks	600.7	1.97	3.78	1188.3
7-16	L. D. Horrocks	92.7	1.23	3.20	114.3

DAILY DISCHARGE, IN SECOND FEET, OF SOUTH PLATTE RIVER AT NORTH PLATTE, FOR 1917

Day	April	May	June	July	Aug.	Sept.	Oct.
1	.....	1000	11100	1200	Dry	Dry	15
2	.....	1200	10100	1300		.....	
3	.....	1200	10100	1200	from	.....	Dry
4	.....	1500	10100	1200		.....	.....
5	.....	1500	9300	1000	Aug.	.....	65
6	.....	1200	9000	1000		.....	45
7	.....	1200	9850	850	1st	.....	45
8	.....	1000	10100	850		.....	45
9	.....	1006	9850	850	to	.....	65
10	.....	1000	9600	750		.....	90
11	.....	750	9000	600	Sept.	.....	270
12	.....	400	8500	600		.....	400
13	.....	600	7400	400	25th	.....	400
14	.....	750	6300	600	.....	.....	750
15	.....	600	5450	300	.....	.....	1000
16	.....	400	4900	200	.....	.....	1000
17	.....	300	4600	300	.....	.....	1000
18	.....	400	4600	90	.....	.....	750
19	.....	400	3500	45	.....	.....	850
20	.....	325	3500	70	.....	.....	850
21	.....	500	3000	45	.....	.....	750
22	.....	650	1950	45	.....	.....	750
23	.....	750	2300	55	.....	.....	750
24	.....	500	1750	45	.....	Dry	750
25	.....	750	2100	45	.....	15	1000
26	.....	750	1750	40	.....	65	1000
27	1200	1000	1750	30	.....	65	1000
28	1500	1500	1550	15	.....	45	850
29	1200	2500	1250	15	.....	30	850
30	1200	4400	1500	15	.....	15	750
31	.....	8500	.....	15	.....	.....	750
Total	5100	38525	175650	14070	.....	235	16840
Mean	1275	1242	5855	453	.....	39	601
Acre feet	10115	76414	348401	27907	.....	466	33402
Maximum	1500	8500	11000	1500	.....	65	1000
Minimum	1200	300	1250	15	.....	15	45

ACTUAL DISCHARGE MEASUREMENTS OF THE SOUTH PLATTE RIVER, AT NORTH PLATTE, FOR 1918

Date	Hydrographer	Area of Section	Mean Velocity	Gage Height	Discharge Sec. feet
4-29	T. C. Palmer	196.0	1.21	3.60	238.0
5- 6	T. C. Palmer	167.0	1.49	3.35	249.0
5-21	T. C. Palmer	95.95	1.10	3.10	106.2
5 25	T. C. Palmer	38.60	1.15	3.05	44.5
7- 5	T. C. Palmer	108.28	1.83	3.30	198.4
7 24	T. C. Palmer	387.60	1.26	3.78	480.9

DAILY DISCHARGE, IN SECOND FEET, OF NORTH PLATTE RIVER AT SOUTH PLATTE FOR 1918

Day	April	May	June	July	Aug.	Sept.	Oct.
1	.....	315	140	.....	430	.....	260
2	.....	345	150	.....	315	30	260
3	.....	315	170	.....	285	80	240
4	.....	370	170	30	240	80	225
5	.....	290	260	200	200	30	200
6	.....	225	215	140	200	15	200
7	.....	220	170	80	370	.....	200
8	.....	200	80	30	255	.....	230
9	.....	200	55	15	140	.....	260
10	.....	260	30	.....	140	.....	260
11	.....	260	30	.....	.....	.....	260
12	.....	260	.....	.....	.....	.....	260
13	370	260	.....	.....	200	.....	.....
14	400	200	.....	.....	80	.....	260
15	460	110	.....	.....	30	.....	260
16	460	80	.....	.....	15	30	.....
17	460	30	.....	.....	.....	80	260
18	430	30	.....	.....	.....	140	.....
19	400	30	.....	.....	260	200	.....
20	370	30	.....	.....	315	200	.....
21	370	80	.....	.....	315	200	285
22	370	80	.....	.....	370	200	260
23	400	80	.....	.....	370	200	260
24	370	140	.....	.....	315	200	260
25	430	140	.....	.....	285	260	.....
26	415	140	.....	.....	260	260	315
27	400	140	.....	485	200	260	.....
28	385	170	.....	460	200	260	315
29	370	200	.....	430	80	260	315
30	370	200	.....	315	80	260	315
31	.....	200	.....	575	30	.....	260
Total	7230	5600	1470	2760	5980	3245	6220
Mean	401	180	49	138	193	116	259
Acre feet	14340	11107	2915	5474	11861	6436	12337
Maximum	460	370	260	575	430	260	315
Minimum	370	30	.....	.....	.....	.....	260

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1910. DIV. 1-A AND DIV. 1-E

Station	April	May	June	July	Aug.	Sept.	Annual
Alliance	0.75	1.90	2.80	2.00	1.20	0.75	11.63
Bridgeport	2.10	0.85	3.29	1.10	0.20	1.16	10.27
Gothenuurg	0.97	2.36	3.73	1.83	4.07	1.82	17.09
Kearney	0.55	2.39	4.46	1.81	3.44	2.61	17.55
Kimball	0.90	2.67	2.64	0.89	0.52	2.14	11.81
Lexington	0.17	2.67	3.91	3.12	3.72	2.14	17.54
North Platte	0.48	2.59	2.75	0.50	2.02	0.97	10.70
Sidney	0.71	3.45	3.44	1.27	2.11	1.92	14.37

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1911. DIV. 1-A AND 1-E

Station	April	May	June	July	Aug.	Sept.	Annual
Alliance	2.65	0.90	1.85	1.45	2.30	0.80	13.51
Bridgeport	2.62	0.30	3.48	1.03	1.47	0.87	11.83
Gothenburg	2.85	2.53	1.58	2.81	3.93	3.50	21.64
Kearney	1.75	1.45	1.28	3.15	5.38	3.29	19.81
Kimball	0.88	0.49	1.49	1.18	0.80	1.42	9.46
Lexington	2.04	2.19	2.70	3.41	4.79	1.84	21.73
Lodgepole	1.97	1.31	2.03	0.67	1.14	0.26	10.74
North Platte	2.48	1.73	1.13	3.31	2.19	1.37	17.43
Scottsbluff	4.40	1.30	2.71	1.53	1.04	0.98	15.27
Sidney	2.93	0.86	3.02	1.22	2.33	0.77	14.74

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1912. DIV. 1-A AND 1-E

Station	April	May	June	July	Aug.	Sept.	Annual
Alliance	2.15	1.40	1.05	3.45	3.35	2.00	17.10
Bridgeport	2.75	1.04	1.52	3.15	3.38	1.77	19.36
Gothenburg	2.70	0.65	1.82	2.34	2.29	2.18	17.76
Kearney	1.68	0.54	2.05	4.55	1.35	1.90	18.40
Kimball	2.16	2.10	3.46	2.17	3.73	2.25	21.28
Lexington	1.14	0.68	1.41	0.90	1.18	1.42	11.34
Lodgepole	1.52	2.50	1.05	3.05	2.83	2.38	20.79
North Platte	2.93	1.93	0.57	4.01	1.27	2.04	18.69
Scottsbluff	1.63	1.13	1.65	5.33	3.73	2.93	21.60
Sidney	2.66	2.70	2.80	5.09	4.18	2.98	27.07

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1913. DIV. 1-A AND 1-E

Station	April	May	June	July	Aug.	Sept.	Annual
Alliance	0.95	1.65	1.25	5.65	0.75	0.70	13.75
Bridgeport	1.48	2.09	1.59	3.27	0.84	1.07	15.99
Gothenburg	2.92	2.07	3.58	2.87	0.75	0.95	20.71
Kearney	3.58	1.95	3.05	0.96	0.97	1.98	20.63
Kimball	0.55	1.26	0.62	3.65	1.65	1.69	14.13
Lexington	1.14	2.17	4.44	1.65	1.01	1.50	19.36
Lodgepole	2.88	1.24	1.04	1.71	0.92	3.85	17.49
North Platte	2.07	3.50	2.13	3.37	0.98	0.90	19.10
Scottsbluff	0.34	3.12	2.39	2.52	2.03	1.27	16.61
Sidney	2.79	1.49	1.89	3.31	1.99	2.03	19.98

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1914. DIV. 1-A AND 1-E

Station	April	May	June	July	Aug.	Sept.	Annual
Alliance	2.70	1.60	2.00	1.10	1.80	0.85	12.15
Bridgeport	2.37	2.90	2.28	1.06	0.48	0.33	.....
Gothenburg	1.78	2.10	4.98	0.76	1.35	0.16	15.10
Kearney	1.57	1.25	4.89	2.86	2.28	1.84	19.44
Kimball	2.91	1.77	0.70	1.45	2.64	T	10.95
Lexingtton	2.22	1.94	3.81	1.34	1.90	0.59	15.81
Lodgepole	5.94	4.16	3.08	1.09	3.07	0.80	20.94
North Platte	1.48	2.14	4.63	0.58	3.45	0.17	15.79
Scottsbluff	4.35	0.72	1.24	0.63	0.55	0.71	10.39
Sidney	2.93	2.34	1.81	0.81	1.88	0.15	13.30

T. Trace, or less than 0.01 inch of rain or melted snow.

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1915 DIV. 1-A AND 1-E.

Station	April	May	June	July	Aug.	Sept.	Annual
Alliance	3.40	.....	5.00	7.28	1.40	.....	.....
Bridgeport	3.06	3.12	2.54	3.87	1.80	3.01	22.76
Gothenburg	3.00	4.80	9.14	3.50	7.40	2.47	37.26
Kearney	3.06	6.04	8.44	7.96	6.84	2.03	40.07
Kimball	5.03	3.05	3.53	1.07	1.75	2.17	24.23
Lexington	3.93	5.28	12.26	5.24	4.93	1.72	40.02
Lodgepole	6.92	6.30	3.42	1.86	2.03	2.29	28.36
North Platte	7.10	5.55	3.39	4.66	4.23	1.81	32.70
Scottsbluff	3.28	3.04	2.89	3.55	5.66	3.65	27.48
Sidney	5.50	4.13	3.65	1.11	4.72	1.92	27.14

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1916. DIV. 1-A AND DIV. 1-E.

Station	April	May	June	July	Aug.	Sept.	Annual
Alliance	1.45	2.68	1.32	2.36	3.01	0.76	.....
Bridgeport	1.32	3.93	1.05	1.77	3.27	0.79	14.89
Gothenburg	1.80	2.88	3.58	2.95	2.78	1.60	19.21
Kearney	3.78	3.13	3.66	0.92	6.85	0.90	23.14
Kimball	1.07	3.70	0.93	2.75	1.61	0.88	14.38
Lexington	4.05	2.63	2.98	1.78	2.03	1.13	19.49
Lodgepole	1.37	1.95	1.29	1.76	2.26	1.57	13.32
North Platte	9.72	1.95	3.09	0.59	2.35	0.70	12.96
Scottsbluff	0.58	2.71	1.07	2.44	1.75	0.42	12.55
Sidney	2.04	2.20	1.25	2.61	2.23	1.65	14.88

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1917. DIV. 1-A AND 1-E

Station	April	May	June	July	Aug.	Sept.	Annual
Alliance	1.81	3.83	1.66	1.10	1.18	0.94	12.52
Bridgeport	1.34	4.70	2.52	0.49	0.72	1.87	14.18
Gothenburg	2.35	3.63	1.60	1.65	2.67	6.60	22.27
Kearney	1.70	4.94	1.08	0.83	2.52	4.44	19.98
Kimball	1.25	5.86	1.22	1.57	0.51	2.76	16.82
Lexington	3.73	5.06	1.35	0.73	2.29	5.18	20.38
Lodgepole	1.96	3.92	2.44	1.28	1.55	1.20	15.52
North Platte	1.95	4.44	2.38	1.13	1.96	2.68	18.41
Scottsbluff	2.18	7.70	1.53	0.23	1.24	1.79	17.26
Sidney	1.77	4.33	1.23	1.32	3.48	1.55	16.55

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1918. DIV. 1-A AND 1-E

Station	April	May	June	July	Aug.	Sept.	Annual
Alliance	2.93	2.50	1.66	3.25	2.96	3.97	.....
Bridgeport	2.85	3.18	0.32	1.75	2.91	4.07	.....
Gothenburg	2.15	4.43	0.84	3.07	4.01	0.77	.....
Kearney	1.79	4.01	1.71	3.38	2.70	0.86	.....
Kimball	3.06	3.21	1.11	2.56	2.55	2.17	.....
Lexington	2.10	5.89	1.48	1.77	3.56	0.63	.....
North Platte	2.61	2.30	2.18	1.88	1.73	0.38	.....
Sidney	3.06	2.27	0.42	3.17	2.97	2.98	.....

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1910. DIVISION 1-B

Station	April	May	June	July	Aug.	Sept.	Annual
Alma	0.65	2.38	1.15	1.72	4.66	3.30	15.54
Beaver City	0.25	2.62	1.66	1.53	2.81	1.58	11.30
Culbertson	0.27	4.24	1.93	0.24	3.46	0.99	11.71
Guiderock	0.52	4.49	3.10	1.75	5.53	3.54	22.37
Hayes Center	0.73	2.85	3.17	0.99	2.95	2.70	15.02
Imperial	0.71	1.98	2.51	0.72	2.82	1.58	11.77
McCook	0.76	2.77	1.12	0.70	2.93	0.72	9.34
Red Cloud	0.93	4.15	3.04	2.18	2.69	3.18	18.98
Wauneta	0.82	2.00	3.44	0.77	2.64	3.20	14.12

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1911. DIVISION 1-B

Station	April	May	June	July	Aug.	Sept.	Annual
Alma	1.30	1.61	0.63	6.07	11.73	1.38	25.54
Beaver City	1.51	2.06	1.45	7.91	9.97	1.33	27.86
Cublertson	2.03	2.26	0.58	2.58	3.29	0.63	15.81
Franklin	1.25	1.63	0.41	4.47	8.08	1.75	21.12
Guide Rock	2.35	2.06	1.61	7.63	6.27	3.23	28.16
Hayes Center	3.25	2.10	0.82	2.00	4.45	1.34	20.94
Imperial	2.55	2.19	1.29	1.10	3.45	1.44	17.37
McCook	1.72	1.25	0.66	0.84	4.34	0.59	12.15
Red Cloud	3.09	1.62	2.23	6.43	6.66	2.17	25.39
Wauneta	3.45	1.75	1.35	1.30	3.07	1.80	18.82

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1912. DIVISION 1-B

Station	April	May	June	July	Aug.	Sept.	Annual
Alma	1.31	3.18	5.08	1.90	3.07	1.46	21.74
Beaver City	1.40	0.70	3.40	1.82	2.82	1.45	18.72
Benkelman	3.99	T	2.72	5.73	4.90	2.45	25.00
Culbertson	2.48	0.83	2.58	3.25	2.49	3.59	20.83
Franklin	1.26	1.69	5.53	1.93	2.27	1.69	22.79
Guide Rock	1.71	2.12	5.04	1.87	5.08	1.35	22.29
Hayes Center	3.30	1.80	3.16	3.05	5.56	3.73	28.63
Imperial	2.85	1.41	1.82	5.09	4.28	2.01	24.58
McCook	2.01	0.00	2.77	2.29	2.11	2.13	14.69
Red Cloud	1.44	2.13	5.36	1.59	4.01	0.77	21.30
Stratton	3.17	0.25	6.23	2.61	5.86	1.76	24.67
Wauneta	2.82	0.95	1.89	3.26	2.78	2.61	20.00

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1913. DIVISION 1-B

Station	April	May	June	July	Aug.	Sept.	Annual
Alma	2.50	2.52	4.19	0.33	0.06	2.63	19.46
Beaver City	3.04	1.99	2.62	1.80	0.57	1.90	19.76
Culbertson	2.91	1.42	3.18	1.60	1.24	1.03	18.26
Franklin	2.62	2.53	2.03	0.30	0.28	3.20	18.63
Guide Rock	2.90	4.30	3.18	0.45	0.09	2.75	23.28
Hayes Center	1.55	2.55	2.30	1.69	0.65	2.41	24.09
Imperial	1.93	1.69	2.00	3.13	0.19	1.45	16.60
Red Cloud	2.06	4.59	2.44	0.58	0.46	3.64	22.28
Stratton	1.35	1.37	1.57	2.43	0.15	1.72	16.01
Wauneta	2.55	1.25	2.55	1.25	0.30	1.95	16.05

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1914 DIVISION 1-B

Station	April	May	June	July	Aug.	Sept.	Annual
Alma	1.78	1.88	4.45	3.87	2.09	1.46	17.81
Beaver City	1.29	1.05	6.40	3.11	3.64	0.69	18.49
Culbertson	1.14	1.38	5.27	3.55	2.95	0.20	18.10
Franklin	1.19	2.88	3.85	4.25	1.61	1.11	18.47
Guide Rock	0.83	2.59	2.86	1.85	1.07	1.48	15.16
Hayes Center	2.40	2.43	4.47	2.90	3.71	0.10	21.38
Imperial	2.34	1.89	4.93	2.14	3.30	0.26	16.94
McCook	1.55	0.99	4.02	4.95	3.40	0.15	18.24
Red Cloud	0.98	2.47	7.41	2.13	1.89	1.46	19.73
Stratton	2.12	2.59	4.25	3.35	2.23	0.27	17.78

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SESAON OF 1915. DIVISION 1-B

Station	April	May	June	July	Aug.	Sept.	Annual
Alma	4.53	4.49	9.82	6.04	7.84	1.37	39.09
Beaver City	2.19	5.21	6.59	5.14	3.08	1.17	29.02
Culbertson	4.74	7.26	8.51	5.13	6.33	0.86	37.99
Franklin	3.31	4.70	14.93	6.61	2.60	1.71	40.07
Guide Rock	1.75	5.17	10.85	6.11	4.38	3.56	38.84
Hayes Center	6.32	5.89	8.55	9.69	4.01	1.90	44.83
Imperial	5.56	7.54	7.86	3.64	4.51	1.44	37.14
McCook	4.21	5.10	8.55	3.54	3.85	1.12	30.95
Red Cloud	2.49	5.19	13.12	5.87	3.32	2.89	39.13
Stratton	3.68	6.27	8.65	3.05	3.95	1.10	34.41

Uufinished Road, Adams County Work Only Started on this—Project No. 7

Old Type of Wooden Bridge Being Replaced by Permanent Structure.

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1916. DIVISION 1-B

Station	April	May	June	July	Aug.	Sept.	Annual
Alma	1.09	2.38	4.39	0.71	3.97	0.33	17.15
Beaver City	1.59	2.25	5.17	0.86	4.53	0.88	19.94
Culbertson	1.34	3.22	5.00	1.11	5.23	0.51	19.14
Franklin	1.81	1.94	4.04	1.42	5.66	0.57	19.30
Guide Rock	1.32	4.28	7.03	2.08	2.65	1.51	23.71
Hayes Center	1.49	2.86	4.13	0.82	4.52	1.10	20.12
Imperial	0.85	1.94	2.46	2.56	5.72	0.78	19.33
McCook	0.54	3.39	4.25	0.41	3.73	0.82	15.35
Red Cloud	1.26	2.87	5.11	0.92	4.24	0.68	18.07
Stratton	0.53	2.01	3.14	0.58	3.14	0.60	.....

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON FOR 1917 DIVISION 1-B

Station	April	May	June	July	Aug.	Sept.	Annual
Alma	1.69	4.91	1.83	2.05	3.70	2.29	19.09
Beaver City	1.87	5.92	3.09	0.22	3.18	3.46	.....
Benkelman	2.08	2.84	0.56	0.38	4.27	2.75	.....
Culbertson	1.73	1.96	1.71	0.32	2.85	4.09	14.86
Franklin	2.26	6.56	1.27	0.41	2.03	4.73	20.19
Guide Rock	3.41	6.19	2.01	0.19	1.65	4.53	20.99
Hayes Center	2.52	5.96	1.47	0.30	2.64	3.45	20.52
Imperial	2.88	5.22	3.72	0.76	2.48	4.57	23.32
McCook	1.44	2.69	1.34	1.15	2.37	4.84	.....
Red Cloud	3.28	5.73	0.76	0.33	1.35	3.28	17.06
Wauneta	1.13	4.31	1.59	0.88	2.29	2.28	15.44

MONTHLY AND ANNUAL PRECIPITATION FOR IRRIGATION SEASON OF 1918. DIVISION 1-B

Station	April	May	June	July	Aug.	Sept.	Annual
Alma	1.62	2.35	0.87	5.90	2.48	1.57	.....
Beaver City	.....	.....	.....	6.58	1.65	1.51	.....
Culbertson	2.05	2.10	1.20	4.30	3.09	1.30	.....
Guide Rock	2.97	5.01	2.61	2.87	3.29	1.36	.....
Hayes Center	3.68	4.13	1.47	3.22	2.92	1.12	.....
Imperial	2.95	3.70	0.86	2.61	1.99	1.98	.....
McCook	1.65	2.71	0.75	3.57	4.40	1.13	.....
Red Cloud	2.28	5.95	1.87	3.62	3.12	1.34	.....
Wauneta	3.08	3.03	0.30	2.50	3.33	1.35	.....

Copy of Opinion and Decree of Supreme Court of Nebraska in

MARANVILLE DITCH CO &
INMAN DITCH CO.
vs.
KILPATRICK BROS. CO.

No. 18954 Supreme Court of Nebraska
November 17, 1916.

(Syllabus by the Court..)

Waters and Water Courses—Appropriation—Adverse User.

To the extent that a landowner, under a prior appropriation, uses water of a river for irrigation when actually needed, diversions by upper appropriators using water for the same purpose are not adverse.

(Ed. Note.—For other case, see Waters and Water Courses, Cent. Dig. 150, 151, Dec. Dig. 138.)

Appeal from District Court, Chase County; Perry, Judge.

Action by the Maranville Ditch Company and another against the Kilpatrick Bros. Company. From a judgment for defendant, plaintiffs appeal. Affirmed.

P. W. Scott, of Imperial, for appellants. Fulton Jack of Beatrice and C. W. Meeker, of Imperial, for appellee.

ROSE, J. Plaintiffs brought this suit in equity in the District Court for Chase County to protect alleged priority of rights to the use of waters of the Frenchman River for irrigation. The statutory appropriations of the parties are as follows: Defendant, December 23, 1890, 64.86 cubic feet of water a second; plaintiff, Maranville Ditch Company, December 8, 1894, 6 cubic feet of water a second; plaintiff, Inman Ditch Company, February 28, 1895, 6.43 cubic feet of water a second. Plaintiffs are upper propriators. They assert prior rights alleged to have been acquired by prescription or by adverse user for more than the statutory period of ten years. **The District Court decreed that defendant had a prior right to use 24 cubic feet of water a second.** Plaintiffs have appealed.

It is contended that the evidence does not justify the finding below. There is testimony tending to show that by means of two dams, 2 and 5 miles, respectively, above defendant's headgate, plaintiffs have for more than ten years diverted to their irrigation ditches the entire flow of the river at those places. Owing to the peculiar nature of the basin of the stream, however, the river, before reaching defendant's headgate, accumulated considerable water which defendant used for irrigation. Defendant owns 2000 acres of land under its ditch. One of its officers testified that it annually irrigated from 1500 to 2000 acres of its own in addition to 160 acres which it did not own. To the extent that defendant, under its prior appropriation, used water, when actually needed for

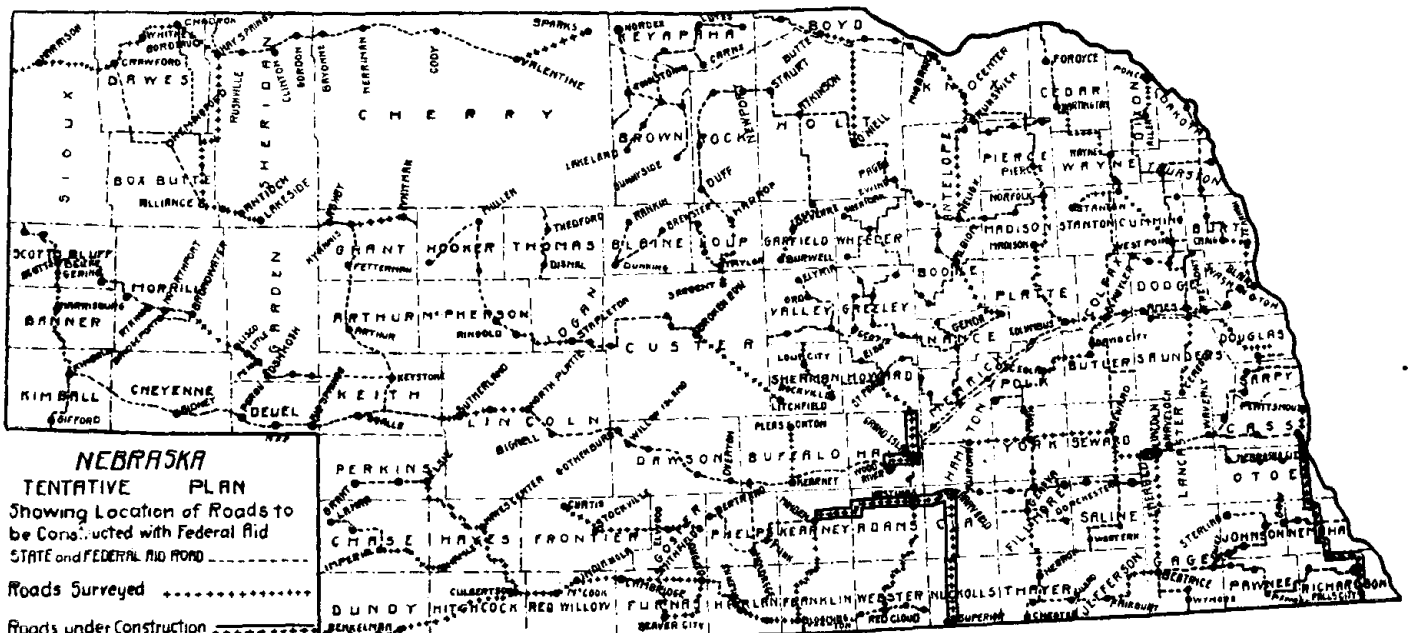
irrigation, the diversions of plaintiffs were not adverse. 2 Kinney, Irrigation and Water Rights (2d Ed.) 1050; Faulkner v. Rondoni, 104 Cal. 140, 37 Pac. 883; Talbott v. Butte City Water Co., 29 Mont. 17, 73 Pac. 1111; Featherman v. Hennessy, 42 Mont. 535, 113 Pac. 751; Davis v. Chamberlain, 51 Or. 304, 98 Pac. 154;; Henderson v. Goforth, 34 S. D. 441, 148 N. W. 1045. Under these circumstances plaintiffs were required to prove that they had deprived defendant of the use of a definite quantity of water to which it was entitled under its prior appropriation. Hayes v. Silver Creek & Panoche Land & Water Co., 136 Cal. 238, 68 Pac. 704; Logan v. Guichard, 159 Cal. 592, 114 Pac. 989. In this situation the trial court found that, while the testimony was not as certain, unequivocal, and definite as it should have been, defendant had irrigated annually approximately 1,680 acres, a use of water according to the statute, equivalent to 24 cubic feet a second. The finding on appeal is the same. This conclusion makes it unnecessary to consider other questions argued.

Affirmed.

HIGHWAY REPORT OF

STATE ENGINEER
NEBRASKA

1917-1918


NEBRASKA
TENTATIVE PLAN
Showing Location of Roads to be Constructed with Federal Aid
STATE and FEDERAL AID ROAD
Roads Surveyed
Roads under Construction
DAWES
SIOUX
SHERIDAN
CHERRY
BOX BUTTE
SCOTTS BLUFF
MORRILL
GARDEN
BANNER
KIMBALL
CHEYENNE
DEUEL
KEITH
PERKINS
GRANT
HOOKER
THOMAS
ARTHUR
McPHERSON
LOGAN
VALLEY
GREELEY
BLAINE
LOUP
GARFIELD
WHEELER
CUSTER
SHERMAN
HOWARD
BROWN
ROCK
HOLT
KEYAPAHA
BOYD
KNOX
CEDAR
DIXON
DAKOTA
DUNDY
CHASE
HAYES
FRONTIER
GOSPER
PHELPS
KEARNEY
ADAMS
HITCHCOCK
RED Wwillow
FURNAS
HARLAN
FRANKLIN
WEBSTER
NUCKOLLS
THAYER
JEFFERSON
GAGE
JOHNSON
NEMAHA
PAWNEE
RICHARDSON
BUFFALO
HALL
HAMILTON
YORK
SEWARD
POLK
BUTLER
SAUNDERS
COLFAX
DODGE
SARPY
CASS
OTOE
LANCASTER
SALINE
FILLMORE
CLAY
NUCKOLLS
PIERCE
WAYNE
THURSTON
MADISON
STANTON
CUMING
BURT
PLATTE
COLFAX
DOUGLAS

(Public—NO. 156—64th CONGRESS)

HOOSE ROLL NO. 7617

An Act to provide, that the United States shall aid the States in the construction of rural post roads, and for other purposes.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That the Secretary of Agriculture is authorized to cooperate with the States, through their respective State Highway Departments in the construction or rural post roads; but no money apportioned under this act to any State shall be expended therein until its legislature shall have assented to the provisions of this Act, except that until the final adjournment of the first regular session of the legislature held after the passage of this Act, the assent of the Governor of the State shall be sufficient. The Secretary of Agriculture and the State Highway department of each State shall agree upon the roads to be constructed therein and the character and method of construction: PROVIDED, That all roads constructed under the provisions of this Act shall be free from tolls of all kinds.

Sec. 2. That for the purpose of this Act, the term "Rural post road" shall be construed to mean any public road over which the United States mails now are or may hereafter be transported, excluding every street and road in a place having a population, as shown by the latest available Federal census, of two thousand five hundred or more, except that portion of any such street or road along which the houses average more than two hundred feet apart; the term "State Highway department" shall be construed to include any department of another name, or commission, or official or officials, of a State empowered, under its laws, to exercise the functions ordinarily exercised by a State Highway department; the term "construction" shall be construed to include reconstruction and improvement of roads; "properly maintained as used herein shall be construed to mean the making of needed repairs and the preservation of a reasonably smooth surface considering the type of the road; but shall not be held to include extraordinary repairs, nor reconstruction; necessary bridges and culverts shall be deemed parts of the respective roads covered by the provisions of this Act.

Sec. 3. That for the purpose of carrying out the provisions of this Act, there is hereby appropriated, out of any money in the Treasury not otherwise appropriated for the fiscal year ending June thirtieth, nineteen hundred and seventeen, the sum of $5,000,000; for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of $10,000,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of $15,000,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of $20,000,000; and for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, $25,000,000. So much

of the appropriation apportioned to any State for any fiscal year as remains unexpended at the close thereof shall be available for the expenditure in that State until the close of the succeeding fiscal year, except that amounts apportioned for any fiscal year to any State which has not a State highway department shall be available for expenditure in that state until the close of the third fiscal year succeeding the close of the fiscal year for which such apportionment was made. Any amount apportioned under the provisions of this Act unexpended at the end of the period during which it is available for expenditure under the terms of this section shall be reapportioned within sixty days thereafter, to all the states in the same manner and on the same basis, and certified to the Secretary of the Treasury and to the State Highway departments and to the Governors of the States, having no State Highway department in the same way as if it were bein gapportioned under this Act for the first time; Provided, That in States where the constitution prohibits the state from engaging in any work of internal improvements, then the amount of the appropriation under this Act apportioned to any such State shall be turned over to the Highway department of the State or to the Governor of said State to be expended under the provisions of this Act and under the rules and regulations of the Department of Agriculture, when any number of counties in any such State shall appropriate or provide the proportion or shade needed to be raised in order to entitle such State to its part of the appropriation apportioned under this Act.

Sec. 4. That so much, not to exceed there per centum, of the appropriation for any fiscal year made by or under this Act as the Secretary of Agriculture may estimate to be necessary for administering the provisions of this Act shall be deducted for that purpose, available until expended. Within sixty days after the close of each fiscal year the Secretary of Agriculture shall determine what part, if any, of the sums theretofore deducted for administering the provisions of this Act will not be needed for that purpose and apportion such part, if any, for the fiscal year then current in the same manner and on the same basis, and certify it to the Secretary of the Treasury, and to the State Highway departments and to the Governors of States having no State Highway departments, in the same way as other amounts authorized by this Act to be apportioned among all the States for such current fiscal year. The Secretary of Agriculture, after making the deduction authorized by this section, shall apportion the remainder of the appropriation for each fiscal year among the several states in the following manner: One-third in the ratio which the area of each State bears to the total area of all the States; one third in the ratio which the population of each state bears to the total population of all the States; as shown by the latest available available Federal census one-third in the ratio which the mileage of rural delivery routes and star routes in each state bears to the total mileage of rural delivery routes and star routes in all the States, at the

close of the next preceding fiscal year as shown by the certificate of the Postmaster General, which he is directed to make and furnish annually to the Secretary of Agriculture.

Sec. 5. That within sixty days after the approval of this Act, the Secretary of Agriculture shall certify to the Secretary of the Treasury and to each State Highway department and to the Governor of each state having no State Highway department the sum which he has estimated to be deducted for administering the provisions of this Act and the sum which he has apportioned to each state for the fiscal year ending June thirtieth, nineteen hundred and seventeen, and on or before January twentieth next preceding the commencement of each succeeding fiscal year shall make like certificates for such fiscal year.

Sec. 6. That any state desiring to avail itself of the benefits of this Act, shall, by its State Highway department, submit to the Secretary of Agriculture project statements setting forth proposed construction of any rural post road or roads therein. If the Secretary of Agriculture approves a project, the State Highway department shall furnish to him such surveys, plans, specifications and estimates therefor as he may require; Provided, however, That the Secretary of Agriculture shall approve only such projects as may be substantial in character and the expenditure of funds hereby authorized shall be applied only to such improvements. Items included for engineering, inspection, and unforseen contingencies shall not exceed ten per centum of the total estimated cost of the work. If the Secretary of Agriculture approve the plans, specifications, and estimates, he shall notify the State Highway department and immediately certify the fact to the Secretary of the Treasury. The Secretary of the Treasury shall thereupon set aside the shares of the United States payable under this Act on account of such project, which shall not exceed fifty per centum of the total estimated cost thereof. No payment of any money apportioned under this Act shall be made on any project until such statement of the project, and the plans, specifications, and estimates therefor, shall have been submitted to, and approved by the Secretary of Agriculture.

When the Secretary of Agriculture shall find that any project so approved by him has been constructed in compliance with said plans and specifications he shall cause to be paid to the proper authority of said state the amount set aside for said project: Provided, That the Secretary of Agriculture may, in his discretion, from time to time make payments on said construction as the same progresses, but these payments including previous payments, if any, shall not be more than the United States' pro ratio part of the value of the labor and materials which have been actually put into said construction in conformity to said plans and specifications; nor shall any such payment be in excess of $10,000 per mile, exclusive of the cost of bridges of more than twenty feet clear span. The construction work and labor in each state shall be done in accordance with its laws and under the direct provision of the State

Highway department, subject to the inspection and approval of the Secretary of Agriculture and in accordance with the rules and regulations made pursuant to this Act.

The Secretary of Agriculture and the State Highway department of each state may jointly determine at what times, and in what amounts, payments, as work progresses, shall be made under this Act. Such payments shall be made by the Secretary of the Treasury on warrants drawn by the Secretary of Agriculture, to such official or officials, or depository, as may be designated by the State Highway department and authorized under the laws of the State to receive public funds of the state or county.

Sec. 7. To maintain the roads constructed under the provisions of this Act shall be the duty of the State, or their cival subdivisions, according to the laws of the several states. If at any time the Secretary of Agriculture shall find that any road in any state constructed under the provisions of this Act is not being properly maintained he shall give notice of such fact to the Highway department of such state and if within four months from the receipt of said notice said road has not been put in a proper condition of maintenance then the Secretary of Agriculture shall thereafter refuse to approve any project for road construction in said state, or the cival subdivision thereof, as the fact may be, whose duty it is to maintain said road, until it has been put in a condition of proper maintenance.

Sec. 8. That there is hereby appropriated and made available until expended, out of any moneys in the National Treasury not otherwise appropriated the sum of $1,000,000 for the fiscal year ending June thirtieth, nineteen hundred and seventeen, and each fiscal year thereafter, up to and including the fiscal year ending June thirtieth, nineteen hundred and twenty-six, in all $10,000,000 to be available until expended under the supervision of the Secretary of Agriculture, upon request from the proper officers of the State, Territory, or County for the survey, construction, and maintenance of roads and trails within or only partly within the national forests, when necessary for the use and development of resources upon which communities within and adjacent to the national forests are dependent: PROVIDED, That the State, Territory or County shall enter into a co-operative agreement with the Secretary of Agriculture for the survey, construction, and maintenance of such roads or trails upon a basis equitable to both the State, Territory, or County, and the United States; And Provided also, that the aggregate expenditures in any State, Territory, or County shall not exceed ten per centum of the value, as determined by the Secretary of Agriculture, of the timber and forage resources which are or will be available for income upon the national forest lands within the respective county or counties wherein the roads or trails will be constructed; and the Secretary of Agriculture

shall make annual report to Congress of the amounts expended hereunder.

That immediately upon the execution of any co-operative agreement hereunder the Secretary of Agriculture shall notify the Secretary of the Treasury of the amount to be expended by the United States within or adjacent to any national forest thereunder, and the beginning with the next fiscal year and each fiscal year thereafter the Secretary of the Treasury shall apply from any and all revenues from such forests ten per centum thereof to reimburse the United States for expenditures made under such agreement until the whole amount advanced under such agreement shall have been returned, from the receipts from such national forest.

Sec. 9. That out of the appropriation made by or under this Act, the Secretary of Agriculture is authorized to employ such assistants, clerks and other persons in the city of Washington and elsewhere to be taken from the eligible lists of the Civil Service Commission, to rent buildings outside of the city of Washington, to purchase such supplies, material, equipment, office fixtures, and apparatus, and to incur such travel and other expense as he may deem necessary for carrying out the purposes of this Act.

Sec. 10. That the Secretary of Agriculture is authorized to make rules and regulations for carrying out the provisions of this Act.

Sec. 11. That this Act shall be in force from the date of its passage.

Approved, July 11, 1916.

HOUSE ROLL NO 212

TITLE:

A Bill for an Act to require Boards of County Commissioners and supervisors to designate certain roads in their respective counties as "county roads" and to provide that such county roads shall be maintained at the expense of the county; to empower the State Board of Irrigation, Highways and Drainage to consider and decide objections on the part of freeholders to such designation; to require such county boards to appoint county highway commissioners, to establish a complete system of county roads; to provide for powers and duties of such county highway commissioners, and of the said county boards; to amend Sections 3062 and 3063 of the Revised Statutes of Nebraska for 1913 as amended by Chapter 63 of the Session Laws of Nebraska for 1915 and to repeal said original sections and chapter 63 of the Session Laws of 1915.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF NEBRASKA:

Section 1. The board of county commissioners or supervisors of each county shall, within one month after the taking effect of this act, select and designate from the laid out and platted public roads within the county certain roads to be known as "county roads," which shall be

direct highways connecting cities, villages, and market centers, and shall be main traveled roads. As soon as said county roads are so designated, the board of county commissioners or supervisors shall cause said county roads to be plainly marked on a map, and said map shall be deposited with the county clerk, and shall be open to public inspection. Upon filing said map the county clerk shall at once fix a date of hearing thereon, which shall not be more than twenty days, nor less than ten days from said date of filing, and notice of the filing of said map and the date of said hearing shall be published in one issue of each newspaper published in said county. At any time before said hearing is concluded any ten freeholders of the county may file a petition with the county clerk asking for any change in said designated roads, setting forth the reason for the proposed change, accompanied with a plat showing such proposed change. If no agreement is reached between the county board and the petitioners at said hearing, the county clerk shall forward said map, together with all petitions and plats, if any, to the State Board of Irrigation, Highways and Drainage. If no objections are filed and no hearing had, or if an agreement is reached, the roads so designated on said map shall be conclusively established as such county roads.

Sec. 2. The State Board of Irrigation, Highways and Drainage shall, upon receipt of said maps, petitions and plats, proceed to examine the same, and shall determine the lines to be followed by the said county roads, having regard to volume of traffic, continuity and cost of construction. The said Board shall, not later than twenty days from the receipt thereof, return said papers to the county clerk, together with the decision of said Board in writing, duly certified, and accompanied by a plat showing the line of said county road as finally determined. The county clerk shall file the said papers and record the said decision, and the same shall be conclusive as to the line of the county roads established therein.

Sec. 3. All county roads designated in accordance with the preceding sections of this act shall be maintained at the expense of the county. The Boards of county commissioners or supervisors of the several counties may, at any time, add other roads to the county road system provided for in this act, but the same procedure set forth in the preceding sections of this act for the establishment of the said county road system must be followed in the case of roads added thereto; and the total mileage included in said county road system shall not exceed twenty per cent of the total mileage of all the public highways within the county.

Sec. 4. It shall be the duty of the boards of county commissioners and supervisors to purchase and provide suitable and adequate graders, rollers, and all other machinery, tools and appliances necessary for the efficient maintenance and repair of the county roads; and it shall be the duty of the county highway commissioner to devote his time constantly to keeping the system of county roads in perfect condition and repair, and to see that the same are regularly dragged.

Sec. 5. As soon as the county roads have been designated and es-

tablished as provided in this act, the county highway commissioner shall, in writing, divide said roads in sections, designating each section by some appropriate number, name or letter, and clearly designating the starting point and terminus of each such selection, and such designation shall be recorded at length in the office of the county clerk in a county road book, whereupon the county highway commissioner shall proceed to survey said roads and report to the county board of commissioners or supervisors and plans for the road, bridge, tile and culvert work thereon. Such survey and report shall be the basis and with the object in view of the permanent improvement of said county roads, as to bridge, culvert, tile and road work. Such survey and report shall consist of an accurate plan and profile of said roads showing cuts and fills and outline of grades with careful attention to drainage and said plan and profile shall show all existing bridges, culverts and grades.

Sec. 6. Section 3062 of the Revised Statutes of Nebraska for 1913 is hereby amended to read as follows:

Sec. 3062. The County Board of commissioners or supervisors of each county shall, at their first regular meeting after the taking effect of this act, appoint a county highway commissioner to serve until the first regular meeting of the board in the following January, at which meeting and annually thereafter the board shall fill said office by appointment. In counties having fifty thousand population and over according to the last preceding officially taken and promulgated national or state census the county surveyor shall perform all the duties and possess all the powers and functions of county highway commissioner. In counties having a population of less than fifty thousand the county board may appoint the county surveyor or any other person deemed by the board to be qualified for the office, or the county board may appoint a member of the board as such highway commissioner. In the event a member of the county board shall be appointed county highway commissioner, he shall be compensated for the extra duties required of him by such appointment in such sum as the county board may allow, not to exceed the sum of $4.00 per day for time actually and exclusively employed in the duties of county highway commissioner, and for his actual traveling expenses.

Sec. 7. Section 3063 of the Revised Statutes of Nebraska for 1913, as amended by Chapter 63 of Session Laws of Nebraska for 1915, is hereby amended to read as follows:

Sec. 3063. The county highway commissioner shall have general control, government and supervision of all the public roads and bridges in the county under the authority and direction of the county board. Before entering upon the duties of his office he shall execute to the county a bond in the sum of two thousand dollars, to be approved by the county board, for the faithful performance of his duties, and to account for all funds and property that may come into his possession.

Sec. 8. Sections 3062 and 3063 of Revised Statutes of Nebraska for 1913, as amended by Chapter 63 of Session Laws of Nebraska for 1915, are hereby repealed.

HOUSE ROLL NO. 722

COMMITTEE ON ROADS AND BRIDGES

TITLE:

An Act to comply with the terms of the Federal Aid Road Act, approved July 11, 1916, to provide a State Aid Road Fund, to appropriate same, to provide for procedure in connection therewith, and to repeal Section 9 of Chapter 54 of the Session Laws of 1915.

BE IT ENACTED BY THE PEOPLE OF NEBRASKA:

Section 1. Assent is hereby given to the provisions of an Act of Congress entitled "An Act to provide that the United States shall aid the States in the construction of rural post roads and for other purposes" approved July 11, 1916, and the good faith of the State is hereby pledged to provide funds sufficient to carry out the provisions of said Act.

Sec. 2. For the purpose of carrying out the provisions of this Act a tax of sixty-five one-hundredths of one mill on each dollar of the assessed valuation of the grand assessment roll of the State shall be levied for the years 1917 and 1918 and there is hereby appropriated out of the fund realized from said levy the sum of $320,000 to be expended during the year 1917 and the sum of $320,000 to be expended during the year 1918; provided that if any part of the sum so appropriated shall not be expended during the year for which it is appropriated it shall be available for use in any subsequent year.

The funds herein appropriated shall be placed by the Auditor of Public Accounts and the State Treasurer to the credit of a fund to be known as the State Aid Road Fund and warrants not exceeding the amounts herein appropriated shall be drawn by the Auditor upon certificates presented by the State Board of Irrigation, Highways and Drainage, and warrants so drawn shall be paid by the State Treasurer.

Sec. 3. The State Board of Irrigation, Highways and Drainage shall have power to use the funds herein provided for the purpose of aiding in the construction or improvement of public roads, highways and bridges in the State of Nebraska, and to that end shall co-operate with the counties within the State and with the Federal Government. Said roads, highways and bridges shall always remain free from tolls for use of the public.

Sec. 4. The proceeds of the levy herein shall be used exclusively for the purpose of aiding in the construction or improvement of roads and bridges in the State of Nebraska in conjunction with the money apportioned to the State from the Federal Government under the Federal Aid Road Act of July 11, 1916, and the cost of engineering and supervision by the State Board of Irrigation, Highways and Drainage shall not exceed five per centum of the total cost of the work.

Sec. 5. The State Aid Road Fund, and the money apportioned to the State from the Federal Government under the Federal Aid Road Act of July 11, 1916, shall be apportioned among the several counties as follows: One-third in the ratio which the area of each county bears to the total area of the state; one third in the ratio which the mileage of rural delivery and star routes in each county bears to the total mileage of rural delivery and star routes in the State; one-third in the ratio which the population of each county bears to the total population of the State.

The ratio of population between the counties shall be determined by the number of votes cast in the respective counties for Governor at the General Election of 1916.

Sec. 6. The State Board of Irrigation, Highways and Drainage shall divide the State into project districts not exceeding five counties in any one district, in such a manner as in its judgment will best utilize the State Aid Road Fund available each year, as well as the money apportioned to the state from the Federal Government under the Federal Aid Road Act of July 11, 1916. Before submitting any project statement to the Secretary of Agriculture, as provided for in the Federal Aid Road Act, the same shall have received the approval of the county board of each county within the project district. The State Board of Irrigation, Highways and Drainage, at any time prior to the approval of the project by the county boards of the counties within the project district, may change the boundaries of any project district, as it may deem advisableffi provided the funds available for all of the counties in each project district shall be considered as a unit for such district, and the work of construction or improvement of roads for each district shall begin in any part or parts of such district at the place or places designated by the State Board of Irrigation, Highways and Drainage(and whenever the work in any project district is completed, the amount of the fund apportioned to each county shall have been expended in the construction or improvement of roads and bridges within said county, or in the event that all of the apportionment for each county is not used in the construction or improvement of the roads outlined in the project district plans for such county, the unused funds shall be used in the construction or improvement of such other roads within the county as the County Board and the State Board of Irrigation, Highways and Drainage may agree upon and which receive the approval of the Secretary of Agriculture.

Sec. 7. Before any of the funds provided in this Act shall be expended in any county in this state the county board shall by resolution in such form as may be prescribed by the State Board of Irrigation, Highways and Drainage, accept the provisions of this Act and set aside or provide for funds for the maintenance of such roads when constructed or improved and pledge the good faith and credit of the county to provide for the continued maintenance thereof. If at any time the

State Board of Irrigation, Highways and Drainage shall find that any road in any county constructed or improved under the provisions of this Act is not being properly maintained it shall give notice of such fact to the county and if within two months from the receipt of such notice said road has not been put in proper condition of maintenance then the State Board of Irrigation, Highways and Drainage shall thereafter refuse to approve any project or proceed with any road construction or improvement in said county until it has been put in a proper condition of maintenance.

Sec. 8. Any county desiring to use a greater sum of money upon the roads within the county than is made available under the provisions of this Act and the Federal Aid Road Act of July 11, 1916, may use other available county road funds or proceed to vote upon the question of issuing bonds or making a special levy of not to exceed five mills for such purpose in the same manner as is provided in Sections 2997, 2998, 2999 and 3000 of Article V of Chapter 28 of the Revised Statutes of Nebraska for 1913, in voting for bridge bonds. Subject to the approval of the State Board of Irrigation, Highways and Drainage, any other funds, whether in the form of donations, inheritance taxes, license fees, special assessments or otherwise, may be used in conjunction with the funds in this Act provided for.

Sec. 9. Section 9 of Chapter 54 of the Session Laws of 1915 is hereby repealed.

STATE AID BRIDGES

Contracts Let in 1915 and 1916—Finished in 1917 and 1918.

Name	County	River
North Platte	Nuckolls	Republican
St. Paul	Lincoln	Loup
Gretna	Sarpy and Saunders	Elkhorn
Schuyler	Colfax and Butler	Platte
South Platte	Lincoln	South Platte
Parshall	Boyd and Holt	Niobrara
Kearney	Buffalo and Kearney	Platte
Red Bird	Boyd and Holt	Niobrara

STATE AID BRIDGES

1917-1918.

Name	County	River
West Point	Cuming	Elkhorn
Verdigre	Knox	Verdigre Creek
North Platte	Lincoln	South Platte
Havens	*Merrick and Polk	Platte
Bartley	Red Willow	Republican
Mitchell	Scotts Bluff	North Platte
Mitchell Valley	Scotts Bluff	North Platte

*Purchased with State Fund.

BIDS ON WEST POINT STATE AID BRIDGE
Received at West Point, Nebraska, January 25, 1918

BIDDERS—	Elkheart Bridge & Iron Co.	Standard Bridge Co.	Central Bridge & Construction Co.	Midland Bridge Co.	Beatty Construction Copany	W. T. S. Neligh	Omaha Structural Steel Company	Elkhorn Construction Co.
State Aid Bridge	$5,590	$3,436	$4,491	$5,550	$5,810	$3,383.35	$5,210	$5,005
Two concrete abutments	660	454	422	600	585	425	710	500
			24½					
			80					

Contract let to W. T. S. Neligh, West Point.

BIDS ON VERDIGRE STATE AID BRIDGE
Received at Center, Nebraska, January 24, 1918

BIDDERS—	Elkhorn Cons. Company	Central Bridge & Construction Co.	Beaty Co. Blair, Neb.	Omaha Structural Steel Bridge Co.	Midland Bridge Company	Western Bridge & Cons. Co.
Steel Truss Br. 1-180' span	$15,376.00	$15,600.00	$15,940.00	$16,110.00	$15,558.00	$14,585.00
Plain concrete, per cu. yd.	28.75	27.50	26.50	26.00	27.75	27.00
Reinforcing steel, per lb.	9½c	12c	10c	11c	11½c	10c
Wood piling, per lin. ft.	3.75	3.95	3.90	3.25	3.40	1.10
Bethlehem H'Piling, per lin. ft., weight 32 lb.	5.00	4.75	4.80	4.45	4.65	4.50
Fabricated steel, per lb.	13¾c	13c	14c	12½c	12.4c	12½c

Contract let to Western Bridge & Construction Co., Omaha.

BIDS ON NORTH PLATTE STATE AID BRIDGE
Received at North Platte, Nebraska, February 27, 1918

BIDDERS—	Omaha Structural Steel Co.	Midland Bridge Co.	Central Bridge & Const. Co.	Monarch Eng. Company	Tom Gass Const. Co.
State Aid concrete bridge	$40,990.00	$41,300.00	$41,900.00	$39,738.00	$38,245.50
Earthwork in Fills, per cu. yd.	27c	27c	28c	25c	25c
Surfacing on Fills & Br. per cu. yd.	1.10	1.00	1.10	1.00	1.00
Extra plain concrete, per cu. yd. in place	28.00	26.00	20.00	27.00	25.25
Extra reinforcing steel, per lb. in place	7½c	7½c	8¼c	7c	7c
Extra Wakefield Piling, per lin. ft. in place	80c	80c	85c	50c	60c
Extra Round Piling, per lin. ft. in place	60c	60c	65c	50c	70c

Contract let to Tom Gass, Elm Creek, Nebraska.

BIDS ON BARTLEY STATE AID BRIDGE
Received at McCook, Nebraska, January 28, 1918

BIDDERS—	Omaha Structural Steel Works	Levy Construction Company	Midland Bridge Company	Ward & Weighton Company	Western Bridge & Cons. Co.	Standard Bridge Co.
State Aid concrete bridge	$24,620.00	$26,200.00	$26,100.00	$23,300.00	$27,400.00	$24,000.00
Earthwork in Fills, cu. yd	75c	40c	41c	33⅓c	43c	36c
Surfacing on Fills and Bridge, per cu. yd.	1.65	1.80	1.50	1.50	1.25	1.70
Extra plain concrete, per cu. yd. in place	26.90	25.00	25.00	27.25	31.00	29.90
Extra reinforcing steel, per lb. in place	7⅞c	7¼c	8c	7¾c	8½c	8c
Extra Wakefield Piling, per lin. ft. in place	75c	80c	70c	80c	$4.00	85c
Extra round piling, per lin. ft. in place	55c	55c	65c	55c	70c	62c

Contract let to Ward & Weighton, Sioux City.

BIDS ON MITCHELL STATE AID BRIDGE
Received at Gering, Nebraska, January 21, 1918

BIDDERS—	Western Bridge & Const. Co.	Tomas Gass	Omaha Structural Steel Bridge Co.	Central Bridge & Const. Co.	Ward & Weighton Const. Co.	C. S. Lambie Company	Monarch Engr. Company	Midland Bridge Company
State Aid Concrete Bridge	$43,798	.....	$41,300	$44,000	$47,100	$46,000	$42,948	$41,990
Earthwork in Fills, per cu. yd.	43c	35c	35c	42c	50c	35c	39c	36c
Surfacing on Fills and Bridge—Per cu. yd.	$ 2.25	$ 1.00	$ 1.00	$ 2.10	$ 3.00	$ 1.15	$ 2.00	$(1.50) 2.00
Extra plain concrete, per cu. yd. in place	27.00	.....	25.00	27.50	25.00	30.00	28.00	27.50
Extra reinforcing steel, per lb. in place	7¾c	.....	7c	8¼c	7½c	7c	7½c	8c
Extra Wakefield Piling, per lin. ft. in place	75c	.....	70c	74c	75c	$ 1.00	72c	70c
Extra Round Piling, per lin. ft in place	53c	.....	45c	52c	55c	1.00	50c	50c

Contract let to Omaha Structural Steel Bridge Co., Omaha.

BIDS ON MITCHELL VALLEY STATE AID BRIDGE
Received at Gering, Nebraska, January 21, 1918

BIDDERS—	Monarch Engr. Company	Midland Bridge Company	C. S. Labbie Company	Central Bridge & Const. Co.	Ward & Weighton Company	Omaha Structural Steel Co.	Western Bridge & Const. Co.	Tomas Gass
State Aid Concrete Bridge		$41,990	$16,000	$44,350	$47,210	$41,300	$43,798	
Earthwork in Fills, per cu. yd.		36c	35c	42c	48½c	35c	43c	35c
Surfacing on Fills and Bridge, per cu. yd.		$ 2.00	$ 1.15	$ 2.10	$ 3.00	$ 1.00	$ 2.25	$ 1.00
Extra Plain Concrete, per cu. yd. in place		27.50	30.00	27.50	25.00	25.00	27.00	
Extra Reinforcing Steel, per lb. in place		8c	7c	8¼c	7½c	7c	7¾c	
Extra Wakefield Piling, per lin. ft. in place		70c	$ 1.00	74c	75c	70c	75c	
Extra Round Piling, per lin. ft. in place		50c	1.00	52c	75c	45c	53c	

LIST OF APPLICATIONS FOR STATE AID BRIDGES

Now on File November 1, 1918

County	Bridge	Stream
Buffalo	Shelton	Platte
Cass and Sarpy	Plattsmouth	Platte
Dawson	Willow Island	Platte
Dawson	Cozad	Platte
Douglas	Valley	Elkhorn
Garden	Oshkosh	North Platte
Garfield	Burwell	North Loup
Greeley	Scotia	North Loup
Hall and Hamilton	Grand Island	Platte
Hitchcock	Trenton	Republican
Howard	Boelus	Middle Loup
Lincoln	Brady	Platte
Merrick	Prairie Island	Platte
Merrick and Polk	Silver Creek	Platte
Platte	Columbus	Loup
Saunders and Douglas	Yutan	Platte
Saunders and Sarpy	Ashland	Platte
	Scottsbluff-Gering	
	Minatare-Melba	
	Minatare-Melbeta	
Scotts Bluff	Henry	Platte

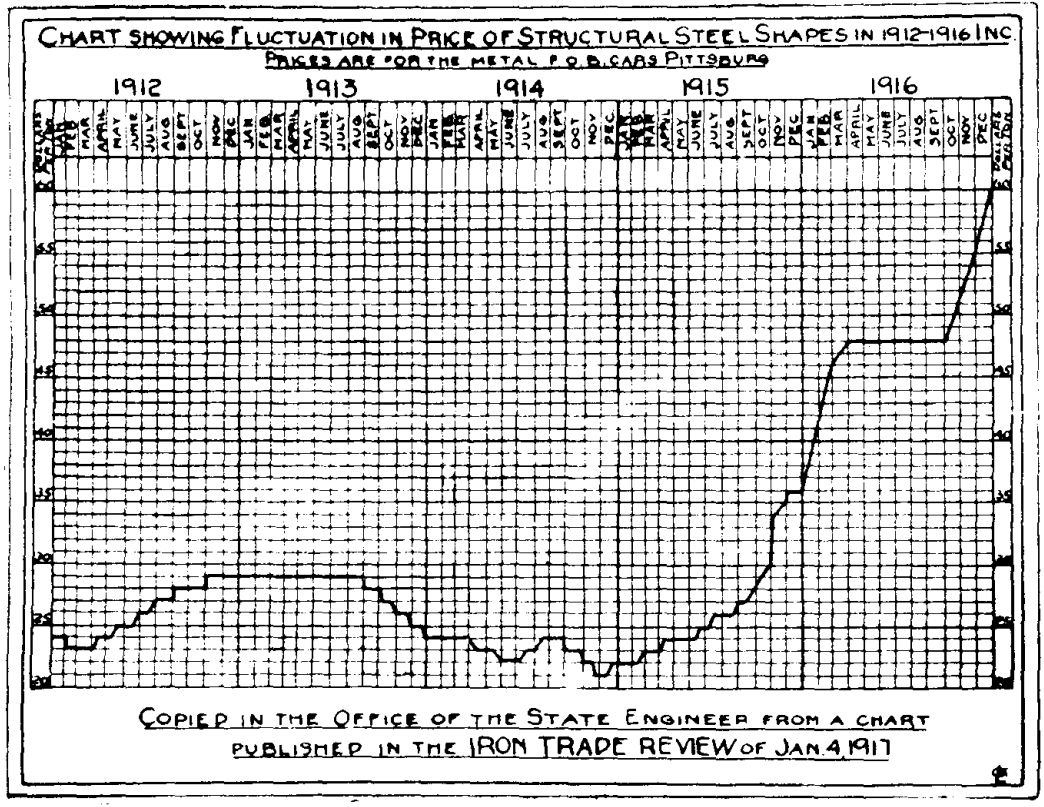


CHART SHOWING FLUCTUATION IN PRICE OF STRUCTURAL STEEL SHAPES IN 1912-1916 INC.
PRICES ARE FOR THE METAL F.O.B. CARS PITTSBURG
1912
1913
1914
1915
1916
COPIED IN THE OFFICE OF THE STATE ENGINEER FROM A CHART
PUBLISHED IN THE IRON TRADE REVIEW OF JAN. 4, 1917

PROPOSAL

FOR

BRIDGES, BRIDGE MATERIAL AND BRIDGE WORK

B-1

TO THE HONORABLE BOARD OF.....

of..... County, State of Nebraska.

Gentlemen:

The Undersigned,.....

of .....having carefully studied the plans, specifications and instructions to bidders, and the form of Contract and Bond attached to and made a part of said plans and specifications, copies of which are on file in the office of the County Clerk, all of which .....fully understand and hereby agree to, propose to furnish all material and labor, necessary to erect and complete such bridges, bridge material and bridge work as you may require during the year beginning.....for the unit prices as set forth in price sheets hereto attached and made a part of this proposal.

Very respectfully submitted,

.....

.....

Date..... .....

Should there be a discrepancy between this bidding blank and Standard Specifications this bidding blank shall govern.

To be attached to and to form part of proposal blank

CONTRACT

This CONTRACT, made in duplicate and entered into this..... day of.....19....., by and between the Board of .....for the County of....., State of Nebraska, party of the first part and..... of .....County, State of..... party of the second part.

WITNESSETH: That for and in consideration of the unit prices for bridges, bridge work and bridge materials, as set forth in the attached proposals and sheets attached thereto, and which unit prices the party of the first part hereby agrees to pay the party of the second part, the party of the second part agrees to construct, furnish and complete in a good and workmanlike manner and in full and exact compliance with the plans and specifications including general printed stipulations and specifications which are hereto attached and hereby made a part of this contract, and to the full satisfaction of the party of the first part, such bridges, bridge work and bridge materials as the party of the first part may require during the year beginning....., 19.....

It is further agreed between the parties hereto that from time to time estimates shall be paid to the party of the second part by the party of the first part upon materials furnished and labor performed, as in the judgment of the party of the first part may be right and proper.

It is further agreed between the parties hereto that such bridges, bridge work and bridge materials ordered by the party of the first part shall be furnished and completed by the party of the second part within .....days from the date of such order.

Provided further, that due notice shall be given to the party of the first part by the party of the second part when about to commence the building of any bridges in order that the party of the first part may provide for the inspection of materials and labor to be performed, and unless otherwise specifically provided,..... of the District in which the work is to be performed is hereby designated by the party of the first part to act for and in behalf of the party of the first part at all times when such Board of..... is not in official session.

It is further agreed between the parties hereto that the said party of the second part shall protect and hold the party of the first part free

and blameless from any and all claims for royalties on account of the infringement of any patents.

The party of the second part hereby agrees to furnish within thirty days from the date hereof, a good and sufficient surety bond acceptable to the party of the first part in the sum of..... Dollars, conditioned for the faithful performance and full completion of the agreement of the party of the second part under and in accordance with the terms of this contract.

This contract shall be binding upon the heirs, executors, administrators, successors and assigns of the respective parties hereto.

IN WITNEESS WHEREOF the parties hereto have set their hands the day and year above written.

.....

Party of the First Part

.....

Party of the Second Part

ATTEST:

I hereby certify that the foregoing contract has this day been duly signed by the Board of County..... of .....County, Nebraska, and by the contractor, and is now hereby countersigned by me, as County Clerk, ex-officio clerk of said County Board.

(SEAL) ....., 19.....

B-7

To be attached to and form part of proposal blank

BOND OF PUBLIC CONTRACTOR

KNOW ALL MEN BY THESE PRESENTS: That we..... .....as principal, and .....

as sureties, are held and firmly bound unto the County of..... State of Nebraska, in the penal sum of $..... and for the pay-

ment of which we do hereby bind ourselves, our heirs, executors, and administrators, jointly, severally, and firmly by these presents.

Dated.....A. D. 19.....

The condition of this obligation is such that whereas the above bounden.....has been awarded by the County Board of.....of .....County, of the State of Nebraska, the contract for ..... according to certain plans, specifications, proposals and contract on file in the office of the County Clerk of said County.

Now if the said..... shall faithfully keep and perform each and every one of the stipulations and agreements contained in the said contract, plans, specifications and proposals at the time and in the manner therein specified, and pay off and settle in full with the person or persons entitled thereto all accounts and claims that may become due by reason of laborers' or mechanics' wages, or for materials furnished, or services rendered to said party of the first part in executing or performing the obligations of said contarct, so that each of such persons may receive his just dues in that behalf, then this obligation to be void; otherwise to be and remain in full force and effect in law.

In Presence of

....

....

....

AVERAGE BID OF ALL BRIDGE CONTRACTS LET FOR 1918 ON STATE PLANS

Steel Truss Superstructure in Place Complete Except Floor, per Lineal Foot

Panels	Lgth	Type	Pin Connected Floor		Riveted Floor	
			Wood	Conc.	Wood	Conc.
3	35'	Low	$28.89	$35.00	$30.38	$32.35
3	40'	.....	29.31	35.00	30.24	31.98
3	45'	.....	29.36	34.00	30.66	32.26
3	50'	.....	30.48	36.00	31.48	33.16
3	55'	.....	30.51	36.00	31.93	33.67
3	60'	.....	30.61	37.00	32.31	34.14
4	60'	.....	32.44	38.00	33.31	35.49
4	65'	.....	32.67	38.00	33.87	36.00
4	70'	.....	33.74	38.00	34.64	36.80
4	75'	.....	34.09	39.00	35.05	37.19
4	80'	.....	34.47	40.25	35.70	37.97
5	80'	.....	36.19	41.00	37.12	39.18
5	85'	.....	35.93	41.00	37.20	40.23
5	90'	.....	36.35	41.00	37.50	40.70
5	95'	.....	36.83	42.00	38.04	41.38
5	100'	.....	37.09	42.00	38.50	41.77
6	100'	High	40.90	.....	39.50	39.10
6	110'	.....	.....	.....	.....	.....
6	120'	.....	.....	.....	.....	.....
7	120'	.....	.....	.....	.....	.....

Steel Tube Shells per Vertical Foot in Place

Type	Diam.	1-4"	5-16"
A	36"	$10.36	.....
B	42"	12.16	.....
C	48"	14.31	.....
D	54"	16.09	.....
E	60"	17.40	.....

Steel Caps per Foot of Cap in Place

A	2- 6" Channels	$ 1.39
B	2- 7" Channels	1.80
C	2- 8" Channels	2.28
D	2-10" Channels	2.77
E	2-12" Channels	3.21

Other Superstructures Complete in Place Except Floor per Lineal Foot

Panel	Lgth	I-BEAM			STEEL GIRDER			WOOD		
		14' R'd'w'y Wood	Con	16' R'd'w'y Wood	Con	18' R'd'w'y Wood	Con	14' Rd'w'y Wood	Con	16' R'd'w'y Wood	Con	18' Rdwy W'd	Con	14'	16' Wood	18'
1	12'	.....	.....	$10.47	$11.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	$ 6.45	.....
1	14'	.....	.....	11.59	12.90	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.62	.....
1	16'	.....	.....	12.02	13.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.31	.....
1	18'	.....	.....	13.34	14.66	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.53	.....
1	20'	.....	.....	13.81	15.02	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.98	.....
1	22'	.....	.....	15.07	16.48	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.17	.....
1	24'	.....	.....	15.64	18.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.82	.....
1	26'	.....	.....	18.13	20.45	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.08	.....
1	28'	.....	.....	18.58	21.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.52	.....
1	30'	.....	.....	19.26	23.98	.....	.....	.....	.....	$29.86	$31.95	.....	.....	.....	10.18	.....
1	32'	.....	.....	19.50	24.34	.....	.....	.....	.....	30.08	32.29	.....	.....	.....	10.68	.....
1	34'	.....	.....	.....	.....	.....	.....	.....	.....	30.94	33.81	.....	.....	.....	.....	.....
1	36'	.....	.....	.....	.....	.....	.....	.....	.....	32.37	34.86	.....	.....	.....	.....	.....
1	38'	.....	.....	.....	.....	.....	.....	.....	.....	33.13	35.78	.....	.....	.....	.....	.....
1	40'	.....	.....	.....	.....	.....	.....	.....	.....	34.14	36.46	.....	.....	.....	.....	.....

Steel Piling per Foot of Pile in Place

A	8"-18-lb. I	$ 1.86
B	Built 8"-33⅜-lb.	3.09
C	Beth. "H" 8"-32-lb.	3.31
D	Beth. Girder, 8"-32¼lb.	3.34

Wood Piling per Foot of Pile in Place

Red Cedar under 24' long	$0.523	$0.605
Red Cedar over 24' long	0.565	0.639
White Oak under 24' long	0.618	0.674
White Oak over 24' long	0.664	0.718
Fir Piling untreated	0.575	0.65
Fir Piling creosoted	.....	.....

Wakefield piling for cofferdams, per M. BM. in place	$62.25
Wakefield piling for permanent use, per M. BM. in place	68.89
Round piling 9" top driven in place per lineal foot	.614
Mass concrete in place per cubic foot	.52
Architectural concrete in place per cubic foot	.66
Dry excavation per cubic foot	.042
Wet excavation per cubic foot	.153
Rock excavation per cubic foot	.573
Forms for architectural concrete per M. BM. in place	42.26
Forms for mass concrete per M. BM. in place	34.97
Reinforcing any condition in place	.0674

	New	Rep.
Fir lumber untreated per M. BM. in place	$49.55	$51.50
Fir lumber creosoted per M. BM. in place	63.33	68.33
Pine lumber untreated per M. BM. in place	48.38	53.75
Pine lumber creosoted per M. BM. in place	.....	.....
White oak untreated per M. BM. in place	48.86	56.06
Tearing out old lumber per M. BM.	8.14	9.43
Replacing old lumber per M. BM.	10.71	11.82
Fir floor in place per lin. ft. of br.	.....	.....
Creosoted block ft. in place per sq. yd.	6.49	
Overhaul per ton mile	.....	0.455
Fabricated steel not otherwise bid per lb.		0.085
Other labor or material, cost plus 18%.		

NOTE: All superstructure bids are for 20-ton engine loading. Superstructure bids for 15-ton engine loading were approximately 20% lower.

To Be Attached to and Form Part of Proposal Blank

PRICES PER LINEAL FOOT FOR I BEAM SUPERSTRUCTURES COMPLETE IN PLACE EXCEPT FLOOR AND RAIL FOR 20-TON ENGINE LOAD.

		16 Ft. Roadway		— Ft. Roadway				16 Ft. Roadway		— Ft. Roadway	
Panels	Length	Wood Floor	Concrete Floor	Wood Floor	Concrete Floor	Panels	Length	Wood Floor	Concrete Floor	Wood Floor	Concrete Floor
1	12 ft.					1	26 ft.				
1	14 ft.					1	28 ft.				
1	16 ft.					1	30 ft.				
1	18 ft.					1	32 ft.				
1	20 ft.										
1	22 ft.										
1	24 ft.										

PRICES PER LINEAL FOOT FOR STEEL GIRDER SUPERSTRUCTURES IN PLACE FOR 20-TON ENGINE LOAD

		16 Ft. Roadway		— Ft. Roadway				16 Ft. Roadway		— Ft. Roadway	
Panels	Length	Wood Floor	Concrete Floor	Wood Floor	Concrete Floor	Panels	Length	Wood Floor	Concrete Floor	Wood Floor	Concrete Floor
3	30 ft.					3	38 ft.				
3	32 ft.					3	40 ft.				
3	34 ft.										
3	36 ft.										

PRICES PER LINEAL FOOT FOR WOOD SUPERSTRUCTURE COMPLETE IN PLACE INCLUDING FLOOR FOR 20-TON ENGINE LOAD

		Width of Roadway				Width of Roadway	
Panels	Length	16 Ft.	— Ft.	Panels	Length	16 Ft.	— Ft.
1	12 ft.			1	26 ft.		
1	14 ft.			1	28 ft.		
1	16 ft.			1	30 ft.		
1	18 ft.			1	32 ft.		
1	20 ft.						
1	22 ft.						
1	24 ft.						

To be Attached to and Form Part of Proposal Blank

PRICES PER LINEAL FOOT FOR I BEAM SUPERSTRUCTURES COMPLETE IN PLACE EXCEPT FLOOR AND RAIL FOR 15-TON ENGINE LOAD

		16 Ft. Roadway		— Ft. Roadway				16 Ft. Roadway		— Ft. Roadway	
Panels	Length	Wood Floor	Concrete Floor	Wood Floor	Concrete Floor	Panels	Length	Wood Floor	Concrete Floor	Wood Floor	Concrete Floor
1	12 ft.					1	26 ft.				
1	14 ft.					1	28 ft.				
1	16 ft.					1	30 ft.				
1	18 ft.					1	32 ft.				
1	20 ft.										
1	22 ft.										
1	24 ft.										

PRICES PER LINEAL FOOT FOR STEEL GIRDER SUPERSTRUCTURES IN PLACE FOR 15-TON ENGINE LOAD

		16 Ft. Roadway		— Ft. Roadway				16 Ft. Roadway		— Ft. Roadway	
Panels	Length	Wood Floor	Concrete Floor	Wood Floor	Concrete Floor	Panels	Length	Wood Floor	Concrete Floor	Wood Floor	Concrete Floor
3	30 ft.					3	38 ft.				
3	32 ft.					3	30 ft.				
3	34 ft.										
3	36 ft.										

PRICES PER LINEAL FOOT FOR WOOD SUPERSTRUCTURES COMPLETE IN PLACE INCLUDING FLOOR FOR 15-TON ENGINE LOAD

		Width of Roadway				Width of Roadway	
Panels	Length	16 Ft.	— Ft.	Panels	Length	16 Ft.	— Ft.
1	12 ft.			1	26 ft.		
1	14 ft.			1	28 ft.		
1	16 ft.			1	30 ft.		
1	18 ft.			1	32 ft.		
1	20 ft.						
1	22 ft.						
1	24 ft.						

PRICES FOR CONCRETE BOX CULVERTS, SLAB BRIDGES, GIRDER BRIDGES, ARCH BRIDGES, WINGS, BACKING PIERS, ABUTMENTS, CONCRETE FLOORS OR CONCRETE IN ANY OTHER CONDITION FOR THE VARIOUS UNITS GIVEN BELOW FOR 15 AND 20-TON ENGINE LOAD BRIDGES.

Wakefield sheet piling for cofferdams, in place, per M. ft B.M.
Wakefield sheet piling for permanent use in place per M. ft. B. M.
Round piling, 8-in. tops, driven in place, per lineal foot
Mass Concrete in place, per cubic foot
Architectural concrete in place, per cubic foot
Dry excavation, per cubic foot
Wet excavation, per cubic foot
Rock excavation, per cubic foot
Placing forms and patterns for architectural concrete per 100 feet B.M.
Placing forms for mass concrete, per 100 feet B.M.

PRICES FOR CONCRETE BOX CULVERTS, SLAB BRIDGES, GIRDER BRIDGES, ARCH BRIDGES, WINGS, BACKING, PIERS, ABUTMENTS, CONCRETE FLOORS OR CONCRETE IN AN OTHER CONDITION FOR THE VARIOUS UNITS AS GIVEN BELOW
FOR 15 AND 20-TON ENGINE LOAD BRIDGES.

Wakefield sheet piling for cofferdams, in place, per M. ft B.M.		
Wakefield sheet piling for permanent use in place per M. ft. B.M.		
Round piling, 8-in. tops, driven in place, per lineal foot		
Mass Concrete in place, per cubic foot		
Architectural concrete in place, per cubic foot		
Dry excavation, per cubic foot		
Wet excavation, per cubic foot		
Rock excavation, per cubic foot		
Placing forms and patterns for architectural concrete per M. feet B. M.		
Placing forms for mass concrete, per M. feet B. M.		

PRICES PER LINEAL FOOT FOR PIN CONNECTED TRUSSES WITH 16-FOOT ROADWAY IN PLACE

FOR 20-TON ENGINE LOAD

Panels	Length	Type	For Wood Floor	For Concrete Floor
3	35 ft.	Low Truss		
3	40 ft.	"		
3	45 ft.	"		
3	50 ft.	"		
3	55 ft.	"		
3	60 ft.	"		
4	60 ft.	"		
4	65 ft.	"		
4	70 ft.	"		
4	75 ft.	"		
4	80 ft.	"		
5	80 ft.	"		
5	85 ft.	"		
5	90 ft.	"		
5	95 ft.	"		
5	100 ft.	"		
6	100 ft.	High Truss		
6	110 ft.	"		
6	120 ft.	"		
7	120 ft.	"		
7	130 ft.	"		
7	140 ft.	"		
8	140 ft.	"		
8	150 ft.	"		

FOR 15-TON ENGINE LOAD

Panels	Length	Type	For Wood Floor	For Concrete Floor
3	35 ft.	Low Truss		
3	40 ft.	"		
3	45 ft.	"		
3	50 ft.	"		
3	55 ft.	"		
3	60 ft.	"		
4	60 ft.	"		
4	65 ft.	"		
4	70 ft.	"		
4	75 ft.	"		
4	80 ft.	"		
5	80 ft.	"		
5	85 ft.	"		
5	90 ft.	"		
5	95 ft.	"		
5	100 ft.	"		
6	100 ft.	High Truss		
6	110 ft.	"		
6	120 ft.	"		
7	120 ft.	"		
7	130 ft.	"		
7	140 ft.	"		
8	140 ft.	"		
8	150 ft.	"		

PRICES PER LINEAL FOOT FOR RIVETED TRUSSES WITH 16-FOOT ROADWAY IN PLACE

FOR 20-TON ENGINE LOAD

Panels	Length	Type	For Wood Floor	For Concrete Floor
3	35 ft.	Low Truss		
3	40 ft.	"		
3	45 ft.	"		
3	50 ft.			
3	55 ft.	"		
3	60 ft.	"		
4	60 ft.	"		
4	65 ft.	"		
4	70 ft.	"		
4	75 ft.	"		
4	80 ft.	"		
5	80 ft.	"		
5	85 ft.	"		
5	90 ft.	"		
5	95 ft.	"		
5	100 ft.	"		
6	100 ft.	"		

FOR 15-TON ENGINE LOAD

Panels	Length	Type	For Wood Floor	For Concrete Floor
3	35 ft.	Low Truss		
3	40 ft.	"		
3	45 ft.	"		
3	50 ft.	"		
3	55 ft.	"		
3	60 ft.	"		
4	60 ft.	"		
4	65 ft.	"		
4	70 ft.	"		
4	75 ft.	"		
4	80 ft.	"		
5	80 ft.	"		
5	85 ft.	"		
5	90 ft.	"		
5	95 ft.	"		
5	100 ft.	"		
6	100 ft.	"		

To Be Attached to and Form a Part of Proposal Blank

PRICES FOR STEEL SUBSTRUCTURES, STEEL JOIST, STEEL RAIL, WOOD OR WOOD BLOCK FLOORS AND MISCELLANEOUS ITEMS AND REPAIRS. UNITS GIVEN BELOW.

Type	Diameter	Steel Tube Shells in Place	Price
A	36 in.	Per vertical ft. each shell	
B	42 in.	Per vertical ft. each shell	
C	48 in.	Per vertical ft. each shell	
D	54 in.	Per vertical ft. each shell	
E	60 in.	Per vertical ft. each shell	

Steel Joist on any Trusses or Girders	Price
3" per foot of bridge as per plans	
4" per foot of bridge as per plans	
5" per foot of bridge as per plans	
6" per foot of bridge as per plans	
Plain rail per foot of rail	
Lattice rail per foot of rail	

STEEL PILING MINIMUM WT.....

Type	Size	Unit	Price
A	8 in. Is	Per foot of	
B	Built "H" 8 in.	each pile	
C	Bethlehem "H" 8 in.	place	
D	Bethlehem Girder 8 in.		

STEEL CAPS

Type	Size	Unit	Price
A	2-6 in. Is	Per foot of	
B	2-7 in. Is	each Cap	
C	2-8 in. Is	place	
D	2-10 in. Is		
E	2-12 in. Is		

For any steel not otherwise bid on per pound in place.....

For painting, adjusting or cleaning any bridge per foot—Low Truss..... High Truss.....

WOOD PILING DRIVEN IN PLACE—Except in connection with concrete work—Per lineal foot in place for purpose stated.

Kind of Piling	For New Work	For Repair Work
Red Cedar under 24 feet long		
Red Cedar 24 feet long and over		
White Oak under 24 feet long		
White Oak 24 feet long and over		
Fir piling untreated, any length		
Fir Piling creosoted, any length		

LUMBER for Floors of all steel bridges and otherwise—Except in connection with concrete work.

	For New Work	For Repair Work
Fir lumber, untreated, in place, per M. feet B.M.		
Fir lumber, creosoted, in place, per M. feet B.M.		
Pine lumber, untreated, in place, per M. feet B.M.		
Pine lumber, creosoted, in place, per M feet B.M.		
Oak lumber, untreated, in place, per M feet B.M.		
For handling old lumber—tearing out—per M. feet B.M.		
For replacing old lumber, per M. feet B.M.		
For any pile straps drifts anchors, each		
For any capacity plates, plain, each		
For any capacity plates lettered county, each		
For any other hardware, per pound		
For creosoted block floor, in place, per square yard		
For any overhaul, per ton mile		

For any other work, materials or labor, cost plus a profit of ..... per cent.

THE SOIL ROAD MATERIALS OF NEBRASKA

By G. E. CONDRA,

Director of the Nebraska Conservation and Soil Survey,
Chairman of the State Highway Advisory Board

Soils are the state's most important road materials. Though there are many soils in Nebraska, a satisfactory method of handling them in road work has not been fully determined.

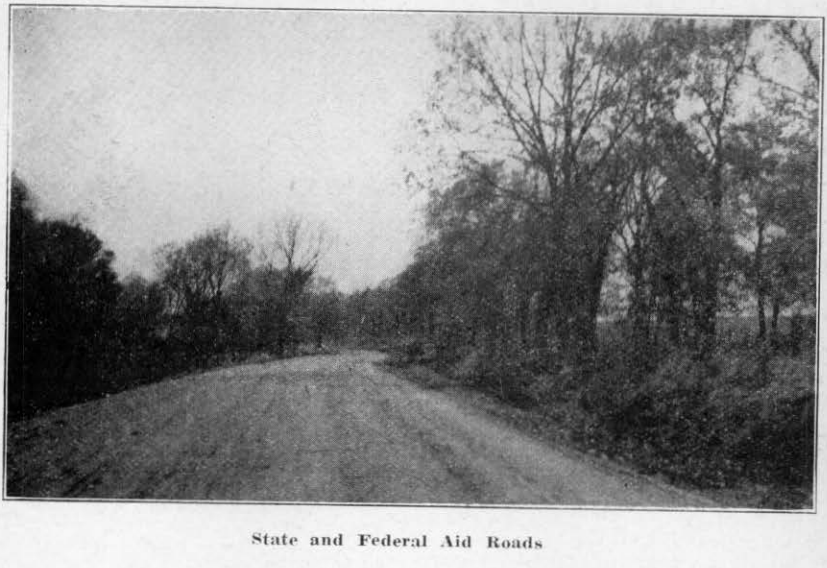
This bulletin is a preliminary report based on the work of the State Conservation and Soil Survey* and the Advisory State Highway Board. It may be of some use to persons building and maintaining earth roads awaiting a more complete report. The purpose of the paper is to outline the soil provinces of Nebraska and to discuss the physical properties of soils most used in road building. The term "soil," as here used, denotes both soil and subsoil.

The state owns the highways and the soil materials beneath them. These materials when properly combined are better suited for roads than is generally supposed. Due regard should be had, however, for the climatic conditions affecting roads. For example, some earth roads should not be graded; some should be graded to a crown, the form of which is determined by soil type, rainfall and drainage, and others require the mixing of materials to produce a stable surface. The methods of construction and maintenance are largely determined by the demands placed upon a road, and by the nature of the soils with which and upon which the road is built.

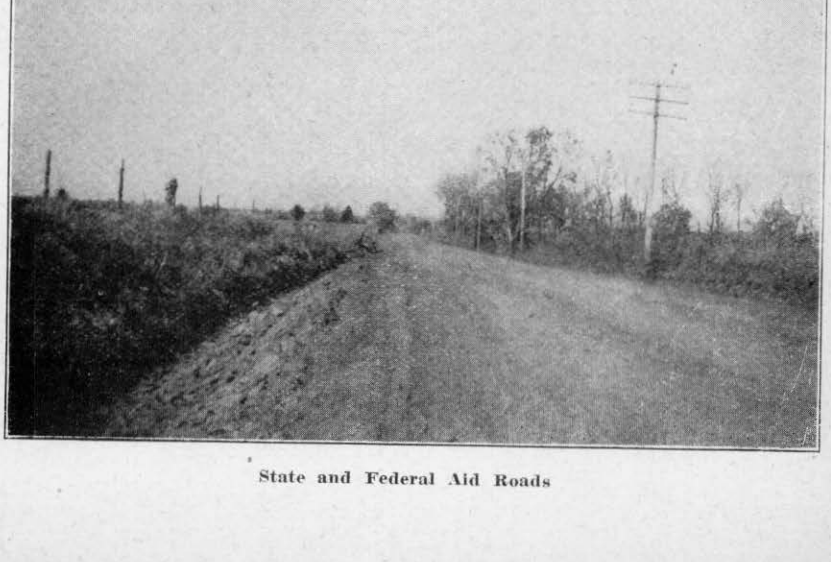
The Soil Survey—The soil survey has two leading purposes—one to give a general description of the soils of the state, and the other to make known the details of the various soil types relating to agriculture and state development. The first line of survey has covered fifty-two central and western counties. A report on this, the Reconnoissance Survey of Western Nebraska, was published by the U. S. Bureau of Soils, Washington, D. C., and distributed generally in Nebraska

The detailed soil survey investigates the origin, topography, drainage, mechanical analysis, and agricultural value of soils. Twenty-four counties have been covered in this way. They are Richardson, Nemaha, Cass, Otoe, Gage, Saunders, Douglas, Washington, Dodge, Thurston, Wayne, Seward, Polk, Fillmore, Phelps, Hall, Chase, Dawes Sheridan,

*The writer is indebted to several persons who rendered valuable assistance in the preparation of this bulletin. Among them are George Johnson, State Engineer; F. A. Hayes, H. C. Mortlock, B. W. Tillman and A. H. Meyers, of the U. S. Bureau of Soils, and L. A. Wolfanger, V. H. Seabury, Frances J. Daly and Esther S. Anderson, of the State Conservation and Soil Survey.



State and Federal Aid Roads



State and Federal Aid Roads

Morrill, Box Butte, Scotts Bluff, Kimball, and Cheyenne. Reports have been published on these except Sheridan, Morrill, Cheyenne, Chase and Phelps which are to be off the press within a few months. Less detailed reports, not so useful in road work, were made a few years ago on Sarpy, Stanton, Lancaster, Kearney and North Platte areas.

The soil survey is now progressing at the rate of three to five counties a year. The work is done by the State Conservation and Soil Survey of the State University in co-operation with the U. S. Bureau of Soils, Washington.

Use of Soil Reports—Reports of the soil survey are free upon request from the U. S. Bureau of Soils, Washington, as long as they last. Congressmen are sometimes able to secure copies from other sources after those of the Bureau of Soils are exhausted.

Soil survey reports are useful in several ways, as in agriculture, schools, the realty business, and for road purposes. The maps show drainage-ways, soils, houses, roads, and towns and are therefore a guide to travel. Knowing the nature of soils whether rough, smooth, sandy, and knowing how the types are affected by conditions of weather, one is better prepared to start upon a journey.

One of the main uses of the soil survey should be in connection with the construction and maintenance of dirt roads. Persons using the reports and maps for this purpose should read the description of the subsoils especially.

PHYSICAL PROPERTIES OF SOIL

The properties of soils used as road materials have not been fully determined. They may be agreed upon and standardized before long. Among the properties considered in this report are color, structure, texture, voids, drainage, absorption, packing, drying, stability and wear.

Color has no particular importance in this connection except for use in identifying soils. The dark soils are usually high in organic matter content, yet they may be colored in part by a low oxide of iron. The yellowish and brownish soils and subsoils are stained with varying quantities of iron. The grayish soils may contain calcareous matter or light colored sand or both.

Structure relates mainly to the layers or zones in a soil section. Most soil sections show three divisions—the upper layer or soil proper; a middle layer (sometimes a hardpan), and a lower zone. (See Figure 1). These vary greatly in thickness and texture. The upper soil layer (1) is usually darkened more or less by organic matter. The middle zone or upper part of the subsoil (2) is more compact, made so mainly by the deposition of clay particles, calcium carbonate, and the compounds of iron and other materials derived from the upper soil. The lower subsoil in

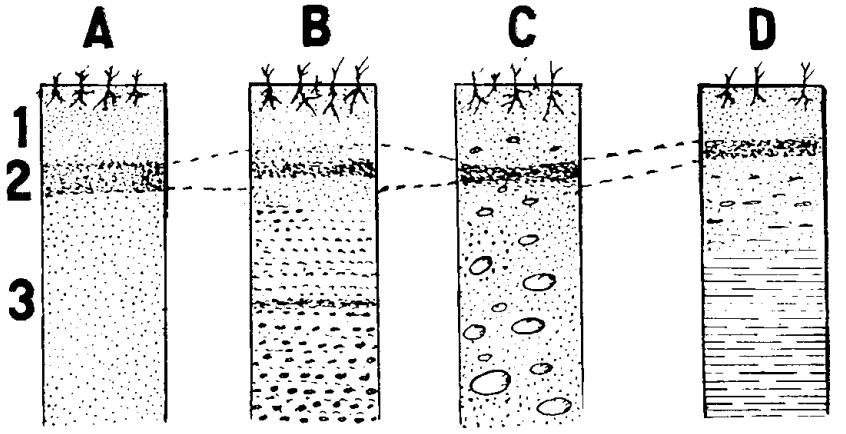


Figure 1. Showing Soil Sections. See Description.

much of the state (3) is comparatively uniform and thick. It ranges from massive silts (soils on loess, A) to thick bends of sand (most alluvial soils, B). The subsoil developed upon the drift or glacial deposits lacks uniformity (C). It is an irregular mass of clay, silt, sand, pebbles, and boulders.

The sections of residual soils on such formations as the Pierre Shale and the Brule Clay show marked differences between the surface and the lower parts. They change within a short distance from the soil proper to the unmodified shale or bedrock. (D.)

The soil section showing the depth and condition of the subsoil should be investigated before road work is started. This can be done by sounding with augers. The information gained is necessary in determining the road plans and specifications.

Texture is an important property of soil used in earth roads. It relates to the size and grading of soil particles. As a rule the upper soil is not so fine textured and compact as the upper part of the subsoil.

There is a scale of textures ranging between clay and coarse sand. It is (1) clay, (2) silty clay loam, (3) clay loam, (4) sandy clay, (5) silt loam, (6) loam, (7) fine sandy loam, (8) sandy loam, (9) very fine sand, (10) fine sand, (11) sand and (12) coarse sand. These, except number 1, are mixtures of different grades of sand with silt and clay, and are determined accurately by mechanical analyses in the laboratory. At least four texture names should be well understood by road builders. They are clay, silt, sand and loam.

Clay is very fine grained. It is plastic and sticky when wet. The particles range between .0001 and .005 millimeter in diameter. When

magnified 1000 diameters the finest clay particles appear the size of a small dot and the largest the size of a pea. There is no grit in most clays. No soil in Nebraska is composed wholly of clay.

Silt is a large content of most agricultural soils in Nebraska. It is often confused with clay because of its relatively fine uniform texture. Silt is coarser and more friable than clay. Its grains run between .005 to .05 millimeters in diameter or between clay and the finest grade of sand. There are several silty soils depending upon the percent of silt and the admixture of clay and sands. The principal thing in our well known loess is silt, not clay.

Sand of four grades is recognized in soil classification. The diameter of the particles, expressed in millimeters, is the basis of classification and the grade are: (1) .05 to .1, very fine sand, (2) .1 to .25, fine sand, (3) .23 to 0.5, medium sand. Sometimes the grade, fine gravel, is used for particles having diameters between 1 and 2 millimeters. The presence of sand in a sample is readily determined by the gritty feel, and in most cases by sight alone.

Loam contains silt and clay and more or less sand. The silt and sand tend to overcome the plasticity of the clay, making the type loamy or friable and loose. Loam is graded, i. e., composed of particles ranging between fine and coarse. A typical loam has a little less than 20% clay and less than 50% silt. An excess of clay, silt, fine sand, sand or gravel would distinguish the soil type as a clay loam, silt loam, fine sandy loam, sandy loam or gravelly loam. Probably the most perfect soil for road building in most places is a gravelly sandy loam.

Voids—Soil is far from being solid. It is composed of grains of various forms and sizes separated by spaces. The proportion of these spaces to a given volume of soil is called the "voids," which is the percentage of pore space.

The spaces are very small in fine textured soils and larger in the coarse textured types. The percentage of voids is greatest in fine textured soils and least in graded loamy soils.

It is not practical in most road work to determine voids. The desired results are secured by mixing materials ranging between fine and coarse. The heavy soils are as a rule well graded and low in voids.

Drainage relates to surface drainage, percolation and seepage. The fine soils drain rapidly on the surface and the open textured sandy types drain mostly by percolation.

Drainage is the principal problem, as a rule, in road construction and maintenance. This is particularly true where rainfall is heavy and the soil is fine. Under these conditions the purpose should be to build and

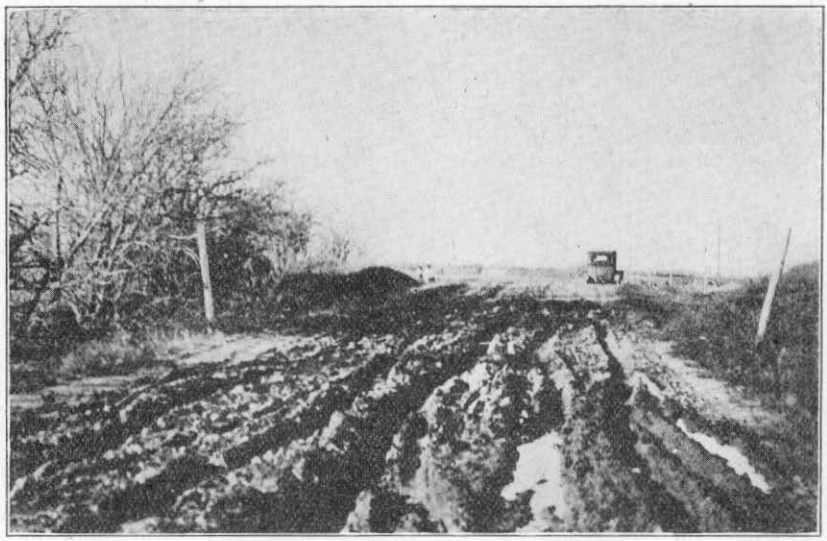


Figure 2. A Bad Road Resulting From Poor Cross Drainage. Photo by A. S. Mirick.

maintain a road surface that will shed water, and to remove from the gutters and road bed all water which would soften the grade by seepage. (Figure 2.)

The soil texture and the amount of rainfall should largely determine the kind of road work used to facilitate drainage. A knowledge of these conditions will serve to distinguish between soils and roads which should be crowned and those which should not be graded.

Absorption—Soils differ greatly in their ability to absorb and hold water. The fine soils and graded types absorb water slowly. The clays and silts, being high in voids, hold much water if saturated. The capacity of fine soils is greater than that of sandy soils. Sandy soils absorb water readily and lose it mostly through percolation. The fine grained soils hold a large amount of capillary water and little gravity water. The sandy soils carry less capillary water and more gravity water.

Most soils should be graded to a well defined crown to promote runoff. The sandy soils should be crowned less because they need water and would in some cases be improved by a lack of surface drainage. Organic matter, loose dirt, and weeds are a detriment on most well improved road beds in the humid areas because they retard surface drainage and promote absorption.

Packing—Soils pack direrently under traffic, dragging and drying. The sandy types remain loose under most conditions, and the fine ter-

tured types become heavy and compact. The graded soil is ideal for packing.

Most soils contract when drying and expand when receiving moisture or freezing (if saturated). This is particularly true with the clayey and silty types. One of the chief purposes in road maintenance should be to develop a compact wearing surface. This can be done chiefly by dragging at the right times.

Drying is caused by drainage and evaporation, but at different rates and with different results in the various kinds of soil and roads. The drying periods of soils and hence the "drag periods" of roads are closely related. A road crossing two or more soils dries by stretches and it is not possible to drag these stretches at the same time with the best results. This presents a problem of considerable magnitude where a road crosses a number of soils having wide range in texture. The only way to correct this condition is to build a uniform road surface by mixing the materials.

Several things determine the rate of drying. The rate is greatest in warm weather and on dry windy days. Other things being equal, hilly land dries faster than flat land.

Fine-textured soils dry slowly when poorly drained. The clays form hard cakes, granules and clods. The light soils are mobile. They dry rapidly by aeration and percolation. The heavy soils, drying, make hard roads and the lighter soils make sandy roads.

Stability relates to the ability a soil has to stand against such natural forces as creeping, caving, washing, and blowing. It is the property which resists the action of gravity, rains, wind, freezing and thawing.

A soil containing much clay will creep and slide in fills and cuts. It gullies on slopes. The silts stand well in cuts and fills and are not so much affected by rain and wind. The well graded loamy soils are quite stable. The sandy soils are subject to wind erosion, making their management very difficult in road work unless materials are available for protecting the surface or for mixing with the sandy soil.

Wear—Dirt roads are not suitable for heavy travel under all conditions. Rain makes the clayey and silty soils muddy, and ruts are formed where the surface breaks through. If not dragged in time, the wearing surface becomes rough with clods and finally knotted and pitted. A surface in this form is said to be "pitted." This condition can be corrected by planing. The silt roads develop dust when dry and the sandy roads show areas of lose sand. The effects of wear on soil types and the relation of dirt roads to wet and dry weather are particularly noticeable where a highway crosses several kinds of soil.

In maintaining a road bed, the texture of soils is a controlling factor

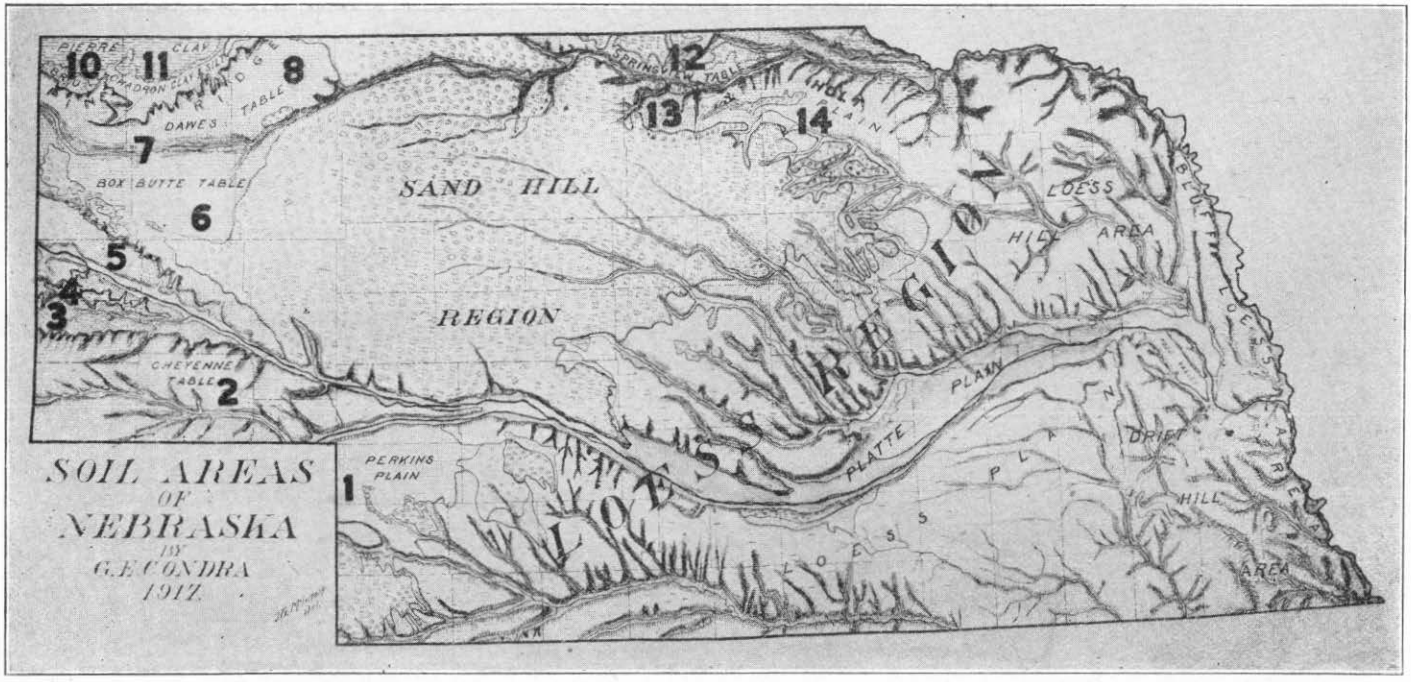


Figure 3. A Physical Map Showing the Topographic and Soil Regions of Nebraska. Numbers 1 to 14 represent divisions of the High Plains Region.

to consider. The fine to medium soils should be dragged soon after rains. Holes should be filled with materials of the right texture. Very sandy roads may be damaged by grading because they need moisture. To maintain a good road surface on different soils and under the weather conditions is to solve a big problem.

Soil Regions of the State—Nebraska is large and diverse. The area is 77,510 square miles. The altitude ranges between about 840 feet in the

Figure 4. Vertical Section of Deep Subsoil, Loess Above and Drift Below

southeastern corner of Richardson County and 5,300 in the northwestern corner of Kimball County. The annual rainfall decreases from 33 inches in the southeast to about 16 inches in the northwest. Surface features vary from smooth plains to mountainous areas. There are more than eighty kinds of soil traversed by 80,000 miles of wagon roads, a mileage equal to three and a third times the distance around the earth.

On a basis of soil and topography, the state has three well defined

regions or provinces known as the Loess, Sandhill and High Plains. They have been described in various reports and are generally recognized by citizens of the state. (See Figure 3.)

THE LOESS REGION

This province is so named on account of the prevalent deposits of loess. The region occupies about 42,000 square miles or most of the southeast half of the state. It has eight distinct kinds of land or subdivisions,—the loess plains, wind formed areas, loess hill, drift hill, bluff areas, canyon areas, terraces, and flood plains or bottom lands proper.

Loess in General—Most Nebraskans know loess. It is well shown in many railroad cuts and in excavations as at Omaha, Plattsmouth and Nebraska City (Figure 4). The deposits, differing somewhat in origin, occur throughout the uplands of the Loess Region, except on the drift hills. There are at least three kinds of loess having importance in road work. They are similar and known as the plains, terrace and bluff loesses.

The loess is generally, but erroneously known as "yellow clay." Technically, it is mostly silt, containing some clay and fine sand. It is therefore a silt loam. The most distinguishing features are the buff color, massive appearance, fine and even texture, and the ability to stand nearly vertically in bluffs and other exposures. Three features of structure may be observed in the faces of bluffs, viz.—vertical cracks, sepa-

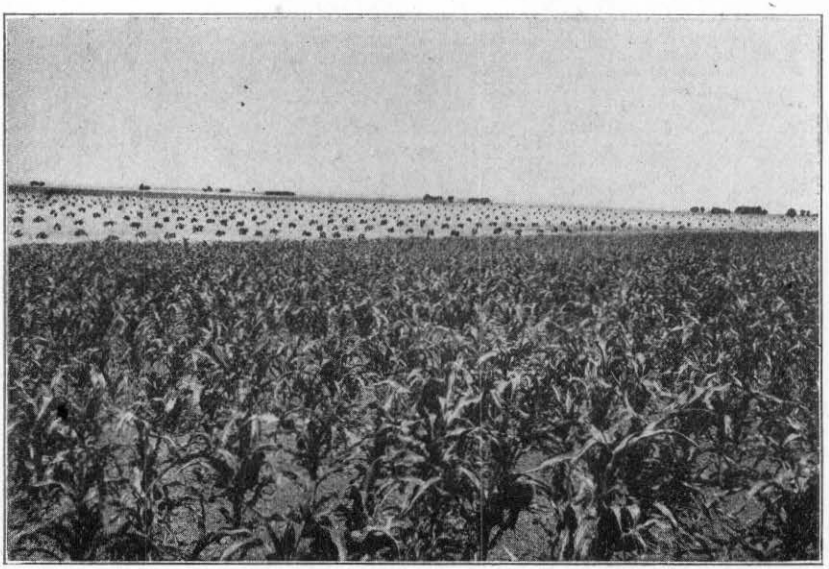


Figure 5. View Across the Loess Plains of Fillmore County

rating the loess into columns; root casts, and small calcareous and iron oxide concretions.

Loess Plains—These are the nearly level uplands of the Loess Region (Figure 5). The area is about 14,100 square miles. The largest and most typical plain is between Dundy and Butler counties. Its general boundaries are the Platte, Republican and Big Blue valleys. Some of the typical locations on this plain are David City, York, Fairmont, Hastings, Minden and Holdrege. The surface of this plain is quite even, but modified to some extent by small drainage-ways, shallow basins and low knolls. The borders are roughened at places by ravines, bluffs, canyons and sandy areas .

There are several loess plains in Nebraska. Small upland "flats" of this kind occur in most counties of the Loess Region. Formerly all of these flats were connected making a continuous plain over most if not all of the region. The original surface was eroded by streams, making valleys which separated the plain into many remnants or parts all lying in the same general slope and having similar surfaces.

Some of the loess plains are located as follows: On the divide north of Ogallala; south of the Platte Valley at Sutherland; in southwestern Lincoln County; the southeastern part of Chase; northeastern Dundy; southern Frontier; southwestern and southeastern Custer; part of the upland between Broken Bow and Sargent; northern Buffalo; small areas north of Ravenna; six miles south of North Loup; much of the upland between St. Paul and Boelus; west of Wolbach; southwest of Spalding; and the nearly flat uplands of Boone, Madison, Wayne, Cuming, Dodge, Douglas, Washington and other northeastern counties. Several small plains of this kind occur east of the Big Blue as in eastern Seward, northern Gage, southern Lancaster, central Cass and eastern Johnson counties.

All the above plains are capped with loess from 25 to about 75 feet thick. The loess rests upon glacial deposits in the eastern counties and upon sand farther west. Locally it lies upon bedrock.

Loess Plain Roads—The loess plains are well served with roads, practically all section lines being open (Figure 6). There are nearly two miles of road per section, which is greater than in other parts of the state. There are many miles of graded road and relatively few culverts and bridges. The only drawback of any consequence in road building is the small, undrained basins. Sand for surfcing is exposed in a number of the small valleys. Probably there is no richer agricultural area in any country in which the country roads are kept in as good condition with so little work. Among the best-known roads crossing one or more loess plains are the Omaha-Lincoln-Denver (O. L. D.) Route, Cornhusker Route, Meridian Route, Seward-York-Aurora Route, Highland Route and the Capital Way.

Soils of the Loess Plains—Five principal soils occur on the loess plains, viz. Marshall silt loam, Grundy silt loam, Holdrege silt loam, Colby silt loam and Scott silt loam. Other types occur on the eroded borders of the plains and in the valleys. The surface soils and the upper parts of the subsoil of the plains proper differ considerably from east to west, but the texture of the lower subsoil remains remarkably uniform. There is a slight change in the size of grain, becoming a little coarser westward. As a whole the loess plains have unusually large areas of uniform road materials.

Figure 6. Loess Plains Road, the O. L. D. Highway

The Grundy silt loam is the typical soil on the loess plains of the southern and southeastern counties. It was classed in our earlier reports as the flat phase of the Marshall silt loam. Persons wishing a description of the Grundy, as it is typically developed in Nebraska should secure and read the soil survey of Fillmore County pages 15 to 19. In Fillmore County the upper soil is dark brown about 12 inches thick and a heavy silt loam modified by organic matter. This layer passes into a darker heavy clay horizon mottled dark brown and yellowish. This zone is compact hard and tough but crumbles to granules when drying. It is very plastic and nearly impervious when wet. Farmers call it the "hard pan" layer. If near the surface it is called "gumbo."

At a depth of two or three feet the subsoil of the Grundy silt loam changes, becoming yellowish gray to pale yellow and more friable grading into the undisturbed loess which is usually very thick and more or less calcareous.

Mechanical Analysis of Grundy Silt Loam, Fillmore County

Description	Gravel	Sand	Sand	Sand	Sand	Silt	Clay
		Fine	Coarse	Medium	Fine	Very fine	
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil, 0 to 12 inches.....	0.0	0.2	0.1	0.8	15.8	65.4	17.6
Subsoil, 12 to 36 inches..	.0	.0	.0	.8	17.0	51.2	30.8

Small areas on the loess plains in the northeastern counties in which there is a deep dark brown subsoil not underlain by a well defined hard pan layer are classed as Marshall silt loam. These can be determined by sounding as is done on the soil survey.

Road Maintenance on the Grundy—The tough layer in the upper subsoil is a factor in road work on this soil type. The depth and thickness of this layer and the rest of the soil section should be determined before a road project is started. This will serve to show what materials are to be encountered in grading. It has been found that the best results are secured where materials from the heavy layer are placed in the lower part of the roadbed and covered by the upper soil.

The drag period of the Grundy silt loam is short. A good, hard road is made where the surface is properly crowned and dragged and lateral drainage is provided. A much better surface, one easier to maintain, is secured by surfacing with sand, if a supply can be had within hauling distance.

The Holdrege Silt Loam resembles the Marshall in its upper layer, but differs in the subsoil. The surface soil is about 15 inches deep, dark, friable, and of a silt loam texture which grades between 15 and 18 inches to a granular silty clay loam. Below this the subsoil becomes dark brown and granular to a depth of 28 inches. This layer is underlain by a friable, mellow silt loam of light gray color.

The Holdrege silt loam is not so sticky as the Grundy when wet. It blows very little. Road building is comparatively easy and the improved roads are smooth and fast.

Colby silt loam occurs typically on the western loess plains. It's surface it hilly to nearly level. The color is lighter than Holdrege, Grundy and Marshall soils due to the lower content of organic matter and the presence of more calcareous material.

The surface soil is light brown, grading quickly into gray, light gray or a white floury subsoil. The soil is calcareous throughout the section.

The Colby silt loam is modified by small areas of very fine sandy loam. Many roads are fairly good without grading. A good road is secured on the silt loam with relatively little work.

Basin Soils—The Scott silt loam is the leading soil in the basins or depressions of the loess plains. It was formed in intermittent lakes, the sediment having been washed from the border areas. The type is poorly drained. In fact it is not drained.

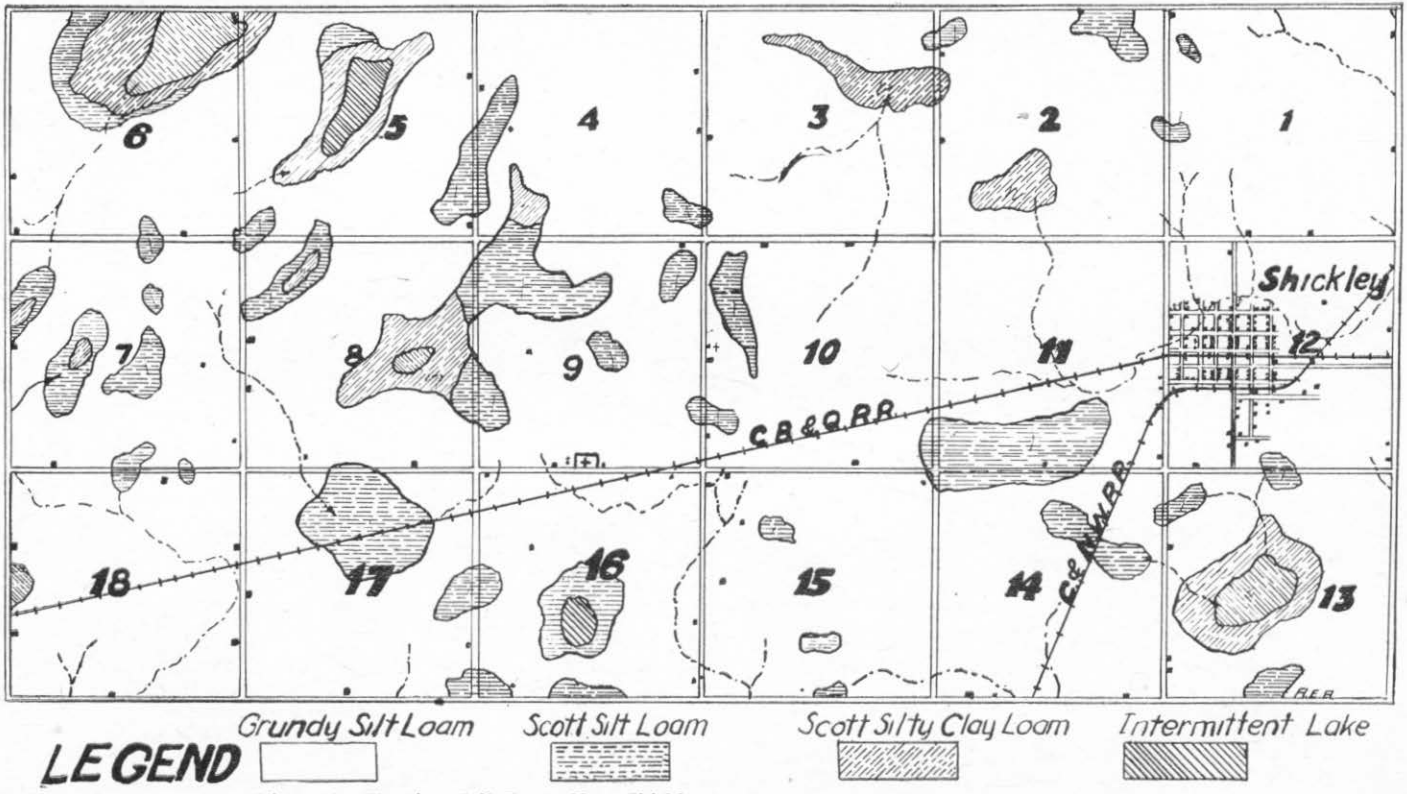


Figure 7. Showing Soil Types Near Shickley

The surface of the Scott silt loam, sometimes called a basin phase of the Wabash, consists of 6 to 15 inches of dark brown to dark gray silt loam containing a considerable amount of organic matter. It becomes grayish and quite friable when drying. The distinctive feature of the Scott silt loam is a layer of ashen gray, pulverulent silty loam, 2 to 10 inches thick in the upper part of the subsoil. Below this is a dark or nearly black, plastic silty clay, mottled with brown. This material is tough and compact. Below 30 inches, the subsoil changes gradually to the condition of undisturbed loess.

Some of the best defined areas of basin soil are in York and Fillmore counties (Figure 7). Less extensive ones occur throughout the loess plains and on most alluvial terraces. The Scott silt loam grades into silty clay loam and clay.

Mechanical Analyses of Scott Silt Loam, Fillmore County

Description	Fine Gravel Pct.	Coarse Sand Pct.	Medium Sand Pct.	Fine Sand Pct.	Very fine Sand Pct.	Silt Pct.	Clay Pct.
Soil, 0 to 6 inches	0.0	0.1	0.1	0.6	12.6	71.2	15.2
Subsoil, 6 to 20 inches	.2	.8	.3	.5	16.0	73.4	8.6
Lower subsoil 20 to 36 in	.1	.2	.1	.4	9.5	58.0	31.6

Mechanical Analyses of Scott Silt Loam, Gage County

Description	Fine Gravel Pct.	Coarse Sand Pct.	Medium Sand Pct.	Fine Sand Pct.	Very fine Sand Pct.	Silt Pct.	Clay Pct.
Subsoil	.4	1.0	0.6	1.6	10.4	68.8	17.1
Lower subsoil	.1	.2	.2	1.9	7.1	57.0	33.2
Soil	0.1	1.0	0.6	1.6	9.2	72.3	15.1

Road Maintenance on Basin Soils—The Scott silty clay loam and the clay are heavy. They become very plastic and sticky when wet, and tough, hard and compact when dry. They are difficult to handle both in farming and in road work. Flooding and seepage make roads soft. This can be overcome by grading above the level of standing water. Roads are improved by the incorporation of coarser soils and sand. The drag period is short.

Wind-formed Areas—There are a number of areas along the western border of the Loess Region, and a few patches on the loess plains and their borders, in which the surface has been eroded and formed into choppy hills resembling dunes. They total about 900 square miles.

In a general way, the larger wind-formed areas make up a border land between the loess and sandhill regions. Their soils vary much in texture, but are composed mostly of sand and silt making sandy roads. The largest areas of these soils are located as follows: North and northeast of Minden; east of Hildreth; north of Grand Island; in western Boone County; eastern Wheeler County; northwest of Greeley; northeastern Lincoln County; on the upland south of North Platte; 10 miles southwest of Maywood, and the east border of the sandhills in Dundy County.

The soils of the wind-formed areas have been grouped with the Richfield, Valentine and Colby series. The practice now is to place those in which some of the qualities of the loess show, as in the northern part of Phelps County, with the Colby very fine sandy loam and fine sandy loam. The soils along the borders of the sandhills are in most places classed with the Valentine.

Loess Hills—These hills occupy an area of about 11,900 square miles principally in the northeastern counties of the state. A narrow belt extends southward just west of the bluff belt of the Missouri. Loess hills were eroded from the original loess plain and are characterized by a loess cap which forms their remarkably smooth surfaces. In most of the hills, he loess is underlain by sand, and glacial drift. These materials outcrop at widely separated places and are encountered in wells and some wagon and railroad cuts. The drift rests upon bedrock which is exposed in some valleys. The principal soil of the loess hills is the Marshall silt loam.

Marshall Silt Loam—There are several kinds of soil in the loess hill areas, but the Marshall silt loam has the largest distribution. It is a typical silt loam. The upper soil is dark brown to nearly black and 10 to 15 inches thick. It contains considerable organic matter.

There is no well defined clay pan in the subsoil. The upper part of the subsoil is slightly heavier than the surface layer. It grades into typical loess.

The Marshall silt loam is comparatively mellow. It absorbs moisture quite readily and does not wash much. It works up well in roads.

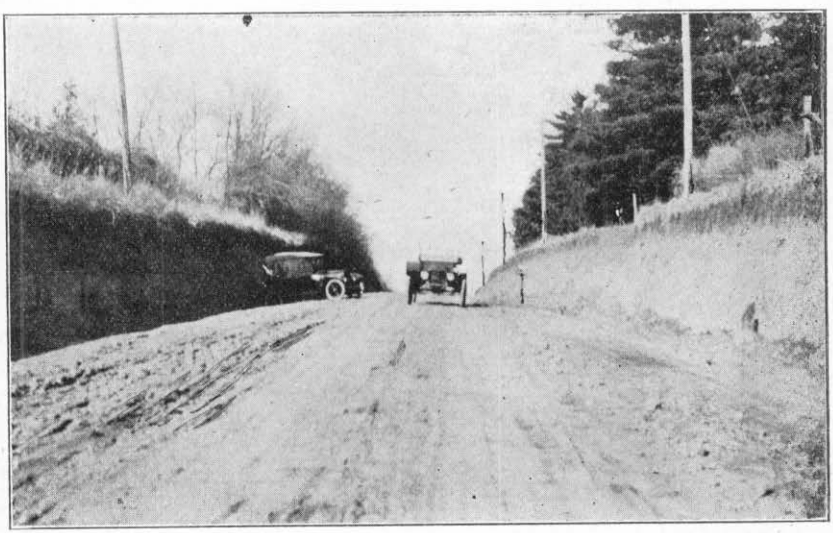


Figure 8. A Loess Hill Cut, Otoe County. Photo by A. S. Mirick.

Loess Hill Roads—No part of Nebraska has developed more rapidly and successfully in road work. Hills have been cut (Figure 8) and fills made along hundreds of miles of highways, as in Custer, Sherman, Boone, Cedar, Thurston, Washington, Douglas, Sarpy, Cass, Otoe, Nemaha and other counties. The per township mileage is nearly as large as on the loess plains, but there are many more fills, cuts, culverts and bridges. Roads generally are kept in good condition by grading and systematic dragging. Sand exposed in some hill sides and a few valleys has been used for surfacing at places.

The roads on loess hills are characterized by their smooth surfaces, made so by dragging and wear. They carry heavy loads of farm products and are easy on autos and drivers. Some of the best stretches of good roads in the loess hill areas are on bench and flood plain lands. This is particularly true along the valleys of the Loup System.

The Lincoln Highway crosses the loess hills between Omaha and the Platte. The George Washington Route, closely following the Omaha-Kansas City Highway, is principally on the loess hills between the Kansas line and Omaha. The Cornhusker Route crosses the loess hills in the northeastern counties.

Drift Hills—Quite well defined drift hills occur in the southeastern counties. They occupy an area of about 6,700 square miles. The hills were eroded from the drift (glacial deposits). Erosion removed nearly all of the loess cap at most places and dissected the glacial drift to the form of hills

Drift hills average smaller and less smooth than loess hills. They are easily recognized by the form and by the presence of gravel, pebbles and boulders which may be exposed in the soils (Figure 9) and uncovered in such places as banks, cuts, and wells.

Drift hills occupy much of the upland in Saunders, Cass, Otoe, Lancaster, Nemaha, Richardson, Johnson, Pawnee and Gage counties. The land is unlike the bordering loess hills and loess plains. The soils are different and the roads are different.

Drift Hill Soils—These were derived from two well defined drift sheets known as the "Nebraskan" and "Kansan," and from a sand plain between them. The range in texture is considerable. There are small areas of sandy and gravelly soils, and larger areas of silt loam. In some places, extensive weathering of the drift has produced a uniform soil resembling the Marshall silt loam. This is particularly true where loess has been incorporated with the drift.

Two soils, a silt loam and a loam, occur generally on the drift hills. The first has received two names—the Carrington silt loam and the Shelby silt loam. The other is known as the Shelby loam.

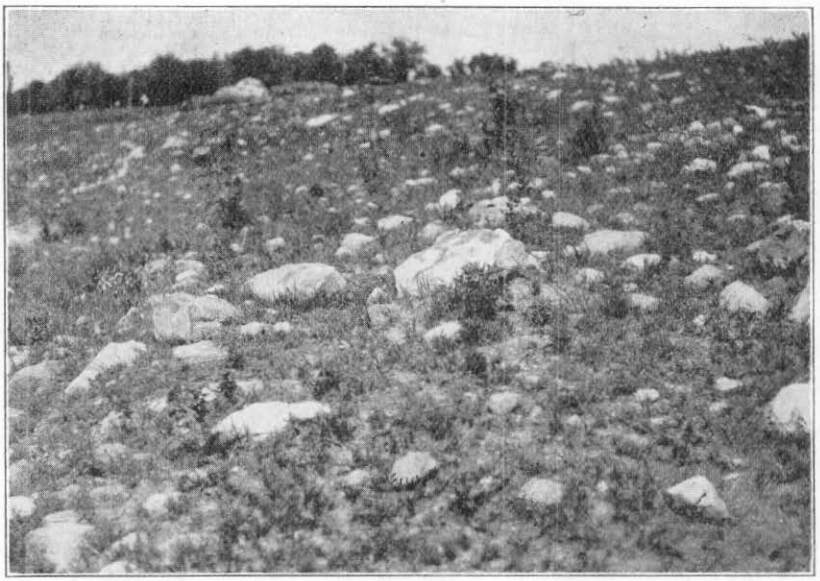


Figure 9. View Showing a Boulder Area in Nemaha County. There Are Few Square Miles Like This in Nebraska.

Figure 10. Railroad Cut in Drift Hills. It Is Being Widened Because of Caving. A Loess Cut Would Stand Much Better. Observe That Some of the Boulders Are Inked in.

The Shelby silt loam is a dark soil in its upper part, but changes below this finely weathered zone, which carries considerable humus, to a slightly compact upper division of the subsoil and then to the drift containing clay, silt, sand concretions and boulders. This type has more clay and sand and less silt than the Marshall. It becomes quite sticky when wet and drying, forms hard clods which break into dust and some sand. The road surface becomes knotted and dippy. This condition can be remedied by dragging after rains and by shaving or planing when a road is extremely dry and rough.

A soil, known as the Shelby loam, occurs on many knolls, sharp crests and steep hill sides of the drift hills. The type represents an croded phase of the silt loam. It contains less organic matter, due to erosion, and shows stony materials. This type is difficult to handle in road work because of its uneven texture and the presence of boulders.

Hill sides in which sand is exposed form a sandy loam soil of limited extent. This type and a fine sandy loam developed on outcrops of the Dakota sandstone make bad places in roads crossing them. Such patches of road can be improved by surfacing with silt or clay.

Mechanical Analyses of Shelby Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	1.0	3.9	5.8	11.6	7.6	47.8	21.4
Subsoil	.8	3.9	4.7	9.5	7.7	38.4	34.9

Drift Hill Roads—Road development has been rapid and nearly universal in the drift hill areas. Most section lines are open. There are many cuts, fills, culverts and bridges. Some difficulty is experienced with the slumping of grades and the caving of cuts. (Figure 10). Heavy rains and the consequent floods of streams damage road beds and bridges of small valleys (Figure 11).

Grading and dragging are more difficult in this area than on the loess hills and loess plains. Boulders interfere to some extent. The prevalent soil becomes very sticky when wet and hard when dry. It ruts and pits, but is corrected by dragging and planing making very hard road bed with a little rougher wearing surface than that developed upon the soils of the loess areas.

Bluff Lands—In a general way, all rough lands bordering valleys and formed from mantle rock materials are called bluffs. Bluffs proper, are the steep valley-sides produced by rivers cutting against the upland. They are common along the Missouri, Platte and Republican. The bluff areas grade into hills without a distinct line of division, (Figure 12), and have an approximate area in the Loess Region of about 1,000 square miles.

Some of the river bluffs of Nebraska are quite high, especially those

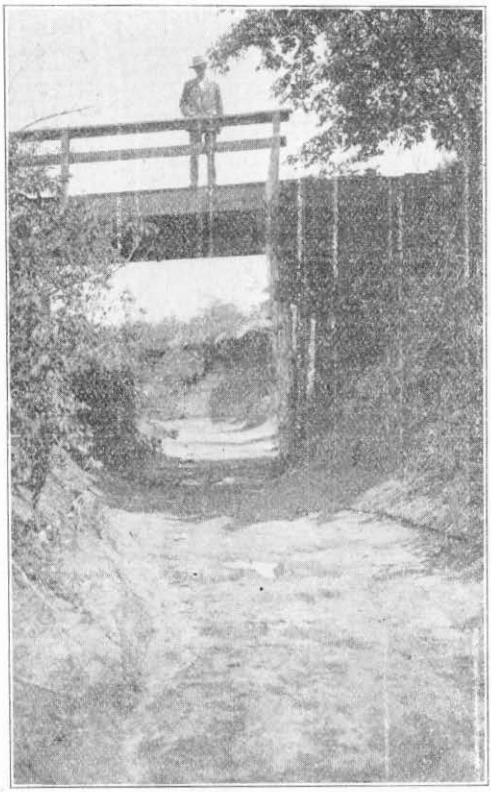


Figure 11. View Showing How the Drift Hill Areas Erode and Damage Bridges

Figure 12. View of Grass-Covered Bluff Land. Roads Follow the foot of Bluffs

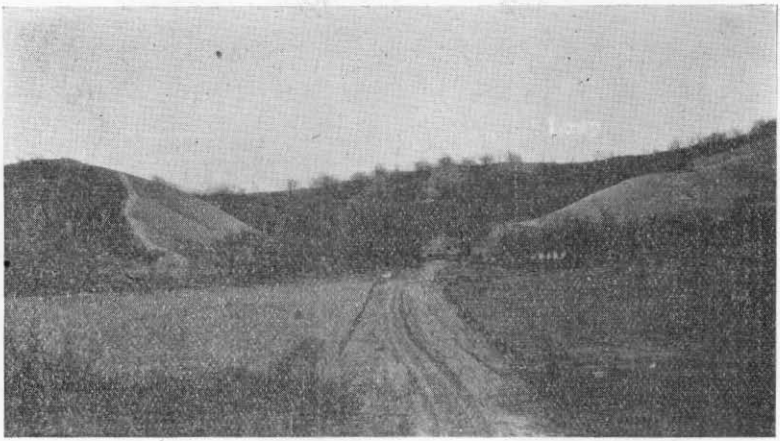


Figure 13. A Bluffland Road, Leading Out From and Across an Alluvial Fan Bordering the Flood Plain.

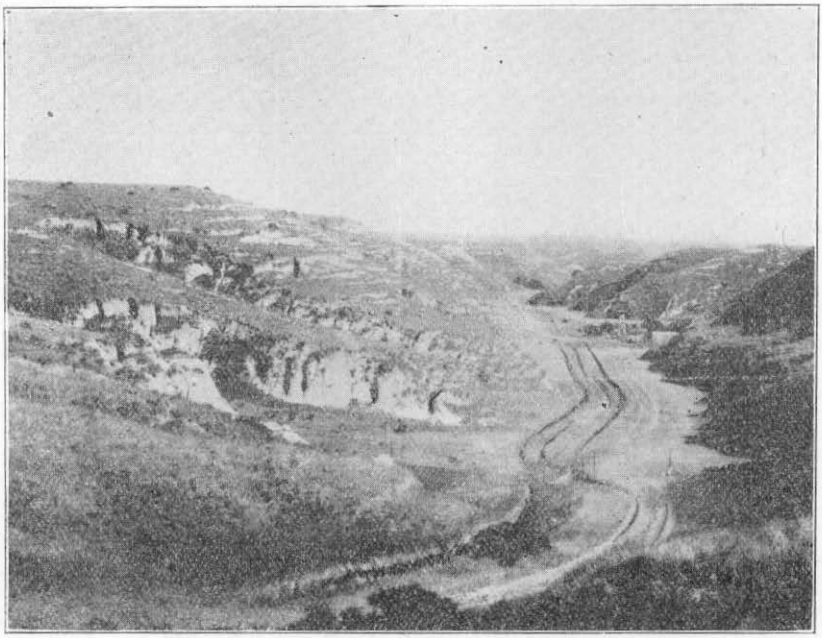


Figure 14. A Canyon Road. Small Land Slides Show on the Slopes

of the Missouri. From the top downward, they contain loess, drift and bedrock. The mantle rock materials dislodge from the steep slopes making land slides below and vertical walls above. The bluff land belts are cut by many deep ravines and small valleys and further modified by numerous ridges and spurs. As a whole the topography is very rough. The principal soil is the Knox silt loam.

There are many places on the valley sides of the Loess Region in which bedrock materials such as limestone, chalk rock, sandstone and shale, are exposed. These weather down forming different types of land and soil, as along the Republican, Big Blue, and Nemaha valleys.

Knox Silt Loam resembles the Marshall silt loam in its lower parts, but has less humus in the upper layer. It has a thin surface soil, but becomes fertile when humus is added.

A noticeable feature of the Knox is its ability to stand in nearly vertical cuts and grades. It is mellow and can be plowed at any depth in the subsoil.

Bluff Roads—The chief drawback to these roads is the roughness of the country and the consequent steep grades or profiles. Most highways follow ridges and ravines (Figure 13) in order to reach the lines of easiest travel. Many expensive cuts and fills are required. The loess stands well in excavations and fills, but erodes badly at places after heavy rains. Though the roads become somewhat slippery, they do not become very muddy. They dry rapidly as a rule.

There are many fine views along the bluff roads, overlooking the Missouri, Platte and Republican. These attract auto parties.

Canyon Areas—About 1,500 square miles of the western parts of the Loess Region is roughened by deep, steep sided, valleys called canyons. In places the canyons are so numerous as to separate the upland plain into many small, block-like flats, making road building nearly impossible. Such areas occur in parts of Lincoln, Hayes, Frontier, Hitchcock, Grosper, Dawson and Custer counties. Small slips or land slides are common in canyons having sides not so steep, (Figure 14) and in places the flat divides have been eroded away leaving areas of bold hills separated by V-shaped canyons.

The soils of canyon areas are now classed as the rough phase of the Colby series. The color is light gray. There is less humus than in other soils derived from loess and the texture ranges between silt and fine sand. Coarser materials occur on most of the floors or bottoms of the canyons. These were washed from sand layers under the loess.

Bench Land or Terraces—Most large valleys in the Loess Region have flats or plains above their first bottoms. These elevated flats, known as terraces, are thought to be remnants of old flood plains. They

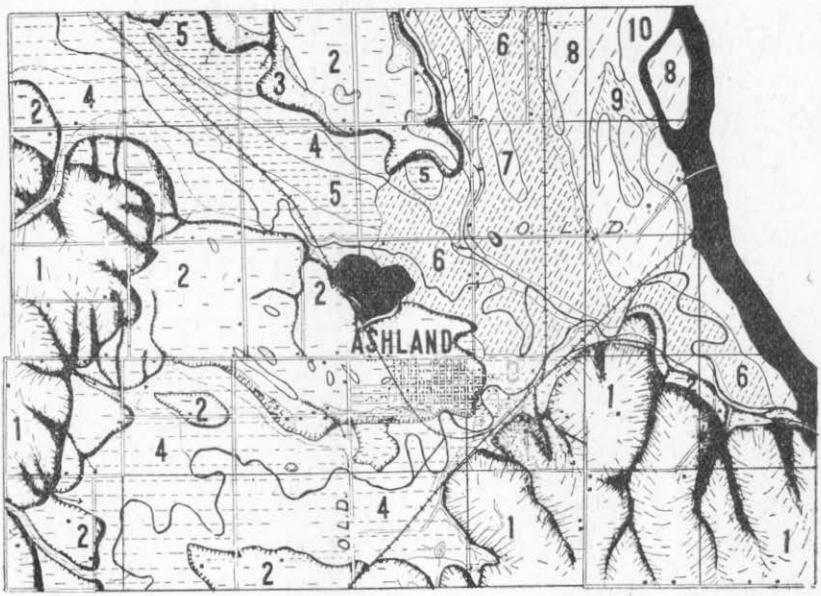


Figure 15. Showing Land Forms and Soils in the Vicinity of Ashland

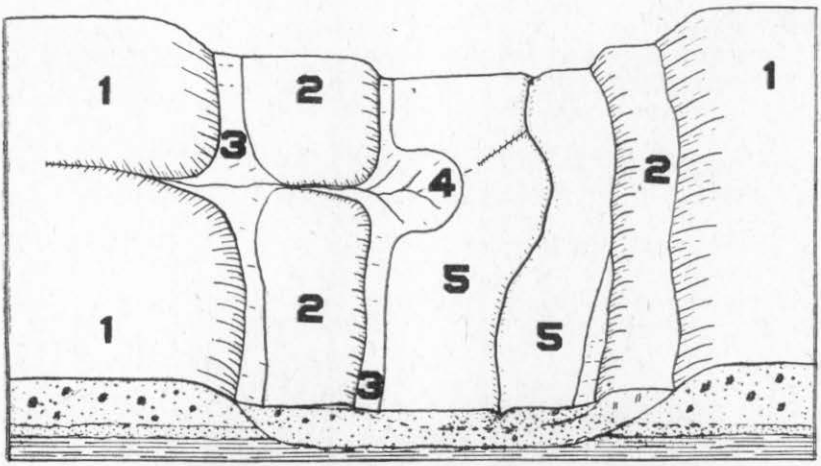


Figure 16. Generalized Cross Section of a Valley, Showing Land Forms

occupy about 2,150 square miles of the Loess Region.

Some of the best defined terraces are at Blair, Omaha, Nemaha City, Ashland (Figure 15), Wahoo, Lincoln, Lyons, Fullerton, St. Paul, north of Fremont, Schuyler and Columbus and at Oxford, McCook and Culbertson. They occur in two or three levels at most of these places. The terraces of figure 15, are represented by (2). The city of Ashland is on a terrace having two distinct levels, known as second and third bottoms. Small depressions are shown by enclosed lines and the areas of sandy soil at the edges of terraces are represented by dotted line. See the position shown by (3).

Most terraces are capped with a silt loam covering thick beds of sand. The prevalent soil on terraces in the Loess Region is the Waukesha silt loam.

The Waukesha Silt Loam is a dark brown heavy silt loam, 12 to 15 inches deep and high in organic matter. It has a smooth velvety feel. The subsoil is a yellowish silty clay which at about 20 inches becomes very compact and grades into a yellow color. The subsoil becomes loess-like below 30 or 40 inches.

The Waukesha occupies most of the bench areas in the central and eastern counties, but is modified by small patches of Scott silt loam and by low knolls having soils of coarse texture. Small knoll-like elevations are lighter, ranging between very fine sand and sandy loams. The poorly drained or basin-like areas have comparatively heavy soils, the Scott silt loam and the Scott silty clay loams.

Sand is exposed along the edges of some terraces. This sand mixes with the silt from above or washes out upon the valley floor making fine sandy loams.

Mechanical Analyses of Waukesha Silt Loam, Saunders County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.2	0.2	1.1	17.3	61.7	19.5
Subsoil	.1	.1	.1	2.0	18.7	63.2	15.8

Mechanical Analyses of Waukesha Silt Loam, Nemaha County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.0	0.0	0.9	7.4	73.0	18.7
Subsoil	0.0	0.2	0.2	0.4	6.4	72.8	19.9

Mechanical Analyses of Waukesha Silt Loam, Seward County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.3	0.3	0.9	14.6	56.0	28.2
Subsoil	0.6	0.7	0.3	0.8	11.7	61.9	23.9

Terrace—The relation of terraces to wagon roads and railroads

is generally understood. They afford good roadways quite well drained and above floods. The silt loam soil grades easily. The basins present a difficult problem. Roads built across them are usually bad unless elevated above the standing water and unless other materials are used in mixing and surfacing. Some supervisors grade across the edges of the benches, paying no attention to the kinds of materials encountered, leaving a road bed of sand which becomes gutted by wind and water, making it nearly impassable and expensive to repair.

Bottom Land—The bottom lands are well defined in all river valleys and in most creek valleys of the Loess Region. The total area of bottom land in the region including flood plains, alluvial fans, colluvial slopes, and the poorly defined, low benches, (Figure 16) is about 3,750 square miles.

Figure 16 is a generalized drawing in which Arabic numerals are used to designate land forms.They show as follows: 1, uplands, 2, terraces; 3, colluvial slopes; 4, alluvial fan; 5, flood plain.

The bottom or alluvial lands have a close relation to roads and should be better understood with respect to their drainage and soils. Bottom lands are known as "made land" built by streams. They are composed of clay, silt, sand and coarser materials more or less stratified. Considerable organic matter is present in the upper soil and as seams in the deeper parts of a section or an exposure.

Flood plains or lowest surfaces of valleys were built mainly of materials deposited by flood waters, hence the name. They are quite smooth, except where roughened by water erosion or by wind erosion and deposition. They are very poorly drained, even marshy, at places. High waters and marsh areas are drawbacks to road building in ways known to all. Drainage and stream correction are therefore of importance in road work as well as in agriculture.

Alluvial Fans are formed at the mouths of steep tributary valleys bordering flood plains. The small, swift streams of these valleys carry much sediment, but drop it upon reaching the flat land. The sediment deposited in this way causes the water to spread and distribute other sediments in a fan-shaped form. There are thousands of small alluvial fans in the Loess Region, and other parts of the state. They usually lie above the flood heights of trunk streams and are fairly well drained.

Colluvial Slopes occur on the edges of flood plains and extend on to the foot of valley sides. They are built mostly of fine materials washed from the slopes. The colluvial forms are made smooth by the action of sheet water. They differ greatly in size and somewhat in the texture of their soils, but are best defined where there are few ravines and where for a long time the trunk stream has not eroded against the slope and removed the local deposits. Some colluvial slopes are terrace-like. They lie above flood level and are fairly well drained. They afford favorable

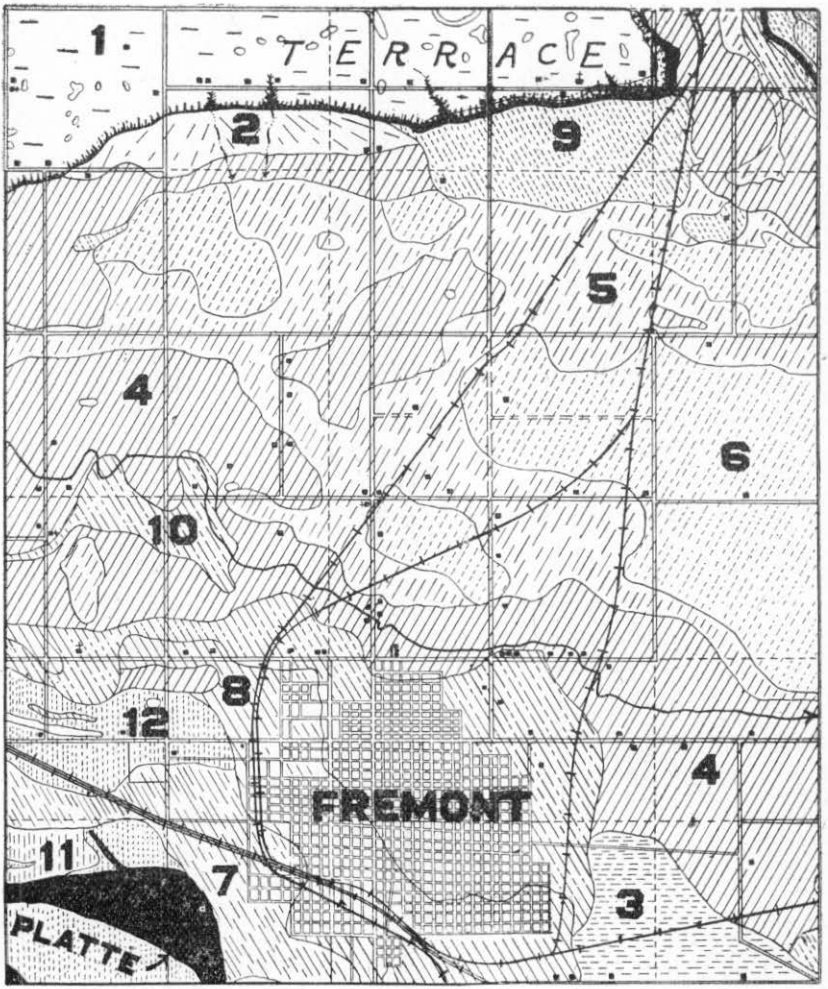


Figure 17. Showing Soil Types in the Vicinity of Fremont

locations for roads. The soils are of comparatively fine texture, dark brown to black and deep. The prevailing soil type, as mapped in Dodge and Hall counties, is called the Judson silt loam.

Alluvial Soil Sections—Taken as a whole the bottom land soils of the Loess Region present four types of structure, as follows:

1. Comparatively uniform, dark colored, fine textured soils having a depth of 2 feet or more in the surface layer and upper part of the subsoil and grading below to slightly coarser materials of considerable thickness. The soil series best representing this structure are the Wabash and Lamoure.

2. Comparatively uniform brownish to dark surface soils ranging between clay and loam in texture and grading at a comparatively shallow depth to layers of sand. The Sarpy series is representative of this structure.

3. Soils sandy throughout the section, but containing some organic matter in a thin surface layer.

4. Sand deposited along trunk streams and in sand draws. It is fine to coarse and suitable for surfacing. Coarse river wash is the best example of this structure.

Alluvial Soils—A number of alluvial soils have been mapped in the Loess Region. Among them are those of the Wabash, Cass, Sarpy, Lamoure and Judson series (Figures 15 and 17). Descriptions of the types of these series have been made in various soil reports as in Washington, Nemaha, Richardson, Douglas, Dodge, Hall and Phelps counties.

In figure 15, Arabic numerals are used to show topographic divisions and soil types, as follows: 1, hilly upland in which the Marshall silt loam and the Shelby silt loam prevail; 2, bench or terrace land modified by small basins and fringed by sandy soils, shown by 3; 4, Wabash silt loam; 5, Wabash clay; 6, Cass silt loam; 7, Cass very fine sandy loam; 8, Cass fine sandy loam; 9, Sarpy fine sand; 10, River wash.

In figure 17, showing the Fremont area, 1 represents terrace modified by depressions and sandy borders; 2, Judson silt loam; 3, Lamoure silt loam; 4, Wabash silt loam; 5, Wabash silty clay; 6, Wabash clay; 7, Cass fine sandy loam; 8, Cass very fine sandy loam; 9, Cass loam; 10, Cass silt loam; 11, Sarpy very fine sand; 12, Sarpy fine sandy loam.

The Wabash silt loam, silt clay loam, and clay are common alluvial soil types in the eastern part of the Loess Region (Figure 15 and 17). They are close textured, dark colored and unusually deep. Among the flood plains showing principally the Wabash soils are those of the Big Nemaha, Little Nemaha, Weeping Water, Salt Creek, Maple Creek, and Logan Creek, and most of the Big Blue and its tributaries. There are considerable areas of Wabash soils in the Platte, Elkhorn and Missouri River valleys.

Mechanical Analyses of Wabash Silt Loam, Otoe County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.1	0.2	0.3	0.5	3.1	77.6	18.1
Subsoil	.0	.2	.2	.5	1.7	67.5	29.9

The Cass Series is represented by five types (Figures 15 and 17) which are the clay, silty clay, silt loam, loam, very fine sandy loam and fine sandy loam, black in the surface layer, brownish to grayish in the upper subsoil and underlain by a thick layer of sand. So far as road materials are concerned the Cass soils are not very different from the Marshall except that they are thinner and grade sooner into sand.

Mechanical Analyses of Cass Silt Loam, Gage County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.2	0.2	0.4	11.2	67.3	20.9
Subsoil	.0	.1	.2	2.3	17.2	66.6	13.4

Mechanical Analyses of Cass Loam, Saunders County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.4	0.8	7.7	33.0	44.4	13.9
Subsoil	.0	.2	.4	5.6	54.8	31.9	7.1

The Sarpy series of soils, shown by the surveys, is fairly distinct from the Cass group so far as the agriculture is concerned, but not so distinct as road materials. (Figures 15 and 17).

Mechanical Analyses of Sarpy Very Fine Sandy Loam, Nemaha County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.2	0.2	20.6	52.4	20.1	6.8
Subsoil	.0	.1	.2	40.3	44.0	12.7	2.8

Mechanical Analyses of Sarpy Silt Loam, Nemaha County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.0	0.0	0.9	10.5	73.4	15.0
Subsoil	.0	.1	.1	6.9	56.5	29.5	6.4

Mechanical Analyses of Sarpy Clay, Nemaha County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.0	0.0	2.1	5.2	37.1	55.4
Subsoil	.0	.1	.0	11.9	52.8	28.2	6.6

The Lamoure Silt Loam, silty clay and clay have been mapped along the Platte in Dodge (Figure 17), Polk, Hall and Phelps counties. They are typically shown in Dodge County. The types resemble those of the Wabash series, but are less perfectly drained. They have a calcareous

subsoil, which is lighter in color than that of the Wabash series. The Lamoure soils contain alkali and saline areas.

Mechanical Analyses of Lamoure Silty Clay, Dodge County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.4	1.6	2.2	8.9	11.7	44.9	29.8
Subsoil	.6	2.6	3.4	18.2	7.2	27.2	40.7

Mechanical Analyses of Lamoure Clay, Dodge County

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.1	0.7	1.1	8.0	7.5	47.9	34.7
Subsoil	.9	1.4	1.0	3.9	4.8	41.5	46.5

The Judson Silt Loam occurs as small areas principally on colluvial slopes at the foot of uplands and terraces in various parts of Dodge (Figure 17), Hall, Polk and Phelps counties and is not subject to flooding. It is of dark brown color, contains considerable humus, and is deep.

There are a number of other alluvial soils in the principal valleys of the Loess Region. As a rule they become more sandy and carry less humus as one goes westward.

Bottom Land Roads—Persons making roads with alluvial materials should do sounding to determine the soil section and textures. The re-

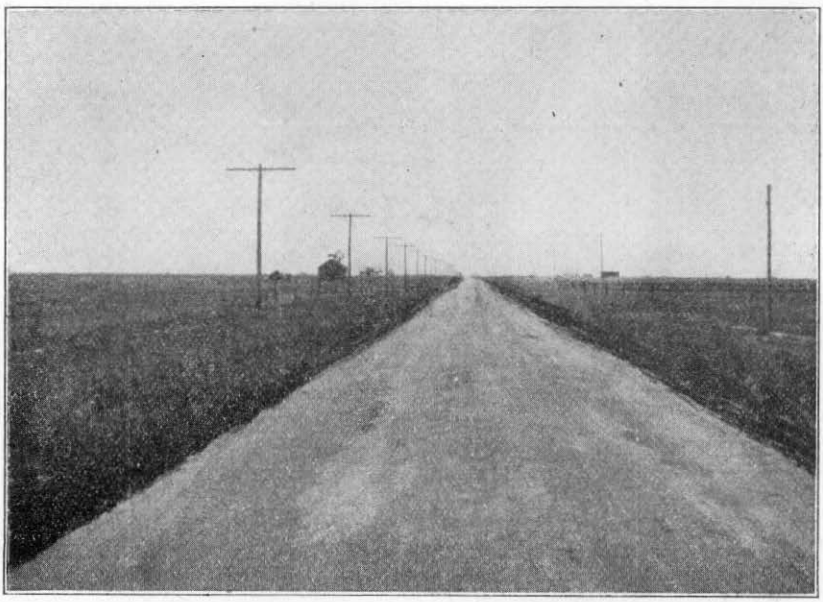


Figure 18. Improved Lincoln Highway Near Grand Island

sults are unsatisfactory where this is not done and the materials are not mixed in right proportion or the road bed is not surfaced. A patchy condition of road is produced which erodes and wears unevenly. There are, as a rule, sufficient materials along bottom land roads for the selection of textures suitable for the production of relatively good road beds. In some places surfacing material can be secured from the gutters. This, as along the Platte, may be medium to coarse gravel. Small clay areas or silty clay areas may be the source of fine material used to combine with the sand. Much of the soil along the Platte in the extreme western part of the region is well graded and suitable for road work. It is the gravelly sandy loam. There are many miles of alluvial road in the Loess Region. The best-known road is the Lincoln Highway which follows the Platte Valley from Waterloo to Big Springs (Figure 18). Most of this road is in quite good condition except the sandy stretches and the poorly drained places.

THE SANDHILL REGION

This is the most distinct soil region in Nebraska. The topography, drainage, soils and roads are very unlike those of the loess region to the east and the high plains on the west.

The main body of the sandhills, in the north-central and central-western parts of the state, is known as the sandhill region. There are several outlying areas and patches of hills, making in all about 20,000 square miles of hills, basins, valleys, marshes and lakes. (Figure 19).

Land Forms—The classification depends upon the basis used, whether for origin, topography or utilization. Much of the surface of the sandhill country was formed or shaped by wind. The land is nearly all grassed over, making the state's largest prairie area. It is used mostly ing for grazing (hills) and for hay production ((valleys). Some of the valley soil is farmed.

The hills vary greatly in form and size. They are grouped together in most places forming east-west ridges. Some of the hill slopes have been eroded forming pits, called blowouts. The small, irregular depressions between the hills are the basins. The large, well drained lowlands grading upward into the hills and having more or less open courses for considerable distances are called dry valleys. The low-lying, comparatively flat wet land, is known as hay land, wet meadows, or wet valleys. It is modified by many marshes and lakes.

The soils of the sandhill areas are quite sandy as a rule. They correlate very closely with the land forms and are herein described as dunesand, dry valley soils, and wet valley soils.

Dunesand is the typical soil on the sandhills. It occupies about two-thirds of the area of the sandhill region. Dunesand is characterized by its mobility, low humus content, and uniform fine sandy texture. There

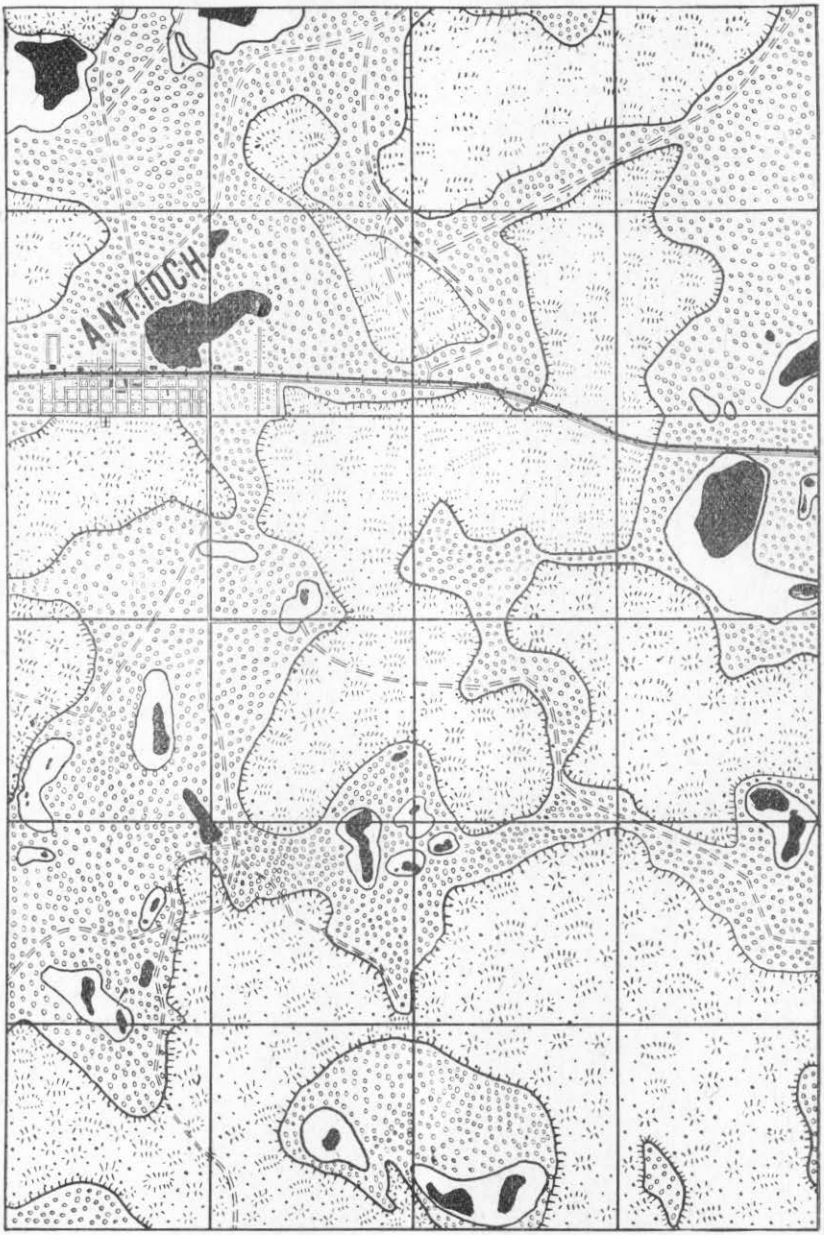

ANTIOCH
LEGEND
SAND HILLS
DRY VALLEYS
WET VALLEYS AND LAKES

Figure 19.

is little difference between the surface soil and subsoil. Both are light gray in color and of loose structure. They contain a very low percentage of silt and clay.

The State Survey classifies the hills under two divisions namely, first grade and second grade, depending upon the continuity of the grass cover and the amount of blow ground.

The mechanical analysis of dunesand is as follows: Fine gravel, 0%; coarse sand, 0.7%; medium sand, 7.7%; fine sand, 73.7%; very fine sand, 15.2%; silt, 0.7%; clay, 1.9%.

Dry Valley Soils occur on the small basins and dry valleys. They are more stable than dunesand. According to the state and federal surveys, there are four soil types: namely, very fine and sandy loam, fine sandy loam, loamy sand, and sand. These have been described as belonging to the Valentine series. The very fine sandy loam and the fine sandy loam are quite stable, having fairly well defined surface soils. They do not blow badly and are farmed at a number of places. The lighter soils blow some where exposed.

The dry valleys are known as hard lands in contrast to the sandhills proper.

The mechanical analyses of dry valley soils run about as follows:

Valentine Fine Sandy Loam

Description	Fine Gravel Pct.	Coarse Sand Pct.	Medium Sand Pct.	Fine Sand Pct.	Very fine Sand Pct.	Silt Pct.	Clay Pct.
Soil	0.0	4.9	11.8	36.5	24.9	13.9	7.7
Subsoil	.0	2.4	5.7	29.6	29.5	17.7	15.1

Valentine Loamy Sand

Description	Fine Gravel Pct.	Coarse Sand Pct.	Medium Sand Pct.	Fine Sand Pct.	Very fine Sand Pct.	Silt Pct.	Clay Pct.
Soil	0.2	3.8	11.1	48.3	30.8	9.0	6.7

Wet Valley Soils are on the poorly drained valleys. The largest distribution is in Cherry County, northeastern Morrill, northern Garden, southern Sheridan, and southern Rock counties. Two wet valley soils, the fine sandy loam and the loamy fine sand, have been mapped and classed with the Gannett series. They are composed principally of the finer grades of sand, but contain small amounts of clay and some humus. Small areas of the Gannett soils contain alkali.

The wet land grades into marsh areas, which occur on the seepage sides of lakes. Some of the valleys are nearly wholly occupied by marsh lands which contain a great deal of organic matter. The vegetation of the marshes is unlike that of the wet meadows and very different from the covering on the hills.

Sandhill Roads—Most sandhill roads are trails following valleys and crossing the hills at their lowest and narrowest points (Figure 20). Seepage areas of valleys are avoided, especially when there is most water. Hill and dry valley roads are in best condition after rains. Blow ground is avoided where it is possible to do so.

The typical sandhill road follows a crooked course. It might be termed a "snake" road or a "kinky" road. Few roads follow section lines. There are many gates and few culverts and bridges.

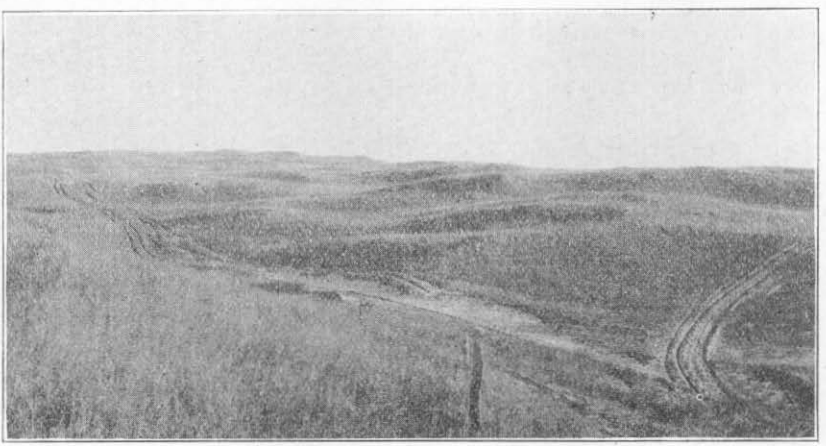


Figure 20. Unimproved Sandhills Roads.

Considerable advance has been made the past few years in improving sandhill roads. It has been learned that grading is not feasible, except in a few places where a permanent surface can be made.

Most difficulty is experienced with the loose sand which drifts where it is exposed to the action of the wind. Dry valley and wet valley roads remain in fair condition as a rule without much work.

The roads crossing the loose sands are surfaced with manure, hay, (Figure 21), alkali mud, cinders, or magnesia rock (Figure 22). Very good results have been secured by the use of cinders and magnesia, but the other materials, though more accessible, are only temporary. The cinders are hauled from towns and from the potash plants and the rock is brought from the nearest outcrops. Unfortunately there are few rock exposures in the sandhills.

The runway gates (Figure 23) have come into general use along the principal trails in the vicinity of Hoffland, Antioch, and Lakeside.

Figure 21. Hay on a Sandhill Road, Garden County

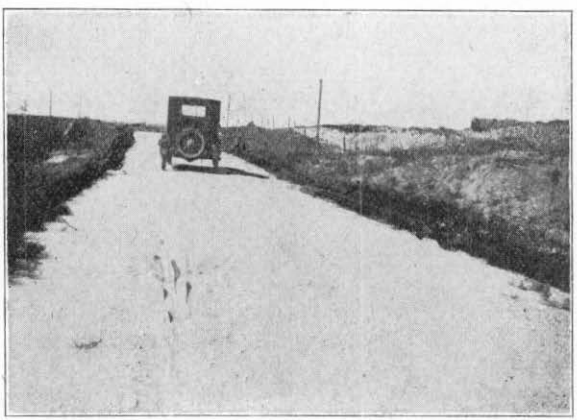


Figure 22. A Sandhill Road Southeast of Alliance, Surfaced with Magnesia Rock

THE HIGH PLAINS REGION

This, the most diverse region of Nebraska, occupies a little more than 15,000 square miles of high table lands, rough broken areas, and valleys (Figure 3). It has three names—the Table Land Region, Western Region and the High Plains. The most distinctive feature is the high plains, hence the name now used.

The largest natural subdivisions of the High Plains Region are Perkins Plain, 1650 square miles; Cheyenne Table, 3,275; Pumpkin Creek Valley, 375; Wild Cat Range, 215; North Platte Valley, 930; Box Butte Table, 2,010; Niobrara Valley, 240 (western part); Dawes Table, 1,368; Pine Ridge ,500; Hat Creek Basin, 390; White River Basin, 800; Springview Table; Ainsworth Table, 305, and Holt Plain, 925. (See Figure 3). These divisions are described in some of the survey reports and in the Geography of Nebraska. The following pages discuss briefly the land forms, soils and roads of each subdivision.

Perkins Table—The subdivision, Perkins Table, (See 1 on figure 3), lies in Perkins, Chase, and Keith counties and northeastern Colorado, but has its most typical development in the northeastern part of Perkins County. It is bordered on the north by South Platte Valley, on the east and south by sandhills and loess areas. The surface varies from nearly level to rough and is modified by a few sandhills.

The soils of Perkins Table are residual and aeolian. They were developed upon the Ogallala Formation. Three leading series are represented, namely, the Rosebud, Dunlap and Valentine. The Rosebud types are grayish to brown, deep to shallow, and underlain by sand or bedrock. Four types are represented, the silt loam, fine sandy loam, sandy loam, and loam. The Dunlap soil (called Dawes) has a heavy upper subsoil. It is best developed in the vicinity of LaMar. The Valentine soils represented by five types are lighter than those of the Rosebud and Dunlap. They show less difference between the soil and subsoil and have a tendency to blow.

Roads on Perkins Table are good to bad. The hard land roads, except on the Dunlap silt loam, remain in fair condition without working. They are quite easily graded and maintained. The Dunlap silt loam becomes rutted and rough when wet, but makes a good road when properly graded and especially so if surfaced with gravel.

The Omaha-Lincoln-Denver Highway (O. L. D.) traverses Perkins Plain between Imperial and Holyoke, Colorado. There is a noticeable difference in the condition of this highway in Nebraska and Colorado and not to the credit of our state.

Cheyenne Table—This large area See Figure 3) is bordered on the north by the Pumpkin Creek and North Platte valleys and extends south-

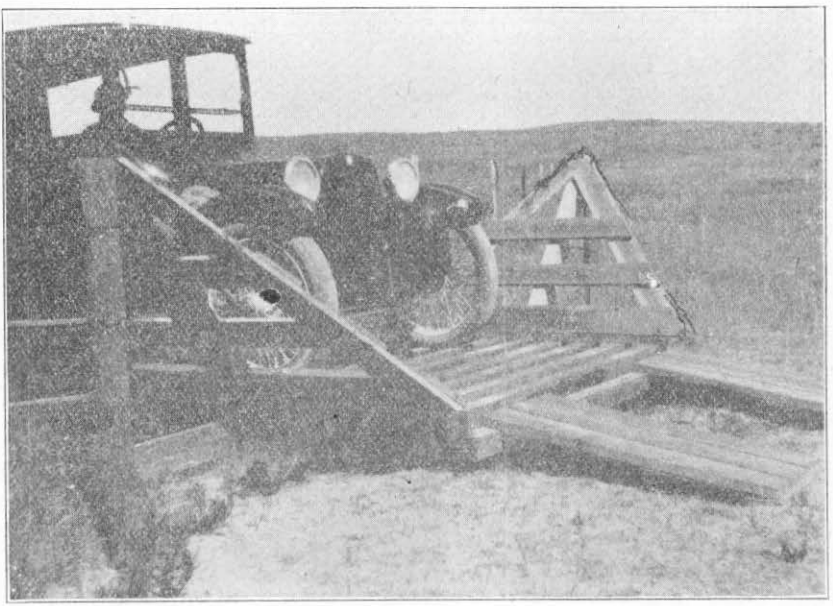


Figure 23. The Runway Gate

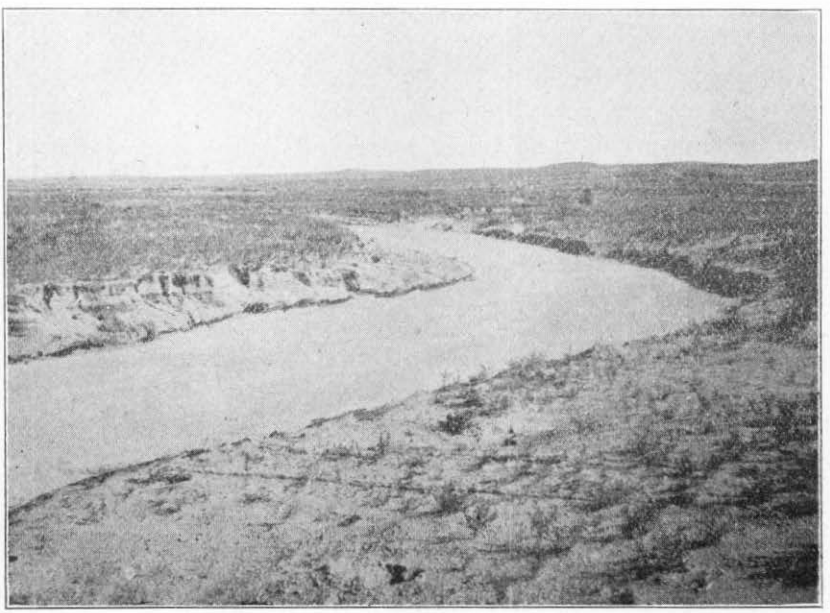


Figure 24. The Sanddraw Which Is a Feature Along the South Platte and the Lodgepole. It Presents Problems in Road Work, But Supplies Good Sand and Gravel.

ward to and beyond Lodgepole Creek and the Colorado line. The surface is a smooth table land at places, but is undulating to rolling and rough in much of the area. The eastern part, a spur between the Platte valleys, is capped with loess. The rest of the area, except on the valley floors, has residual soils developed upon the Ogallala Formation.

The leading soil series on the table land is the Rosebud, represented by five types ranging between the Rosebud silt loam and the Rosebud gravelly sandy loam. The Kimball county survey classes these with the Sidney series, a name which has been discontinued.

The Rosebud soils are comparatively deep to shallow, depending upon the geographic position whether on slopes or smooth land. The nearly level lands of the table are modified by basins, lined with a heavy soil known as the Scott silt loam. These areas make bad roads if not improved. Unimproved new road on the table are rough, due to black root, called "niggers' wool." Grading and a small amount of dragging keep roads on the Dawes soils in good condition without surfacing

Some of the steep slopes of Cheyenne Table have stony outcrops which interfere with grading. The slopes, notably those along the Lodgepole, have coarse soils classed with the Cheyenne series. Similar materials occur in many sand draws (Figure 24). Finer textured soils of the Tripp series occur on the low terraces, principally in Lodgepole Valley. The bottom land soils proper of the valleys are classed with the Laurel series. They have a light to pale yellow surface layer and a coarse, calcareous subsoil. Persons wishing descriptions of the soils of Cheyenne Table should secure the soil reports of Kimball, Cheyenne and Morrill counties.

The Lincoln Highway traverses the southern part of Cheyenne Table, passing across the upland between Big Springs and a point just east of Chappell (Figure 25), and following the Lodgepole Valley to and beyond the Wyoming line. The road is well improved much of the distance by using Cheyenne soils for surfacing. Cheyenne Table is crossed by several highways as between Kimball and Scottsbluff, Sidney and Bridgeport, (Figure 26), and Chappell to Oshkosh.

Pumpkin Creek Valley lies between Cheyenne Table and Wild Cat Range and is tributary to the North Platte Valley (See division 3 of figure 3). It is bordered by escarpment-like walls throughout most of its course, (Figure 27), but is more open near the Wyoming line and at the point of junction with the Platte.

Long slopes are a feature of Pumpkin Creek Valley. These slopes are of two kinds,—those formed by the weathering and erosion of the Brule clay and those formed from colluvial materials. The Brule clay slopes are rounded, and billowy. They are eroded in the form of small badlands at a few places. The colluvial slopes, occurring south of the

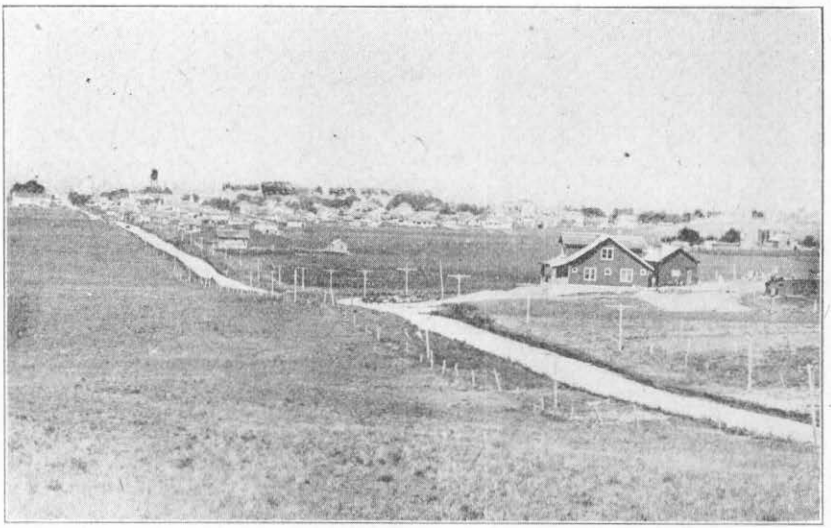


Figure 25. Lincoln Highway Entering Lodgepole Valley, Chappel Showing in the Distance.

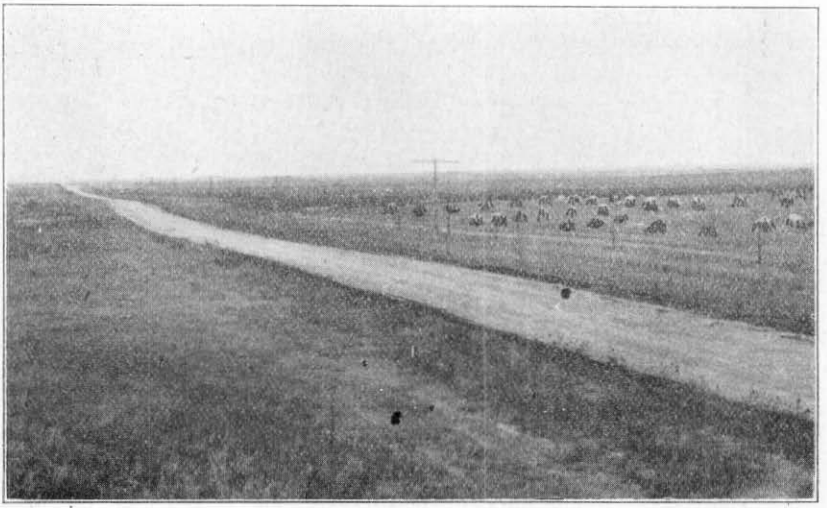


Figure 26. Road on Dalton Table, Cheyenne County

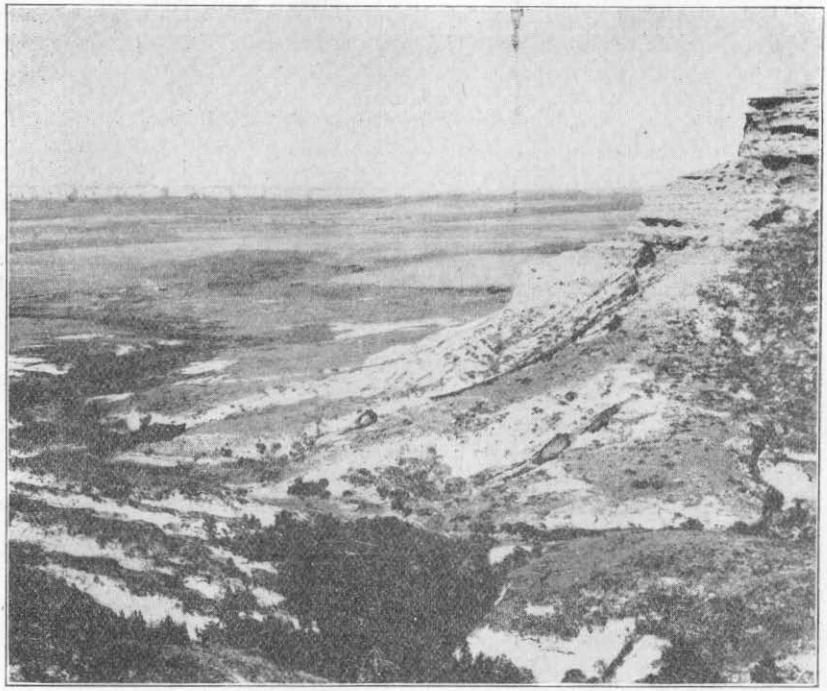


Figure 27. View into Pumpkin Creek Valley From the South.

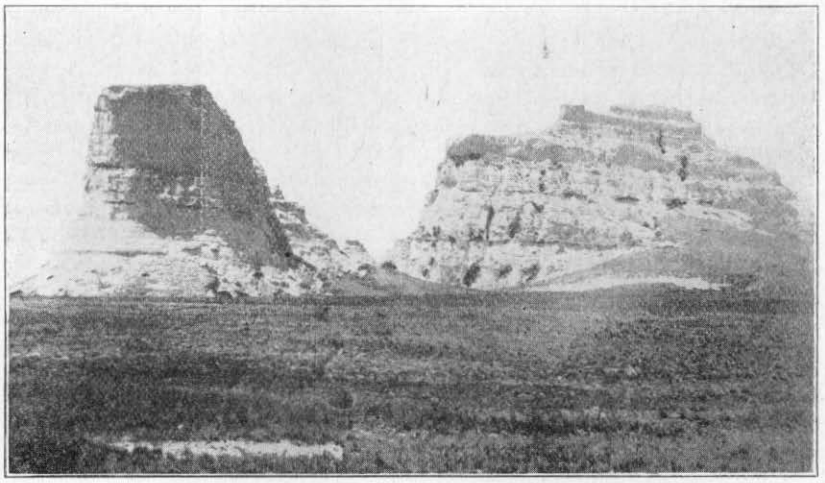


Figure 28. Court House and Jail Rock. The Long Slopes Are Occupied by Epping Silt Loam.

creek and in the eastern part of the valley are comparatively smooth and terrace-like in form. The bottom lands of the valley consist of the flood planes bordering Pumpkin Creek and its tributaries and of low terraces.

There are a number of soils in Pumpkin Creek Valley. Those with large distribution are classed with the Epping, Bridgeport, Tripp, and Laurel series. The Epping silt loam was developed upon the Brule clay. It grades within a short distance from the yellowish brown surface soil to the undisturbed Brule clay. The soils on the colluvial slope are classed with the Bridgeport series represented principally by fine sandy loam and very fine sandy loam, but are modified by small areas having a fine sand texture. These soils drain well and are easily worked, but are subject to blowing where light textured. The roads require surfacing where the soil blows.

The Tripp soils occur on the benches, and range between the very fine sandy loam and fine sand. The drainage is good and most of the soil is suitable for road work except that of light texture which is subject to blowing. The Laurel soils occur on the first bottom of the trunk and tributary streams.

The soils of Pumpkin Creek Valley are described in the reports of Scotts Bluff and Morrill counties and in the Reconnoissance Soil Survey of Western Nebraska.

Pumpkin Creek Valley is not well served with roads. The valley is crossed by the Kimball-Scottsbluff road, and the Bridgeport-Sidney road. These are improved at places.

Wild Cat Range—The mountainous area between Pumpkin Creek Valley and the North Platte has received the name, Wild Cat Range (Division 4 of Figure 3). The area begins near the eastern end of 66 Mountain in Wyoming and extends eastward and southeastward about 50 miles, ending in Court House and Jail Rock south of Bridgeport. The range rises from 400 to 700 feet above the bordering valleys in most of its course, but lowers eastward. Three prominent spurs of the range extend northward and northeastward toward the Platte, ending in Scottsbluff Mountain, Castle Rock and Chimney Rock. A prominent spur extending southward ends in Hog Back Mountain and Wild Cat Mountain. Among the prominent features of Wild Cat Range are Signal Butte, elevation 4,583 feet; Bald Peak, 4,420 feet; Scottsbluff Mountain, 4,462 feet; Hog Back Mountain, 5,038 feet; and Court House Rock, 4,100 feet (Figure 28). The range is scenic.

Much of Wild Cat Range is rough broken land thinly covered with grass, shrubs and pines. The less abrupt parts of the area are occupied by the Rosebud stony fine sand and the more gradual slope by the Rosebud loamy fine sand (Figure 29).

Road building is difficult in Wild Cat Range. The roads follow can-

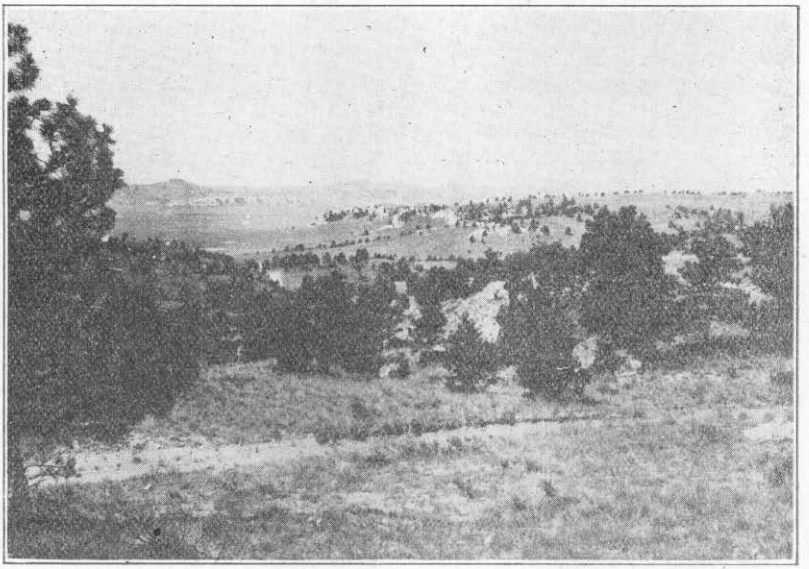


Figure 29. Upper Part of Wild Cat Range Showing Rosebud Loamy Fine Sand.

yons and across the lowest gaps or divides. The grades are steep, requiring extensive cuts and fills. Materials are available, however, for good roads.

North Platte Valley—The North Platte Valley is the state's most important irrigation area (Division 5 as shown by Figure 3). The extensive and diversified agriculture requires good roads and an outlet to other parts of the state.

The North Platte Valley is wide in Scottsbluff and the western part of Morrill County, below which it narrows considerably to the point of junction with the South Platte. The upper parts of the valley sides are formed principally of steep, smooth slopes and stony land. Sandhills hug the northside between Oshkosh and North Platte. The rough stony land on the south side gives way below Lewellan to loess bluffs. One feature of the valley is the large terrace on the north side between the Wyoming line and northwest of Bridgeport. A long, gradual bench-like colluvial slope forms the south side of the most of the valley in Scotts Bluff County. The flood plain proper has a considerable area of silt loam to sandy and gravelly soils, part of which is poorly drained.

There are several soils in the North Platte Valley, varying from silt loam to nearly barren slopes of the rough broken land (Figure 30). The soils with largest distribution are classed with the Epping, Mitchell, Tripp, Laurel and Minatare series, which are described in the soil reports of Scotts Bluff and Morrill counties.

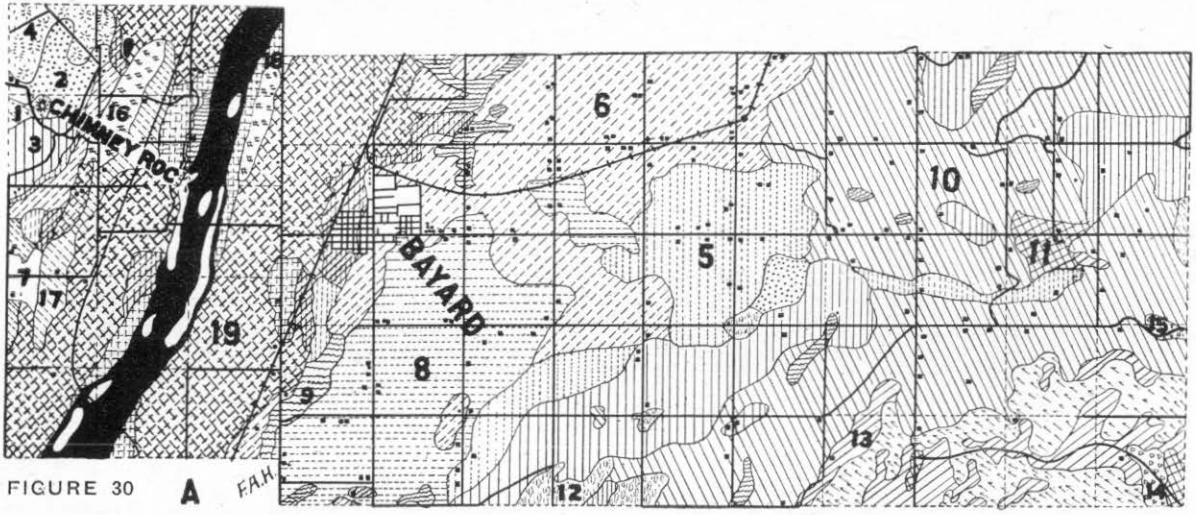


FIGURE 30 A

FIGURE 30. B

Figure 30, part A, shows a strip of soils extending from Chimney Rock northward across the valley a distance of 13 miles. These soils are on steep slopes, the flood plain, bench land and slope land as shown by Figure 30, part B. The soil types of Figure 30, part A, are as follows: 1, rough broken land; 2, Bridgeport loamy fine sand; 3, Bridgeport loamy very fine sand; 4, dunesand; 5, Tripp loamy very fine sand; 6, Tripp very fine sandy loam; 7, Tripp loamy fine sand; 8, Tripp loam; 9, Tripp gravelly sand loam; 10, Bridgeport very fine sandy loam; 11, Rosebud very fine sandy loam; 12, poorly drained areas on bench land; 13, Rosebud very fine sandy loam (shallow phase); 14, Rosebud loam; 15, dry stream bed, a gravelly sandy loam; 16, Laurel loam; 17, Minatare loam; 18, Laurel very fine sandy loam; 19, Minatare silt loam; 20, river wash, not shown by Arabic numerals, but represented by clear areas in Platte River.

The Epping Silt Loam was developed upon the Brule Clay which outcrops in the valley sides forming the long, smooth slopes at the foot of the rough lands. A few areas, as at the foot of Scotts Bluff, have been eroded as small bad lands. The upper soil of the Epping silt loam is light yellowish brown and 5 to 8 inches deep. The subsoil is lighter in color and may not show change in color and texture to a depth of 3 feet or more. The subsoil passes into the compact Brule clay. The Epping silt loam and the underlying Brule are easily worked, but they can be improved as road materials by the addition of sand. There are extensive areas of the Blue clay and its silt loam soil at various places in Scotts Bluff and Morrill counties.

Mechanical Analyses of Epping Silt Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.4	0.7	4.9	34.8	51.9	7.0
Subsoil	.1	1.1	1.2	4.4	34.3	50.8	8.1

The Mitchell Soils consist of light brown or buff colored silt loam and very fine sandy loam covering the terrace-like colluvial slopes as in Mitchell and Gering valleys. They were derived principally from the Brule clay and have been modified by wind and sheet water. The soils are deep, quite compact, friable and easy to work. They contain considerable organic matter in the surface soil and are of light buff color in the lower part. The Mitchell soils are slippery, but not sticky when wet. They are suitable for road grading, but can be improved by mixing with coarse materials.

Mechanical Analyses of Mitchell Silt Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.4	0.4	2.2	18.2	67.1	11.8
Subsoil	.0	.2	.2	2.0	21.9	54.6	18.2

Mechanical Analyses of Tripp Very Fine Sandy Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	2.0	3.5	3.0	8.6	40.3	33.8	8.5
Subsoil	2.8	4.4	4.2	10.9	43.8	27.4	6.7

The Tripp Soils occur on the terraces as north of Scottsbluff and Bayard (Figure 30, A) and at Lisco and Broadwater. The range of texture is from loam to gravelly loam. The color of the soil is light brown to yellowish. Six types of soil belonging to this series were mapped in the valley. The gravelly, sandy loam, loamy sand, loamy fine sand, fine sandy loam, very fine sandy loam and loam. The gravelly sandy loam occurs along the edges of the benches. It is coarse, loose and drouthy, but well suited for road work in surfacing most other soil types in the valley. The finer Tripp soils support a considerable part of the irrigation. They are suitable for road building when graded and particularly so when surfaced.

Mechanical Analyses of Mitchell Very Fine Sandy Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.1	0.4	2.2	21.5	40.8	26.5	8.5
Subsoil	.0	.5	2.4	21.4	29.2	33.3	13.5

Mechanical Analyses of Tripp Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	1.2	2.9	4.6	22.3	24.2	23.2	21.4
Subsoil	.0	6	2.2	15.6	26.2	27.2	28.3

The Laurel Soils, represented by the very fine sandy loam and the fine sandy loam, occupy parts of the flood plain and portions of the very low benches. They are quite high in organic matter, of light brown color and underlain by sandy to gravelly subsoil. Though on low ground, the soils drain quite well. The fine sandy loam forms a belt north of the river from Mitchell to the Morrill County line. Both types occur at a number of places in the valley.

The Minatare Series is represented by one type, the silt loam which occurs on the lowest-lying, poorly drained first bottom land (Figure 30, A). The color of the surface soil is gray to grayish brown. The subsoil is a light colored heavy clay. Both soil and subsoil are highly calcareous, and in some places badly alkalied. The most extensive area of the Minatare silt loam extends from along the north side of the river from a point 5 miles northwest of Minatare eastward and southeastward to northwest of Bridgeport. South of the river is an area extending eastward from McGrew into Morrill County.

Large areas of the Minatare silt loam show seepage coming from irrigation on the bench lands.

Mechanical Analyses of Minatare Silt Loam

Description	Fine Gravel Pct.	Coarse Sand Pct.	Medium Sand Pct.	Fine Sand Pct.	Very fine Sand Pct.	Silt Pct.	Clay Pct.
Soil	0.0	0.2	0.2	1.4	41.4	51.0	5.7
Subsoil	.0	.1	.1	.7	16.5	46.1	36.4

Roads of North Platte Valley—Extensive road improvement is needed in this part of the state. There are enough soil and rock materials for use if properly combined. Advance has been made in road building particularly in the vicinities of Morrill, Scottsbluff, Gering, Bayard, Bridgeport and Broadwater. Many miles of road have been graded to the standard widths and some have been surfaced with gravel hauled from the edges of the bench land and from the sand bars of the river. The beet sugar company assisted with this work.

The North Platte Valley was followed in part by the Oregon Trail Roads then sought hard ground and were shifted when the paths became deep as is shown by figure 39. The valley is now connected with the Lincoln Highway by roads leading from Scottsbluff and Gering to Kimball, from Bridgeport to Sidney, from Oshkosh to Chappell and Lewellen to Ogallala. A North Platte Highway should be built up the valley from North Platte.

Box Butte Table—This division lies between the North Platte and the Niobrara (See No. 6 of Figure 3). It is bordered on the east by the sandhill region and is modified at places by small areas of sandhills. The Table is described in the soil survey of Box Butte County. The surface of Box Butte Table ranges from nearly flat (Figure 31) to undulating, rolling and rough. Near the Platte and Niobrara, the surface is roughened by numerous ravines and canyons.

The soils of Box Butte Table are classed with the Rosebud, Dunlap, Yale, Tripp, Laurel and Valentine series. The Rosebud and Dunlap soils are similar to those of Cheyenne Table.

The Rosebud types are scattered generally, but the Dunlap silt loam occurs principally to the west and southwest of Hemingford. It has a brown to dark brown surface soil 6 to 12 inches deep, underlain by a dark brown compact heavy silt loam which passes gradually through a grayish brown heavy silt loam into a light, floury, calcareous silt loam. The type occupies flat areas.

High terraces in the vicinity of Alliance are capped with the Yale silt loam and very fine sandy loam which carry considerable clay. The low terrace of Snake Creek Valley are covered with the Tripp very fine sandy loam.

The Valentine loamy fine sand occurs in the southern and eastern parts of Box Butte County. The principal soils on the bottom land of Snake Creek are the Laurel silt loam and fine sandy loam. They are poorly drained and contain alkali spots.

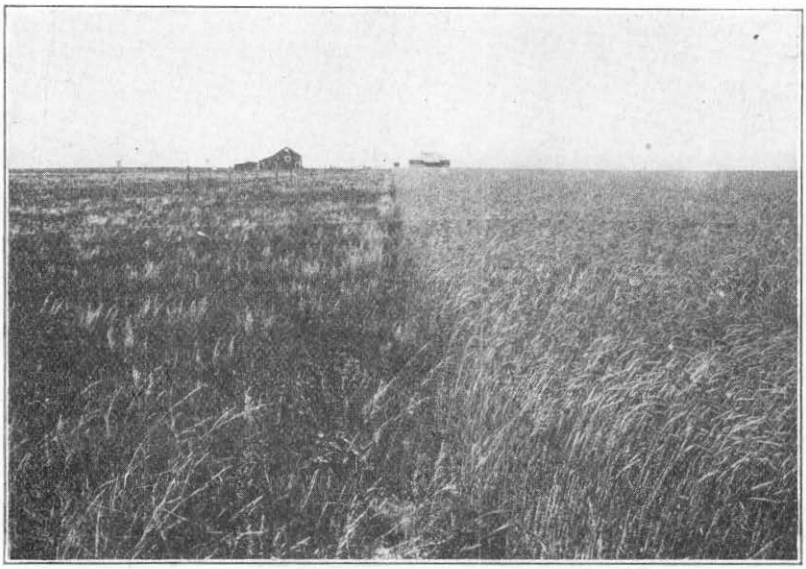


Figure 31. A Typical View On Box Butte Table near Hemingford

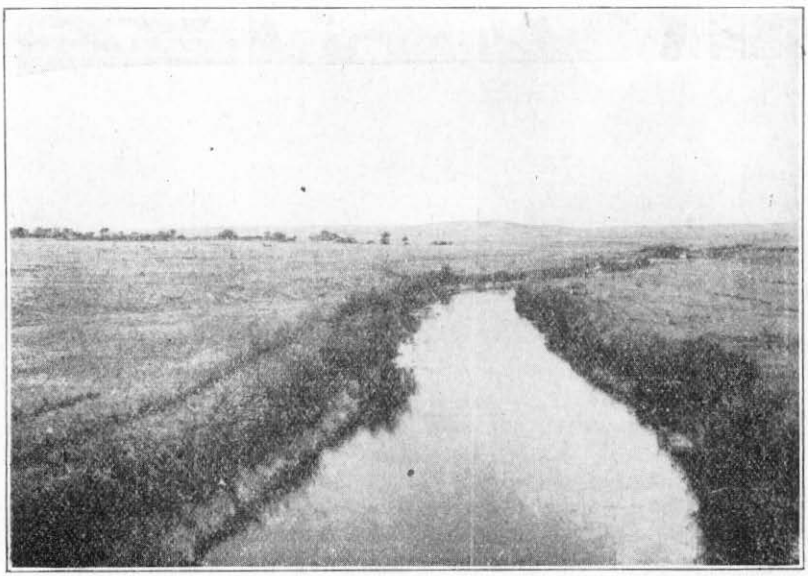


Figure 32. The Open Valley of Niobrara Valley Between Box Butte and Dawes County.

Generally speaking, the soils of Box Butte Table are quite well suited for use in roads. Most of them are firm and fine enough to prevent blowing. The Dunlap silt loam makes the best roads. The Valentine loamy fine sand and the dunesands blow quite badly and require surfacing. Magnesia is accessible for this purpose.

The following analyses are of soils on Box Butte Table:

Rosebud Fine Sandy Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.2	0.4	1.2	65.6	15.8	13.0	3.7
Subsoil	.6	.4	1.0	72.4	12.6	8.9	3.9

Rosebud Very Fine Sandy Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.2	2.4	4.4	41.2	22.2	24.6	5.0
Subsoil	0.1	2.6	4.9	47.4	19.4	15.5	9.9
Lower Subsoil	.4	3.4	5.2	52.3	17.0	10.8	10.0

Dunlap Silt Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	0.8	1.4	15.0	37.3	34.0	11.0
Subsoil	.1	.4	1.2	12.4	30.0	32.0	23.6

Yale Silt Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.1	1.4	2.0	12.6	37.2	32.9	13.3
Subsoil	.0	.6	.6	4.6	37.0	40.4	16.7

Roads have been improved from Alliance to the leading towns to the north, east and south. The Community Club of the city has led in this work.

Box Butte Table is cut off from most other parts of the state by sandhills, hence there is a strong demand for good roads leading out. The Potash Highway has been improved to Antioch. When completed, it will lead through the sandhills past Hyannis and Seneca to Broken Bow and Grand Island.

Niobrara Valley—This valley has three distinct courses or divisions in Nebraska. Two of them separate parts of the High Plains, and the third division is in the northern part of the sandhills. The western course of the valley lies between Box Butte and Dawes tables (See 7 of Figure 3). It is narrow and bordered by rough lands near the Wyoming line, but widens considerably across Sioux, Dawes (Figure 32), and Box Butte counties where there are bold, rounded grass covered slopes and some broken land in which stone is exposed. The soil of largest distribution on the valley sides is the shallow phase of the Rosebud very fine

sandy loam underlain with sand and stone. The valley floor is divided between low benches and the floor plain proper. The benches are occupied principally by the Tripp sandy loam and some fine sandy loam. The first bottom soils are the Laurel fine sandy loam and very fine sandy loam. This part of the Niobrara is crossed by roads leading between Crawford and Alliance, Chadron and Alliance and Hay Springs and Alliance.

Mechanical Analyses of Tripp Very Fine Sandy Loam

Description	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	Very fine Sand	Silt	Clay
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Soil	0.0	2.2	3.1	21.3	43.0	22.4	7.6
Subsoil	.1	2.8	4.4	28.2	34.7	12.0	17.5
Lower Subsoil	.1	5.3	8.1	42.2	29.0	5.7	9.0

The sandhill course of the Niobrara Valley is narrow and deep and closely bordered by sandhills and stony land (Figure 33). The lower course lying between Keya Paha and Boyd counties on the north and Brown, Rock, and Holt counties on the south is somewhat wider. The slopes are more gradual and occupied in most of their parts by the Pierre shale which forms a very heavy soil similar to that of the northern parts of Hat Creek and White River basins, but occurring under a heavier rainfall. The unimproved roads on this clay soil become nearly impassable during rainy weather.

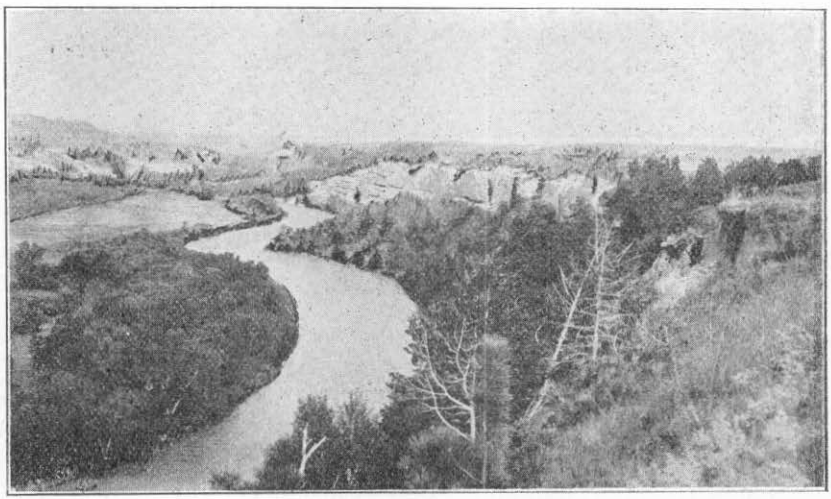


Figure 33. The Beautiful Course of the Niobrara East of Valentine.

The Pierre clay soils extend into Ponca Creek Valley as far as the town of Butte. They occupy much of the northern part of Knox County. See Figure 3, on which the Pierre in the vicinity of the Niobrara is shown by broken lines.

Dawes Table—The area known as the Dawes Table extends through Sioux, Dawes and Sheridan counties (See 8 of Figure 3). It is between the Niobrara and Pine Ridge, but is not closely set off from the latter. The surface grades from a typical table in Dawes County to a rolling surface in Sheridan County (Figure 34). Some parts are badly dissected.

The soils of Dawes Table are classed with the Rosebud and Dunlap series and resemble those which have been described in connection with Box Butte and Cheyenne tables. The Rosebud very fine sandy loam is a shallow phase of the type. It occupies much of the rolling land. The Dunlap silt loam is on the flat table.

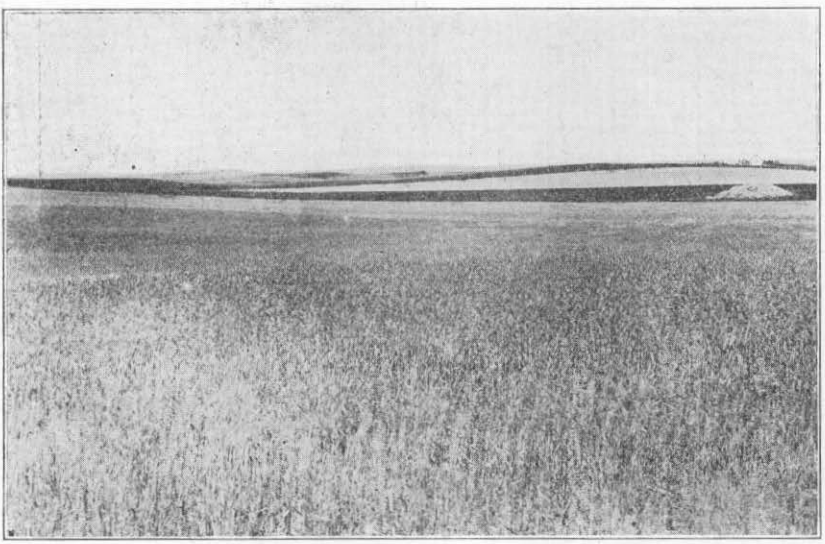


Figure 34. The Undulating Table.

Roads on Dawes Table remain in fair condition without much work. The soils are suitable for grading and mixing. Roads follow section lines except on the rough land.

Pine Ridge—The name Pine Ridge has been given to a mountainous country of irregular form, which lies in general between the Niobrara, Hat Creek, and White River valleys (See 9 of Figure 3, also Figures 35 and 36). The area was eroded out of the High Plains. The north face of Pine Ridge is very steep at most places. It contains deep canyons, prominent cliffs, and long steep slopes. There are two escarpments or cliff elements in this face of the ridge, one of them lying just below the table land itself, and the other coming down to the borders of Hat Creek and White River basins. There are a number of park land areas between these rougher parts of Pine Ridge.

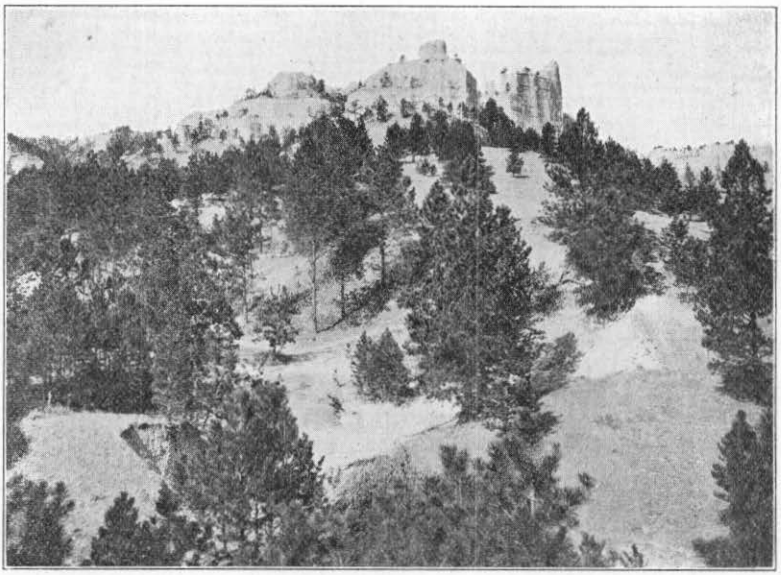


Figure 35. A Pine Ridge View Along Sowbelly Canyon, Sioux County

Much of the Pine Ridge country is covered with scattered stands of pine trees. The steeper slopes are bare and the more gradual ones are grassed over. Parts of the park land are farmed. Soils range between stony land and the Rosebud very sandy loam. Road building is difficult. The highways follow the canyons in crossing the ridge (Figure 36). Road work requires extensive cutting and filling. There are materials present, however, for road beds and surfacing.

Hat Creek Basin occupies the extreme northwestern part of the state and extends into South Dakota (Sec 10 of Figure 3). The basin slants away from Pine Ridge. The southern part of the basin is composed of long rounded slopes and of low but e-like forms developed upon the Brule clay. The soil of this division has been classed under two series, the Dawes and the Epping. It is known as yellow gumbo, but is less heavy than the name would indicate. The soil ranges between silt loam and a fine sandy loam.

The northern part of Hat Creek Basin is formed of billowy hills developed upon the Pierre shale. The soils range between clay and a clay loam. They are dark gray to brownish and quite thin at most places, become very sticky and muddy when wet, and hard when dry.

There are few roads in Hat Creek Basin. Highways lead along Monroe, Sow Belly and Hat Creek canyons to the uplands and Harrison and other points on the south and northward across the gumbo lands to Ardmore, South Dakota.

White River Basin is bordered on the south and west by the steep slopes of Pine Ridge (See 11 of Figure 3). Numerous small valleys open to the basin from Pine Ridge. The lower slopes of the ridge, which form the southern and western borders of the basins, are long and billowy. They are largely formed upon Brule clay and part of the soil is classed as Epping silt loam. The more gradual slopes have a deep, silt loam soil with a heavy middle layer. This type is called the Dawes silt loam (Figure 37). The two soils just named form a belt which reaches northward

Figure 36. A Pine Ridge Road, Hat Creek Canyon, Sioux County.

to White River in most of Dawes County and follows northward around the edge of Pine Ridge on the west. These soils become slippery, but not very muddy when wet. They are easily graded to make a good road especially when surfaced with coarse materials. A few patches of badlands interfere with roads on the Epping silt loam (Figure 38).

The northern part of White River Basin is the well-known dark gumbo land developed upon the Pierre shale. The wet soil is heavy, very sticky,

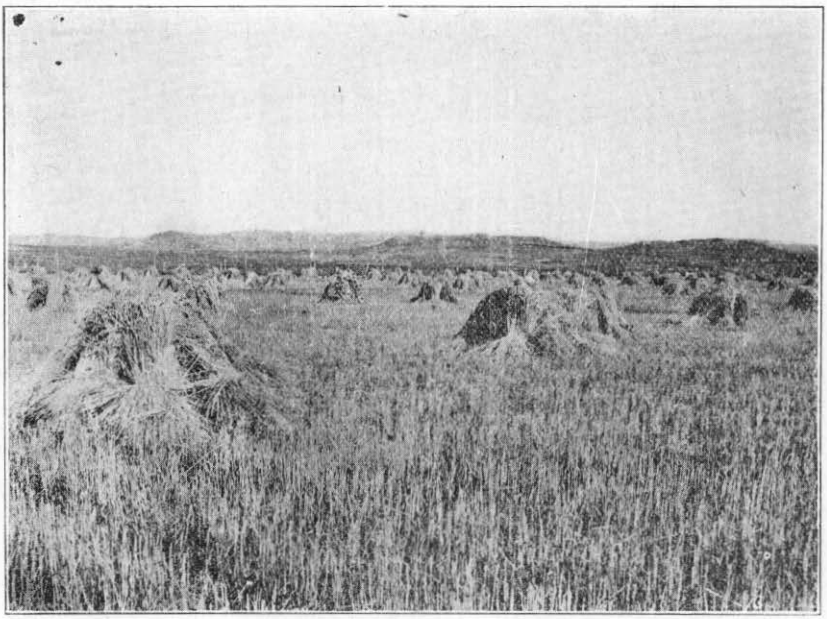


Figure 37. Typical Agricultural View Across the Dawes Silt Loam

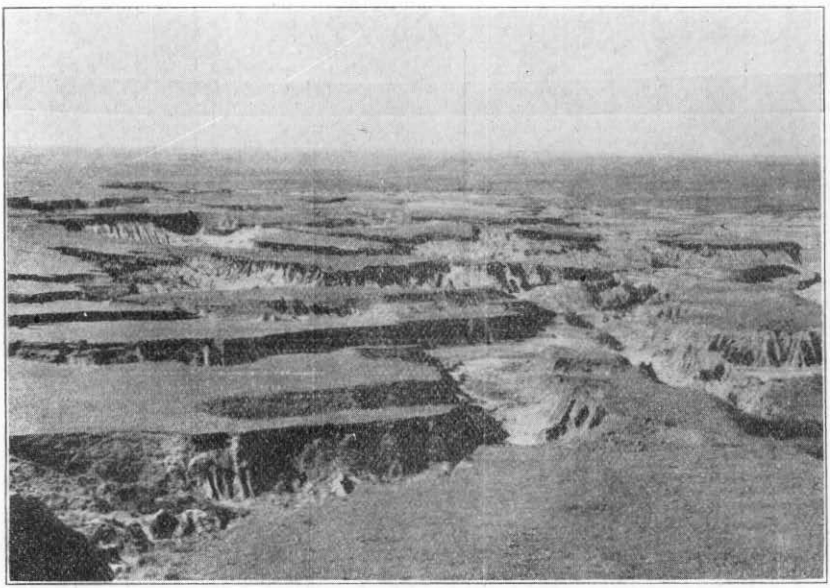


Figure 38. A Small Badland Area, Dawes County.

muddy and nearly impassable. If graded, it makes a good hard road, though quite rough when dry. The mileage of roads in this part of the basin is low.

The valleys of White River Basin have narrow strips of flood plain and bench lands. The bench land soils range between silt loam and fine sandy loam, and serve quite well as road materials. There are several good roads in White River Basin as between Chadron and Crawford, and leading southward from Chadron and Crawford to Dawes Table.

Springview Table—This table occurs in Keya Paha County, but extends a short distance into Cherry and Boyd counties (See 12 of Figure 3). It is spotted, the surface being divided between hard smooth lands, rough broken land, loose sandy soil and small dunesand areas. Much of the hard land contains gravel at or near the surface. Its roads remain in fair condition without work, but can be improved by grading and surfacing with materials at hand. The sandy areas make bad roads.

Ainsworth Table—This small table is in northern Brown County, nearly surrounded by sandhills (See 13 of Figure 3). The surface is smooth to rough and divided between hard land and small areas of the Rosebud fine sandy loam. A small area of silty clay occurs east of dunesand and Valentine soils. The soil with the largest distribution is Bassett.

Ainsworth Table has a small road mileage, yet some roads are well improved including surfacing. Sand for surfacing outcrops in the vicinity of Long Pine and other places. Hard roads are naturally good and fast.

Holt Plain—Here, in the northern part of Holt County, is the easternmost area of the High Plains Region (See 14 of Figure 3). Holt Plain is quite smooth on the upland proper, but is rough near Brush, Eagle, and Bird creeks. Much of the plain is hard land, but parts are sandy.

The soils with largest distribution are known as O'Neill loam, O'Neill gravelly loam and Valentine sand. A sandy soil, which blows, occurs in the north, northeastern and southern parts of the plain.

The O'Neill loam is a dark gray to brown loam about 10 inches deep, underlain by 10 to 15 inches of light yellowish brown clay loam, below which is a thick bed of sand and gravel. The gravelly loam type has a thin surface soil and coarse subsoil. Both types make natural roads. The gravel is a good surfacing material.

Mechanical Analyses of O'Neill Loam

Description	Fine Gravel Pct.	Coarse Sand Pct.	Medium Sand Pct.	Fine Sand Pct.	Very fine Sand Pct.	Silt Pct.	Clay Pct.
Soil	2.4	8.7	8.2	17.1	16.5	29.7	17.4
Subsoil	1.9	6.8	8.7	16.7	7.2	32.5	25.9
Lower Subsoil	9.7	18.2	16.7	37.5	6.1	4.8	6.5

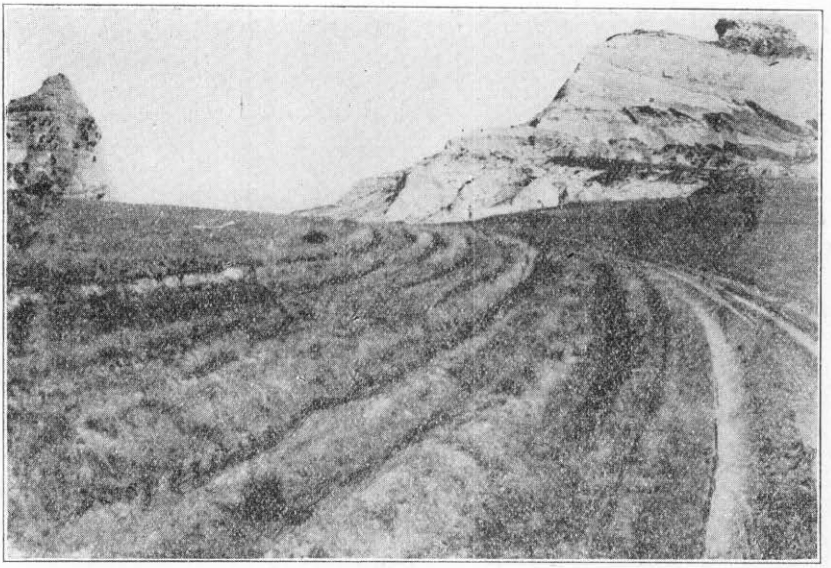


Figure 39. A Remnant of the Oregon Trail, Showing How It Was Shifted On Hard Ground as the Paths Became Deep.

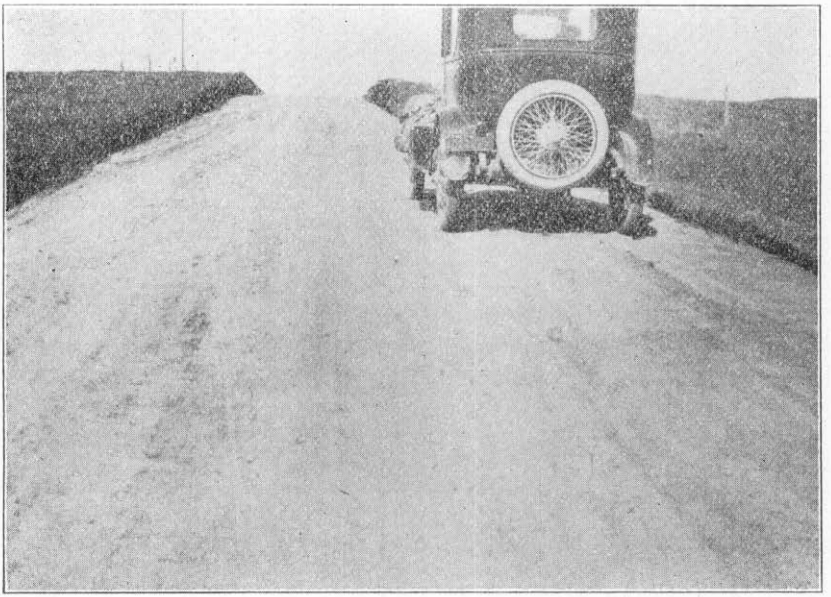


Figure 40. A Stretch of Gravelly Sandy Loam Road, Deuel County.

BUILDING AND MAINTAINING DIRT ROADS

This subject cannot be discussed in full in this connection. Only a brief review of the factors involved in dirt road work will be attempted. Among the subjects to be outlined are surveys, grading, dragging, and road patrol.

Road Surveys—The first thing to do preparatory to the work of construction is to make a road survey. This is a detailed survey including the running of levels to determine grades, and the preparation of plans and probable costs. Another line of field investigation has importance. It relates to the soil sections, soil types, and such investigations as are necessary to determine the best combinations of soil materials in making a road bed. This requires sounding, collecting samples, and the mechanical analysis of samples. Soundings are made with augers. Samples are collected from each part of the soil section. They are studied by the parties conducting the surveys and by those doing the construction work, but are analyzed to better advantage by the State Conservation and Soil Survey in co-operation with the office of the State Engineer.

In the early history of the state, before the land was fenced and farmed, it was not necessary to survey and build roads. Travel followed the easiest routes and water (Figure 39). The tendency now is to build and maintain permanent roads (Figure 40).

Grading—The term "grade" has two meanings in road work. Among engineers, it means the bringing of a road to grade. This involves cutting and filling. A general usage of the term refers to the making of a road bed, i. e. the placing of road materials. The form thus constructed is generally known as the grade.

Grading is done with scrapers and teams and with tractors pulling elevator graders or blade graders (Figures 41 and 42). The materials are moved from the sides of the roads to the middle, leaving gutters and lifting the bed to a crown. The standard crown in Nebraska is 24 feet wide, with an elevation of 6 inches. The gutter slopes are three to one on the inside and one and a half on the outside. Evidently this should be modified in places to suit the soil conditions. In placing the soil materials in a grade, due consideration should be given to the texture of the soils as shown by the section. This means that an attempt should be made to segregate the upper, middle and lower parts of the soil section and to place them in that position in the road which will produce the best results. This can be done when an elevator grader is used. The clay pan can be deposited in or near the base of the road and the surface part of the soil can be used to cover or cap the road, or what is better, the sand in the deeper part of the section can be placed on top for surfacing. Though this procedure cannot be followed at all places, it is feasible and possible on certain stretches of alluvial land. The only choice on most roads is in selecting and segregating the soil textures occurring in the different parts of the section encountered in making the gutter.

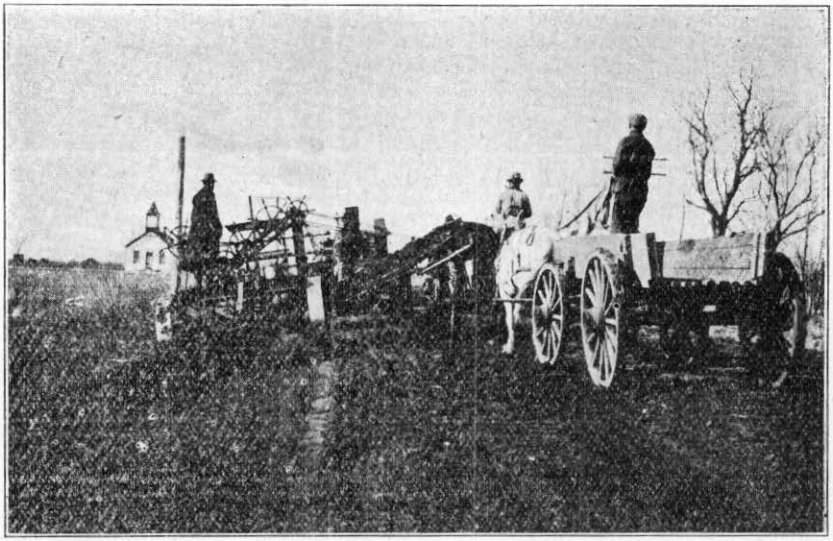


Figure 41. The Elevator Grader.

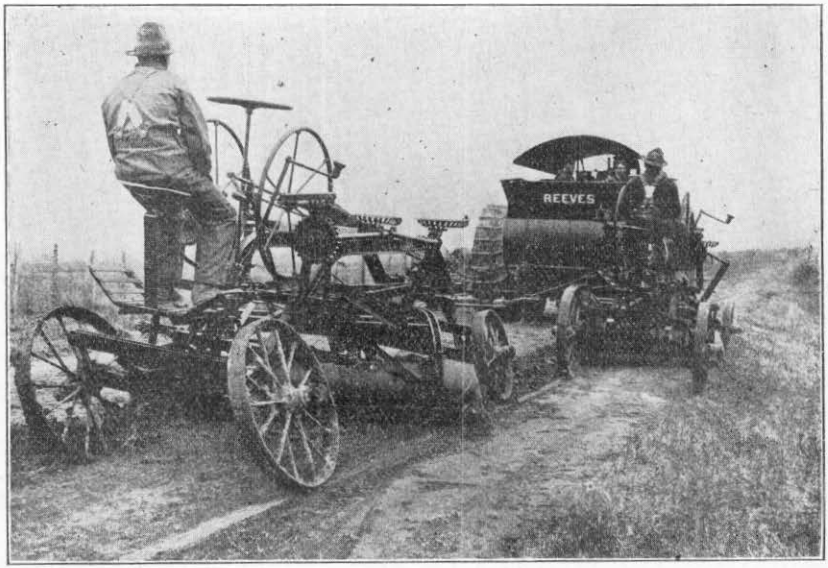


Figure 42. The Blade Grader.

There are many hill sides in the drift hill area of the state where seepage shows up. Such places can be controlled by cross draining with tile. Low places on flat lands can be corrected by the use of permanent culverts.

The road crown should be changed with the drainage condition. It should flatten on hills and the gutters should be made shallow to correspond. Otherwise, if the same form of crown and shoulder and depth of gutter are carried across the hill the grade is made steeper and erosion is promoted.

Flat land roads crossing alkali soils should be well crowned and guttered to improve the surface drainage which assists in removing alkali from the soil and the road.

It is evident that many miles of Nebraska roads have been graded without enough regard for the soils and drainage. Some roads are left very uneven, a condition which should not be permitted if the traveling public is to be considered. It is particularly necessary to properly place materials in a road bed. If the soil section does not have suitable materials they should be hauled if they are within hauling distance.

The well graded road bed is suitable for the sub-grade of the more permanent road surfaced with concrete, brick, etc. The surveys made for dirt roads will be of use in the permanent roads of the future.

Surfacing—A large mileage of Nebraska roads has been built of soil without mixing. The wearing surface was formed from whatever happened to fall upon the top part of the road bed. This practice and condition can be improved to some extent by segregating the materials brought from the gutters, but the only feasible way to produce more permanent roads to carry travel efficiently all the year, is to make a surface with materials suited for the purpose.

Some roads are clayey. They need sand and gravel and it requires only a small amount to improve the wearing surface, yet it may need a cover 4 to 6 inches deep to produce the best results. The gravel can be hauled in wagons or in dump carts, deposited along the middle of the road, spread with a blade grader when the clay is wet, and disked in. The gravel is taken up by the clay and the road soon reaches a condition in which it is easily maintained and will carry travel under a wide range of weather condition.

Some roads are on silt loam soils. They are in good condition much of the year where the rainfall is light, but become heavy and muddy where the rainfall is heavier, and such roads should be surfaced. They require less sand and gravel than clay roads. The difficulty in much of the state, where roads extend across silt loam soils, is the absence of gravel. About the only supply is in ravines and along the streams. This can be hauled at comparatively small expense.

Sandy roads need both clay and gravel. Ordinarily it is best to cover them with a layer of clay and cap this with gravel if the materials are available. Gravel will improve a sandy soil making it less subject to blowing, but the combintion lacks the binding quality produced by clay.

Alkali soils are difficult to handle. Most of them contain fine sandy loam and clay. They need gravel, which if not thoroughly incorporated with the soil, makes a very hard, rough surface. It has been found best in some places to spread a thing layer of sand and gravel when the road is muddy and to harrow or disk this, and to repeat the application when the soil is in a condition suitable for the work.

Dragging—This is an important process in road work. The purpose is to make a road smooth, and compact. Few road subjects have received as much consideration as dragging, yet the work of dragging has not been perfected. Several conditions can be improved. First, the roads can be built to permit dragging over greater distances by a given person or power. As it is, a road crossing stretches of clay, silt and sandy soils is not ready for dragging in all parts at the same time because they dry unequally, making dragged periods of different lengths. The most difficulty is experienced with clay roads which have a short drag period. If the work is not done within a period of about four hours as a rule, when the surface is just right, the best results are not secured. The silt loams and sand loams have longer drag periods and are therefore easier to manage.

The labor and power in road dragging have not been solved satisfactorily. The farmer is often busy with his farm work when dragging should be done and cannot afford to quit for the price received for the road work. Evidently it will not be easy to perfect a system of dragging in which farmers are not engaged. Sometimes a road has been badly cut up by heavy cars or trucks and this condition cannot be corrected by using the ordinary road drag. It can be handled best by using a blade grader or a maintainer pulled by a tractor.

It is safe to conclude that the problem of road dragging cannot be solved satisfactorily until the roads have been made more uniform by surfacing and until the dragged periods are better understood on the various types of roads not surfaced. It will be necessary also to further systematize the work of dragging. Some of the bad effects, such as leaving loose materials in the middle of a road or the building of ridges at the borders of the crown should be prevented.

Planing—This has been called shaving. It has to do with reducing the hard rough places on a dry road.

Clayey and silty roads become knotted and pitted under travel and particularly so by autos. This rough condition of a road bed makes travel disagreeable and unsafe. The road can be made smooth by the use of a planer or a maintainer (Figure 43). The maintainer is suitable also for grading, and for removing snow.

Removing Snow—Nebraska has not done much in the way of removing snow from roads . Kansas, on the contrary, has this work well organized. It is particularly noticeable that the roads of that state are in good condition when the snows are deep and melting. One is able to travel over a dry road bed bordered by deep snow. The snow is removed from the road bed by a simple A-shaped drag drawn by horses, or by a grader, or a maintainer. It is pushed into the gutters where it melts in due time without weakening the road bed. The expense is light compared with the benefits and the removal of snow in this way seems to be a necessary process in making dirt roads more permanent.

Road Patrol—A road is in some respects like a house. It must be looked after to prevent deterioration. So far as Nebraska roads are concerned, there has been too much building in proportion to the maintenance. The old adage, "A stitch in time saves nine," should be applied to roads.

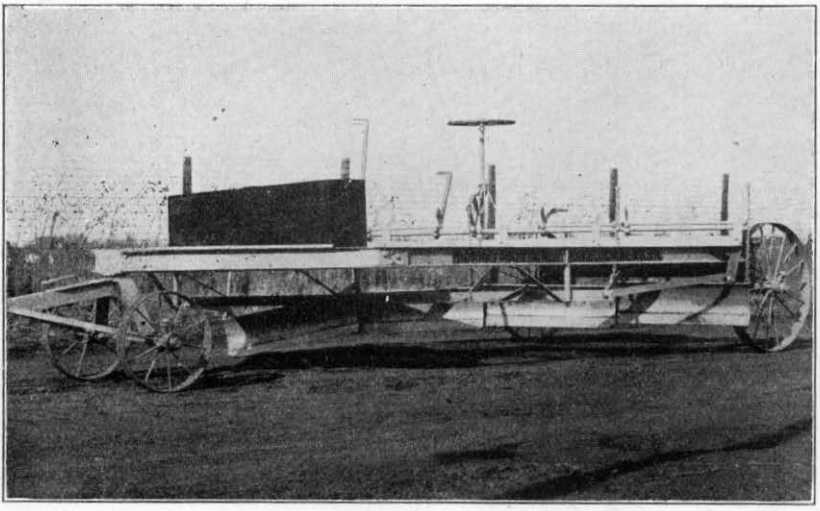


Figure 43. The Highway Maintainer Has Blades Which Can Be Adjusted to the Form of the Road in Grading, Dragging and Removing Snow.

It a road should be built, it should be maintained in good condition to serve the traveling public. This means patrol, which should cover the following:

(1) The repair of ruts, holes, and small sandy spots.

(2) Inspection and supervision of dragging.

(3) Inspection of grades and bridges.

(4) The prevention of damage to wet roads by heavy trucks and autos. This will require legislation.

(5) Placing danger signs at caved banks, damaged grades, and damaged bridges.

(6) The inspection and prevention of flood damage to road grades and bridges.

SCHEDULE OF STATE AND FEDERAL AID ROAD FUND

Amount each county will receive from State and Federal Aid in 5 Year Period.

District "A"

County	Amount
Johnson	$ 27,053.697
Nemaha	29,513.132
Otoe	43,870.856
Pawnee	28,549.686
Richardson	42,573.982
Total	$171,561.353

Total amount of state and federal aid available for district for year 1918, $68,577.945.

District "B"

Butler	$ 37,061.905
Cass	42,188.620
Douglas	167,033.277
Sarpy	18,560.044
Saunders	50,504.962
Total	$315,348.808

Total amount of state and federal aid available for district for year 1918, $126,073,324.

District "C"

Burt	$ 30,899.688
Colfax	27,134.781
Cuming	36,172.942
Dodge	38,580.192
Washington	27,441.718
Total	$160,229.321

Total amount of state and federal aid available for district for year 1918, $64,064.999

District "D"

Cedar	$ 40,487.746
Dakota	15,951.694
Dixon	27,840.886
Thurston	16,885.395
Wayne	25,585.990
Total	$126,751.711

Total amount of state and federal aid available for district for year 1918, $50,666.148

District "E"

County	Amount	
Antelope	$ 41,215.472	
Knox	52,747.325	
Madison	38,827.086	Total amount of state and
Pierce	27,695.710	federal aid available for dis-
Stanton	19,554.662	trict for year, 1918, $71,966.990
Total	$180,040.255	

District "F"

Boone	$ 35,681.786	
Merrick	28,397.139	
Nance	22,775.990	Total amount of state and
Platte	42,502.963	federal aid available for dis-
Polk	29,616.237	trict for year 1918, $63,546.366.
Total	$158,974.115	

District "G"

Gage	$ 65,105.802	
Jefferson	39,774.655	
Lancaster	101,956.280	Total amount of state and
Saline	41,569.816	federal aid available for dis-
Seward	39,440.210	trict for year 1918, $115,060.477
Total	$287,846.763	

District "H"

Clay	$ 39,878.582	
Fillmore	39,123.600	
Nuckolls	33,046.848	Total amount of state and
Thayer	37,749.624	federal aid available for dis-
York	43,325.060	trict for year 1918, $77,197.021
Total	$193,123.714	

District "I"

County	Amount
Adams	$ 43,064.588
Franklin	28,623.188
Webster	31,029.658
Kearney	25,262.825
Total	$127,980.259

Total amount of state and federal aid available for district for year 1918, $51,157.250

District "J"

Greeley	$ 22,110.544
Hall	39,981.322
Hamilton	36,656.008
Howard	27,078.356
Sherman	25,113.960
Total	$150,940.190

Total amount of state and federal aid available for district for year 1918, $60,334.906

District "K"

Custer	$ 88,458.500
Garfield	16,192.750
Loup	13,876.076
Valley	27,376.209
Wheeler	13,815.500
Total	$159,719.026

Total amount of state and federal aid available for district for year 1918, $63,856.639

District "L"

Boyd	$ 23,772.814
Brown	27,040.287
Holt	69,159.936
Keya Paha	15,978.754
Rock	24,506.780
Total	$160,458.571

Total amount of state and federal aid available for district for year 1918, $64,138.708

District "M"

County	Amount
Cherry	$109,684.248
Dawes	32,501.844
Sheridan	53,282.862
Sioux	37,699.349
Total	$233,168.303

Total amount of state and federal aid available for district for year 1918, $93,202.300

District "N"

Banner	$ 16,030.120
Cheyenne	44,901.391
Deuel	25,727.596
Kimball	19,828.154
Scotts Bluff	28,495.218
Total	$134,982.479

Total amount of state and federal aid available for district for year 1918, $53,955.391

District "O"

Arthur	$ 15,630.369
Box Butte	23,987.744
Garden	31,408.779
Grant	13,692.780
Morrill	28,981.261
Total	$113,700.933

Total amount of state and federal aid available for district for year 1918, $45,448.240

District "P"

County	Amount
Blaine	$ 14,226.784
Hooker	13,858.486
Logan	11,897.754
McPherson	16,359.592
Thomas	12,847.696
Total	$ 69,190.312

Total amount of state and federal aid available for district for year 1918, $27,678.390

District "Q"

Buffalo	$ 51,079.474
Dawson	43,492.638
Keith	22,179.997
Lincoln	65,628.506
Perkins	15,136.361
Total	$197,516.976

Total amount of state and federal aid available for district for year 1918, $78,961.056

District "R"

Chase	$ 21,159.656
Dundy	24,228.852
Hayes	16,719.502
Hitchcock	20,930.576
Red Willow	33,883.996
Total	$116,922.582

Total amount of state and federal aid available for district for year 1918, $46,736.851

District "S"

Frontier	$ 32,218.626
Furnas	34,283.000
Gosper	19,781.886
Harlan	27,343.700
Phelps	29,307.040
Total	$142,934.252

Total amount of state and federal aid available for district for year 1918, $57,134.674

Five year period State and Federal Aid, $3,201,389.94

SCHEDULE OF STATE AND FEDERAL AID ROAD FUND

FINANCIAL STATEMENT OF COUNTIES, AUG., 1917, TO NOV. 1, 1918

ON

STATE AND FEDERAL ROAD FUNDS APPROPRIATED FOR FISCAL YEARS 1917-18-19

County	Amt. 3-Year Appropriation	Amount Expended	Balance
District A			
Johnson	$ 10,814.138	$ 121.01	$ 10,693.128
Nemaha	11,797.241	765.88	11,031.361
Otoe	17,536.419	1,157.17	16,379.249
Pawnee	11,412.123	122.03	11,290.093
Richardson	17,018.024	789.14	16,228.884
District B			
Butler	14,814.691	783.73	14,030.961
Cass	16,863.963	368.66	16,495.303
Douglas	66,767.730	396.52	66,371.210
Sarpy	7,438.673	119.50	7,319.173
Saunders	20,188.267	640.88	19,547.387
District C			
Burt	12,351.477	717.75	11,633.727
Colfax	10,866.243	386.34	10,479.903
Cuming	14,459.351	604.93	13,854.421
Dodge	15,421.578	361.33	15,060.248
Washington	10,966.350	761.54	10,204.810
District D			
Cedar	16,184.082	1,596.43	14,587.652
Dakota	6,376.333	118.61	6,257.723
Dixon	11,128.779	858.03	10,270.749
Thurston	6,749.519	118.85	6,630.669
Wayne	10,227.435	548.70	9,678.735
District E			
Antelope	16,474.943	135.35	16,339.593
Knox	21,084.539	429.78	20,654.759
Madison	15,520.255	610.95	14,909.305
Pierce	11,070.730	117.85	10,952.880
Stanton	7,816.523	353.06	7,463.463

County	Amt. 3-Year Appropriation	Amount Expended	Balance
District F			
Boone	14,262.983	316.36	13,946.623
Merrick	11,351.132	119.66	11,231.472
Nance	9,104.181	231.66	8,872.521
Platte	16,989.617	885.52	16,104.097
Polk	11,838.453	422.69	11,415.763
District G			
Gage	26,024.638	582.48	25,442.158
Jefferson	15,899.059	236.00	15,663.059
Lancaster	40,754.771	5,695.29	35,059.481
Saline	16,616.636	122.18	16,494.456
Seward	15,765.373	828.68	14,936.693
District H			
Clay	15,940.603	886.73	15,053.873
Fillmore	15,638.818	277.42	15,361.398
Nuckolls	13,209.739	1,029.32	12,180.419
Thayer	15,089.596	244.99	14,844.606
York	17,318.265	731.38	16,586.885
District I			
Adams	17,214.131	1,061.04	16,153.091
Franklin	11,441.469	385.43	11,056.039
Webster	12,403.412	1,998.76	10,404.652
Kearney	10,098.238	396.89	9,701.348
District J			
Greeley	8,838.154	119.53	8,718.624
Hall	15,981.636	1,445.28	14,536.356
Hamilton	14,652.446	366.60	14,285.846
Howard	10,823.946	595.57	10,228.376
Sherman	10,038.724	850.29	9,188.434

County	Amt. 3-Year Appropriation	Amount Expended	Balance
District K			
Custer	35,359.119	1,561.24	33,797.879
Garfield	6,472.640	117.34	6,355.300
Loup	5,559.491	120.96	5,438.531
Valley	10,943.010	118.17	10,824.840
Wheeler	5,522.379	118.10	5,404.279
District L			
Boyd	9,502.639	696.30	8,806.339
Brown	10,808.639	118.27	10,690.369
Holt	27,644.916	521.43	27,123.486
Keya Paha	6,386.588	117.38	6,269.208
Rock	9,795.926	122.56	9,673.366
District M			
Cherry	43,843.032	154.46	43,688.572
Dawes	12,991.716	362.80	12,628.916
Sheridan	21,298.347	1,827.66	19,470.687
Sioux	15,069.205	453.83	14,615.375
District N			
Banner	6,407.602	1,550.57	4,857.032
Cheyenne	17,947.953	116.25	17,831.703
Deuel	10,283.829	116.75	10,167.079
Kimball	7,925.748	594.37	7,331.378
Scottsbluff	11,390.259	674.26	10,715.999
District O			
Arthur	6,247.389	118.98	6,128.409
Box Butte	9,588.425	920.52	8,667.905
Garden	12,554.715	568.56	11,986.155
Grant	5,473.291	662.19	4,811.101
Morrill	11,584.420	569.29	11,015.130
District P			
Blaine	5,686.750	118.09	5,568.660
Hooker	5,539.531	117.77	5,421.761
Logan	4,768.685	570.89	4,197.795
McPherson	6,539.276	449.57	6,089.706
Thomas	5,144.148	118.98	5,025.168

County	Amt. 3-Year Appropriation	Amount Expended	Balance
District Q			
Buffalo	20,417.878	905.54	19,512.338
Dawson	17,385.162	119.10	17,266.062
Keith	8,865.808	117.47	8,748.338
Lincoln	26,233.246	998.50	25,234.746
Perkins	6,058.962	193.18	5,865.782
District R			
Chase	8,458.003	541.40	7,916.603
Dundy	9,684.849	380.19	9,304.659
Hayes	6,683.170	522.69	6,160.480
Hitchcock	8,366.467	262.12	8,104.347
Red Willow	13,544.362	222.34	13,322.022
District S			
Frontier	12,878.609	605.07	12,273.539
Furnas	13,703.846	505.26	13,198.586
Gosper	7,907.362	341.98	7,565.382
Harlan	10,930.020	435.72	10,494.300
Phelps	11,714.837	251.61	11,463.227
	$1,279,757.675	$52,893.48	$1,226,864.195

SUMMARY OF 3-YEAR APPROPRIATIONS, 1917-18-19

Total State and Federal appropriation	$1,279,757.68
Total expenditures, August 1, 1917 to November 1, 1918	52,893.48
Balance, November 1, 1918	$1,226,864.20

FINANCIAL REPORT 1917-1918
November 1, 1918

Fund	Balance Oct. 31, 1916	Drawn from Bal. Oct 31, 1916	Appropriation of 1917	Expended Oct. 31, 1918, from Apr. 1, 1917	Balance Oct. 31, 1918
State Engineer	$1,041.67	$1,041.67	$5,000.00	$3,958.34	$1,041.66
Assistant State Engineer	750.00	750.00	.....	.....	.....
Under Sec.	600.64	556.63	3,200.00	3,182.44	17.56
Stenographer	352.32	350.00	1,680.00	1,227.78	452.22
Office expense	447.48	118.59	4,000.00	3,624.92	375.08
Extra help	2,991.57	1,103.20	25,000.00	21,440.51	3,550.49
Traveling expense	1,889.46	540.53	6,000.00	4,974.48	1,025.52
Instrument fund	.....	.....	700.00	698.38	162.00

	Fees Collected	Paid to Treasurer
Fees paid to General Fund	$936.38	$936.38

	Amount of 1917-1918 Levy	Amount Collected by State Treas. Oct. 31, 1918	Amount Expended to Oct. 31, 1918	Balance of Appropriation Oct 31, 1918
State Aid Bridge	$208,127.10	$150,765.17	$198,002.59	$ 10,124.51

STATUS OF FEDERAL AID WORK IN NEBRASKA

1600 miles of road have been surveyed.

952 miles for which plans and specifications have been prepared.

199.12 miles of contracts have been let for an aggregate cost of $528,678.08.

16 Projects, comprising 512.40 miles have been approved to date by the U. S. Department of Public Roads.

PROJECTS APPROVED TO DATE

1.	Lincoln-Emerald	5.5	Miles
2.	State Line-Falls City-Nebraska City	57.37	Miles
3.	Hall County	32.25	Miles
4.	Cedar-Wayne County (Hartington to Wayne)	36.3	Miles
5.	Norfolk-Columbus	52.25	Miles
7.	Superior-Harvard-Minden 94.0	40%	Com.
10.	North Platte-Sutherland	19.1	Miles
12.	Stapleton-Ringgold	17.5	Miles
14.	O'Neill-Butte	41.8	Miles
17.	Havelock-Waverly	10.0	Miles
19.	West Emerald	4.0	Miles
21.	Alliance-Antioch	15.0	Miles
22.	Broken Bow-County Line	35.0	Miles
23.	Washington-Burt	34.8	Miles
27.	Fremont-Ceresco	31.53	Miles
29.	Osceola-David City	26.0	Miles

Of this number, 199.12 miles have been let for contracts. All of the 199.12 miles of road under contract will be of earth construction with permanent bridges and culverts, with the exception of 3.25 miles of Sand-clay road in Hall County and 5½ miles of brick road in Lancaster County.

STATUS OF ROAD WORK FOR PROJECTS WHICH HAVE BEEN SURVEYED

Project No.	NAME OF ROAD	Miles Approx. Length	Type	Project Statement	Plans	REMARKS
1	Lincoln-Emerald	5.5	3" VF Brick Con. Base	Approved	Approved	Under contract, 75% complete
2	State Line-Falls City-Nebraska City	57.37	Earth Road	"	"	Under contract, 10% complete
3	Hall County	32.25	"	"	"	Under contract, 20% complete
4	Cedar-Wayne Co., Hartington to Wayne	36.3	"	"	"	Awaiting project agreement
5	Norfolk-Columbus	52.23	"	"	"	Awaiting project agreement
7	Superior-Harvard-Minden	94.0	"	"	"	Under contract, 10% complete
10	North Platte-Sutherland	19.1	"	"	"	Culverts under contract. No bids received on grading
11	Smithfield-Elwood	8.0	"	Awaiting App'l	20% Complete	Survey complete
12	Stapleton-Ringgold	17.5	"	Approved	Approved	All bids rejected
14	O'Neill-Butte	41.8	"	Submitted	5% Complete	Awaiting approval project statement
15	Alliance-Hay Springs	48.5	"	"	Complete	Awaiting approval project statement
16	Kimball-Harrisburg	26.5	"	Approved	"	Awaiting approval project statement
17	Havelock-Waverly	10.0	"	Approved	Approved	Contract let September 28
18	Lincoln-Beatrice	37.0	"	Submitted	50% Complete	Plans revised
19	West Emerald	4.0	"	Approved	Submitted	Awaiting approval of plans
20	Douglas County-Lincoln Highway	28.0	"	Submitted	30% Complete	Plans awaiting revision
21	Alliance-Antioch	15.0	"	"	Complete	Awaiting approval
22	Litchfield-Broken Bow	35.	Clay S. Earth Road	"	"	Awaiting approval project statement
23	Washington-Burt	26.3	"	Approved	"	Project and plans revised
24	Kearney-Pleasanton	17.5	"	Submitted	"	Awaiting approval project statement
	Harrison-Whitney	54.7	"	Not Submitted	6% Complete	Awaiting re-survey
	Nebraska City-Plattsmouth	33.9	"	"	90% Complete	Survey complete
	Indianola-Red Willow	8.0	"	"	50% Complete	Survey complete
	Hyannis-Whitman	12.9	"	"	"	Survey complete
	Douglas County-O. L. D.	9.5	"	"	15% Complete	Survey complete
	Fremont-Ceresco	34.5	"	"	75% Complete	Survey complete
	Seward-Aurora	50.85	"	"	90% Complete	Survey complete
	Hamlet-Imperial	27.5	"	"	"	Survey complete
	St. Paul-Grand Island	17.0	"	"	25% Complete	Survey complete
	West Point-Stanton	35.6	"	"	40% Complete	Survey complete

Project No.	NAME OF ROAD	Miles Approx. Length	Type	Project Statement	Plans	REMARKS
	Fremont-Ames	5.94	Concrete	"	Complete	Awaiting action of local authorities
	Genoa-Albion	24.0	Earth Road	"	40% Complete	Survey complete
	Curtis-Stockville	21.9	"	"	10% Complete	Survey complete
	Hastings-Red Cloud	38.5	"	Not Submitted	20% Complete	Survey complete
	Cambridge-Oxford	32.5	"	"	10% Complete	Survey complete
	Schuyler-Columbus	16.5	"	"	40% Complete	Survey complete
	Broadwater-Oshkosh	29.0	"	"	10% Complete	Survey complete
	Osceola-David City	26.0	"	"	70% Complete	Awaiting change of alignment
	Bloomington-Orleans	23.5	"	"	10% Complete	Complete
	Bloomington-Minden	34.5	"	"	5% Complete	Survey complete
	Beatrice-Fairbury	31.12	"	"	10% Complete	Survey complete
	Allen-Ponca	17.0	"	"	15% Complete	Survey complete
	Geneva-Hebron	23.1	"	"	5% Complete	Survey complete
	Rockville-Loup City to County line	25.3	"	"	"	Survey complete
	Niobrara-Neligh	59.2	"	Not Submitted		

SURVEYS BEING MADE

NAME OF ROAD	Miles Approx. Length	Type	Per Cent of Survey Complete
Sargent-Taylor-Harrop	20.0	S. Clay	90% of survey complete
Oxford-Beaver City-Arapahoe	30.0	Earth Road	10% of survey complete
Re-survey Harrison-Whitney	54.7	"	25% of survey complete

FOLLOWING ARE THE PROJECTS UNDER CONSTRUCTION:

		Miles	
1.	Lincoln-Emerald	5.5	75% Com.
2.	Falls City-Nebraska City	57.37	40% Com.
3.	Hall County	32.25	40% Com
7.	Superior-Harvard-Minden	94.0	40% Com.
17.	Havelock-Waverly	10.0	20% Com.
	Following projects are ready for bidding:		
12.	Stapleton-Ringgold	17.5	Miles
4.	Cedar-Wayne	36.3	Miles
5.	Norfolk-Columbus	52.25	Miles
19.	West Emerald	4.0	Miles
	Total	110.05	Miles

November 1, 1918

PROJECTS UNDER CONSTRUCTION

No.	Project	Total Amt. Contract plus Eng. & Contingencies	Amount Expended	Balance
1	Lincoln-Emerald	$217,587.92	*$3,018.21	*$32,676.79
2	Kansas line—Falls City to Nebraska City	81,698.01	228.24	81,469.77
3	Hall County	39,473.61	420.17	39,053.44
7	Superior-Harvard-Minden Road	149,761.10	2,862.56	146,898.54

*Amount expended and balance shown on Project No. 1 is with reference to Federal fund only.

26 Projects, comprising a total of 507.12 miles have been submitted and plans, specifications and estimates are nearly completed. They await the approval of the Government.

10.	North Platte	19.0	Miles
11.	Smithfield-Elwood	8.0	Miles
18.	Lincoln-Beatrice	37.0	Miles
20.	Douglas County (Lincoln Highway)	28.0	Miles
25.	Beatrice-Fairbury	31.12	Miles
26.	Hamlet-Imperial	27.5	Miles
28.	Nebraska City-Plattsmouth	33.9	Miles
30.	Beaver City-Holbrook	21.5	Miles
31.	Allen-Ponca	17.0	Miles
32.	Red Cloud-Ayr	28.5	Miles
33.	Niobrara-Creighton	23.0	Miles
34.	Burwell-Deverre	9.7	Miles
35.	O. L. D. Douglas County	9.5	Miles
36.	Pawnee County	19.0	Miles
37.	Loup City-Rockville	25.3	Miles
38.	Curtis-Stockville	21.9	Miles

39.	Overton-Cozad	30.5	Miles
40.	Hebron-Belvidere	15.75	Miles
41.	Max-Doane	13.9	Miles
42.	Sargent-Harrop	23.0	Miles
43.	Tecumseh to County Line	17.0	Miles
44.	Litchfield-West County Line	3.5	Miles
45.	Harrison-Forrest Reserve	8.25	Miles
46.	McCook-Bartley	17.8	Miles
47.	Pleasanton Road	7.5	Miles
48.	Kearney Road	10.0	Miles

19 Projects, comprising a total of 407.29 miles have been surveyed, and 75% of the plans and specifications are completed. They are as follows:

Indianola-Red Willow	8.0	Miles
Hyannis-Whitman	12.9	Miles
Seward-Aurora	50.85	Miles
St. Paul-Grand Island	17.0	Miles
Stanton-Pilger	35.6	Miles
Fremont-Ames	5.94	Miles
Genoa-Albion	24.0	Miles
Cambridge-Oxford	32.5	Miles
Schuyler-Columbus	16.5	Miles
Broadwater-Oshkosh	29.0	Miles
Bloomington-Orleans	23.5	Miles
Bloomington-Minden	34.5	Miles
Geneva-Hebron	25.1	Miles
Valentine-Sparks	24.5	Miles
Walthill-Rosalie	16.0	Miles
Emerald-Dorchester	19.1	Miles
Douglas-Highway Q St. Road	12.5	Miles
Kimball	11.0	Miles
Harrisburg	8.8	Miles

STATUS OF ROAD WORK FOR PROJECTS WHICH HAVE BEEN SURVEYED

Project No.	NAME OF ROAD	Miles Approx. Length	Type	Project Statement	Plans	REMARKS
1	Lincoln-Emerald	5.5	3" VF Brick	Approved	Approved	Contract 75% complete
2	State Line--Falls City-Nebraska City	57.37	Earth Road	"	"	Contract 40% complete
3	Hall County	32.25	"	"	"	Contract 40% complete
4	Cedar-Wayne Co.-Hartington-Wayne	36.3	"	"	"	Plans approved
5	Norfolk-Columbus	52.25	"	"	"	Plans approved
7	Superior-Harvard-Minden	94.0	"	"	"	Contract 40% complete
10	North Platte-Sutherland	19.1	"	"	"	Revision culvert under construction
11	Smithfield	8.0	"	Awaits App'l	20% Complete	Survey complete
12	Stapleton-Ringgold	17.5	"	Approved	Complete	All bids rejected
14	O'Neill-Butte	41.8	"	"	25% Complete	Awaiting revision of plan
17	Havelock-Waverly	10.0	"	"	Complete	Contract 20% complete
18	Lincoln-Beatrice	37.0	"	Submitted	95% Complete	Ready for bidding
19	West Emerald	4.0	"	Approved	Approved	
20	Douglas Co., Lincoln Highway	28.0	"	Submitted	75% Complete	Project statement being revised
21	Alliance-Antioch	15.0	S. Clay	Approved	Complete	Plans complete, awaiting Fed. action
22	Broken Bow-County Line	35.0	Earth Road	"	"	Awaiting alignment revision statement revised
23	Washington-Burt	34.8	"	"	"	Project statement and plans revised and extended
25	Beatrice-Fairbury	31.12	"	"	95% Complete	Survey complete
26	Hamlet-Imperial	27.5	"	"	90% Complete	Survey complete
27	Fremont-Ceresco	32.93	"	"	Complete	Revising plans
28	Nebraska City-Plattsmouth	33.9	"	Submitted	"	Survey complete
29	Osceola-David City	26.0	"	Approved	"	Plans complete
30	Beaver City,Holbrook	21.5	"	Submitted	80% Complete	Survey complete
31	Allen-Ponca	17.0	"	Approved	75% Complete	Survey complete
32	Red Cloud-Ayr	28.0	"	"	80% Complete	Survey complete
33	Center--Creighton	23.0	Earth Road	Approved	50% Complete	Being revised to cover Center-Creighton
34	Burwell-Deverre	9.7	"	Not submitted	40% Complete	Survey complete
35	Douglas County O. L. D.	9.5	"	"	70% Complete	Survey complete
36	Pawnee County	19.0	"			
37	Loup City-Rockville	25.3	"	Not submitted	75% Complete	Survey complete
38	Curtis-Stockville	21.9	"	"	90% Complete	Survey complete

STATUS OF ROAD WORK FOR PROJECTS WHICH HAVE BEEN SURVEYED—(Continued)

Project No.	NAME OF ROAD	Miles Approx. Length	Type	Project Statement	Plans	REMARKS
39	Overton-Cozad	30.5	"	"	60% Complete	Survey complete
40	Hebron-Belvidere	15.75	"	"	75% Complete	Survey complete
41	Max-Doane	13.9	"	"	75% Complete	Survey complete
42	Sargent-Taylor (Harrop)	23.0	"	"	40% Complete	Survey complete
43	Tecumseh-County Line	17.0	"			
44	Litchfield-West County Line	3.5	"			Survey complete
45	Harrison-Forrest Reserve	8.25	"	"	75% Complete	
46	Bartley-McCook	17.8	"	Not submitted	75% Complete	Survey complete
47	Pleasanton Road	7.5	"	Approved	75% Complete	
48	Kearney Road	10.0	"	"	75% Complete	
	Indianola-Red Willow	8.0	"	Not submitted	50% Complete	Survey complete
	Hyannis-Whitman	12.9	"	"	60% Complete	Survey complete
	Seward-Aurora	50.85	"	"	90% Complete	Survey complete
	St. Paul-Grand Island	17.0	"	"	25% Complete	Survey complete
	Pilger-Stanton	35.6	"	"	75% Complete	Survey complete
	Fremont-Ames	5.94	Concrete	"	Complete	Awaiting local action
	Genoa-Albion	24.0	Earth Road	"	75% Complete	Survey complete
	Cambridge-Oxford	32.5	"	"	10% Complete	Awaiting re-survey
	Schuyler-Columbus	16.5	"	"	50% Complete	Survey complete
	Broadwater-Oshkosh	29.0	"	"	10% Complete	Survey complete
	Bloomington-Orleans	23.5	"	"	50% Complete	Survey complete
	Bloomington-Minden	34.5	"	"	50% Complete	Survey complete
	Valentine-Sparks	24.5	"	"	80% Complete	Survey complete
	Walthill-Rosalie	16.0	"	"	25% Complete	Survey complete
	Emerald-Dorchester	19.1	"	"	30% Complete	Survey complete
	Douglas Highway, Q St. Road	12.5	"	"	Complete	Survey complete

$562,000,000 will be expended in highway construction and improvement in the next 3 years, thru the partnership between the National government and the 48 states, created by the federal and road act, as the senate made $209,000,000 amendment to the road act concurred by the house of representatives.

Nebraska upon the signing of the Bill will receive the following sums:

$1,706,399.75—Fiscal Year 1919
$2,025,619.93—Fiscal Year 1920
$2,133,284.14—Fiscal Year 1921
Grand Total $5,866,303.83

Built and forever maintained by the National Government, will also give us a system of STATE HIGHWAYS and a main COUNTY ROAD in every one of all the 3,014 counties in all our forty-eight states.

THEY WILL COST ..... $ 6,000,000,000.00

(NOTE—Our 260,000 miles of railroad lines are capitalized at ..... 22,000,000,000.00)
IF BUILT IN 20 years, this means each year.... 300,000,000.00
OR FOR EACH PERSON EACH YEAR..... 3.00
AND FOR THE AVERAGE FAMILY of four persons each year..... 12.00

BUT as New York, Pennsylvania, New Jersey, Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut, having only five per cent of the area of the United States, have one half the national wealth, these nine states in the northeastern corner of our country will pay ONE HALF the cost of BUILDING and FOREVER AFTER MAINTAINING 142, 500 miles of National Highways in the other THIRTY-NINE STATES of the Union—Therefore

THE PEOPLE of Alabama, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming WOULD EACH PAY EACH YEAR FOR THEIR NATIONAL HIGHWAYS ONLY..... $1.50

BUT IN THEIR BUILDING THEY WILL PAY BACK THEIR COST by loads two to eight times those hauled on poor roads.

THESE THIRTY-NINE STATES OF THE WEST, MIDDLE WEST, and SOUTH have 390 Senators and Representatives in Congress—a MA-

JORITY OF 124 VOTES. Therefore the WEST, MIDDLE WEST and SOUTH have the power to gain National Highways at HALF THEIR COST, and MAINTENANCE FOREVER.

Why not demand that our Senators and Representatives vote for the building and maintaining forever by the National Government of a system of **150,000 MILES OF NATIONAL HIGHWAYS**

BULLETIN
OF THE
EDUCATIONAL DIVISION
HIGHWAYS TRANSPORT COMMITTEE
NATIONAL COUNCIL OF DEFENSE
GEO. E. JOHNSON, STATE CHAIRMAN OF HIGHWAYS TRANSPORT COMMITTEE

Minnie T. England, Chairman of Educational Division

L. A. Winship
E. C. Hammond
J. O. Rankin
G. R. Chatburn
Sarka Hrbkova
Margaret Noble

Number 11. FEBRUARY 3, 1919

The mission of the Bulletin is two-fold: first, to encourage the use of the motor truck, especially for short hauls of freight, that the present congestion of railway traffic may be relieved, and that food and labor may be conserved; and secondly, to urge the improvement of public highways as a definite reconstruction policy.

A BILL TO PROVIDE FOR THE ESTABLISHMENT OF STATE HIGHWAYS IS NOW BEFORE THE HOUSE

A Road Legislation Bill was introduced before the House of Representatives of the State of Nebraska, January 29th, 1919. The main provisions of the bill may be summarized as follows:

Some eighty lines of roadways are mapped out to be designated State Highways.

After January 1, 1920, each County shall maintain the whole of the State Highway system lying within the County, except such portions as are within incorporated towns having more than 1400 inhabitants.

The maintenance of such roads shall include improvements to the surface, to bridges, culverts, and other structure thereon.

The maintenance of the State Highways by each County shall be under the direction of the State Board of Irrigation Highways and Drainage.

When any County shall adequately maintain the State Highways within its limits, there shall be paid into the County treasury, out of the State Highway Fund, the actual cost of such maintenance.

The State Highway Fund shall be derived from the tax on all motor vehicles; such tax to be a minimum of 10 dollars per car and graduated

to 50 cents per hundred pounds on all cars over 2,000 pounds. One-fourth of this fund to be placed in the County for the county road dragging fund, and three-fourths to be used for construction and maintenance by the State Board of Irrigation, Highways and Drainage in the county where same tax is collected.

This system of roads connect all the county seats, and 63% of all the people in the State live directly on these roads.

On the fifteenth of each month the State Board of Irrigation Highways and Drainage shall file with the County Clerk of each County a certified statement showing the total amount of money received, the total claims allowed and the amount of money available in the Fund for the maintenance of the State Highways in each County.

THE BILL ALSO PROVIDES FOR THE REGULATION OF TRAFFIC OVER THE STATE HIGHWAYS

No motor vehicle in excess of seven and one-half feet in width, or twelve fet in height shall be operated on the system of State Highways.

Motor vehicles shall not carry a load in excess of 600 pounds per inch of tire width.

The weight of truck and load combined shall not exceed 7000 pounds on any one wheel, unless special permission has been obtained of the State Board of Irrigation, Highways and Drainage.

The State Board may formulate such rules and regulation in regard to the use of and travel upon the State Highways as it deems necessary to promote public safety and to protect the State Highways.

The State Board shall publish these rules and regulations in pamphlet form, and furnish them, upon request, to the general public without charge.

What has the State Board of Irrigation, Highways and Drainage accomplished during the last two years through the use of state and federal funds?

(1) Plans and specifications have been prepared for 952 miles of roads.

(2) Sixteen hundred miles of roads have been surveyed.

(3) Contracts have been let for 215 miles of roads at an aggregate cost of $528,678.

What kind of roads are being planned?

All of the 215 miles of roads under contract are to be of earth

construction with permanent bridges and culverts, except 3¼ miles of sand-clay roads in Hall County, and 5½ miles of brick road in Lancaster County.

How are the funds obtained to finance the hard surfaced roads?

The cost of grading and an additional $2000 per mile is supplied from federal and state funds. The balance of the expense is borne by the County and the property owners adjacent to the roads.

Does the present appropriation of federal and state funds provide adequate means to complete the improvement of roads as planned?

It does not. Moreover, the Counties are not able, under the Constitution to provide the money in addition to carying on their present county road system.

How then, is it proposed to raise the additional money to complete the improvement of the highways?

By increasing the automobile tax and using a portion of the same to complete construction.

What are the two bills that have been prepared by the Road and Bridge committee of the Nebraska Legislature and introduced before the House by this committee and the Speaker of the House?

(1) A bill providing for the mapping out of some eighty-eight lines of roadway to be designated State Highways.

(2) A bill providing for raising funds for road improvement by a tax on automobiles and trucks.

NOTICE: Since the dissolution of the Nebraska State Council of Defense, the Highways Transport Committee, acting upon request of the National Committee, will continue its work under the auspices of the National organization. The Educational Committee will continue the issuance of its weekly bulletin, copies of which may be obtained upon request from the State Chairman of the Highways Transport Committee.

DOUGLAS COUNTY TAKES ACTION

Douglas county is contemplating a bond issue of three million dollars, of which five hundred thousand will be available for actual construction each year. Federal-Aid funds will be used to get the roads in shape for permanent surfacing. Nearly the entire population of the county is behind the movement, and it is being pushed vigorously by

farmers', business, Commercial Clubs, Rotary Clubs, and The Nebraska Good Roads Association.

NEBRASKA HOUSE ROLL 298 PROVIDES FOR A SYSTEM OF STATE HIGHWAYS

The Bill which provides for the laying out of some eigh-eight lines of roads to be designated state highways, is House Roll No. 298.

The actual alignment of these roads is not definitely determined but the general location alone is given. The working out of the details, however, will not be difficult, as the County Commissioners and the State Highway Department are already agreed as to what the location of practically all of these roads should be.

The accompanying map shows the principal towns connected by these roads, and the general location of the same.

Some effort has been made to increase the mileage of this Highway System. This, however, would be injudicious at this time, for there will not be sufficient money derived from the automobile tax in the average county to maintain the roads and get them in proper condition if there is any material increase in the mileage planned. After these roads are put in proper condition, our Legislature can increase the mileage of the State Highways in proportion to the money that will be available year by year for road maintenance.

Attention should be called to the fact that this bill does not refer in any way to federal and state aid, so that in case there is any money left in a county's apportionment after these roads are put in condition that money can be used immediately on other roads in the county.

HIGHWAYS TRANSPORT COMMITTEES ARE DOING AN IMPORTANT WORK

In the Highways Transport Bulletin of the National Committee under date of January 14, the work of the Highways Transport Committee is outlined as follows:

(1) The establishment and maintenance of rural motor truck express lines and return loads bureaus.

(2) The development of a systematic state-wide system of motor transportation, including a system of highways suitable for motor transportation which will reach all parts of the state.

NORTHWESTERN NEBRASKA IS NOT OBTAINING ITS PROPER SHARE OF FEDERAL AID

Those interested in good roads in the western part of Nebraska are endeavoring to obtain the amendment to the Federal Road Law which

provides that seventy per cent of the roads receiving Federal Aid must be laid out Post roads. Since Northwestern Nebraska lies largely in the sand hill and canyon hill regions, it is chiefly a grazing land with but few laid out post roads. The provision that Federal Aid and post roads go together means then that a considerable section of our state cannot avail itself of this opportunity, to obtain Federal assistance in road building. It is hoped that the law may be amended to allow fifty per cent of the roads to be other than Post roads.

ENGLAND INTERESTED IN HIGHWAYS TRANSPORTATION

The movement for better roads is not confined to the United States. A great deal of attention is now being directed to the question of transportation in England for improving hitherto undeveloped rural areas A Select Committee of the House of Commons was recently appointed to investigate the whole question of transportation on the Island.

THE STATES ARE PLANNING TO SPEND LARGE SUMS ON ROADS

About $300,000,000 will be put into road building this year, according to estimates by experts of the Department of Agriculture, submitted to the Division of Public Works and Construction Development of the Department of Labor. But this amount will not be sufficient to make up deferred war construction, it is believed, for normally the amount spent on roads in the United States is not far below $300,000,000, and during war times road building came almost to a stop in many localities.

Estimates of road expenditure for 1919 have been prepared by the Department of Agriculture as follows:

Maine	$1,500,000
Rhode Island	90,000
Connecticutt	4,000,000
New York	12,000,000
New Hampshire	175,000
Kentucky	1,500,000
Alabama	1,000,000
West Virginia	16,000,000
Illinois	9,000,000
Iowa	15,574,000
Louisiana	4,674,000
Texas	20,000,000
Nebraska	1,657,089
North Dakota	3,000,000
Wyoming	653,000
Colorado	3,900,000
California	20,000,000
Arizona	900,000
Nevada	1,148,849
Idaho	1,000,000

PUBLIC IMPROVEMENTS ARE URGED AS A MEANS OF PROVIDING EMPLOYMENT

The extension of public works as a stimulus to industry and as a means of providing employment for surplus labor is receiving much attention in many states.

Honorable Ernest Lister, Governor of Washington, in his message to the State Legislature said:

"Speaking from the standpoint of the State, I believe it is our duty and responsibility so to adjust conditions that there will be employment available in the State for every able-bodied person willing to accept it."

Governor Stephens, in his message to the California Legislature declared:

"Immediate employment for our returning men may be provided by pushing forward with utmost speed, the completion of the State highways, for which the people already have voted bonds. On this necessary work employment can be found for every California soldier who does not secure work immediately upon his return."

Governor Withycombe, of Oregon, announces that his State has a comprehensive road building program for this season which will employ 3,800 men.

NORTH PLATTE HOLDS A GOOD ROADS MEETING

A good roads meeting, with an attendance of 150, was held at North Platte, February 11. The object of the meeting was to promote interest in road improvement and to provide also a patrol system for the roads leading out of North Platte. It was estimated that $5,000 would be needed to carry on the patrol work successfully and purchase a truck or tractor and a highway maintainer. In twenty minutes' time all but a few hundred dollars of this amount was subscribed.

Before the meeting adjourned, a committee was appointed to draft resolutions approving the Highway Bills now before the Legislature.

REMEMBER THE ROAD INSTITUTE TO BE HELD MARCH 10 TO 14

Remember that the second Nebraska road institute will be held on the city campus of the University of Nebraska during the week of March 10 to 14, inclusive.

Remember that the institute will be conducted by the College of Engineering of the University of Nebraska with the co-operation of a number of prominent Nebraska road builders.

Remember that the subject for discussion could not be more timely. The state is entering a new era of road building. Our legislature is now

considering the enactment of new laws to provide for the construction of nearly 5,000 miles of state-aided roads.

Remember that Nebraska engineers, surveyors, highway commissioners, county commissioners and other persons interested in the improvement, construction, and maintenance of roads are invited to attend.

Remember that it is hoped that each county will defray the expenses of one or more delegates to this institute.

Remember that there will be no charge of any kind for attendance at the meetings.

Remember that inspection trips will be made to Lancaster county roads under construction.

Remember that the program will be a live one. Note the following subjects:

Nebraska's new road laws.
Change of the Federal Act of 1916.
Financing hard surfaced roads.
Construction and maintenance of diffeffrent types of road surfaces.
Stone and gravel concrete work.
Location and preservation of corners of land surveys.
Preliminary survey for permanent roads.
Sand hill roads.
Tractors.

OKLAHOMA TO HAVE A BOND ISSUE

Oklahoma is contemplating a bond issue of approximately $50,000,000. Careful estimates have been made which show that a road in that state can be built, touching every county seat in the state and yet not have a mileage in excess of 32,000. This amount of roads can be constructed out of the $50,000,000 bond issue supplemented by such Federal Aid as may be received during the period of time covered by the construction of this system. The automobile tax is producing slightly over $1,000,000 per year at the present time and under the 1917 State Aid Act, Oklahoma is now taking another $1,000,000 per year out of the gross production tax and applying it to state aid on the public highways.

OMAHA REPORT OF HOG MARKETING BY TRUCKS

A total of 21,486 hogs were hauled in trucks to the Omaha market during the month of January. There were 252 cars used in hauling, of which 52 delivered directly to the packers.

PRODUCTS WASTED IN THE SOUTH BECAUSE OF POOR TRANSPORTATION FACILITIES

Reports from the South indicate that in some parts of the country,

great quantities of cotton on the ground have not been moved for want of adequate transportation facilities. In many places also, tons of food have gone to waste for the same reason. In other instances, carloads of produce would have been available in large quantities in such localities, had there been transportation facilities for the distribution of these products.

The mission of the Bulletin is two-fold: first, to encourage the use of the motor truck, especially for short hauls of freight, that the present congestion of railway traffic may be relieved, and that food and labor may be conserved; and secondly, to urge the improvement of public highways as a definite reconstruction policy.

HOW IMPROVED ROADS WILL AFFECT THE PRODUCTION AND MARKETING OF FARM PRODUCTS

Improved roads will result in lower transportation costs. The business of farming is very dependent upon the condition of the roads because whatever is not produced on the farm must be hauled to the farm, and farm products must be hauled to the market. The farmer's profits are limited by transportation costs. If these costs are high his entire profits may be wiped out. For this reason the great agricultural problem of today is the marketing, rather than the production of farm products.

Improved roads will mean the favorable marketing of farm products. Market prices for even staple products vary greatly during the year. Where bad roads prevail the farmer is compelled to market his produce, not when the price is favorable, but when the roads are in condition for hauling.

Improved roads will largely prevent the glutting of the market resulting from the moving of product in masses to the market merely to get it marketed while the roads are good. One result of good roads will be, then, the disappearance of the periodical congestion of our markets, and the accompanying break in prices.

Improved roads will lower storage charges to a large extent. At the present time this country is paying large storage prices on foodstuffs. In Chicago the storage charges on grain equal 12½ cents a bushel per year. when marketing is distributed throughout the year it will mean that storage charges must decline as fewer warehouses will be necessary.

Improved roads will lessen freight congestion in two ways. The strain on railway facilities will be relieved through the use of the motor truck for short hauls of freight, and by the distribution of marketing over longer periods of time since the roads will be passable at all seasons.

Improved roads will prevent the waste of products which are not effectively used because not properly distributed. Apples, for example, rot on the ground in farmers' orchards because poor roads result in prohibitive transportation costs. Potatoes retail at high prices in cities while

only a short distance away they cannot be marketed at a paying price. Good roads would widen the market, increased available supplies, and equalize prices.

Improved roads will encourage diversified farming. Farmers sooner or later come to realize that it pays to raise other things than the staple commodities such as corn and wheat. But such products as fruits and garden truck are perishable. Speed of transportation from the farm to the unloading point is essential. Diversified farming is possible only when road conditions are favorable.

Improved roads will increase the area of land used for agricultural purposes. About each market or shipping point a circle may be drawn which will inclose the area that can be cultivated profitably under existing conditions. The size of this area depends on hauling facilities. Improve the roads and the area of profitable cultivation will be enlarged. If the roads permit the use of motor trucks the area that may be cultivated widens still more.

Improved roads will reduce the risks of farming. It requires courage to farm because the whole business is so dependent upon weather conditions. Why add to the farmer's already difficult position the uncertainty resulting from unreliable roads Farmers by all means need 365-day roads.

BRIGHT PROSPECTS FOR MOTOR HAULING SAYS BABSON'S

Babson's latest bulletin on advice to sellers under the heading "Trucks and Trailers Have a Great Future," contains the following:

"A large volume of farm products is wasted for lack of facilities for getting them to market. Notably in Iowa and adjoining regions, this situation is being transformed by the introduction of motor hauling. A motor truck travels from farm to farm collecting the surplus products and carrying them to market. On the return trip, the truck brings merchandise which the various farmers on the route have ordered. The system, therefore, increases not only the farmer's sales, but his purchases as well. The basis of this enlargement of trade is the conservation of products heretofore wasted; it is a genuine economic gain. We believe that the continued development of motor hauling is a fundamental way to avert the evils of depression. Automotive transportation is a major industry in itself; it is also correlated with the big industries producing road-building materials and equipment. Clients should give close attention to this development, both for the sales opportunities and the larger benefits to business in general.

WESTERN COUNTIES TAKE THE LEAD IN AGITATION FOR GOOD ROADS

A. S. Mirick, Chief Road Engineer of the State, says that the western part of Nebraska is outdoing the eastern in enthusiasm for road improve-

ment; that farmers, business men, and all kinds of organizations in the western counties are ready to lend the heartiest support to any worthy movement to bring about better roads. Mr. Mirick further states that the convention of the Sixth Congressional District of the Nebraska Good Roads Association held at Sidney on the fifteenth of this month was the most successful meeting of its kind that he had ever attended.

All reports from the Sidney Convention agree that the meeting more than met expectations. The townspeople were out in numbers and many neighboring towns were represented. The people from adjacent towns arrived by train for the impassable country roads made auto travel out of the question. This situation made the subject of good roads very timely.

Whatever the cause—whether western enthusiasm or the bad condition of the roads—the Convention went on record in a clear and commendable manner as follows:

It endorsed the good roads legislation proposed by the Nebraska Good Roads Association.

It announced the intention of standing firmly behind any movement which will tend to bring improved roads to Nebraska.

It approved the work of the State Engineer and the system of roads as laid out by him.

It agreed to call the attention of our state senators and representatives to the proposed measures for good roads endorsed by the Nebraska Good Roads Association.

It resolved to ask our congressmen and senators to push the Senator Smoot National Road Bill and its appropriations.

It endorsed the Road Institute to be held at the University of Nebraska, March 3-10.

It favored Motor Transport Service as outlined by the state bureau and urged co-operation with that bureau.

It urged each county represented at the convention to form a temporary organization then and there which could later be converted into a permanent organization for road improvement.

It took a stand on the problem arising from road construction over railroad right of way. Since it has been ruled that federal funds cannot be spent on such roads, it was resolved to ask our congressmen and senators to support some practical measure which would give the state the right to condemn or acquire a sufficient width from such right of way as was necessary for the highways. At the conclusion of the meeting ninety-six were admitted to the membership of the Good Roads Association.

The next meeting of the sixth congressional district of the Nebraska

Goods Roads Association is to beheld at Chadron about the middle of February.

SCOTTSBLUFF HOLDS AN IMPROMPTU MEETING

A Good Roads meeting was held at Scottsbluff January 6, under the direction of the Commercial Club. About seventy business men met at the Lincoln hotel where L. A. Winship, vice-chairman of the State Highways Transport Committee, and C. H. Roper, secretary of the Nebraska Good Roads Association along with others, discussed the need of road improvement and local organization to attain this end.

The Convention ratified the action taken by the Sidney gathering, and appointed several committees,—one to consider legislative action on road improvement,—another to draw up plans for permanent county good roads organization, and a third to arrange for a good roads meeting in Scottsbluff, preliminary to the Chadron meeting. It was voted to attend the Chadron meeting in a body.

OGALLALA HAS A GOOD ROADS MEETING

Sixty people attended the Ogallala good roads meeting held January 13. It voted to apply for State and Federal Aid; to obtain rural free delivery in order to secure federal funds, and asked that roads be designated for improvement. The Community Club ill join the Nebraska Good Roads Association as a club.

STATE BOARD OF IRRIGATION HIGHWAYS AND DRAINAGE STATE OF NEBRASKA

S. R. McKelvie, Governor, President;
C. A. Davis, Attorney-General;
Dan Swanson, Commissioner of Public Lands and Buildings.

ADVISORY BOARD

Dr. G. E. Condra, Chairman;
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Geo. E. Johnson, Secretary Board of Irrigation, Highways and Drainage, and Advisory Board.

Highways News Letter No. 7. January 1, 1919.

HIGHWAY DEPARTMENT ROSTER

Geo. E. Johnson, State Engineer; E. H. Morey, Assistant State Engineer; A. S. Mirick, Chief Road Engineer; M. F. Black, Chief Draughtsmen; Draughtsmen: J. B. McKee, G. W. Walrod, H. A. Feller, W. T. Hole, C. Rohwer, J. A. Knapp, T. Epps, A. W. Woods, G. Ralston, M. E. Burr, Wm. Johnson, G. H. Kier, A. E. Anderson, G. Supp, E. Vrana, A. M. Gaddis, M. Noble.

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J. R. Barton, Office Assistant; R. Adams, Blue Printer.

A Suggested National Highway Policy and Plan

E. J. Mehren

"Ten years ago the highways of this country were subject to a traffic scarcely different from that which they had borne in Revolutionary days. In fact, the traffic was not much different from that which the Romans had imposed on their roads nineteen centuries ago. Indeed highway transportation has changed to a greater extent in the past ten years than it did in all the nineteen hundred years preceding. The motor vehicle is responsible for this revolution in conveyance, and to it is due the stress to which our roads are subjected.

Growth of Motor Vehicle Traffic

A decade ago the automobile was in its infancy. Today 5,500,000 motor vehicles are in service, and of these it is estimated that 500,000 are

commercial cars, ranging from the light delivery wagons to heavy trucks. Figures have not been compiled as to the number of passenger miles totaled in automobiles every year, nor as to the ton-mileage of freight hauled. H. W. Perry, secretary of the Commercial Vehicle and Good Roads Committee of the National Automible Chamber of Commerce, made an estimate in 1916, however, that gives ground for an interesting comparison. There were in use then 3,000,000 passenger automobiles. Allowing an average of 5,000 miles per year per car, and assuming an average number of passengers per car as three; he obtained a passenger mileage per year of 45,000,000,000. Since that time the number of passenger automobiles in use has increased to 5,000,000 and even if we discount Mr. Perry's figures heavily and accept with the larger number of cars in use, his total of passenger miles, 45,000,000,000, we still find that the figures exceed that for the railways of the United States in the year 1916, which was 34,000,000,000 passenger miles. In the same estimate, published in "Engineering Record" January 20, 1917. p. 112, Mr. Perry concludes that the commercial motor vehicles of the country performed a service of 3,750,000,000 ton-miles when there were 250,000 commercial vehicles in use. He assumed an average of 50 miles per day, 300 working days per year, and two tons per load, with half the mileage traveled loaded. This appears to be a very liberal estimate, but if his figure is twice as large as the facts, the traffic would now, with a doubling of the number of commercial cars, have caught up to his estimate, and surely a freight traffic of 3,750,000,000 tons is not a negligible item.

It is not now possible to ascertain what percentage of this passenger and freight mileage was carried over rural roads and what portion over city streets. The figures are quoted merely to give an idea of the magnitude of the instrumentality—the motor vehicle—which has introduced the new and troublesome factor into highway construction and maintenance, and has raised highways into one of the foremost of national problems. Another measure of the new importance of highway transportation is indicated by the total annual expenditure for highway work. The Bureau of Public Roads gives the cash expenditure on highways for the year 1915 as $267,000,000. This already large sum is sure to be rapidly increased because of the attitude on highway improvement in every part of the country. It is hardly necessary to call attention to the fact that two $50,000,000 bond issues authorized in New York State have been followed by a $50,000,000 authorization in Pennsylvania and a $60,000,000 authorization in Illinois.

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